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Migrating from Microsoft Exchange 2000/2003 to Lotus Notes and Domino 7

- Advantages of migrating to Notes and Domino 7
- Planning and implementing a migration project
- Coexistence and migration tools

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International Technical Support Organization

Migrating from Microsoft Exchange2000/2003 to Lotus Notes and Domino 7

June 2006

Note: Before using this information and the product it supports, read the information in “Notices” on page xiii.

First Edition (June 2006)

This edition applies to Version ???, Release ???, Modification ??? of ???insert-product-name??? (product number ????-???).

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Contents

Notices xiii
Trademarks xiv

Preface xv
The team that wrote this redbook. xv
Special acknowledgement for their contributions to this project: xvii
Become a published author xviii
Comments welcome. xviii

Part 1. Why Migrate from Exchange to Notes and Domino. 1

Chapter 1. Why migrate from Exchange 2000 / 2003 to Domino 7 3
1.1 Introduction 5
1.2 Why migrate? 8
1.2.1 Advantages of migrating from Exchange to Domino. 9
1.3 Advantages of Domino Server over Exchange Server 11
1.3.1 Advantages explained. 11
1.4 Summary. 23

Chapter 2. Overview of the Domino clients 25
2.1 Think Outside the Inbox 26
2.2 Flexibility in Features and Offerings 27
2.2.1 Overview of the Client Offerings 29
2.2.2 Common PIM Portlet. 35
2.2.3 Potential Co-existence scenario using the PIM Portlet approach. . . 37

Part 2. Planning for Migration 41

Chapter 3. Migration project overview 43
3.1 The key steps in a co-existence/migration project 44
3.2 The sponsor 47
3.3 The project vision 48
3.4 The project team 48
3.5 The schedule. 50
3.6 The scope 50
3.7 Documenting the business requirements 50
3.7.1 The basic requirements. 51
3.7.2 Further requirements. 52
3.8 The communication plan 53

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3.9 Setting the expectations 54
3.10 Documenting the current messaging environment 54
3.10.1 Documenting the Microsoft Exchange environment 55
3.10.2 Documenting the hardware profile 59
3.10.3 Documenting the network infrastructure 60
3.10.4 Administration and support infrastructure 60
3.11 Developing the training plan 62
3.12 Risk 64
3.13 Plan, design, and document the new environment 65
3.13.1 Determining the characteristics of the servers needed 65
3.13.2 Client selection 69
3.14 Developing a coexistence and migration strategy 77
3.14.1 Levels of coexistence 78
3.14.2 Pros and cons of migrating 80
3.14.3 What to migrate 81
3.15 Deployment approaches - Proof of concept deployment 82
3.15.1 Benefits of proof of concept deployment 82
3.15.2 Key steps that are involved in the proof of concept deployment . . . 83
3.15.3 Overview of the migration process 83
3.15.4 Migration tools 84
3.15.5 Acquiring the necessary information for migration 85
3.16 Realigning the expectations 89
3.17 Deploying the coexistence and migration strategy 90
3.18 Final phase: Closure 92

Chapter 4. Overview of the Migration Procedures 93
4.1 Migration steps 95
4.1.1 Step 1 Install Domino 95
4.1.2 Step 2 - Set up co-existence strategy and implementation plan 96
4.1.3 Step 3 Define Migration Plan 96
4.1.4 Step 4 - Begin with a Proof of Concept/ Pilot Deployment 97
4.1.5 Step 5 - Migrate Users at the server level 97
4.1.6 Step 6 - Deploy End user data migration option 100
4.1.7 Step 7 - Backup Exchange 103
4.1.8 Step 8 - Clean up mail routing 103
4.1.9 Step 9 - Clean up Infrastructure 104
4.1.10 Step 10 - Decommission Exchange 104

Part 3. Coexistence - Tools and Strategies 105

Chapter 5. Using the Microsoft Exchange Connector for coexistence (Exchange 2000) 107
5.1 Overview of the Exchange Connector 109

5.1.1 Conceptual Overview of how it works 109
5.2 Preparation 111
5.2.1 Supported Environment 111
5.3 Installing the Exchange Connector 112
5.3.1 Register a Lotus Notes User ID for Exchange Connector. 112
5.3.2 Prevent Exchange Connector ID Synchronization (optional) 121
5.3.3 Create and Setup Exchange Connector Mailboxes 122
5.3.4 Create Foreign Domain Document 124
5.3.5 Create Exchange User Directory 126
5.3.6 Implement Directory Assistance 129
5.3.7 Install and Setup Notes Client. 133
5.3.8 Install Exchange Connector for Lotus Notes. 142
5.3.9 Configure Exchange Connector for Lotus Notes. 146
5.3.10 Enable Lotus Domino Proxy Addresses 157
5.3.11 Start Exchange Connector Services 162
5.3.12 Start Direcotry Synchronization. 163

Chapter 6. Using the Microsoft Exchange Connector for coexistence (Exchange 2003) 169
6.1 Overview of the Exchange Connector. 171
6.1.1 What has been improved in the Exchange Connector 2003. 171
6.1.2 Conceptual Overview of how it works 171
6.2 Preparation 174
6.2.1 Supported Environment 174
6.2.2 General setup information. 175
6.3 Installing and setting up the Exchange Connector 175
6.3.1 Step 1: Register the Exchange Connector on the Lotus Domino Server 176
6.3.2 Step 2: Prevent the Exchange Connector ID Synchronization (optional) 182
6.3.3 Step 3: Create the Domino mailboxes for routing mail to Exchange 183
6.3.4 Step 4: Create the Exchange / Domino Directory 188
6.3.5 Step 5: Implement Directory Assistance 190
6.3.6 Step 6: Create a Foreign Domain document. 194
6.3.7 Step 7: Install the Notes Client on the Exchange Server 195
6.3.8 Step 8: Set up the Notes Client on the Exchange Server 197
6.3.9 Step 9: Install the Exchange Server 2003 Connector for Lotus Notes . 199
6.3.10 Step 10: Configure the Exchange Connector for Lotus Notes . . . 202
6.3.11 Step 11: Enable the proxy addresses 214
6.4 Operating and monitoring the Exchange Connector Services 220
6.4.1 Start the Connector 220
6.4.2 Operate the Connector 221

6.4.3 Monitor the Connector . . . 226
6.4.4 Stop the Connector . . . 227
6.5 Tips and suggestions . . . 228

Chapter 7. Using Microsoft Exchange Calendar Connector . . . 231
7.1 Overview of the Calendar Connector . . . 232
7.1.1 Prerequisites . . . 233
7.2 Installing the Calendar Connector . . . 234
7.2.1 Install Calendar Connector . . . 234
7.2.2 Add a Local replica for the Schedule+ Free Busy public folder . . . 236
7.2.3 Configure Calendar Connector . . . 238
7.2.4 Start Calendar Connector . . . 244
7.2.5 Install Calendar Connector Add-In for Lotus Domino . . . 245
7.2.6 Update Foreign Domain Document . . . 246
7.2.7 Start Connector Add-In (EXCALCON) . . . 247
7.2.8 Lookup Results . . . 248

Chapter 8. Using the CMT for Exchange and Domino Coexistence . . . 251
8.1 Overview of the product . . . 253
8.1.1 Potential benefits . . . 253
8.2 Technical overview of the product . . . 255
8.3 Advantages of the product . . . 257
8.4 Setup and Configuration . . . 257
8.5 Using the product- step by step . . . 258

Chapter 9. Using SMTP routing for coexistence . . . 267
9.1 SMTP Scenario . . . 269
9.2 SMTP coexistence scenario . . . 270
9.3 Overview of the SMTP environment . . . 270
9.3.1 Microsoft Exchange SMTP overview . . . 271
9.3.2 Lotus Domino 7 SMTP environment . . . 271
9.4 Configuring Microsoft Exchange SMTP . . . 272
9.5 Configuring Lotus Domino 7 for SMTP message transmission . . . 286
9.5.1 Modify/Create the Global Domain document . . . 287
9.5.2 Enabling Domino Routing and the SMTP Listener Task . . . 294
9.6 Sending mail between Exchange and Domino via SMTP . . . 301

Chapter 10. Co-existence test results - what to expect . . . 309
10.1 Methodology used for testing . . . 311
10.2 Executive overview of results . . . 314
10.2.1 Summary overview of screenshots . . . 314
10.3 Coexistence with MS Exchange Connector . . . 320
10.3.1 Directory Lookups . . . 320
10.3.2 Messaging - Notes to Exchange . . . 322

10.3.3 Messaging - Exchange to Notes 324
10.4 CMT for Exchange and Domino Coexistence 325
10.4.1 Messaging - Notes to Exchange 325
10.4.2 Messaging - Exchange to Notes 328
10.5 SMTP Routing 329
10.5.1 Directory Lookups 329
10.5.2 Messaging - Notes to Exchange 329
10.6 Summary 334

Part 4. Migration Process - tools and procedures 337

Chapter 11. Server level migration Using Domino Upgrade Services . . 339
11.1 Overview of Domino Upgrade Services (DUS) 341
11.2 Preparing for the migration process 341
11.3 Migrating Exchange users and their data to Domino 342
11.3.1 Prerequisites for performing the migration 342
11.3.2 Creating the Administrator profile in Outlook 343
11.3.3 Installing Exchange as a Foreign Directory Source 350
11.3.4 Migrating users from the Exchange server to Domino 350
11.3.5 Converting Exchange addresses to Notes Canonical format 360
11.3.6 Tip 366

Chapter 12. Migrating local Outlook data using Notes Upgrade Services . 367
12.1 Data migration using Notes Upgrade Services 369
12.1.1 Why local data migration is important 369
12.1.2 An overview of Notes Upgrade Services. 369
12.2 Preparing the workstation for local migration 370
12.2.1 Installing the Exchange Migration Component for Lotus Notes . . 370
12.2.2 Creating a Microsoft Outlook Profile 371
12.3 Automating Notes Upgrade Services 379
12.3.1 Automating a message to initiate Notes Upgrade Services 379
12.3.2 Initiating Notes Upgrade Services from an automated message . 386
12.4 Manual migration using Notes Upgrade Services 389
12.4.1 Starting the Migration 390
12.5 Troubleshooting Notes Upgrade Services. 398

Chapter 13. Server Level Migration process using CMT from Binary Tree . 401
13.1 What is Common Migration Tool 403
13.2 Installation 403
13.2.1 Set up the licenses 404
13.2.2 The five steps to migration with CMT 405
13.3 Set up CMT and migrate users 407

13.3.1 Configure CMT settings 407
13.3.2 Add users from foreign directory source 412
13.3.3 Select users for migration 428
13.3.4 Migrate server data 433
13.4 Troubleshooting the migration 436

Chapter 14. Local Data Migration using the Binary Tree tools 439
14.1 End user migration overview 440
14.2 Configuring the Binary tree tool for Outlook migration 440
14.2.1 Installing the CMT 440
14.2.2 Configuring CMT and import users for migration 440
14.3 Migrate local user data 446
14.3.1 Using the Automated Migration 448
14.3.2 Using the send email Button 453
14.4 Adding Users 455
14.5 Sending the migration e-mail 458

Chapter 15. Migration Results 467
15.1 Mail Migration Results 469
15.1.1 Inbox 469
15.1.2 Mail message migration results 471
15.2 Calendar migration results 486
15.3 Contacts 492
15.4 Tasks/To Do entries 497
15.4.1 Summary 499

Part 5. Directory Considerations 501

Chapter 16. Directory Coexistence Using LDAP 503
16.1 LDAP Directory Configuration 504
16.1.1 Common directory requirements for coexistence 504
16.1.2 LDAP architecture overview 505
16.1.3 Interaction between the LDAP enabled server and client 506
16.2 LDAP implementation in Domino and Exchange 507
16.2.1 Enabling LDAP during Domino server installation 507
16.3 Enabling Directory Assistance for LDAP authentication 510
16.3.1 Entering the directory assistance database file name to a Server document manually 512
16.4 Enabling Client LDAP lookups 513
16.4.1 Creating LDAP address book in Outlook 513
16.4.2 Finding an address in the Domino Directory from Outlook 518
16.4.3 Creating and LDAP account in Notes 521

Chapter 17. Active Directory Integration 527

17.1 Understanding the role of Active Directory 529
17.1.1 Active directory remains the corporate directory 529
17.1.2 User and data migration coexistence 531
17.1.3 User migration coexistence 532
17.1.4 Non-migration coexistence 533
17.1.5 Using Lotus ADSync for long term user management 533
17.2 Installing Lotus ADSync 534
17.2.1 Synchronizing with the Domino Directory 535
17.2.2 Registering existing users in Domino from Active Directory 542
17.2.3 Managing users with Active Directory 544
17.2.4 Registering new Domino users in Active Directory 556
17.2.5 Managing users with Active Directory 563

Part 6. Public Folders and Shared Data 577

Chapter 18. Public folders for Domino administrators 579
18.1 Public Folder Overview 580
18.1.1 Public Folder structure 580
18.1.2 Public Folder Security 580
18.1.3 Required permissions 581
18.2 Creating Public Folders and administering them 581
18.2.1 Tools used to create public folders 582
18.2.2 Required permissions 582
18.2.3 Creating a Public Folder 586
18.3 Considerations for Public Folder Migration 596

Chapter 19. Public Folder migration & coexistence using ecKnowledge 597
19.1 Product setup and considerations 599
19.1.1 Exchange considerations 599
19.1.2 Domino considerations 599
19.1.3 Other considerations 600
19.1.4 Application design 601
19.2 Setting up ecKnowledge 602
19.2.1 Entering the product keys 609
19.2.2 Post-installation tasks 610
19.2.3 Creating the connection between Domino and Exchange 611
19.2.4 Running the coexistence 628
19.3 Working with a blank database 632
19.3.1 The Exchange Public Folder 632
19.3.2 Migration results using a blank database 634
19.3.3 Using Domino Designer to modify the view 636
19.4 Conclusion 641

Chapter 20. Public Folder migration using CMT migration tool 643

20.1 Binary Tree's CMT for Exchange Public Folders 644
20.2 Setting up the CMT tool. 644
20.2.1 Configuring the import of Public Folders tool 644
20.3 Importing Public Folder names 649
20.4 Name resolution, Security and Migrated permissions 651
20.5 Migrating Public Folders 653
20.6 Summary 667

Chapter 21. Manual migration of Shared / Public data 669
21.1 Pre-requisites 671
21.2 Using DUS to Migrate Public Folders 671
21.3 Using a spreadsheet as an Intermediary. 672
21.4 Migrating Contacts Public Folder 679
21.5 Migrating shared Calendars Public Folder 684
21.6 Archiving or sending Public Folder data elsewhere 685
21.7 Summary 688

Chapter 22. Migration of Shared Data 689
22.1 Migrating shared mailboxes. 691
22.2 How to share data in a mailbox 691
22.2.1 Creating and configuring a shared Mailbox. 691
22.2.2 connecting to another users shared folder 694
22.3 Migrating shared Data 695
22.4 Using CMT to Migrate Shared Data 696
22.5 Using DUS to Migrate Shared data 696
22.5.1 Create a migration mailbox 697
22.5.2 Copy Contents from shared folder to migration Folder 702

Chapter 23. Migration Project wrap up - Removing the Microsoft Exchange environment. 715
23.1 Removing Exchange servers 716
23.1.1 Reasons to remove Exchange carefully 716
23.1.2 Reasons for leaving things alone 716
23.1.3 Additional resources 716
23.1.4 Before you begin removing Exchange 717
23.2 Single server, single site 717
23.2.1 Considerations 718
23.2.2 Removing the server 720
23.3 Removing a server from a multi-server site. 725
23.4 Summary 726

Appendix A. Other migration tools 727
A.1 Coexlinks 729
A.1.1 Overview 729

A.1.2 Value add 729
A.1.3 How can this tool can be used in Migration/Coexistence project? . 730
A.1.4 Technical Background 730
A.1.5 Installation. 732
A.1.6 Configuration Settings 733
A.2 ICODEX Client Genie 734
A.2.1 Overview. 734
A.2.2 Value add 735
A.2.3 How can this tool can be used in a Migration/Coexistence project? 735
A.2.4 Technical Background 737
A.2.5 Installation. 739
A.2.6 Configuration 740
A.3 Transend Migrator. 741
A.3.1 Overview. 742
A.3.2 Value Add 742
A.3.3 How can this tool can be used in Migration/Coexistence project? . 744
A.3.4 Technical Background 744
A.3.5 Installation. 751
A.3.6 Configuration 751
A.4 GMI Infopath_2_Notes 751
A.4.1 Overview. 751
A.4.2 Value Add 752
A.4.3 How can this tool can be used in Migration/Coexistence project? . 752
A.4.4 Technical Background 757
A.4.5 Installation. 760
A.4.6 Configuration 760
A.5 Tools which may be helpful for a UNIX migration 761
A.6 Nash!Com Domino on Unix/Linux Start Script 761
A.6.1 Overview. 761
A.6.2 Value Add 761
A.6.3 How can this tool can be used in Migration/Coexistence project? . 762
A.6.4 Technical Background 762
A.6.5 Installation. 764
A.6.6 Configuration 764
A.7 Nash!Com Trace & Lowercase Conversion Extension 765
A.7.1 Overview. 765
A.7.2 Value add 766
A.7.3 How can this tool can be used in Migration/Coexistence project? . 766
A.7.4 Technical Background 766
A.7.5 Installation: 767
A.7.6 Configuration 767

Appendix B. Migration Procedures - abbreviated overview 769

Detailed overview of procedure for migrating Users 770

Appendix C. Integrating Domino with Sharepoint Portal 785
C.1 Domino Web access in sharepoint portal 787
Step 1 - Install the WAS plug-ins 787

Appendix D. Tips for performing a successful migration 817
List of issues and solutions 818

Appendix E. Exchange Connector installation checklist 821
General setup information 822

Appendix F. Installing Domino 823
Installing Domino 824
Install Domino Administrator and Lotus Notes Client 837

Related publications 843
IBM Redbooks 843
Other publications 843
Online resources 843
How to get IBM Redbooks 844
Help from IBM 844

Index 845

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Preface

The criticality of messaging & collaboration in the enterprise persists. Dependency on messaging & collaboration infrastructure to deliver a core set of communication & collaboration services, enables small and large enterprises alike to provide secure, dependable, flexible communications, contributing to organization's information flows, knowledge flows, productivity and cross organizational responsiveness. While the mission critical nature of messaging & collaboration continues, the variety of collaboration, productivity requirements of end users, increased security needs, the support for varying client types and the heterogeneous nature of the infrastructure it runs on continues to evolve.

This Redbook covers both the strategic and market factors that promote the benefits of IBM® Lotus® Domino® over Microsoft® Exchange, as well as providing an overview of the tools and strategies available, together with hands on instruction for how to perform the migration process. The beginning of the book explores common business drivers, considerations, benefits and scenarios organizations find themselves in when faced with "migration" decision such as migrating from Exchange to Domino. The remainder of the book is devoted to the architectural planning and technical activities of your migration decision. For business or IT managers, the strategic portion of this Redbook provides essential information about the “what” and “why” of migration. The rest of the book is focused on the “how” of migration, the "how" of co-existence strategies.

This Redbook will give you the confidence that your organization will achieve the results you expect—and deserve—from this migration process from Exchange to Domino.

The team that wrote this redbook

This Redbook was produced by a team of specialists from around the world working at the International Technical Support Organization, Cambridge, MA, USA Center.

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Part 1

Why Migrate from Exchange to Notes and Domino

In this part we discuss key considerations and benefits for migrating from Microsoft Exchange 2000 / 2003 to Lotus Notes and Domino 7.

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1

Why migrate from Exchange 2000 / 2003 to Domino 7

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter covers the strategic and market factors that promote the benefits of IBM Lotus Domino over Microsoft Exchange. It explores common business drivers, considerations, benefits and scenarios organizations find themselves in when faced with a "migration" decision such as migrating from Exchange to Domino. While the first part of the Redbook addresses the strategic question about the advantages of migrating to IBM Lotus Domino, the remainder of the book is devoted to the architectural planning and technical activities for implementing your migration decision.

For business or IT managers, this chapter provides essential information about the “what” and “why” of migration. The rest of the book is focused on the implementation - namely describing in detail how to perform the migration, and

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how to implement various co-existence strategies. This Redbook gives you the confidence and knowledge that your organization needs to achieve the results you expect—and deserve—from this process.

1.1 Introduction

The criticality of messaging & collaboration in the enterprise persists. Dependency on messaging & collaboration infrastructure to deliver a core set of communication and collaboration services, enables small and large enterprises alike to provide secure, dependable, flexible communications, contributing to organization's information flows, knowledge flows, productivity and cross organizational responsiveness. While the mission critical nature of messaging and collaboration continues, the variety of collaboration, productivity requirements of end users, increased security needs, the support for varying client types, and the heterogeneous nature of the infrastructure it runs on continues to evolve.

Over the past several years there has been a collaboration convergence across messaging and collaboration IT infrastructures. For example, the blending of synchronous communication into asynchronous communications, such as the adding of presence awareness, instant messaging, web conferencing and other real-time capabilities into traditional asynchronous collaboration models like email, and collaborative applications. Through the natural blending of synchronous and asynchronous communication capabilities organizations achieve more productive collaboration, and promote quicker response time, foster team-building, and make communication richer and more efficient without having to manage and administer multiple offerings. Another example is the extension of messaging & collaboration into personalized user interfaces like dynamic collaborative workplaces or portals and even on mobile devices, which deliver a single point of personalized interaction with applications, team workplaces, content, processes and people. The emergence of enabling technologies such as blogs, wikis, real simple syndication (RSS), are other examples of how pervasive the needs are across organizations to share information, and collaborate beyond the enterprise.

This collaboration convergence coupled with the proliferation of open standards, and open computing models such as J2EE™, Eclipse, Linux®, (and open source approaches) are rapidly being adopted to support heterogeneous environments, provide interoperability, and insulate from vendor lock in. Choices on what messaging & collaboration platform will be utilized in the organization are now more than ever impacted by these trends as organizations adopt a more Services Oriented Architecture (SOA) approach and look toward adopting solutions that can deliver leading capabilities to enhance productivity, support wide range operating systems, clients, extensibility into the infrastructure such as to delivering composite applications. Composite application enable the integration of information from multiple applications, providing end users with the content they need based on their role and task, are quickly assembled from reusable components, allow organizations to efficiently adapt software to

changing requirements by deliver contextual collaboration and contribute toward lowering total cost of ownership.

Most vendors in the industry are helping drive standards, build their products to support and embrace standards to support these heterogeneous environments and embrace this pattern of collaboration evolution. While other vendors appear to be threatened by it and are choosing instead to regress, or perpetuate their proprietary pre-internet models and approaches to collaboration. Some of these vendors rather than delivering capabilities which can be delivered with customer choice and flexibility, are instead offering solutions which mandate single operating systems, client/desktop deployments, and other particular infrastructure like Directories. This later proprietary approach can impede the potential of collaboration, and limit it's effectiveness which prompts many organizations to seek alternatives that more closely align with their business objectives.

Perhaps that is why you are reading this publication. You may be re-evaluating your commitment to Microsoft Exchange and realizing yet again, a move to the most current release of Exchange, Exchange 2007, like the releases before it, Exchange 2003/Exchange 2000, will require a migration effort which could have significant implications across your infrastructure. A migration that evolves moving mail boxes, migration to directory updates, user accounts and migrating to an entire new server infrastructure with a specific (latest) release of Windows® Server System, followed by decommissioning the older servers, in order to meet the requirements and use/embrace/utilize the updated messaging capabilities.

Figure 1-1 on page 7 refers to what we term as the Microsoft Exchange Challenge, emphasizing the need to re-evaluate and re-architect your messaging and collaboration infrastructure with each subsequent release of Microsoft Exchange.

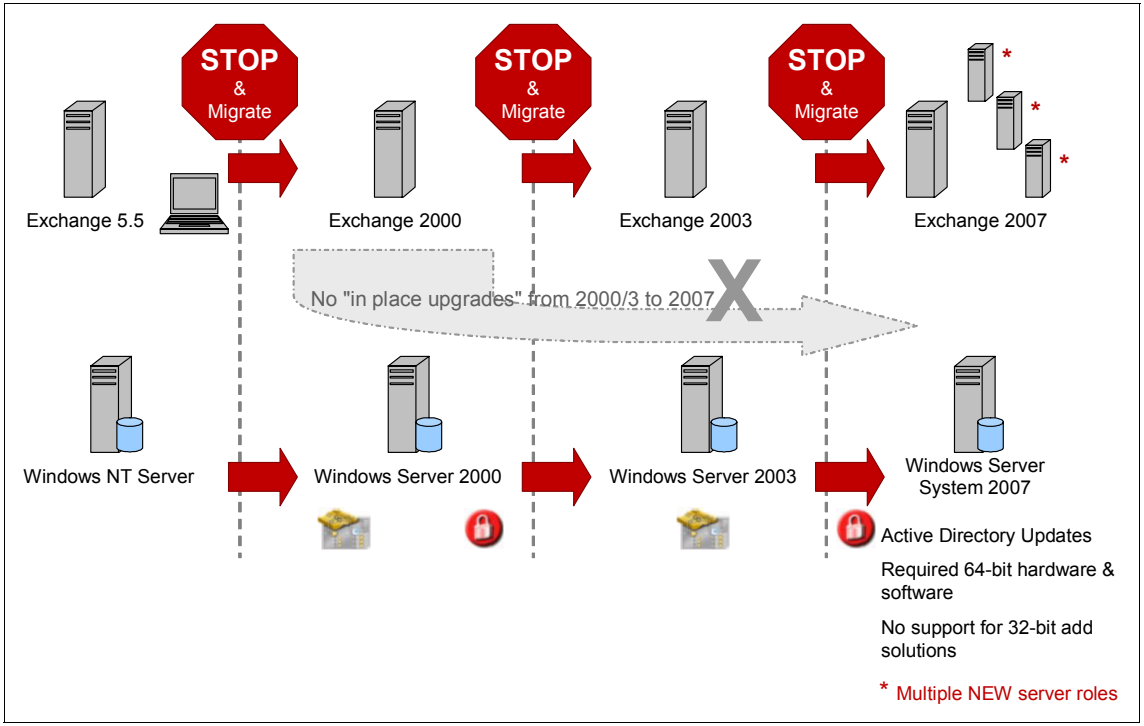

Figure 1-1 Microsoft Exchange Challenge continues

This rigid infrastructure "migration" requirement, and lack of Exchange to support "in-place" upgrades to move from one release of Exchange to the next, is in stark contrast to that of how IBM Lotus Domino customers for over a decade, approach, and conduct upgrades to latest releases of Lotus Domino to embrace innovations. The approach Lotus Domino takes to conduct in-place upgrades; leveraging existing infrastructure, existing hardware, existing directories, skills and tools built into the product, can be taken as well to "migrate" from Microsoft Exchange to Lotus Domino.

Perhaps your organization is running a number messaging & collaboration offerings from multiple vendors and you are seeking co-existence and migration best practices. For example, you may be running IBM Lotus Domino for both collaborative applications and messaging, while also supporting a community of Microsoft Exchange users for simple messaging. These messaging co-existence, or messaging unification scenarios sometimes occur as the result of Mergers & Acquisition, and you may be trying to determine how to proceed with either standardizing/unifying on a common platform or how to continue with a co-existence approach.

These are just few scenarios focused on migrating & co-existence that will be covered in this book. More specifically, Part 3, “Coexistence - Tools and Strategies” on page 105 highlights specific technical tools available for co-existence, while Part 4, “Migration Process - tools and procedures” on page 337 highlights methods and tools available for performing the migration.

1.2 Why migrate?

Why do organizations make migration decisions to move from one messaging & collaboration solution to another? Thousands of organizations the past few years have made such migrations from Microsoft Exchange to IBM Lotus Domino. The reasons are very specific to the organization and are usually interwoven with business circumstances such as a merger & acquisition, or strategic projects like a messaging unification, server consolidation, or to address key business objectives like enhanced security, compliance, reduced downtime, improved productivity or lowering total cost of ownership. These messaging & collaboration migration decisions can also be heavily driven or prompted by an organizations "platform" decisions. Such platform decisions, as eluded to earlier, such as which server, and client operating systems to deploy in the enterprise then tend to closely align, or influence perhaps what solutions may be preferred to run upon them. Several examples include an organization which may have deployed Windows 2000 as the required operating system to support a migration Exchange 2000. Active Directory and move from NT Directory was also required. Now that an organization has deployed the necessary platform clients to meet their messaging needs, that might not also be the same platform they use for the rest of the mission critical applications.

- **Migrating to IBM Lotus Domino could be easier than Migrating to Exchange 2007.**

  What if you could, rather than migrate to a new hardware and software infrastructure in order to merely use the new messaging capabilities in Exchange 2007, instead migrate to Domino? This allows you to benefit from the industry's leading messaging & collaboration capabilities, on the platform(s) of your choice such as multiple variations of Windows and Linux servers, with little architectural change, support your current directory & client deployed. Finally, this all contributes toward reducing your total cost of ownership.

- **Migration Tools included**

  Built in migration tools, Domino Upgrade Services helps reduce the cost of migration by extending automated tools, to create new Domino mail accounts, migrate data from Exchange to Domino thereby eliminating the need to manually re-create entries in the Domino directory or manually move data.

There is also a well established set of IBM Partners skills and tools also available to assist with various migration scenarios.

- **Support of Microsoft clients**

  While integrating Domino into Microsoft server infrastructure is key, equally important to simplify a migration to Domino at the server end to leverage existing Microsoft infrastructure, Domino can also support an Microsoft client community. This client support ranges from Microsoft Internet Explorer browser based access to Domino mail, calendaring and applications, Notes clients integrating with MS Office, Office SmartTag support and even the support of Microsoft Outlook® as the primary client interface to Domino. A deeper a look at our client options when deploying Domino can be found in Chapter 2, “Overview of the Domino clients” on page 25

- **Support for more than 1 (one) operating system**

  Domino runs on 7 operating systems, and 12 different variations of those operating systems such as Windows 2000, Windows 2003, RedHat Linux, SuSE Linux, AIX, Solaris™ 9, Solaris 9, i5 etc...Being able to exploit and leverage a diverse set of existing architecture assets contributes toward lowering total cost of administration.

1.2.1 Advantages of migrating from Exchange to Domino

If you are planning or investigating a "messaging migration" you are probably interested in determining how the two leading messaging server offerings in the market today compare. How are IBM Lotus Domino and Microsoft Exchange similar, and how are they different? Both offerings offer key messaging, and calendaring services to their respective primary clients, as well as web browsers and mobile devices.

Table 1-1 Offerings from IBM vs. Microsoft

	IBM	**Microsoft**
Server	Lotus Domino	Microsoft Exchange
Client	Lotus Notes, Domino Web Access, Domino Access for Microsoft Outlook	Microsoft Office Outlook, Outlook Web Access

It's almost inappropriate to compare the two. It's more appropriate to compare a subset, a fraction of domino capabilities; Domino Messaging Server to Microsoft Exchange. as shown in Figure 1-2 on page 10.

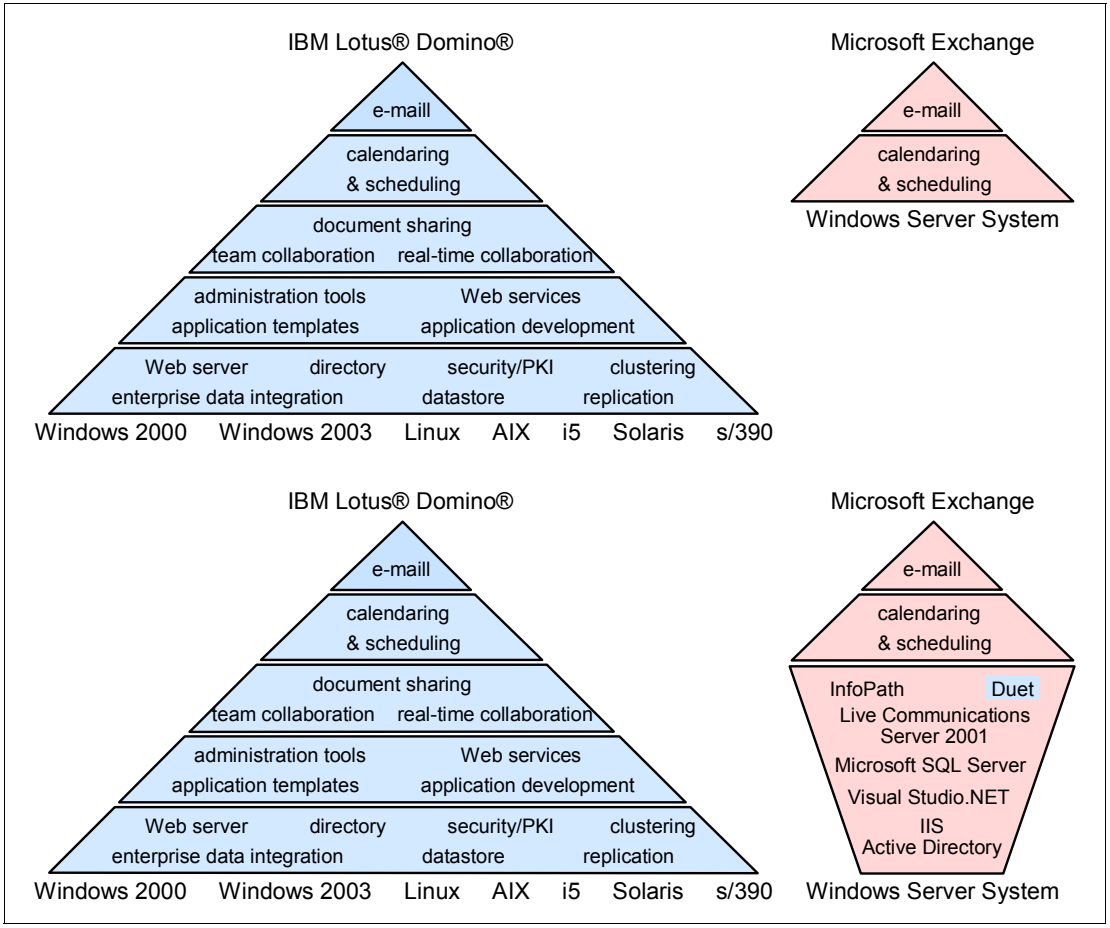

Figure 1-2 Comparison of offerings and functionality between Exchange and Domino

What is common between Domino and Exchange is that they do both provide email, calendaring & scheduling and associated rooms/resource reservations etc.... but after that differences begin to more and more apparent. (See Figure 1-2) For example Domino has built in collaborative capabilities to share information, documents, conduct workflows, embedded real-time collaboration for presence awareness and interactive instant messaging. Domino provides a series of templates for the rapid creation of customized applications, web services support to host or consume web services, built administration tools to monitor trends performance, and policies. Domino also provides an embedded web application server so that email, calendaring and applications be accessed via web browsers, includes directory services for authentication, key/credential management, provides a rich data store for text, attachments, audio, a replication

engine to synchronize data between servers and clients including real-time access to backend enterprise systems.

1.3 Advantages of Domino Server over Exchange Server

The following list provides an overview of the advantage of the Domino Server over Microsoft Exchange, with supporting information provided in the subsequent section.

- Leading Messaging & Collaboration capabilities
- Integrated Real-time Collaboration
- Choice & Flexibility of Client, Server OS, Directory
- Replication – field level, bidirectional synchronization of data, design, security
- Rapid Application Development & Deployment of Collaborative Applications
- Enterprise Data Integration (SAP, DB2®, Oracle, ERP)
- Investment protection, backward compatibility, and flexible upgrade paths
- Ease of adoption, deployment and administration
- Enterprise Extensibility via Portlets, built in Web Services & Java™ support
- Security
- IT Governance requirements
- Continued Innovation, w/ Activity Centric computing, composite applications., SOA
- Clear Roadmap

1.3.1 Advantages explained

- **Leading Messaging & Collaboration capabilities**

  Lotus Domino server provides enterprise-grade collaboration capabilities that can be deployed as world-class e-mail, calendar and scheduling capabilities, discussion databases and custom application platform to help companies enhance the productivity of people, streamline business processes and improve overall business responsiveness.

  The messaging & collaboration capabilities of this industry leading platform continue to bring enhancements and benefits to help users prioritize, organize, manage information and collaborate. These capabilities range from effective mail management built in, easily viewing email threads,

priority/attention indicators, quick flagging messages, and preventing data loss automatically saving of emails while being composed, to enterprise calendaring scheduling to manage their schedules and resources more effectively, helping to improve daily productivity.

While messaging is key part of a collaboration spectrum for communications amongst individuals, teams, organizations and external partners for information flow, knowledge flow, and workflow it is the foundation of collaboration which to build upon. Messaging itself is not the pinnacle of collaboration. Unlike Microsoft Exchange which is positioned as a Messaging & Collaboration offering, it really has evolved over time and reverted back to merely be a messaging server. Lotus Domino is an integrated messaging & collaboration platform complete with end user productivity capabilities, such a email, calendaring, desktop integration, workflow, web access, document sharing and teams to achieve an integrated collaborative environment. Unlike Domino, Microsoft Exchange organizations must deploy additional Microsoft infrastructure as indicated above to deliver Domino equivalent collaboration capabilities.

- **Integrated Real-time Collaboration**

  Lotus Notes/Domino helps maximize employee responsiveness with a single point of access to frequently-used resources such as e-mail, calendar, as well as built in instant messaging and collaborative tools. Notes/Domino includes some enhanced real-time collaboration capabilities, which allow for facilitates decision-making through collaboration by incorporating presence awareness, instant messaging into the native messaging, calendaring interfaces, andy custom built Notes/Domino application and easy integration with the optional Web conferencing integration.

  Lotus Notes/Domino users, as part of their license agreement are entitled to enable the innate presence awareness capabilities in their Notes application interface ranging from e-mail, calendaring, address book, the packaged templates that accompany Notes/Domino, including any customized applications. Directly in the context of specific mail messages, documents or views users have the ability to see who is on line and initiate a live instant messaging session from anywhere in the Lotus Notes and Domino environment and save their chat transcript in their a secure, encrypted, full text searchable mail file.

  This offers both the personal convenience and business necessity of alive connection to your colleagues, and the means to engage in real-time information exchanges and decision-making directly in the context of the collaboration experience — without leaving your Lotus Notes client, nor launching a separate client interface installed or third party service.

Lotus Notes 7 software provides many improvements to instant messaging integration, enabling users to more effectively collaborate in a timely and productive manner. By continuing to blend synchronous collaboration such as instant messaging and presence awareness more tightly into the natural routine of messaging & collaborative applications, employees can respond more quickly to urgent issues and make informed business decisions more rapidly. Similar approaches with Exchange infrastructure require additional Microsoft Office System server middleware deployed including, additional hardware, additional software services such as Office Live Communications Server, SQL Server, SQL CALs, and desktop software such as Messenger or Communicator client and in some cases even linking that requirement to specific release of the traditional Microsoft Office desktop suite.

- **Choice & Flexibility of Client, Server OS, Directory**

  Choice and Flexibility are key to determining the right messaging & collaboration that fits your organization infrastructure solution to meet your company's unique business needs.

  Lotus Notes/Domino provide customers leading capabilities with flexible deployment models, which enable organizations to deliver function and capability to wide range of clients including supporting Lotus Notes running on Windows, Mac and Linux Desktops; Browser clients running Microsoft Internet Explorer in a Windows desktop, or Mozilla browsers on Linux; as well Microsoft Office centric desktops who might use Outlook as their primary email & calendaring client.

  This choice and flexibility model, or as sometimes referred to as "leverage without dependence" includes being able to leverage interoperability with an organization's enterprise directory of choice for user credentials, authentication referrals, and key management. For example, as mentioned earlier, most Microsoft environments have Microsoft Active Directory deployed to some degree and may prefer to administer their Domino accounts and account management from that preferred interface. Domino supports this model, and allows for Microsoft administrators to manage, create accounts, set up Windows Single Sign On (SSO), propagate account changes from Active Directory to Lotus Domino simplifying administration.

  The Domino server runs on 7 operating systems, and 12 different variations of those operating systems such as Windows 2000, Windows 2003, RedHat Linux, SuSE Linux, AIX, Solaris 9, Solaris 9, i5 etc...and is being able to leverage a diverse set of existing architecture assets, yet exploit each unique server operating system strengths without requiring or over dependence of one over the other. This flexibility of supporting multiple client types, on multiple client operating systems, and multiple or a mix of server operating systems provides our customers a very adaptable and open deployment model helps them leverage existing assets, skills and contributes to lowering

total cost of ownership than that of systems that are more closed or provide limited choice & flexibility such as Microsoft Exchange.

Microsoft's latest release of Exchange, Exchange 2007 requires both a 64 bit software and hardware architecture in order to address key memory handling constraints which impact scalability of Exchange. As mentioned earlier this approach to require a specific Server operating system, as well as specific hardware in order to run the latest release of messaging server is fundamentally different than that of the approach IBM takes with IBM Lotus Domino. Lotus Domino server is well known for supporting a wide range of hardware and operating systems – to provide flexibility and help you leverage existing investments. In fact, Domino (7.0.1) has already supported 64 bit platforms such as IBM i5/OS, IBM AIX, IBM z/OS, Sun Solaris 9 &10, select Linux options on IBM System z like Red Hat Enterprise Linux 4.0 (update 3) on Intel processor-based systems & Novell SUSE Enterprise Linux 9. Updates in subsequent Domino 7 quarterly maintenance releases (7.0.2) added more choice & flexibility for the Windows environments to support 64-bit operating system choices on Intel processor-based systems; Windows 2003 Server Standard x64 Edition, Microsoft Windows 2003 Server Enterprise x64 Edition, Novell SUSE Enterprise Linux 10. While Microsoft not only requires 64 bit software and hardware for Exchange 2007 in an attempt to address memory and performance constraints of Exchange, IBM expands it's choice & flexibility to support more 64 bit architecture, staying in step with customers adoption patterns, while also continuing to support Microsoft Windows 2000, Windows 2003 and the 32-bit Linux options supported today by previous Lotus Domino releases.

Providing choice, flexibility of deployment can mean the difference in adhering to total cost of ownership (TCO) scrutiny you are facing and with helps you achieve lower TCO.

- **Replication – field level, bidirectional synchronization of data, design, security**

  Lotus Domino provides proven replication technology that allows users to be productive and efficient even when they are disconnected from the network.

  One of the key original differentiators of Lotus Notes since it's inception is the patented replication technology built in Notes/Domino. Replication allows for the bi-directional exchange and synchronization of data, design and security between clients & servers, and amongst servers in an enterprise. A term that has been commoditized in recent years by several competitors, the unique capabilities of Lotus Notes replication remain unprecedented. Replication means for mobile users that they have access to mission critical data, collaborative applications and enterprise data locally in their encrypted replicas on their laptop, that can be seamlessly replicated via a background schedule so users can be productive and efficient even when disconnected from the network. It also refers to the intuitive drag and drop approach to

creating selective replication to retrieve and maintain local version of specific team documents folder, or view in a Domino CRM or project tracking application. Replication capabilities can also be delivered to browser users with Domino Off-Line Services (DOLS), to work with Domino web application in a disconnected state with similar productivity results. Replication for system administrators means an effective way to propagate administration changes such as directory updates, user accounts, global policies, and collect statistics across the centralized or decentralized enterprise. Replication for designers and developers of applications means change management, or to rapidly deploy new applications to new users, design changes to applications such as new corporate branding on the corporate web site, additional data input fields, or to control a subset enterprise back end enterprise data for selective access to key teams. Replication combined with the network compression and efficient bandwidth utilization capabilities of Notes/Domino are enabling technologies that can be utilized in many ways to bring value throughout the organization.

Some of our competitors like Microsoft claim to have replication, or deliver only a subset of this replication approach with document level synchronization. None of these other vendors have a unified way to effectively disseminate not only any new data updates at the document level, but also a way to disseminate up to the minute field level changes, security changes such as Access Control List, roles based access to certain views, fields, and design changes such as new pages, forms, web framesets, java script, or web services as a core capability like Notes/Domino does.

- **Rapid Application Development & Deployment of Collaborative Applications**

  The integrated collaborative environment of Lotus Domino, and it's capability to rapidly develop and deploy collaborative applications with it's Domino Designer client continues to be a fundamental difference compared to other offerings such as Microsoft Exchange, a messaging solution that requires an abundance of additional tools and products to build collaborative solutions. Lotus Domino enables organizations to build, manage and deploy security-rich, multi-platform, multi-lingual, situational, line of business and enterprise applications. An intuitive, graphical user interface gives experienced developers, beginner designers and Web site designers the capabilities to develop applications that can be accessed from Lotus Notes clients, Web browsers, business portals and mobile devices.

  Domino Designer 7 includes numerous features and functions to help build applications and increase developer productivity, including rapid development templates, object model and components that integrate with other systems by hosting industry standards-based Web services such as importing an existing Web Service Definition Language (WSDL) as the starting point to build a new Web service within a Domino database. Domino's support for Extensible

Mark-up Language (XM) is yet another example of data sharing for robust standards based collaborative solutions with Domino. XML marries perfectly with Domino applications, as XML gives the power to describe data and share it across a network, Domino provides all of the other tools you need to make that data sharing secure, reliable, and efficient.

Providing development teams and administrators the flexibility to capture, store, and re-purpose Lotus Domino data in a relational database, Lotus Domino 7 can use IBM DB2 as an alternative data store to it's proprietary database model NSF.

- **Enterprise Data Integration (SAP, DB2, Oracle, ERP)**

  Since Domino helps deliver collaboration in the enterprise by bringing together people, process, data, information, and knowledge with wide range of services and can be used very closely with Enterprise Resource Planning systems and relational data stores. Domino provides non programatic, wizard driven connection to external data and define parameters for each connection to systems such as DB2, Oracle, SAP, and SQL.

  This approaches enables Domino to function as the integration point for seamless connectivity among mission-critical enterprise data sources. Now your collaborative solutions can transparently leverage Domino collaborative strengths in combination with the data management strengths of your RDBMS and ERP applications.

  IBM Lotus Notes Suite for SAP Solutions extends the Domino/SAP integration capabilities available since 1997, and provides out-of-the-box integration of Domino and SAP data and business processes.

  This new solution provides out-of-the-box integration for messaging and custom applications as part of upgrade or point release to Notes/Domino free of charge and delivers several sample use cases Budget monitoring, Time management, Leave management, and Organizational management. While competitors like Microsoft announce similar capabilities, with partners such as SAP, they require additional tools such as Microsoft Infopath and SAP's Netweaver. They also charge users an end user fee, IBM enhances its existing capabilities to its user community as free quarterly maintenance releases as part of Notes/Domino 7.0.1.

- **Investment protection, backward compatibility, and flexible upgrade paths**

  When IBM delivered Lotus Noes 7 to market in 2005, in the same approach when we shipped Notes 6, we tested backward compatibility between the releases Notes/Domino even running Notes 1, Notes 2 & Notes 3 and 4 applications going back over 15 years with new Notes/Domino 7. This level of backward and forward compatibility enables our customers to apply specific enhancements, benefit from specific productivity capabilities at a flexible

adoption rate and pace and maximizing their return on investment (ROI). It provides our customers the ability to run and support multiple releases of the Notes client, accessing a mixed server release while the design of the applications and templates may vary as well - for example running Notes 6.5 clients against a mix of Domino 7 & 6.5 servers perhaps with some applications that were developed with Notes/Domino 5 - all seamless to the user community. This backward compatilibty and interoperability assists organizations in flexible deployment and upgrade paths such as being able to benefit from key performance and administration features by for example implementing a Domino 7, yet run that Domino 7 server in either a cluster, or even same physical partition with Domino 6 servers.

Domino supports "in place" upgrades, the ability to install and apply the new release of the Domino server on the existing hardware, and on top previous release of the software to upgrade or embrace the new enhancements without costly, disruptive migration. While Notes/Domino supports in place upgrades from Domino 6 to Domino 7, even Directly from Domino 5 directly 7, competitive offerings offer little support for this flexibility and instead require more complex migration approaches moving from one infrastructure to another in order to potentially gain from new feature sets. As previously discussed, this concept of an in place upgrade; merely applying the new messaging & collaboration enhancements on top of the current installation, a model that Notes/Domino has supported from release to release for over a decade was not a model supported when moving from Microsoft Exchange 5.5 to Exchange 2003 nor will be supported when moving from Exchange 2000/2003 to Exchange 2007. This was referred to earlier in figure 1-1 The Exchange Migration Challenge.

The backward compatibility, and interoperability described above equates to investment protection, return on investment maximization, mitigation of risk and straightforward low cost upgrades.

- **Ease of adoption, deployment and administration**
- Lotus Domino has long provided a number of administration facilities which can help reduce time and costs associated with administration, systems management and software deployment and configuration compared to other offerings in market today.

  The adoption and deployment of Lotus Notes/Domino is easily executed via sophisticated method for performing silent server installs, automated no touch client installations via MSI install scripts, upgrades via a push of button for smart upgrades without visiting users desktops, and policies to help expedite deployments and minimize total cost of ownership. Flexible client deployment models, include the ability to support users who share physical assets or computers to deliver personalized access to key Notes/Domino applications in a multi-user role, as well as highly mobile users who roam from desktop to desktop yet retrieve personalized data whenever needed. User communities

can be Lotus Notes users, browser users on Windows with Internet Explorer, Mozilla Browser users on Linux with Domino Web Access, as well as Microsoft Outlook using Domino Access for Microsoft Outlook (note: see Chapter 2 for deeper look at client options), allowing for flexible client deployments to an organizations clients of choice and minimizing training costs/requirements. New user accounts and mail boxes can be created from existing LDAP directory entries, by leveraging built in migration tools that can also migrate data from Microsoft Exchange into Notes/Domino as part of a automated account creation process.

Once flexible deployments are executed, Domino differentiators continue such as setting and managing mail quotas, policies, quarantine, journaling and archiving for compliance built in. With Domino policy-based administration you can easily set standards and enforce IT policies across the organization such as the option to lock down client settings, or deploy granular archiving, security and corporate governance/compliance settings, and messaging confidentiality disclaimers.

Without having to acquire third party add on products, Domino also empowers administrators to reduce time spent troubleshooting servers, capturing & analyzing server data, provide prescriptive actions and load balancing tools. Domino 7 now includes Domino domain monitoring for fast recognition and reporting of critical server issues by delivering a single, feature-oriented view through which administrators can see the status of multiple servers across an entire organization in one or multiple domains. This customizable tool enables administrators to assess the overall health of across the collaboration infrastructure in the enterprise and locate problems that may need attention. When a problem is reported, domain monitoring suggests probable causes, provides possible solutions to fix the problem, and the actions to do so. Additional administration technology built in to Domino provides powerful, predictive analysis tools to help administrators to capture activities, trends to predict growth and sizing requirements within the Lotus Domino server environment and to plan for potential hardware, software changes, workload balancing and change management tools to help keep the Domino deployment running at an optimal level in your infrastructure.

One of the most significant differentiators affirmed by organizations who have migrated from Microsoft Exchange to Domino is the product maturity, scalability, performance associated with availability and meeting service level agreements with Domino. Existing Domino customers have benefited in upgrading to Notes/Domino 7 to achieve a higher level of scaleability. For example metrics from the IBM development lab (using NotesBench workloads, a performance metric used by server hardware vendors) and statistics show significantly enhanced scalability and performance. IBM Lotus Domino 7 uses up to 25 percent less CPU resources than it's previous Domino 6.5 server release, and can support up to 80 percent more Lotus

Notes users or up to 50 percent more Lotus Domino Web Access users for browser access on the same server hardware. Similar benefits can be gained when you move from Microsoft Exchange to Lotus Domino. You can leverage your existing hardware, support and exploit existing server operating systems, and deliver a more scalable, reliable environment.

In addition to the superior administration tools and capabilities mentioned above Domino provides capabilities to help maximize server availability: advanced clustering, transaction logging, server fault recovery, and automated diagnostic tools. Clustering delivers high availability, constant access to data to user community, balances server workload across servers balancing and fail over to provide un-interrupted access to mail and applications to user communities. A Domino cluster is a group of two or more servers that provides users with constant access to data, balances the workload between servers, improves server performance, and maintains performance when you increase the size of your enterprise. The servers in a cluster contain replicas or real-time replicas of databases that you want to be readily available to users at all times. If a user tries to access a database on a cluster server that is not available, Domino opens a replica of that database on a different cluster server seamless to the user for un-interrupted access. Domino continuously synchronizes databases so that whichever replica a user opens, the information is always the same, current and available 24x7.

Solutions from vendors like Microsoft are tied specifically to a certain operating system, and may require add on or third party products to aspire to have this level of availability, providing fail over or back up & recovery. For example, Exchange clustering is really dependent, and leverages the Windows clustering and database management facilities. Lotus Domino clustering is achieved independent of the operating system by leveraging it's unique, efficient replication capabilities, transaction logging, cross platform support and flexible database model. This helps ensure load balancing, fault recovery, and rapid backup and recovery procedures that can across multiple operating systems, still not attained by competitive products like Microsoft Exchange.

- **Enterprise Extensibility via Portlets, built in Web Services & Java support**

  Lotus Notes/Domino collaborative application access can easily be extended & integrated with other enterprise technologies such as portals through various programatic, and non-programatic ways including Web Services, Java or portlets. Domino provides this enterprise extensibility by embracing open standards and actively integrating in today’s heterogeneous environments. Lotus Domino provides a native Web services hosting service based on Simple Object Access Protocol (SOAP). This enables organizations to use Web services to integrate your applications with J2EE and Microsoft .NET environments, simply, and using existing skills.

For integrating or extending custom built Domino applications, or one of the thousands available from IBM Business Partners into a an organizations enterprise portal, portlets can be used. This can be accomplished with no programming, or without re-writing the Domino application in a WebSphere Portal Server environment with the help of Portlets. The term portlet refers to a small portal application, usually depicted as a small box on a Web page or in a portal user interface. A portlet is a reusable Web module that runs on a portal server component.

Integrating or extending custom built Domino applications, or one of the thousands available from IBM Business Partners into a an organizations enterprise portal, can be accomplished with no programming, or without re-writing the Domino application in a WebSphere Portal Server environment with the help of Portlets. The term portlet refers to a small portal application, usually depicted as a small box on a Web page on a portal user interface. These portlets are a reusable module that runs on a portal server component.

This extensibility approach allows organizations to derive value from the rapid application development and collaborative nature of Domino centric applications. It also allows organizations to extend the reach of a wide range of communities in the organization via standard interfaces, commonly leveraged to further the return on investment and avoid costly disruptive migration approaches associated to other platforms.

- **IT Governance Requirements**

  Recent developments in the area of IT Governance have arisen that may impact the decision to migrate from one messaging platform to another.

  Legislation such as Sarbanes/Oxley, Graham-Leach Bliley, Patriot Act and HIPPA as well as civil lawsuits are impacting messaging systems in that legal discovery is often dictating messaging architecture. Increased server consolidation is one area that is a direct result of the desire to better control the information life cycle of email.

  – IT Governance in the form of CoBIT 4.0, ISO 17799, ITIL and ValIT are requiring vendors to demonstrate that their products can be managed within those frameworks.

  – Confidentiality, availability and integrity of data are seen as essentials feature sets in any deployment of new software. Applications that due not meet these criteria are unlikely to be accepted not because of their technical capabilities but more because of a perceived lack of these vital characteristics by independent auditors.

  – Microsoft's Exchange product can be portrayed as vulnerable in several of the aforementioned areas.

    • Exchange 2003 cannot support large numbers of users on a heavily used system once disk i/o becomes an issue. Virtual memory

fragmentation becomes a problem. The inability to support large number of users impacts efforts at server consolidation which in turn hampers efforts at information life cycle management. Microsoft's answer is the 64 bit architecture of Exchange 2007 which reduces disk i/o by putting more transactions into cache.

- Availability is still a weakness with Exchange. Clustering over any geographic distance to provide quick recovery in the event of a facilities disaster requires third party products which introduce high levels of complexity. As messaging is used by many automated controls to provide notification of control failure, the availability of a messaging system can impact the reliability of systems considered by external auditors to be critical. AD and DNS are also vulnerable to denial of service attacks which in turn can reduce Exchange's availability.
- Auditing of changes made to a Microsoft environment or event failures may require third party software simply to manage the large number of events. If software policies require action be taken and documented, this can prove to be a costly control.

Domino 7 has the ability to meet or exceed IT governance requirements.It provides scalability on secure Unix servers This allows for industry leading asynchronous clustering and high availability. Messaging systems contain automated controls for event notification and Domino provides the reliable messaging and high availability required to avoid consequences of not receiving those notifications.

- **Security**

  Advanced and proven security features – granular access control, end to end encryption of data; locally on the desktop, at the server, at the ports and in transit to deliver strong cryptography for Notes protocols, and Internet protocols. Includes digital signatures to digitally sign emails, and electronic documents for non repudiation. Includes x.509 certificate services, and ability to support dozens of third party x.509 Certificates of Authority (CA). Includes Server level spam control, with DNS Black lists & White lists support. Support for SmartCards, and ability to customize the LDAP scheme,

- **Continued Innovation with Composite Applications & Activity Centric Collaboration**

  The innovation with Notes/Domino continues with delivering enhanced collaboration services to users with Activity Centric Collaboration and Composite Applications. Composite applications enable the integration of information from multiple applications (such as Java, .Net, Web Services, Web applications, Domino applications), providing end users with the content they need based on their role and task. Based on Services Oriented Architecture approach (SOA), composite applications are quickly assembled from reusable components, and allow organizations to efficiently adapt

software to changing requirements. With Lotus Notes, customers will be able to combine disparate desktop applications into reusable services. Lotus Notes/Domino also integrates a new concept called activity-based computing. Activity-based computing extends the value of content created in the course of everyday work -- e-mails, meetings, documents, chats and notes -- by associating them with specific projects or processes. The ability to bring together all of the content related to an activity in an intuitive shared repository helps ensure team members have the same, up-to-date view of all aspects of the activity, helping to increase productivity and speeding time-to-completion of the activity.

- **Clear Roadmap**

  Lotus software continues its evolution into the future, with a clear roadmap building on a history of investment protection and smooth integration. Understanding the need for communicating a clearn roadmap and commitment to Notes/Domino, the next major release of Notes code named "Hannover" currently in Beta at the time of writing this redbook, was announed even before we shipped Notes/Domino 7, is planned to be available 2007

  The roadmap is clear, the next release of Lotus Notes aims to set new industry and customer precedents for openness, value and productivity. At major points in it's history Notes delivered innovative collaborative enhancements & capabilities, seldomly taking anything way, and while supporting emerging open standards for growth and interoperbility. This additive approach of being responsive to the needs of a passionate user communitiy, to the evolving nature of collaboration while supporting emerging standards contirbutes toward the broadening the adoption and innovative ways the technology could be applied. Lotus Notes/Domino is poised yet again, for growth with it's clear roadmap of innovation, investment protection and openess to naturally extend the product's openness to a new class of open, role-based, server managed, messaging and collaborative applications.

  Planned updates as part of this roadmap include Innovative user interface, Notes "Hannover" be the first major commercial collaboration client based on the Eclipse open source framework, ability to develop and run composite applications which combine components from multiple applications into a single, role-based interface,new activity centric computing model that lets users organize, navigate, manage, share information such as e-mails, calendar entries, documents, e-meetings — around a particular activity or project and the inclusion of business producitivity editors. These business productivty editors such as word processing, spreadsheet, presentations etc.. will be included at no additional charge and are compatible with Microsoft Office software and will support the OpenDocument Format (ODF), an international standard for saving and sharing editable documents.

With this roadmap and upcoming "Hannover release, IBM is staying true to the purpose and usefulness of the Lotus Notes client experience, and to the investments users have made in IBM Lotus Notes, while at the same time naturally extending the product's openness to new programming techniques and incorporating real innovation.

1.4 Summary

By moving from Exchange to Lotus Domino, organizations are migrating to a secure, reliable, and scalable Lotus Domino messaging infrastructure that can use the hardware and operating system platforms that are supported by Lotus Domino. This gives organizations far more server side deployment flexibility than Microsoft Exchange and allows them to more effectively leverage the performance, scalability, and reliability of different types of hardware and, more significantly, a multitude of non-Windows-based operating systems. Finally, it helps administrators control IT costs that are associated with this change. The product‘s maturity, dependanbility, built in tools for migration, adminstration, standards baseds support, flexible client support and years of migration best practices, such as those reflected in this publication, can help you mitigate the risk and more quickly gain the benefits of migrating to Lotus Domino.

2

Overview of the Domino clients

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter provides an overview of the client options to consider when migrating from Exchange to Notes and Domino 7.

The Lotus Notes and Domino 7 platform gives you a much broader and wider choice of available clients to choose from than Microsoft does for the Exchange platform

In this chapter we provide an overview of the different clients and explain each of their key strengths.

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2.1 Think Outside the Inbox

With Lotus Notes and Domino 7, the goal is to think *beyond* email. Lotus Notes and Domino 7 provide a *total solution* to your messaging, application development, and integration needs, making your users more productive by giving them exactly what they need, when and where they need it, with unparalleled security, robustness, and scalability.

Lotus Notes and Domino 7 have much to offer. Many enhancements to the Lotus Notes Client give your users the tools they need to do their jobs, all with an improved and more intuitive interface. Improved performance and features in Domino Web Access and Domino Access for Microsoft Outlook allow you to extend your environment. Progammability and Usability enhancements to the IBM Lotus Domino Designer® allow your developers to leverage existing skills and take advantage of new technologies, all from within a single, familiar interface. Performance and administration improvements to the Lotus Domino 7 Server allow you to “do more with less”, and enable your administrators to keep your environment running smoothly. And the Extended Products add value to your existing investment in Lotus Notes and Domino, while also allowing you to leverage your other IT investments, and extend their reach. Lotus Notes and Domino 7 have something to offer nearly everyone in your enterprise.

Lotus / IBM provide a full range of client offerings, providing a broad range of fully featured clients to address specific needs most appropriately.

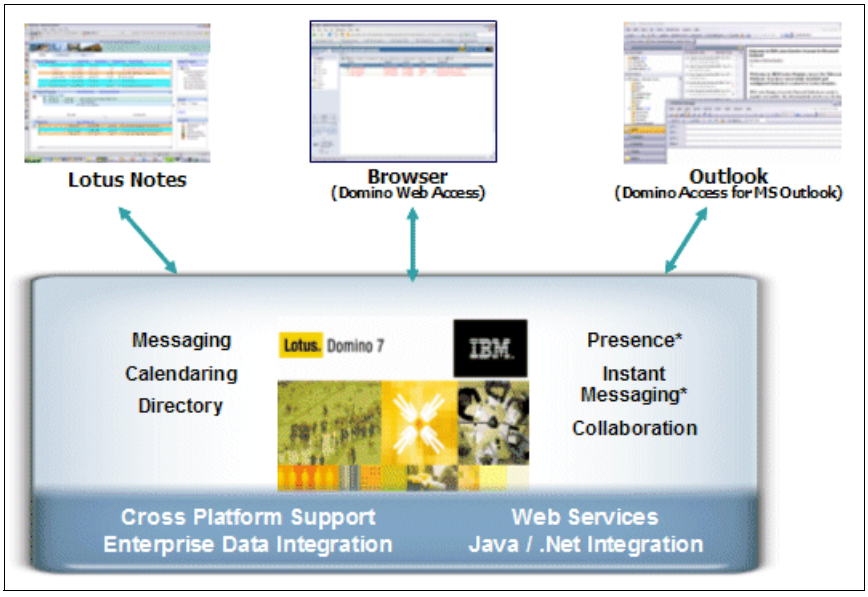

Figure 2-1 Offering of clients for Notes and Domino 7

2.2 Flexibility in Features and Offerings

When considering the needs of end users and client offerings, it is important to distinguish between different categories of user needs and the technology required to meet these needs. For example, certain groups of users will require a fully functional messaging client, with 'advanced' functionality while another category of users may have much more basic needs. In addition to meeting the users' needs with an appropriate client, an organization must also consider the cost in deploying, managing and updating these clients throughout the organization. For the purpose of this discussion, we identify five typical categories of end users and their workstation requirements:

- Fixed Function Kiosk
- Technical workstation
- Transactional workstation
- Basic office workstation
- Advanced office workstation

The objective is to examine the client offerings for the Notes and Domino 7 platform, and better understand how each of these different client offerings from IBM can best meet these needs.

Figure 2-2 illustrates the client offerings in terms of functionality vs. frequency of use.

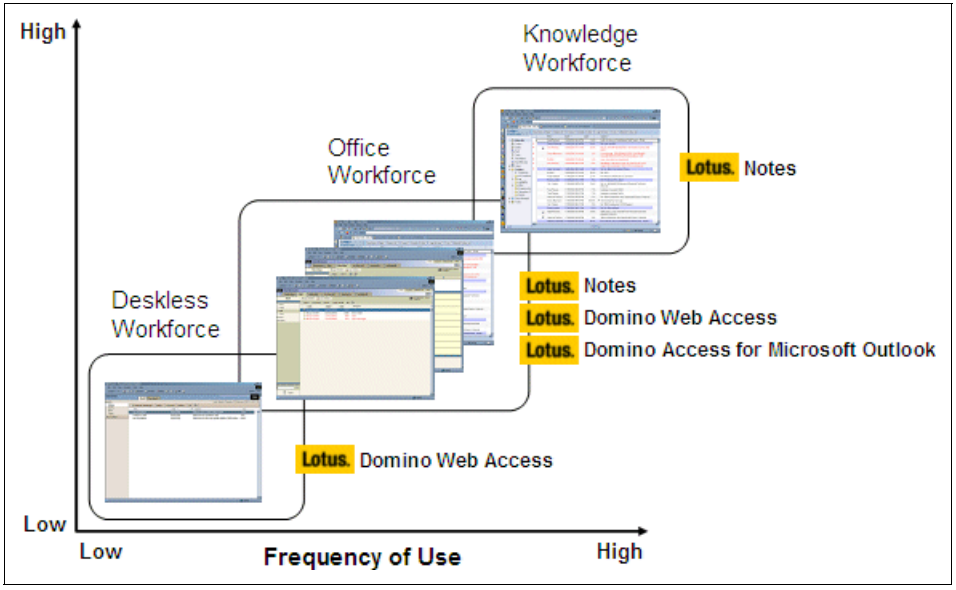

Figure 2-2 Workstation classifications

Deskless Workforce -

- **Fixed Function Kiosk**

  The fixed-function kiosk usually runs only one or two specialized applications and can be served by other Workplace™ client technologies like the browser or the mobile client.

- **Transactional workstation:**

  Users using these desktop machines typically run multiple customized business applications, most of which are structured or forms-based. They also browse the Web and collaborate through basic email. Email usage is limited to within the company, and generally the users do not have operating system expertise. These users may use simple server-based office productivity applications that may be remote or available via HTML.

Office Workforce

- **Technical workstation:**

  Workstation in a development or engineering environment. Users communicate via email, instant messaging and make extensive use of development tools or graphical CAD/CAM applications.

- **Basic office workstation:**

  Employees in the business world use desktop computers to drive company processes and productivity using word processing, presentation and spreadsheet applications. These users use the applications to create and view simple documents such as memos, letters, presentations and spreadsheets.

  Generally these users require only basic compatibility (including basic import and export compatibility) with other document formats, such as Microsoft Office. These are not “power” office users, so they do not require complex functions such as scripting. They require basic browser functionality to access information such as corporate guidelines, parts information and loan information. They use email to communicate information and to send documents through attachments.

Knowledge Workforce

- Advanced office workstation:

  Advanced office workstations users use desktop computers to drive company processes. They use arbitrary Windows applications that are dependent on Windows application program interfaces (APIs) such as MFC, IE and WIN APIs. They are highly skilled in the Windows user interface, and they depend on being able to interact with the Windows operating system and Windows-based applications to do their jobs.

Users of these general-purpose desktops employ applications to create and modify complex documents for use within and outside of their companies.

2.2.1 Overview of the Client Offerings

Lotus Notes 7 Client

IBM Lotus Notes is high-function, integrated desktop client software that set the standard for innovation in messaging and collaboration two decades ago. Lotus Notes client software is the premier of several client options for IBM Lotus Domino server. Together, Lotus Notes and Domino deliver a reliable, security-rich messaging and collaborative environment that is designed to help companies increase employee productivity, facilitate decision making, and improve overall business responsiveness.

Lotus Notes software can be deployed specifically for e-mail, calendar and scheduling as well as integrated personal and team productivity tools (IBM Lotus Notes for Messaging). Alternatively, it can be deployed as a customizable desktop platform to access and run collaborative applications in addition to using messaging capabilities (IBM Lotus Notes for Collaboration)*.

Lotus Notes offers robust security features that can help minimize or eliminate the impact of computer viruses. Execution control features can help keep unauthorized scripts, code and formulas from running on your workstation. Multi-tier security options allow control of access rights from the server level all the way down to an individual field on a form.

Lotus Notes incorporates advanced replication technology that allows users to be productive and efficient even when they are disconnected from the network. Replication enables users to save a local copy of a Lotus Domino application and its data, and to periodically synchronize the data that has changed. Network compression and streaming replication features can help reduce the amount of data transmitted over the network, and thus help minimize use of precious bandwidth resources.

With Version 7, IBM extends the reach of Lotus Notes messaging and collaboration solutions while continuing to leverage your IT and application investments. Integration with IBM Workplace products allows organizations to extend and leverage their existing infrastructure investments. Enhanced integration with instant messaging and Web conferencing enables users to have immediate access to the people and tools they need to do their jobs more effectively and make better, more-informed business decisions. And productivity enhancements in e-mail and calendar functions enable users to better manage daily information and resources.

Enhance features in Lotus Notes 7

Lotus Notes 7 offers a number of new Calendar and Scheduling features as well as tighter integration with IBM Lotus Sametime®. Other functional areas that have been enhanced include mail, desktop, accessibility, and interoperability.

Significant improvements have been made to the desktop, allowing users to customize their interaction with the desktop, either by saving window state on exit, or by determining which tabs open on startup. Further, a user no longer has to wait while a view updates; since the update happens in the background, the user can work in other areas while the view is updated, providing the opportunity for improved productivity. And a new AutoSave feature has been introduced to help prevent data loss when unexpected outages occur; users can enable AutoSave in their preference on the Lotus Notes client to save their work every few minutes when working in AutoSave-enabled applications, and designers can enable AutoSave on forms in new and existing applications

Calendar and Scheduling has been updated to better reflect customer needs. A new Calendar Cleanup action allows users to easily and quickly delete old entries from their calendar. Handling of conflicts has been improved, first by giving the user the option to allow Autoprocess to accept conflicts, and also by improving the display of schedule conflicts. Additionally, users can now cancel Calendar/Scheduling workflow when sending comments. View and miniviews of calendar information have been improved for better usability, and the needs of Calendar Managers have been addressed. Further, many improvements have been made to the way Rooms and Resources are managed, including the ability to restrict rooms, and to designate a room as restricted to those attempting to reserve it, and changes to the workflow to prevent double-booking, in addition to providing greater granularity of control to Administrators in charge of the Rooms and Resources process.

In Lotus Notes 7, you will find much closer integration with Lotus Sametime. Integration has been added to templates for the mailfile, Teamroom and Discussion databases, the Personal Name and Address book, the Lotus Domino Directory, and the Rooms and Resources databases. In these databases, not only can users see who is online, they can initiate an instant messaging session directly by clicking on the status icon. Also, several preferences have been added for Lotus Sametime Integration that allow a user to specify automatic or manual logging in, to save transcripts of instant messaging conversations to the mailfile, and support set preferences about how Screen Sharing, Whiteboarding, Audio and Video are used through the Lotus Notes client.

Numerous usability improvements have been made to Mail. Among the highlights are a no subject warning, the ability to sort by subject out of the box, quick access to flag items for follow-up, and the ability to see mail threads within an email. The right-click menu has been expanded as well, and administrators can

now control Mail Preferences via policies. Finally, visual tags have been provided to indicate whether an email was sent to the recipient only, and a user can now find out what folders hold a document using the “Discover Folders” action.

To increase your options, the Lotus Notes Application plug-in included as part of the Lotus Notes and Domino 7 release, which was designed to work with the IBM Workplace Managed Client. For additional information, please consult the product documentation for IBM Workplace Collaboration Services 2.5, which can be found here:

http://www-10.lotus.com/ldd/notesua.nsf/6c87a7297ac2aa718525698100519109/865ed40240bc25ae852570060050eb40?OpenDocument

Finally, a number of improvements have been made to the archiving process.

For details on these and all other new client features, see the Lotus Notes and Domino 7 release notes on the Lotus Developerworks site:

http://www-10.lotus.com/ldd/notesua.nsf/e18d5eb0b8be97d9852567e50052ad16/ec099861d91381fc852570360051903c?OpenDocument

IBM Lotus Domino Web Access 7

In some situations, accessing email and discussion forums from a thick client installed on a dedicated workstation is not practical. For instance, employees require the flexibility to access important information when at home, while traveling or using a shared workstation. For those situations, we created Lotus Domino Web Access, IBM's premier Web client for accessing a Lotus Domino-based mail file. Lotus Domino Web Access offers a rich user experience for both Microsoft Internet Explorer, Mozilla and Firefox browsers through the use of dynamic HTML (DHTML). As a DHTML application, Lotus Domino Web Access client performance is governed by server performance, network performance, and client configuration.

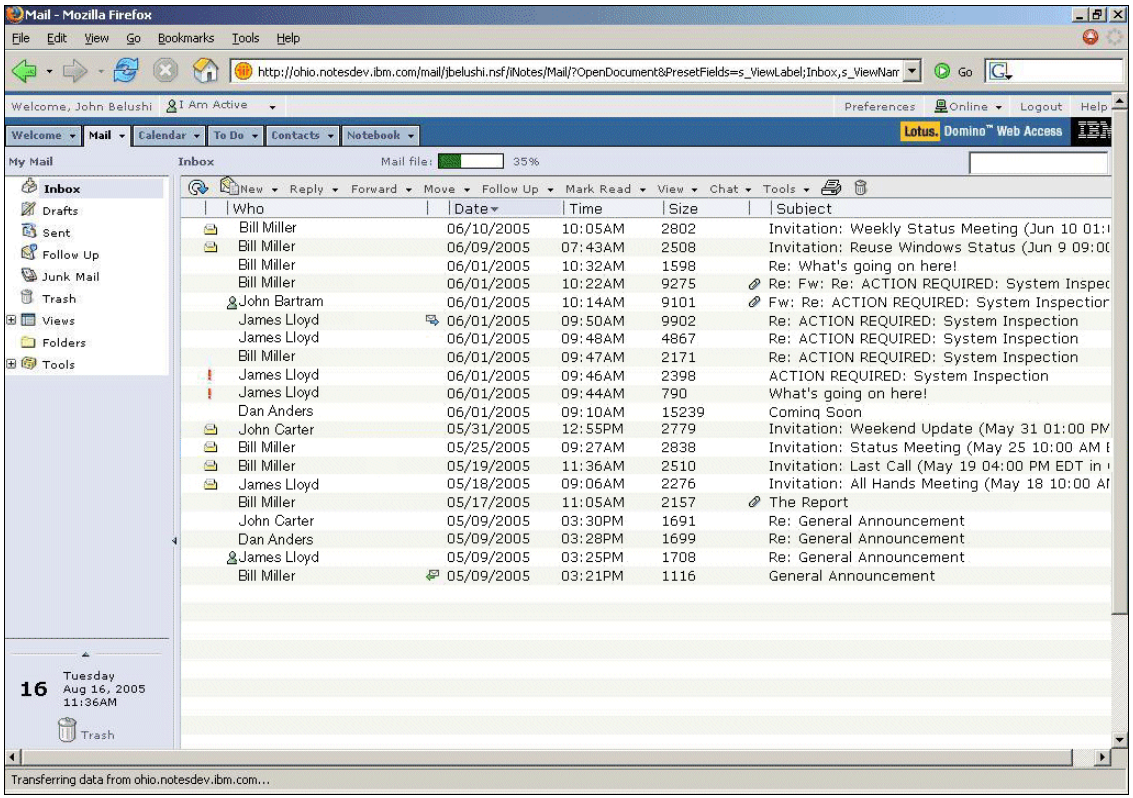

Figure 2-3 Domino Web Access 7

Lotus Domino Web Access 7 has many improvements in the areas of performance and usability. Highlights include:

- Opportunity for improved client and server performance
- Enhanced security features
- Expanded presence awareness and instant messaging integration
- Updated user interface
- Added mail and calendar productivity features
- Enhanced support for Linux
- New administration and management features
- Improved offline access to personal data

IBM Lotus Domino Web Access 7 software is a sophisticated Web client for Lotus Domino server. Lotus Domino Web Access software gives your employees

the power to create rich text messages, schedule meetings, manage tasks and collaborate with colleagues-whether they are using their own workstation, an Internet kiosk or another user's PC. With Lotus Domino Web Access 7, you get the best of both worlds: access to a robust, reliable, enterprise-class messaging and collaboration platform, with the ease of simply opening a browser.

Note: Lotus Domino Web Access 7 takes advantage of Lotus Domino 7 Server performance improvements, both in the core server functionality, and in HTTP.

IBM Lotus Domino Access for Microsoft Outlook (DAMO)

Lotus Domino Access for Microsoft Outlook offers the ideal solution for companies that want to leverage the robustness and security advantages of the Domino server, while preserving their dedicated Microsoft Outlook user base. Additionally, in the case where a company merger or acquisition leads to a mixed-client environment, Lotus Domino Access for Microsoft Outlook enables user to run the Outlook or Lotus Notes client over the same Lotus Domino mail file data. Company mergers and acquisitions can mean having multiple email clients in use. Whether you choose to migrate fully to a Lotus Notes and Domino environment, or allow the Lotus Notes and Lotus Domino Access for Microsoft Outlook clients to coexist, Lotus Domino Access for Microsoft Outlook provides the functionality to smoothly integrate Microsoft Outlook users into your Lotus Domino infrastructure, while letting them continue to access mail and work with calendar functions through a familiar interface.

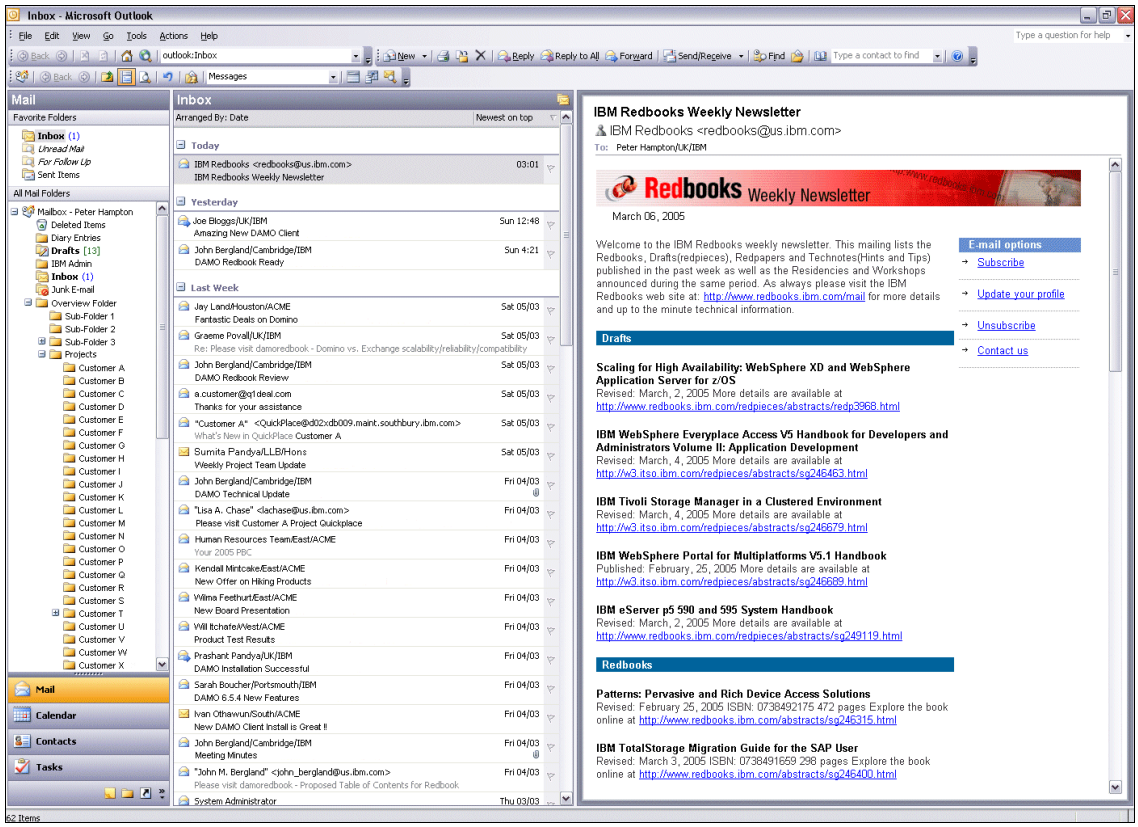

Figure 2-4 Outlook client - accessing data through a Domino Server

Among the highlights of Lotus Domino Access for Microsoft Outlook 7 are:

- Opportunity for improved client software performance, reducing the time to launch the application compared to 6.5.3.
- Native support for Internet standards, including X.509 and Secure Multipurpose Internet Mail Extensions (S/MIME)
- Installation option for separate program and data directories, allowing multiple users to share the same machine, using Microsoft Windows operating system security.
- New mail notification options, including playing a sound, briefly changing the mouse cursor, and showing an envelope icon in the notification area.
- Option to use a local copy of your global address book; this can be a full copy of the directory or a condensed directory catalog to save space on your workstation.

Additionally, Lotus Domino Access for Microsoft Outlook 7 users can use Lotus Domino applications via a browser, dramatically increasing access to your existing Lotus Domino applications. Finally, because, Lotus Domino Access for Microsoft Outlook 7 does not require a Lotus Domino 7 server, you can take advantage of these improvements today, before you complete your server upgrade, as long as your users' mailfiles reside on Lotus Domino release 6.5.1 or above. For more information on DAMO, please refer to the product homepage at:

http://www-142.ibm.com/software/sw-lotus/products/product1.nsf/wdocs/accessmsoutlookhome

2.2.2 Common PIM Portlet

Common Personal Information Management (PIM) portlets were first introduced in IBM WebSphere® Portal 5.1 and include two portlets, Common Mail and Common Calendar. CPP provides a single user interface and user experience to access a range of PIM solutions, including IBM Lotus Domino, Microsoft Exchange, IMAP, and POP3. In WebSphere Portal 5.1, the Common Mail portlet supports Domino, Exchange 2000, POP3, and IMAP. The Common Calendar portlet supports Domino.

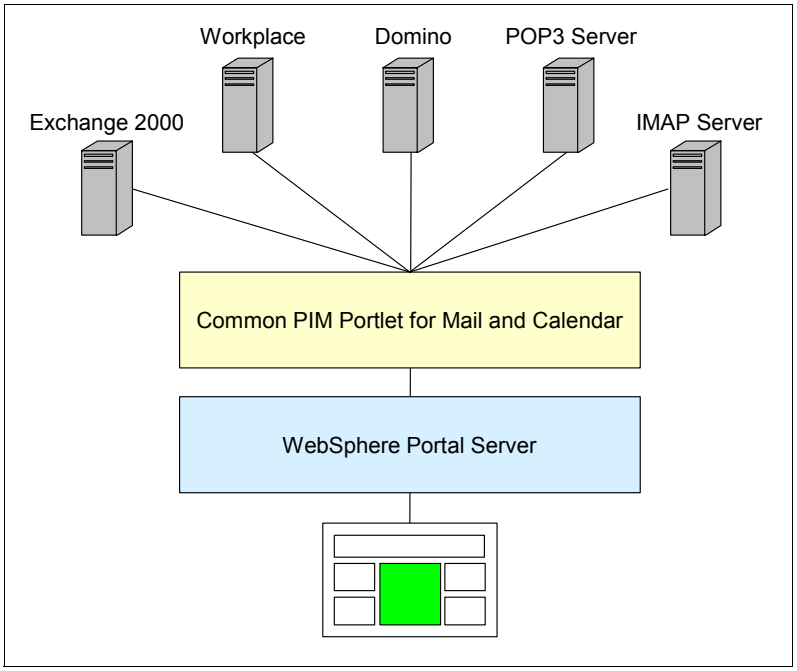

Figure 2-5 Common PIM Portlet can integrate different backend systems into a single portal

For a company that has multiple PIM systems, such as Exchange, Domino, and POP3/IMAP servers, CPP gives users a common user experience while accessing different backend systems. As a result, it could be argued that CPP lowers the total cost of ownership (TCO) in terms of training and technical support. The latter part of the article will focus on the user experience and advanced features, including Document Library integration, Document Conversion for viewing attachments as HTML, Address Finder, and C2A in the Common Mail portlet.

Figure 2-6 illustrates the Mail Portlet for the Common PIM Portlets.

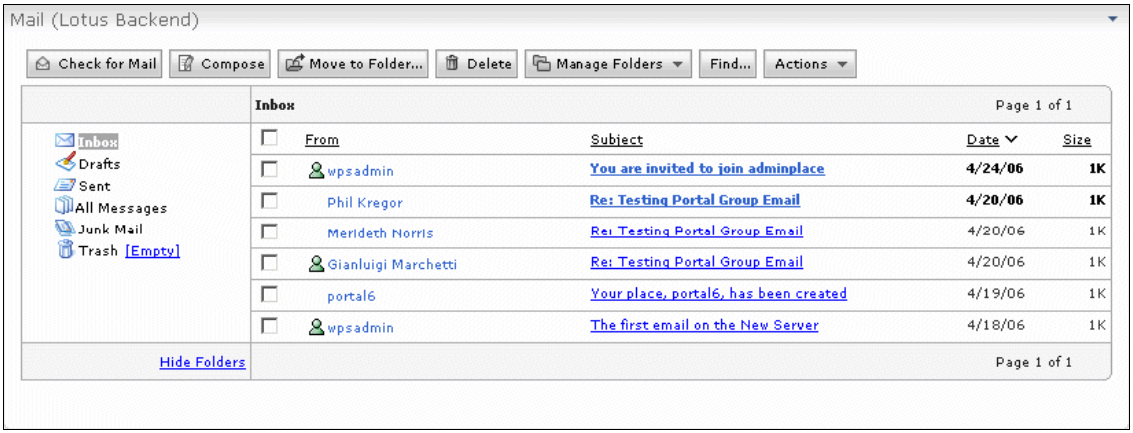

Figure 2-6 A Common PIM Portlet connected to a Domino Mailbox

Advantages to the Common PIM Portlet include

- Provides a Browser client user interface to Mail functions such as Email composition, viewing and Inbox management
- Can connect to multiple Email service providers, including Domino, Exchange, POP3 and IMAP
- Adapts to the capabilities of the service provider – not a least common denominator approach
- Can launch DWA or Notes as a secondary client for Domino if enabled by Administrator

Figure 2-7 illustrates the Calendar PIM Portlet.

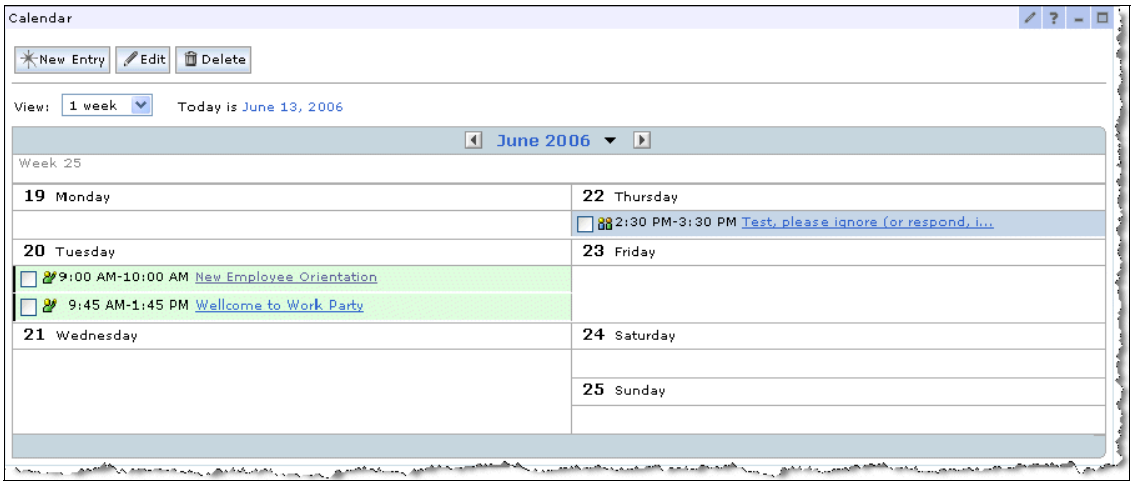

Figure 2-7 A Common PIM Calendar Portlet

When using the Common PIM Portlet, you can select which backend system you wish to connect with.

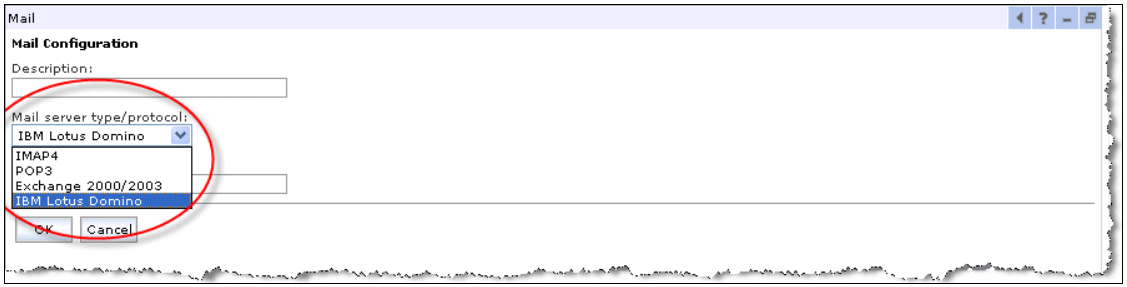

Figure 2-8 Configuration of the Mail Portlet - you can select different back-end mail systems

2.2.3 Potential Co-existence scenario using the PIM Portlet approach.

The figures in the upcoming section focus Exchange integration and Domino integration and how the Common PIM Portlets could be potentially in a coexistence scenario between Lotus Domino and Microsoft Exchange. Similar to functionality provided by WebSphere Portal, the Common PIM Portlets could deliver a common interface to both Domino and Exchange communities. Once a portal approach and browser based approach is taken the migration behind the scenes can be "transparent" or seamless giving the user either a consistent interface no matter which system is serving as the back-end. This functionality remains valid before, during, and after a migration/coexistence scenario.

Figure 2-9 on page 38 illustrates how using the calendaring PIM Portlet allows a user a seamless, consistent interface, using either a Domino back-end server, or when working in an Exchange environment.

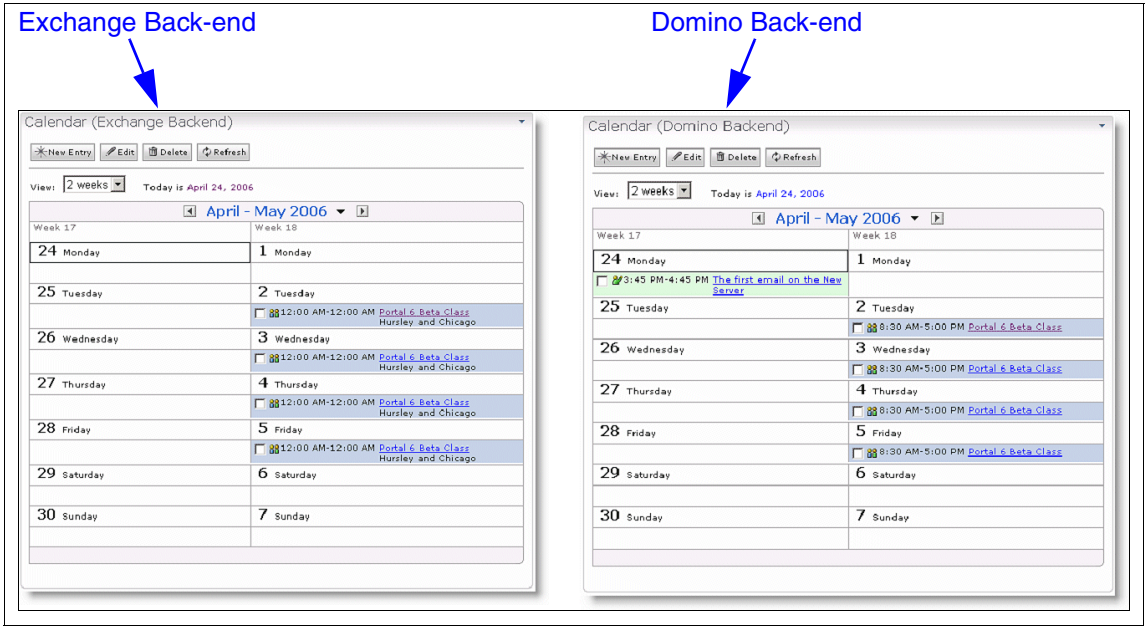

Figure 2-9 Calendar PIM Portlet - used with either Domino or Exchange

Figure 2-10 illustrates again how using the Common PIM Messaging Portlet (Mail Portlet) allows a consistent, seamless interface, with flexibility to work with either a Domino messaging system or an Exchange messaging server.

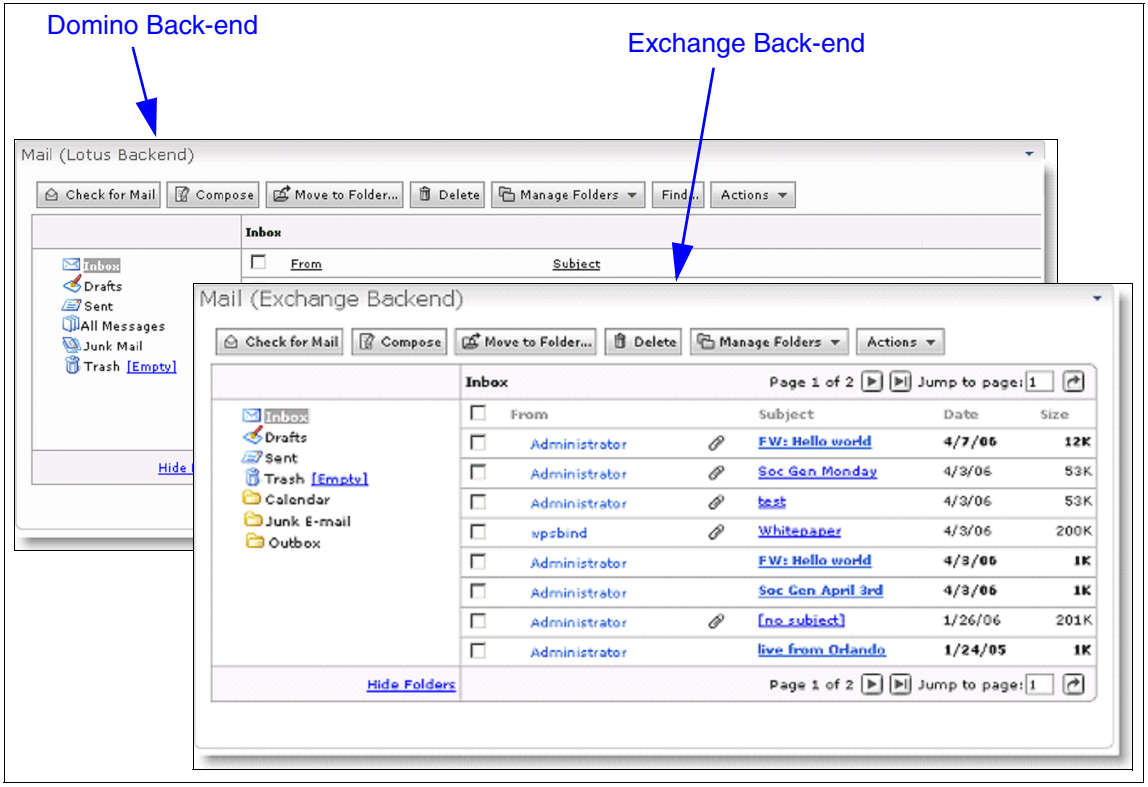

Figure 2-10 Common PIM Portlet (Mail Portlet) - working with either a Domino Server or an Exchange server.

Finally - while this represents one potential co-existence option, we discuss several possible approaches to co-existence and what to expect in Part 3, “Coexistence - Tools and Strategies” on page 105.

Part 2

Planning for Migration

In this part we introduce/provide/describe/discuss...

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3

Migration project overview

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter is to help project managers and IT architects develop an overall migration project plan. It covers some standard project management topics, as well as very specific information on what will be needed to get the project running.

Since no two migration projects are alike, we strongly recommend that the information in this book be used as input for the project, not as the final word on how the project should be run.

We discuss several project scenarios and high level considerations for the project plan. We also address migration as well as a possible coexistence scenarios.

The steps and activities described in this chapter, along with the detailed guidelines and technical examples for migration and coexistence provided in later

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chapters, will assist the project team in migrating from the Microsoft Exchange 2000 / 2003 environment to Domino 7.

Attention: This chapter is not intended to be a complete project management handbook, even for a migration project. Every organization, environment, and project is different, and expert project management skills are needed to manage the project successfully. The goal of this chapter is to increase your awareness of the topics you should consider and act on when planning and implementing the project.

For information about project management, refer to the Project Management Institute Web site at:

http://www.pmi.org

3.1 The key steps in a co-existence/migration project

The following high-level steps are the keys to successfully planning and implementing a migration project:

- Have a project sponsor that is involved in the project
- Define the project vision
- Assemble the right project team
- Develop and maintain the project schedule
- Project scope management
- Document business requirements
- The communication plan
- Set project expectations
- Document the current Microsoft Exchange messaging environment
- Develop the training plan
- Plan, design, and document the new Domino and Notes environment
- Risk analysis
- Pilot the new environment
- Develop a coexistence and migration strategy
- Pilot the coexistence and migration strategy
- Implement the coexistence and migration strategy
- Final phase - project closure

An overview of each step follows; thorough discussion of these topics is in later chapters.

Project sponsor involvement

The importance of high-level sponsorship must be strongly emphasized for a project such as migration.

Project vision

The project vision is a high-level, unbound view of the future.

Assemble the right project team

Putting together the right project team is a critical factor in ensuring a successful migration. This type of project requires a group with the right technical and management skills to ensure an accurate, high-quality design and a realistic, manageable project schedule.

Develop and maintain the schedule

There is a lot at stake in any coexistence and migration project. Things must occur in a certain order, within a set time frame, to ensure a successful migration. Therefore, realistic, achievable schedules must be established for the project.

Project scope management

The project scope defines the boundaries of the migration project. The scope statement should enumerate the functionalities of the new environment.

Document the business requirements

The first task the migration project team must tackle is fully documenting the business requirements and the scope of the migration. This exercise involves expanding on the requirements laid out in the messaging evaluation study and detailing any additional requirements. The result of this step is a set of clearly defined, realistic goals for the project.

The communication plan

The objective of a communication plan is to educate, inform, energize, and engage all parties of a project. Without adequate communication throughout the migration project, you run the risk of creating an excellent plan that never has the opportunity to be implemented. Developing a communications plan can be regarded as a internal marketing campaign, and will help keeping the amount of “FUD” (fear, uncertainty, and doubt) to a minimum.

Set project expectations

Setting expectations requires open, honest communication throughout the life of the project. From the top on down, all people involved need to have a realistic

picture of what they will receive and when they can reasonably expect to receive it. Everyone should understand the project and the progress being made on it. Unrealistic expectations and perceptions can be deadly, causing a successful project to be perceived as a failure. You can avoid this by keeping everyone's expectations in sync.

Document the current Exchange messaging environment

This phase of the project involves gathering specific and detailed information about:

- The infrastructure
- e-mail metrics
- Applications
- Services

This information defines the current messaging environment. It includes such things as the network topology and the current naming scheme.

Note: Being very thorough here avoids unpleasant problems later, as “forgotten” or neglected functionality may escalate to be a showstopper.

Develop the training plan

New skills might be required for the new messaging system. Training everyone involved with and affected by this project will be a key factor in its success. In addition to the technical training necessary to enable IT staff to design, test, deploy, and support the new environment, all those who will use the new system should be trained on its features, functions, and any new or migrated applications.

Training should be an ongoing activity throughout the course of the project. Communicating the reasons for the migration can be a part of the training, and developing the training plan can actually begin concurrently with the documentation of the current environment. The plan can then be updated during subsequent steps.

Plan, design, and document the Domino environment

In this step, the project team designs the new environment, one which reflects the company’s strategic infrastructure plans, meets current needs, and provides opportunities for future enhancements. The team must design a well researched and carefully conceived messaging infrastructure, to support not only end user’s e-mail needs, but a variety of other messaging applications.

The activities in this step of the project include:

- Planning the new environment
- Designing the new environment
- Documenting the new environment

Develop a coexistence and migration strategy

The coexistence and migration strategies are the plans that define how to join the old and new messaging systems, and describe the steps in which users stop using the old system and begin using the new system. These strategies are dependent on:

- Business requirements and the scope of migration
- Setup of the old system or systems
- The design and implementation of the new Domino and Notes environment

Implement the coexistence and migration strategy

At this point the design of the new environment has been validated, as well as the coexistence and migration strategies for the company. Now the actual migration of users to the new environment can take place. Key activities in this step are:

- Training
- Publishing the migration schedule
- Announcing the kickoff of the migration
- Starting the coexistence/migration

Close the project

When the migration is done, there are still a few tasks necessary to close out the project. They are discussed in a later section.

3.2 The sponsor

High-level sponsorship is crucial to a large-scale project like messaging migration.

In addition to making major changes to the IT infrastructure, the migration project can affect the way the company does business, as well as causing cultural changes within the company. The cultural changes can be very difficult to “sell” to the users, and even more so to a company being migrated into another. For that reason, the sponsors must come from high enough in the organization to have the power to drive and effect those cultural changes.

The sponsor should preferably be of executive level, have a clear and complete understanding of the business reasons for the project, and be committed to the vision.

The sponsor's full understanding of the business reasons helps both the sponsor and the project team to provide clear and precise communication about the project and its goals. This enables the sponsor to emphasize the importance of this project and help ensure the project team gets the cooperation they need from all areas of the company. It is recommended that the project sponsor work with the project manager to hold an initial kickoff meeting for company management.

The goal of the kickoff meeting is to gain the needed management cooperation to build the project team and the advisory panel. Further into the process, having the project sponsor acknowledge the work of the test users and participants in the pilot will foster a positive attitude about the migration throughout the company.

3.3 The project vision

The "project vision" is a high-level, unbound view of the future messaging and collaboration system that is to be created by migrating to Notes and Domino 7. The project vision should be aligned with the overall business vision of the company. Such a vision helps to establish both long-term goals and short-term objectives to ensure the success of the migration project.

Example of a vision statement:

> *The vision of the migration project is to replace our multiple existing divisional-based messaging systems with an enterprise-wide messaging and collaboration system that uses Lotus Notes and Domino. This upgrade will enable all our business units to interoperate seamlessly while adding user functionality and reducing administrative and operational costs. The new system will be deployed in each of the company's locations and for all employes worldwide. Deployment will commence within 3 month, and will be complete within 9 month.*

3.4 The project team

Assembling the right project team is the key factor in ensuring a successful migration project. It is mandatory to assemble a group with the right technical and management skills to ensure an accurate high-quality design and a realistic, manageable project schedule.

The team will most likely consist of employees from your company along with subject matter experts and consultants from IBM or its business partners. While

the subject matter experts may participate for only limited periods of time, it will be crucial to know whom to call and when to call them in.

The team may consist of one or more persons in each of the following roles (and multiple roles may be filled by a single individual):

- Project manager
- Sponsor (does not have to be a member of the team, but needs to be kept informed regularly)
- Domino architect
- Exchange administrator
- Domino administrator
- Domino application developer
- Network administrator
- IT/IS manager
- Migration specialist
- Support team representative
- Specialists (these individuals may be on call)
- Users from key interest groups

Some training may be required for members of the project team, or for those designated as part of the initial support team. Allow sufficient time for this training at the beginning of the project.

Experienced users from the organizations being affected by the change should be involved. They can help communicate the progress of the project and assist with choosing appropriate test users. They could also provide early feedback on plans and schedules, as well as ensuring any requirements unique to their areas are accounted for in the design of the new environment.

Special care should be taken on handling the Exchange administrators and others who have been involved in the administration of the Exchange environment. Those people will most likely be the first and most powerful resisters to be encountered. However, since they have precise knowledge of how the old messaging infrastructure works, the Exchange administrators can be great advocates for the upcoming migration if they are handled right. This involves a lot of communication, retraining, and assuring them that they will not be obsolete after the migration.

Getting access to the right personnel for the project team and the panel will require buy-in on the project from all levels of management.

3.5 The schedule

A realistic, achievable schedule must be created for the project. This schedule should not only consist of a target date for completing the project, but should identify important milestones, deadlines, and the resources needed along the way.

To help you explain the basis of the established schedule to a sponsor or management team, be certain to:

- Educate management on the steps involved in this type of a project
- Explain the processes involved
- Lay out a reasonable, achievable high-level timeline
- Explain the risks involved in delays in any of the steps or processes

The goal is to gain acceptance from the project sponsor for a realistic, achievable timeline.

3.6 The scope

The project scope sets the boundaries for the migration project. The scope statement should define the functionalities of the new environment that you can implement within the time given and the resources allocated. The scope should differentiate between what the migration must have and what is non-essential.

Example of a migration project scope:

When migration is completed, our new system will:

- *Provide a functional implementation for 5000 users and accommodate 8% expected yearly growth over the next 5 years*
- *Replace the existing messaging systems: Microsoft Exchange and POP mail servers*
- *Coexist with the Exchange system until migration is complete*
- *Be a highly available system that fulfills the requirements specified by the SLA of the company*
- *Take advantage of the collaboration features presented in Domino*

3.7 Documenting the business requirements

There are many reasons why a company might want to improve and expand their messaging infrastructure. Among these motivations are changes in corporate

structure brought about by a merger or acquisition, changes in the company's business model, or the constant shifts in focus necessary to keep up in today's fast-paced business environment. The need to deal quickly with change, and to communicate efficiently with employees, customers, and business partners can also be motivating factors.

The use of a messaging infrastructure need not be confined to just sending and receiving simple messages and attachments. It can be a whole collaborative environment supporting e-mail, instant messaging, group discussions, virtual team workspaces, corporate intranets, quick publishing to the Internet, and custom applications—all within a reliable, scalable, secure, integrated framework that is manageable and cost-efficient.

Documenting the business reasons for the migration project and the business uses of the new functionality that will be provided is one of the first tasks the migration project team must undertake. The project sponsor and the project manager must communicate the reasons and goals of the migration project to the project team. The project team must then communicate the reasons, goals and other project information to the end-user community. Open communication will facilitate cooperation and help ensure success.

3.7.1 The basic requirements

Many of the basic requirements for migration may have already been presented at a high level in the migration study. The team must now expand on those requirements and detail specifics on each, to ensure they are incorporated into the design of the new messaging environment.

The basic requirements include such things as:

- Additional client functionality.
- Greater messaging server scalability, reliability, and manageability.
- Lower total cost of ownership (TCO). This refers to the company's cost to run, support, and administer the new messaging environment. It does not refer to the costs associated with migrating from the old environment to the new environment.
- Improved interoperability with Internet standards.
- Improved throughput.

What is expected in each of these areas by the corporation should be detailed in the requirements. For example, the project sponsor might expect a specific delivery time for a simple mail message. The project team must ensure this is stated, and that the designers of the new infrastructure specify the right network topology and systems to meet that goal. Additionally, if the sponsor has a requirement that is unrealistic, this is the time to modify the expectation to be within the boundaries of what is possible or feasible.

3.7.2 Further requirements

After dealing with general requirements, the team must address the detailed requirements in the areas of:

- Features, functions, and applications that are part of the current environment
- Features, functions, and applications that the corporation wishes to add based on the capabilities of the new environment

The functionality of the current environment

Documenting the requirements for migrating existing functionality should be a very straightforward task. The key is to cover all the functionality. Users are more likely to be upset by being unable to do something they were used to, rather than about learning a new function.

Each existing feature, function, and application should be documented. This list should then be used by the designers to ensure that each item is built into the new environment. This list can also be input to the training plan, to ensure users know how to perform tasks in the new environment.

The functionality of the new environment

Documenting new features, functions, and applications that can be added to the messaging infrastructure is more complicated.

In the areas of features and functions, the project team needs to document those that are new, and ensure their usefulness is effectively communicated to the end users. This communication can take place through end-user training and through internal marketing, such as quick reference guides.

Promoting new applications is more is involved. The job of the migration team may be to build a “wish list” of the applications that various individuals and groups would like to see incorporated into the new environment. The specific applications should be identified as “must have,” “should have,” or “nice to have,” and be evaluated against the implementation cost. The project migration team then details the requirements for each of these applications, reviews the requested priority, obtains approval (or modification of the priority), schedules the development work, and adds this work to the scope of the migration project. Review, prioritization, project approval, and funding should be done by the management group.

Depending on the number and complexity of these applications, separate workgroups may need to be established to complete these applications within the timeline of the migration project. It may be the case that only one or two key applications are considered important enough to be part of the overall migration project, and the remaining applications could be placed outside the scope of the

migration project, to be handled separately at a later time, or selected to be discontinued.

At this point it is necessary to realign the expectations. After studying the current environment and making plans for what functionality will be available in the new environment initially, at a later stage, or not at all, the revised expectations should be communicated to the sponsors and the user community.

3.8 The communication plan

The objective of a communication plan is to educate, inform, energize, and engage all parties of the project. Without adequate communication throughout the planning process, you run the risk of creating a fabulous plan that never has the opportunity to be implemented. The communication should begin at the beginning—at the point where you assemble your project team and begin the planning process.

To create your communication plan:

- Identify who to inform about the project (key individuals, decision makers, and strategic groups).
- Decide who is responsible for reaching each person or group.
- Determine when, what, and how communication will take place. That is, try to identify each communication step.
- Identify the communication vehicles you have available and any communication vehicles you may want to create.
- Pay attention to any feedback you receive.

Reach everyone who will play a role in implementing the project. If you identify additional players part of the way through the planning process, don't hesitate to include them in your communication from that point forward, being sure to catch them up and include them on the process.

Some of the topics you should consider communication about:

- Migration project in general
- Goals set for the project
- Implementation schedule
- Pilot project
- New environment
- Where and how the education is available
- How to contact support
- Progress of the project

3.9 Setting the expectations

Setting the correct expectations is crucial to the success of a migration project. If the expectations aren't set correctly, you run the risk of having very low customer satisfaction from the end users.

Just because one migration approach worked in one environment does not mean that it will be successful in another. By assuming that a new migration project is identical to a previous one, there is a danger that significant differences in stakeholder expectations and requirements will be ignored or actively suppressed. Project outcomes must support the specific structures, processes, people, and existing systems in a particular organization, not some generic version.

One of the most powerful strategies for keeping a project on track is to set the stage properly. This means more than distributing the project plan. Complement the plan by stating the project vision and goals. Describe the final result and how the project team will conduct itself to get to that result.

It is important to set the expectations early in your project management activities. Incorporate these concepts in kickoff meetings and initial meetings with specific project teams.

Examples of expectations set for the migration:

- All mail present on servers will be migrated.
- Mail will not be coexisted.
- Calendar and scheduling information be migrated.
- Calendar and scheduling information will not be coexisted.
- Users will be trained within one week prior to being migrated.

Examples of expectations set for the new environment

- Delivery of messages internally: 90% < 5 sec, 5% < 20sec.
- Open mailbox view: 90% < 5 sec, 8% < 20 sec.
- Send file and store: 90% < 5 sec, 8% < 15 sec.

(Sums not equal to 100%; remainders are for special exceptions.)

3.10 Documenting the current messaging environment

This section was designed to help you gather and document specific, detailed information about the current Microsoft Exchange system. This is the foundation

which will help the project team to build a complete and accurate design for the new Domino environment, if one is not already in place.

A checklist to assist you in documenting your current messaging environment is in Appendix E, “Exchange Connector installation checklist” on page 821.

In this section we describe the steps for documenting the following:

- Microsoft Exchange environment
- IT profiles
- Administration support
- Risk assessment

3.10.1 Documenting the Microsoft Exchange environment

Whether you have a small, medium, or large Microsoft Exchange environment, it is important that you gather all the data recommended here. Having all this information will ensure nothing is missed in the design of the new Domino environment. Many of the details may already be documented, so this phase of the project may be just verifying the existing information.

Microsoft Exchange server topology

To document the Microsoft Exchange server topology, you need to know:

- The version/SP level of Exchange Software being used.

  If different versions are being used, then state why. There might be a very specific reason that a newer or older version/SP is used.

- The operating system/version/SP level the Exchange servers are running on.

  If different versions are being used, then state why. There might be a very specific reason that a newer or older version is used.

- The current Exchange topology.

  Is this a Single site/Single server, Single site/Multi server, or even a Multi site/Multi server environment? This information can affect other decisions (for example, server consolidation).

- The organization’s name (assuming a single organization).
- In case of multiple sites, the site names.
- Connections to other internal/external mail systems. (If there are none, go on to documenting the Microsoft client topology.)

- What Mail Transfer Agents (MTAs) and connectors are in use?

  In a multi-site environment, it is expected that site-to-site connectors will be in place. The connectors/MTAs we are addressing here could be CCMail, MSMail, SNADS (if so, state what system), Internet, X.400, Lotus Notes, Exchange 2000/2003 to Active Directory, Novell Groupwise, and others.

- Are calendaring and scheduling services/connectors provided across the connections?

  If this is the case, state what connections are being used for this functionality.

- With regard to multiple sites, is “free busytime” replicated across the connections?

  If this is the case, state between what sites.

- Are there any directory services provided over the connections?

  If there are, you will need to know what type (LDAP, Native Dirsync, Gateway, or third party), and finally, if the import/export process is automated or manual.

- List the server names, and determine which server is the first Exchange server.

  What is the server name; is it a bridgehead server; is it a Public folder server; where is it located (organization and site); and how many users are on this server?

Microsoft Exchange client topology

To document the Microsoft Exchange client topology we will need to know:

- What clients are being used and how many?

  Pre-Outlook (5.0 Clients), Outlook98 (for Windows, Macintosh or Web access), Outlook 2000, Outlook 2002, Other IMAP4 Client, POP3 client, or other? Can they use POP3 from any client?

- Are there mobile users?

  - List types and amounts of mobile devices.
  - How is access to mobile users provided (RAS, Wireless, Web, PDA, or other)?
  - Detail the functionality used with the mobile devices.

  Be detailed; loosing functionality will act as a showstopper to the mobile workers.

- List of users per locations (include mobile).

- Are personal storage (PSTs) and personal address books (PABs) being used, and if so, where is the user data stored?

  If PST files are being used, can this affect the use of Migration tool and the Migration strategy? How about mobile users and the OST file?
- Are mail rules used?
- Is voting used?
- Are there distribution lists?
- Who is allowed to create folders?

Existing Exchange services

Services, such as those in the following list, are also key elements of the messaging infrastructure and must not be overlooked when planning a migration. Be sure to document how each of these services is used in the existing environment and whether that use will change in the new environment.

- Calendar and Scheduling:
  - Is Calendar and Scheduling functionality used? If so, to what extent?
  - Are mailboxes assigned? If being used, is the management function for resources and conference rooms being used?
  - Are users scheduling meetings across the enterprise?
  - Are corporate holidays being maintained?
  - Is it general practice to look up free time prior to scheduling meetings?
  - Are there any applications based on the Calendar APIs?

    These might be plug-ins, third-party software, or in-house developed software. Maintaining this kind of functionality might involve the developers, or require a separate project.
- e-Mail
  - How many registered/active/concurrent users are there in Exchange?
  - How many peak time users are there? (Peak time, for example, during the beginning of a business day)?

    If possible, try to obtain statistics that show the peak number of users on an hourly basis for a full month. There might be very big variations in different companies. This information will be used for the design of the new infrastructure.
  - How many mail items, on average, are sent per day (average per user)?

    If there are variances in how the users act on different sites, then state this as well.

- What is the average size of a typical e-Mail?

  Are there “heavy” sites or user groups that needs special handling?
- What is the average size of the users’ mailboxes (PSTs)?
- Is mail quota being used? (If yes, state the limit.)
- Do users send attachments through the mail?

  If they do, are there any restrictions, and how are those restrictions handled? Are there restriction in size, file types, where they are being sent (intrasite, site-to-site, external)?
- Are there any procedures/applications using the mail APIs?

  These might be plug-ins, third-party software, or in-house developed software. Maintaining this kind functionality might involve the developers or other separate handling.
- Is message tracking being used?

- User Directory
  - What type of information fields are kept in the Exchange Directory?
  - How many documents are stored (per user; in total)?
  - Where are forms stored?

    Are forms stored on the server (Organizational), in the user’s inbox (Personal) or in public folders (Folder)?
- Public folders
  - Are public folders being used?

    If so, collect details on the folder names, describe the usage, access restrictions, number of entries, and so forth.
  - Are there custom forms?

    If custom forms are being used, make sure to collect the details on usage, size, interaction with Exchange and with other applications (for example, embedded OLE).
  - Is Outlook Web Access used for Web access?
- Applications
  - Are Event Services used?

    Event Services are scripts running against items posted in a public folder. If Event Services are used, collect details on purpose, usage, the script itself.
  - Are there any third-party or in-house applications that interact with Exchange?

- Exchange Security (key management?)
  - Is the Key management system being used?

    If yes, is Signing or Sealing (encryption) used? Encrypted documents can not be migrated since the keys can not be migrated. Therefore, it is crucial to know if this function is being used, and users should be informed about this. A solution is to decrypt the documents before migration.
  - Is there any other form of e-Mail or Web security?
- Other services:
  - Is any form of instant messaging being used?

    If yes, what type (MSN® Messenger, IRC, Sametime, AIM (AOL), Yahoo or other)?
  - Is there an e-Mail enabled fax solution?

    List the details of any e-Mail fax solution used: Send fax only, Receive only, Send/Receive, how faxes are stored (personal/public folders).
  - Is any externally hosted e-Mail service being used?

    This might be Hotmail®, AOL or other provider. Be aware of a potential security risk,- mail sent/received through those channels may not be secure, on backup or accessible for later use.
  - Are there other applications running on the Exchange Servers? If yes, list the applications and the servers those applications are available on.
  - Is antivirus sofware being used? If yes, gather details on the antivirus software and where it runs (on server, on client, on firewall, or other).
  - Is backup software being used? If yes, gather detail on the backup software and where it runs (on server and/or on client). Record the backup schedule for incremental and full backups.
  - Is there a automated mechanism for software distribution (Tivoli®, SMS)

3.10.2 Documenting the hardware profile

This section describes the information you should gather about the physical characteristics of the environment. Check the Lotus Web site at http://www.lotus.com for the latest recommended specifications for servers and workstations running Domino and Notes.

- Specifications of the servers in use:

  Identify CPU, memory, storage (storage system) and function (which kind of server is this, does it have a special/dedicated function such as SAN, and so forth).

- Specifications of the workstations in use:

  Catalog the CPU, memory, available disk space, and operating system (Win95, Win98, NT, W2K, XP, Mac/OS or other) of all workstations. If any workstation has a special function, identify it.

3.10.3 Documenting the network infrastructure

You need to have a complete description of the network and a overview of the actual network configuration. This should include:

- Central/distributed location with number of users
- Type of communication lines mainly used (X.25, ISDN, Ethernet, Token ring and so forth)
- Type of connections (Leased lines, switched lines, and so forth)
- Bandwith of the lines
- Are lines shared with other functionality (phone or other)
- LAN configurations
- Available network protocols (SNA, TCP/IP, NetBIOS, IPX/SPX,or other)
- Connection to a public network provider (Internet)
- Routers
- DNS host files
- Firewalls and their open ports
- Quality of service supported
- Other essential functionality
- What are the most common types of information that the WAN transmits: text, data, images, graphics, voice, video, phone, or other? Are there future plans for the network that might need to get incorporated?
- Are there identifiable bottlenecks in the network? What are the problem areas and has a resolution been planned?

3.10.4 Administration and support infrastructure

You will need to know how the administration and support infrastructure is built. It is essential to make sure that, as a minimum, you keep the service on the level it is. If no SLAs are in place, those might be considered as well.

Support

- Has support been outsourced and, if so, can the new environment be supported?
- How many people are involved for user support in general:
  - Are they placed centrally or distributed?
  - Where are they placed?
  - How many are specifically involved in messaging service for:
    - Administration?
    - Training support?
    - Help desk?
    - Project implementation?
- Detail any specific applications for managing user requests and questions.
- Detail any specific training guide/program for Exchange users.
- What kind of education is provided to new users, and does this include e-mail usage training?
- Are there any automated archive policies or applications; if yes, list the details.
- What backup/restore and disaster recovery policies are in place?

Service delivery

- Are there Service Level Agreements (SLAs), and if so, what values do they specify for the following categories?
  - Message delivery internal
  - Directory latency
  - Message delivery external (only to Relay or IMS™)
  - Server response time
  - Network response time
  - Web page delivery
  - Max outage
  - Notice of outage
  - List any details on SLAs with ISP
- Are there specific rules to inform users about system management and reported downtime?
- Are there any statistics available for mail flow, network performance and downtime?

Administration procedures

You need to know if any of the following procedures are created and distributed to the users:

- Is there a Retention Management system in place for deciding how long you maintain your electronic documents, and what the users' responsibilities are for each kind of document. This includes Archive and Backup.
- Is there a user guide with details about security, delegation, access authorization for messaging and office services (how to manage passwords, departmental user IDs for special needs, and so forth)?
- Are there standard definitions of specific structured forms for mail (that is, format for external letters, fax forms, internal communications, and so forth)?
- Is there a naming policy?
- Is there a procedure for users to request new or additional user IDs, resources, password changes, and so forth?

3.11 Developing the training plan

Training everyone who will be affected by the coexistence and migration project is essential. You need to ensure that the right people get the necessary technical training to enable them to design, test, deploy, and support the new environment. In addition, adequate training must be given to all end users who are going to use the new system.

Training will be an ongoing activity throughout the course of the project. Creating the training plan can actually begin concurrently with the documentation of the current environment. The plan can then be updated during subsequent steps of the project.

Depending on the size and scope of your project, you may want to dedicate one or more project team members to training to ensure it receives appropriate attention and focus.

Training requirements

Define your training requirements by answering the following questions:

- Who needs training?
- What features and functions must be presented?
- What applications must be presented?
- What services must be presented (fax, Internet, connections to other environments)?

Delivery of the training

Here are some questions related to the delivery of the training:

- Can standard courses be used or will customization be needed?
- What method of delivery is best for each type of training or group to be trained?
- Should training be held on-site or off-site?
- Should classes be private or public?
- At what point in the project does each type of training need to be delivered?

Who needs training?

Everyone affected by the migration project is going to require some type of training. The training may simply be a review of how to use the new Lotus Notes client or it may be in-depth technical training enabling someone to support and maintain the new Lotus Domino environment.

Here we have identified some of the parties whose training requirements you must address:

- Executives with a special training needs (time restraints, PDAs. and so forth).
- System administrators
- Application developers
- Help desk personnel (if applicable)
- Test and pilot users
- Standard end users

Evaluating and reevaluating the training plan

After the first users have completed a particular part of training, the project team members responsible for training should review the users' evaluations. If users feel that the training is inadequate, or some parts of it require more attention, these issues should be addressed immediately and the training revised as necessary.

After the users have had the opportunity to apply their training in a "live" environment, they should be asked to do a second evaluation to gauge the effectiveness of the training and the relevance of the material covered. These reevaluations should be reviewed and any necessary changes made to the training.

Training resources

- http://www.lotus.com/education
  The Lotus site is a comprehensive education source that includes links to a variety of training locations, descriptions of selected courses, and many other materials.
- http://www.recor.com/
  This site has a full suite of learning product for Domino/Notes 7. Some of the Recor products will be able to integrate with the ADT tool for deployment.

3.12 Risk

The risk in not performing the activities described in this chapter is that key features of the existing environment will not be included in the planning and design of the new environment. It is much simpler to design all the features in at the beginning than it is to try to retrofit a feature after deployment of the system has begun. The latter will negatively impact the project schedule and the users' perceptions of the viability of the new messaging environment.

The current environment has a dramatic impact on both the coexistence and migration strategies. The information collected during this phase is invaluable in designing the strategies. Also, this process highlights potential problems with the current environments that must be addressed before a successful migration to Notes and Domino can take place.

Risk management

Risk is a natural part of any system integration project, and its proper management can determine the success or failure of the project. You should begin risk management during the proposal process by identifying the foreseeable risks in the project and developing an associated Risk Management Plan, which quantifies the risk and includes your recommendations for handling it.

Here are some actions you can choose to take to deal with a certain risk:

- Avoidance: Eliminates the cause of the risk through clearly-defined actions/events/tasks.
- Mitigation: Acknowledges that the risk is not avoidable, but defines steps to mitigate the level of risk.
- Acceptance: Acknowledges the risk and documents the associated consequences.

If new or different risks are identified during the implementation of the project, they should be added to your risk management plan. The project manager

utilizes this plan as an instrument to verify the progress against avoidance or mitigation plans, with the focus being to reduce the overall risk of the initiative.

3.13 Plan, design, and document the new environment

One of the prerequisites for a solid, scalable, and easily maintainable infrastructure is good design. Building a good design is strongly based on knowledge and experience. If you don't have architects with strong Domino skills, it might be a good idea to have IBM or a business partner help you validate the new design.

Now that the project team knows what is needed, they must determine how to deliver it. This means establishing the design of the new Lotus Notes and Domino environment. The amount of effort spent on planning and designing directly correlates to the success of the implementation.

During the design process, frequent review sessions should be scheduled to keep the project team up-to-date and provide feedback on the developing design. At the completion of the design work, a final review should be held and sign-off on the design received from all project team members and the project sponsor.

Many of the key areas which must be considered when designing the new environment are discussed in the following sections.

3.13.1 Determining the characteristics of the servers needed

Traditionally, the number one comparison made between different platforms has been performance. Competition among vendors can make it difficult to find objective comparisons. Manufacturers like to show the results of tests that make them look the best, but their data may not be relevant to the way you plan to use the platform.

Is bigger better?

One common stumbling block when choosing a platform is the bigger-is-better attitude. People so often get caught up in getting the biggest, fastest box, that they lose sight of what they need. If your organization will only consist of 100 mail users, and is unlikely to grow significantly, you probably do not need one of the large platforms. It will support growth for a long time, but the startup costs would be great.

However, maybe you have a large, powerful server which is under-utilized, and you also have lots of in-house expertise in that server platform. You may wish to add the Domino server to that machine rather than buying a new server and

training your staff in a new operating system. In this case, your 100 mail users may not take much of that particular server's resources.

Few versus many

If you choose a smaller platform you will need to maintain many smaller machines. This is not necessarily a bad thing, but it can mean more effort is required to maintain control and consistency across a group of many machines.

However, another factor to consider is that with a larger number of smaller servers the overall impact is reduced if any one server goes down. With the larger platforms, more attention needs to be paid to planning with regard to the impact of a server being down.

Number of Domino servers

The other major consideration when talking about performance and scalability is the number of actual Domino servers. One of the main advantages of using the larger platforms is that it reduces the number of physical machines to manage.

However, you should bear in mind that this does not necessarily reduce the number of logical Domino servers. On the smaller platforms, such as NT, you would typically have one logical Domino server per physical machine.

On the large platforms, such as pSeries®, iSeries™, and zSeries®, you would typically run one physical machine with several logical Domino servers on that machine, using Domino partitioning.

So in the end, you may have the same number of logical Domino servers.

Scalability

Characteristics of a highly scalable system include, among other factors:

- Ability to support the processing of large applications.
- Ability to manage the resource requirements of multiple applications (that is, mixed workloads).
- Large file systems support.
- Ability to accommodate from one user to thousands of simultaneous users.
- Hardware scalability, meaning from a single CPU to SMP configurations with up to 64 processors.
- Large I/O subsystems that can support a lot of controllers and large volumes of data and files. Supporting higher numbers of controllers means you can distribute your I/O more efficiently. Storage capacity and bandwidth can be further extended with high-speed RAID boxes.

With Domino 7, changes have been made to improve the way Domino scales to take advantage of the larger platform architecture. Table 3-1 shows examples of platform scalability features, and how Domino exploits those features.

Table 3-1 Platform scalability features utilized by Domino 7

Platform scalability feature/metric	How Domino utilizes the scalability metric
Ability of platform to support large I/O subsystems (large number of controllers and volumes of data/files). Means that I/O can be distributed more efficiently.	1. Optimization of the database format (the on-disk structure or ODS) to minimize I/O contention. Writes to disk are fewer and more efficient. 2. Transaction logging: Database operations are recorded sequentially, which reduces I/O activity while increasing data integrity and significantly improving server restart time.
CPU scalability: Scaling application performance across multiple processors, using single version of the operating system.	Thread pool model: Results in less memory and CPU utilization.
Support for large memory configurations.	More efficient memory utilization through: ► Improved memory management via Unified Buffer Manager ► Better use of RAM for internal caches and buffers, which boosts performance ► The ability to use higher than 500MB means faster throughput.
Inherent scalability features of, for example, UNIX® operating systems means: ► Journaled file system for faster recovery following server crash ► Support for very large memory configurations to process large applications ► Large file system support provides more scalability ► Application resource management, meaning the ability to support mixed workloads	Cumulative effect of Domino 7 performance / scalability enhancements with underlying platform scalability features means: ► Lower memory and CPU utilization ► Faster response times ► More efficient use of I/O ► Lower network traffic

Different types of servers needed

There are several types of servers you can deploy in your Notes and Domino environment. These include:

- Mail servers
- Database servers

- Remote service servers
- Passthru servers
- Gateway servers
- Hub servers
- Backup servers

Determining the number of servers of each type needed

Which types of servers and how many of each you will need depends on the physical topology and the e-mail metrics that have been determined for your messaging environment. Those metrics include the number of users, the levels of e-mail traffic both during normal hours and peak usage hours, the number and types of applications being supported, and the messaging-based services available for the users. You also need to consider such things as geographic locations and balancing of usage loads.

Choosing a platform for each type of server

Lotus Domino servers can run on a variety of platforms, each of which has strengths and weaknesses. You must work closely with knowledgeable technical personnel to choose the appropriate type and size of hardware platform for each type of server in your new environment. Some of the factors which the project team should consider are:

- Cost: This includes not only the hardware cost but the total cost of ownership.
- Company policy: Does a company's standard vendor have the right hardware or will you need to go outside the standard for it?
- Footprint: How much floor space is available to house the various servers?
- Scalability: Choose hardware with the view that expansion will most likely be needed in the future.
- High availability: Review your availability needs and ensure your hardware and network topology design will meet these needs.
- Disk space: The amount required depends on the kind of server and the number of users.
- Processor: The more speed, the better for performance.
- Memory: The amount needed depends on usage.
- Skills: Do your support personnel have the necessary skills to work with the platforms you choose?
- Protocols: Will the chosen platforms support the network protocols already in use within your company?

Domino 7 is currently supported on the following operating system platforms:

- Windows
  - Microsoft Windows 2000 Intel® (Server and Advanced)
  - Microsoft Windows NT4 Intel
- UNIX
  - IBM AIX 4.3.3x, 5.1
  - Sun™ Solaris/SPARC 8
  - Sun Solaris/SPARC 9
  - Linux (Intel) - Red Hat 7.2, SuSE 8.0
  - IBM iSeries, V5R1 and later
  - IBM zSeries, z/OS® V1R2 and later

Further platform support might be added, so be sure to check with your local representative or the IBM Web site for the most up-to-date information.

3.13.2 Client selection

The first major step in designing a client infrastructure is choosing the client that your organization will use. The four choices available for Domino 7 are the Notes client, Domino Web Access (formerly iNotes™ Web Access), Domino Access for Outlook, or a Web browser. The best choice is different for each organization. Our purpose here is to give an overview of the differences between the clients and discuss some of the issues to consider when choosing a client.

This section covers the following topics:

- Single desktop client policy
- Web browsers
- User training
- Platform support
- Cost considerations
- Offline usage
- Standard browsers
- Performance considerations
- Security considerations
- How do I decide?

Single desktop client

A goal for many organizations is to have only one desktop client that can access all of their different data sources. The Web browser is a good candidate for becoming that client. Many software vendors are working on a way to make their

data available to a Web browser. Some are building direct interfaces while others are developing ways for the data to connect to the back end.

The other thing to consider is the amount of tools being developed and attention currently being given to the Web browser. This will give you different options and possibilities for the future.

Lotus has been looking for a way to build to the best of two worlds. As explained in the following sections, there are several options available:

- The Notes Client, where the Microsoft Explorer integrates seamlessly
- The Domino Web Access mail and C&S usage via the browser
- The Domino Access for Outlook client

Lotus Notes 7 Client

IBM Lotus Notes is high-function, integrated desktop client software that set the standard for innovation in messaging and collaboration two decades ago. Lotus Notes client software is the premier of several client options for IBM Lotus Domino server. Together, Lotus Notes and Domino deliver a reliable, security-rich messaging and collaborative environment that is designed to help companies increase employee productivity, facilitate decision making, and improve overall business responsiveness.

With Version 7, IBM extends the reach of Lotus Notes messaging and collaboration solutions while continuing to leverage your IT and application investments. Integration with IBM Workplace products allows organizations to extend and leverage their existing infrastructure investments. Enhanced integration with instant messaging and Web conferencing enables users to have immediate access to the people and tools they need to do their jobs more effectively and make better, more-informed business decisions. And productivity enhancements in e-mail and calendar functions enable users to better manage daily information and resources.

Enhance features in Lotus Notes 7

Lotus Notes 7 offers a number of new Calendar and Scheduling features as well as tighter integration with IBM Lotus Sametime®. Other functional areas that have been enhanced include mail, desktop, accessibility, and interoperability.

- Significant improvements have been made to the desktop, allowing users to customize their interaction with the desktop, either by saving window state on exit, or by determining which tabs open on startup. Further, a user no longer has to wait while a view updates; since the update happens in the background, the user can work in other areas while the view is updated, providing the opportunity for improved productivity. And a new AutoSave feature has been introduced to help prevent data loss when unexpected

outages occur; users can enable AutoSave in their preference on the Lotus Notes client to save their work every few minutes when working in AutoSave-enabled applications, and designers can enable AutoSave on forms in new and existing applications

- Calendar and Scheduling has been updated to better reflect customer needs. A new Calendar Cleanup action allows users to easily and quickly delete old entries from their calendar. Handling of conflicts has been improved, first by giving the user the option to allow Autoprocess to accept conflicts, and also by improving the display of schedule conflicts. Additionally, users can now cancel Calendar/Scheduling workflow when sending comments. View and miniviews of calendar information have been improved for better usability, and the needs of Calendar Managers have been addressed. Further, many improvements have been made to the way Rooms and Resources are managed, including the ability to restrict rooms, and to designate a room as restricted to those attempting to reserve it, and changes to the workflow to prevent double-booking, in addition to providing greater granularity of control to Administrators in charge of the Rooms and Resources process.
- In Lotus Notes 7, you will find much closer integration with Lotus Sametime. Integration has been added to templates for the mailfile, Teamroom and Discussion databases, the Personal Name and Address book, the Lotus Domino Directory, and the Rooms and Resources databases. In these databases, not only can users see who is online, they can initiate an instant messaging session directly by clicking on the status icon. Also, several preferences have been added for Lotus Sametime Integration that allow a user to specify automatic or manual logging in, to save transcripts of instant messaging conversations to the mailfile, and support set preferences about how Screen Sharing, Whiteboarding, Audio and Video are used through the Lotus Notes client.
- Numerous usability improvements have been made to Mail. Among the highlights are a no subject warning, the ability to sort by subject out of the box, quick access to flag items for follow-up, and the ability to see mail threads within an email. The right-click menu has been expanded as well, and administrators can now control Mail Preferences via policies. Finally, visual tags have been provided to indicate whether an email was sent to the recipient only, and a user can now find out what folders hold a document using the “Discover Folders” action.

IBM Lotus Domino Web Access 7

In some situations, accessing email and discussion forums from a thick client installed on a dedicated workstation is not practical. For instance, employees require the flexibility to access important information when at home, while traveling or using a shared workstation. For those situations, we created Lotus Domino Web Access, IBM's premier Web client for accessing a Lotus

Domino-based mail file. Lotus Domino Web Access offers a rich user experience for both Microsoft Internet Explorer, Mozilla and Firefox browsers through the use of dynamic HTML (DHTML). As a DHTML application, Lotus Domino Web Access client performance is governed by server performance, network performance, and client configuration.

Lotus Domino Web Access 7 has many improvements in the areas of performance and usability. Highlights include:

- Opportunity for improved client and server performance
- Enhanced security features
- Expanded presence awareness and instant messaging integration
- Updated user interface
- Added mail and calendar productivity features
- Enhanced support for Linux
- New administration and management features
- Improved offline access to personal data

IBM Lotus Domino Web Access 7 software is a sophisticated Web client for Lotus Domino server. Lotus Domino Web Access software gives your employees the power to create rich text messages, schedule meetings, manage tasks and collaborate with colleagues-whether they are using their own workstation, an Internet kiosk or another user's PC. With Lotus Domino Web Access 7, you get the best of both worlds: access to a robust, reliable, enterprise-class messaging and collaboration platform, with the ease of simply opening a browser.

Note: Lotus Domino Web Access 7 takes advantage of Lotus Domino 7 Server performance improvements, both in the core server functionality, and in HTTP.

IBM Lotus Domino Access for Microsoft Outlook (DAMO)

Lotus Domino Access for Microsoft Outlook offers the ideal solution for companies that want to leverage the robustness and security advantages of the Domino server, while preserving their dedicated Microsoft Outlook user base. Additionally, in the case where a company merger or acquisition leads to a mixed-client environment, Lotus Domino Access for Microsoft Outlook enables user to run the Outlook or Lotus Notes client over the same Lotus Domino mail file data. Company mergers and acquisitions can mean having multiple email clients in use. Whether you choose to migrate fully to a Lotus Notes and Domino environment, or allow the Lotus Notes and Lotus Domino Access for Microsoft Outlook clients to coexist, Lotus Domino Access for Microsoft Outlook provides the functionality to smoothly integrate Microsoft Outlook users into your Lotus

Domino infrastructure, while letting them continue to access mail and work with calendar functions through a familiar interface.

Among the highlights of Lotus Domino Access for Microsoft Outlook 7 are:

- Opportunity for improved client software performance, reducing the time to launch the application compared to 6.5.3.
- Native support for Internet standards, including X.509 and Secure Multipurpose Internet Mail Extensions (S/MIME)
- Installation option for separate program and data directories, allowing multiple users to share the same machine, using Microsoft Windows operating system security.
- New mail notification options, including playing a sound, briefly changing the mouse cursor, and showing an envelope icon in the notification area.
- Option to use a local copy of your global address book; this can be a full copy of the directory or a condensed directory catalog to save space on your workstation.

Additionally, Lotus Domino Access for Microsoft Outlook 7 users can use Lotus Domino applications via a browser, dramatically increasing access to your existing Lotus Domino applications. Finally, because, Lotus Domino Access for Microsoft Outlook 7 does not require a Lotus Domino 7 server, you can take advantage of these improvements today, before you complete your server upgrade, as long as your users' mailfiles reside on Lotus Domino release 6.5.1 or above. For more information on DAMO, please refer to to the product homepage at:

http://www-142.ibm.com/software/sw-lotus/products/product1.nsf/wdocs/accessmsoutlookhome

User training

Many organizations have been using Web browsers for a while and their users have become familiar with them. Also, a lot of people are now connected to the Internet at home and are becoming proficient and comfortable with a Web browser.

However, this does not mean that no user training is required for the browser. Because of the open nature of the Web browser, every site on the Internet has designed its own user interface. Some sites use a graphical toolbar and place it in a frame on the left, right, top, or bottom of the screen. Others use text-based links or some new tool that no one has ever seen before.

It is very important to compare the need to educate on the browser to the need to educate on the actual Notes client.

Platform support

The Notes 7 client is supported on the Win32® platforms as well as the Macintosh, and Domino Web Access 7 is available for Mozilla browsers, which means you could use it on machines running Linux. There are Web browsers available for just about every client platform on the market. If you are using a client platform other than Win32 or Macintosh in your organization, and you have no plans currently to implement one of those platforms, the browser may be your only choice.

Cost considerations

A number of companies look to using a Web browser because they believe it will be cost effective to implement. This might be true in some cases, but not necessarily in all, and will depend on your organization. Be aware that some important functionality your users need might not be available or easily implemented for browsers.

If you already have a Web browser on the workstations that will not need to be customized, installation costs could perhaps be saved. If there is a need to update or customize the installed browser, the potential cost savings may very well be minimal or nonexistent.

Other possible cost savings with a browser come from reduced training requirements for the users. If the users are already familiar with a browser, they will not need to have training on the browser. Users will usually still need training on any customization you may have performed. The amount of training, and therefore cost, might then not be lower than the cost associated with training the users on a Notes client.

Maintaining the Notes client may be easier than maintaining the browser since Notes 7 includes the AutoUpgrade feature, which automatically installs new versions and updates on the client.

Offline use

One of the major benefits of Domino/Notes is replication. Replication allows users to work offline by copying data down to local hard drives. It provides tools for synchronizing the data when needed.

Replication is now available when using a Web browser for the client, in the form of DOLS (Domino Off-Line Services). This is, however, a modification and extra installation to the client, and it is not necessary if the Notes client is deployed rather than the browser. Refer to the Administration manuals provided with Domino for more information on replication.

Performance considerations

The Web browser relies on the server to do most of the processing for it, and only needs to be able to display a text document. The Notes client is designed to do a lot of processing by itself. This means that a Domino server needs to do much more work to communicate with a Web browser than with a Notes client. On the other hand, a computer running a Notes client will need to do more work than a computer running a Web browser.

It is, of course, possible to build an infrastructure that will support both browser clients and Notes clients. In all likelihood, more servers will be required to support browser clients than will be needed to support the same number of Notes clients.

Example: It is possible to do mail with Notes clients, or a combination of POP3, IMAP, and/or HTTP-based mail with a Web browser could be used. If you want to minimize the load on the server in order to maximize the number of mail clients that can be supported, using the Notes client is the best option. Using POP3 is next best, IMAP is third best, and using HTTP, while sometimes appropriate, will support the fewest mail users of any of these four options.

Tip: Check `http://www.lotus.com/performance` for more information.

Security considerations

One of the core aspects of Notes is the built-in security, which satisfies the most stringent security requirements a company may have.

Domino uses ID files to identify users and to control access to servers. The ID file sits on the client workstation and is protected by a password.

Web browsers do not use ID files. They are proprietary to Notes, which requires the ID files to be on the client workstation. If Domino required browser users to have an ID file on their local machine it would impact the advantages of using a browser. These include such things as being able to use any browser from any machine, or allowing users outside the organization to browse pages without any special software, to name just a few.

Instead of ID files, browsers typically use user names and passwords for security. Most sites on the Internet pass user names and passwords between the client and server in clear-text format. This means that anyone can intercept the message and easily read the user name and password. While this may not be of much concern in a closed, private network, it is definitely a big issue when opening up Domino to outside users.

To enhance security on the Web, Domino also allows the use of SSL (Secure Sockets Layer) and X.509 certificates for Web browser authentication. The main point here is that authentication and other aspects of security are different in a Web browser and a Notes client. You should look carefully at the differences between the two when making a client decision, especially if security is a top concern in your organization.

For details on Web browser security, see the Lotus Domino 7 Administrator Help database or the IBM redbook *Lotus Notes and Domino R5.0 Security Infrastructure Revealed*, IBM SG24-5341.

How to decide

The “best” client choice will differ for each organization. Use the information you have gathered, combined with the points described in this section, to help you decide which client will work best in your organization.

1. Check to see if your desktops are ready to use the Notes client. If you are not running Windows 32 or MacOS on your desktops, the Notes client is not an option. If some of your clients can run Notes while others cannot, decide if you will allow a combination of clients.
2. Can the required features be made available for Web browser users?
3. Determine if the browser will be used for other things. If the Web browser is going to be on the desktop anyway, it might be more practical to use the browser than to run the browser on some desktops and the Notes client on others. Also, if you already have Web developers in-house, they might feel more comfortable developing for the browser.
4. Try both of them out. Set up both a Web browser and a Notes client and test their functionality. Maybe the client offers some functionality you really like, or maybe the browser suits you more.
5. Determine if there is any feature of either of the two clients that you *must* have. If you must have replication, or your databases must be Web-capable, the decision is in favor of the Notes client.
6. Make a list of pros and cons for the Notes client, and one for the Web browser, and compare the lists. The client that turns out having the most pros and the least cons could be the winner.

Many companies have decided to use a combination of the two clients. A common setup is to use the Notes client inside the building and the Web browser outside the building. “Outside the building” could be either another company, or an employee working from home. You are then using the advantages of both clients where appropriate. Domino is unique in that it can gracefully handle this dual client setup.

There might be some initial development overhead to make your Notes applications work in both clients, but it may be a good investment. It will give you a lot of flexibility for the future, and it takes less time in the end to make your applications dual-client capable at the start than to go back and change them later.

3.14 Developing a coexistence and migration strategy

Coexistence between the Exchange and Domino environments plays one of the most critical roles in ensuring seamlessness of the migration process for both administrators and end-users. Unless instantaneous migration of users from Exchange to Domino can be accomplished, users will be migrating gradually over a period of time. During that time, users in both environments must be able to continue communicating with one another as well as with users external to both environments. Failure to provide this ability to users will have an adverse effect on any migration project.

In this section we discuss the following topics:

- The levels of coexistence

  Several options are available for establishing coexistence between Exchange and Domino. Coexistence solutions usually provide one or more of the following levels of functionality:

  - Messaging: Ability to exchange mail between Exchange and Domino users as well as with external users
  - Directory: Ability to exchange directory information between Exchange and Domino
  - Calendar & Scheduling (C&S): Ability to exchange scheduling information between Exchange and Domino users.
  - Application: Ability to access common application data by Exchange and Domino users

- Overview of the migration progress
- Introduction to the migration tools
- Acquiring the necessary information for migration

  When migrating, there are areas other than mail and C&S to consider. The available migration tools will not migrate applications and backend interfaces. The discussion in earlier sections demonstrated the need for awareness of any development work that must be undertaken before starting the migration.

  - Hardware profile
  - Software profile

– Network

3.14.1 Levels of coexistence

Several levels of coexistence between Exchange and Domino are possible. The functionality provided by the selected coexistence approach normally depends on the functionality presently utilized by Exchange users and existing Domino users, if any. The following list describes coexistence functionality from the simplest to the most complex. Refer to the technical sections later in this book for comparison of the different coexistence and migration tools.

- No coexistence

  Users are migrated instantaneously, for example, during the weekend.

- Messaging only

  This coexistence method uses SMTP to exchange mail messages between Exchange, Domino, and the Internet; and requires manual entry of addressing information for some or all recipients.

  This method is fairly easy to establish; however, it imposes a burden on end-users to know exact addresses of all recipients, some of whom they had previously been able to select from the directory. End-user addressing questions subsequently increase the load on the end-user support personnel, dramatically increasing the overall cost and decreasing satisfaction with the coexistence solution. This method is only recommended for brief coexistence periods.

- Messaging with Directory Synchronization

  This coexistence method uses SMTP or other protocols for exchanging mail messages between Exchange, Domino, and the Internet; and allows selection of all Exchange and Domino recipients from the appropriate mail directory. Depending on the mail exchange approach selected, directory synchronization may be performed manually or automatically.

  Manual directory synchronization requires periodic updates to Domino and Exchange directories initiated by an authorized individual. The process may consist of executing custom programs, performing manual data entry, or a combination of the two.

  Automated directory synchronization is a process that automatically performs directory updates either instantly or based on a pre-defined schedule. Automated directory synchronization can be achieved by using Microsoft's Domino Connector for Exchange, TenFour's TFS Gateway, or by creating automatically invoked custom programs.

  This method requires a fair amount of effort to establish; however, it enables end users to continue e-mail communication in a familiar way regardless of

the sender's or recipient's migration status. This method is recommended for extended coexistence periods.

- Messaging with Directory Synchronization and cross-platform Calendar and Scheduling support.

  This coexistence method uses SMTP or other protocols for exchanging mail messages between Exchange, Domino, and the Internet; and allows selection of all Exchange and Domino recipients from the appropriate mail directory. Depending on the mail exchange approach selected, directory synchronization may be performed manually or automatically. Also, depending on the mail exchange approach selected, cross-platform Calendar and Scheduling support may be provided in a transparent or manual fashion.

  In the manual approach to cross-platform Calendar and Scheduling, Domino and Exchange users include users of the opposite platform in the scheduling notices, which are translated into simple mail messages when delivered to such recipients. Recipients have to manually add scheduling notices to their calendars and manually respond to invitations. Cross-platform schedule check is not possible with this approach.

  In the transparent approach to cross-platform Calendar and Scheduling, Domino and Exchange users are able to perform all Calendar and Scheduling functions, such as sending scheduling notices, accepting invitations, checking schedules, and so forth, regardless of the recipient's platform. Transparent cross-platform Calendar and Scheduling support can only be achieved by using the Calendar Connector portion of Microsoft's Domino Connector for Exchange.

  This method requires a great deal of effort to establish; however, it enables end users to continue all of their e-mail and Calendar and Scheduling communication in a familiar way regardless of the sender's or recipient's migration status. This method is recommended for extended coexistence periods.

- Messaging with Directory Synchronization, cross-platform Calendar and Scheduling support and uninterrupted Application access.

  This coexistence method uses SMTP or other protocols for exchanging mail messages between Exchange, Domino, and the Internet; and allows selection of all Exchange and Domino recipients from the appropriate mail directory. Depending on the mail exchange approach selected, directory synchronization may be performed manually or automatically. Also, depending on the mail exchange approach selected, cross-platform Calendar and Scheduling support may be provided in a transparent or manual fashion. Finally, depending on the nature of applications, application access can be achieved via universal application access, or manual or automatic application synchronization.

Universal application access is achieved for applications that are Outlook client-independent, for example Web-enabled applications accessed via a Web browser. Users continue to access such applications regardless of their migration status. For Outlook client-dependent applications, continuous application access can be achieved by retaining the Outlook mail client on users' workstations, possibly along with the Notes client, and continuing to access applications that so require it using Outlook client.

Manual application synchronization requires that periodic updates to applications be performed by an authorized individual. The process may consist of executing custom programs, performing manual data entry, or a combination of the two.

Automated application synchronization is a process which automatically performs application updates, either instantly or based on a pre-defined schedule. Depending on the nature of an application, automated application synchronization can be achieved by using a third-party product or by creating automatically invoked custom programs.

Depending on the nature of applications, this method may require a great deal of effort to establish; however, it enables end-users to continue accessing applications regardless of their migration status. This method is recommended for extended coexistence periods.

3.14.2 Pros and cons of migrating

Messaging data migration from Exchange and Outlook to Domino and Notes plays a critical role in ensuring that the migration process is completely non-disruptive for end users. The ability to access old messaging data in the new environment, in a similar way as in the old environment, is of great benefit and comfort to a user migrating from Exchange to Domino. Additionally, retaining old messaging data is sometimes mandatory due to certain legal and industry regulations covering data retention.

In some cases, however, a clean cutover to the new environment is preferred. In this case, the old system may live on as a reference for a period of time. This approach is very cost-effective in terms of migration and coexistence, but its success is heavily dependent on how the old system was used.

Example: A company uses mail and mail storage for project communication and documentation. Large amounts of the company's project documentation and communication is stored in the mail files. If this documentation is lost or not easily accessible, severe problems could be encountered.

3.14.3 What to migrate

Before determining what messaging data to migrate from Exchange and Outlook to Domino, one must clearly understand what types of data end users access, and how they do this. Exchange and Outlook data accessed by end users may include any combination of Exchange Mailboxes, Outlook Personal Folders, Public Folders, Contacts, and Personal Address Books. The characteristics of the data types are as follows:

- Exchange Mailboxes are located on Exchange Servers and usually include system- and user-created mail folders, calendar, tasks, journal, and so forth. Sizes of Exchange Mailboxes are usually limited by the server quotas. Exchange Mailboxes can be accessed in a connected or, if synchronized, an offline mode.
- Shared Exchange Mailboxes are located on Exchange Servers and resemble regular Exchange Mailboxes, except they may be shared by a number of users without any specific user owning them. Shared Exchange Mailboxes can only be accessed in a connected mode.
- Personal Folders are located on users' workstations or network file servers and may include data similar to that of Exchange Mailboxes. Sizes of Personal Folders are usually not limited. Personal Folders located on users' workstations are accessed in an offline mode; however, ones located on network file servers require network connectivity.
- Personal Address Books often have the same information as Contacts, but may have additional information.
- Public Folders are located on Exchange Servers and usually represent structured or unstructured collections of documents shared between users.

Determination of what data and how much data to migrate is often dependent on several of the following factors:

- Data importance: How valuable is data from personal, professional, corporate, and legal points of view?
- Data retention: What mailbox cleanup policies and activities are in effect?
- Server mailbox limitation: What are the differences in quota policies and enforcement in Exchange and Domino environments?
- Archiving policy: Where and how frequently will data be archived?
- Migration Tools selection – Which migration products will be used for data migration and what are their capabilities?
- Migration duration: How much time is allocated for data migration?

The final decision on what data to migrate may result in multiple alternatives applicable to different groups or categories of users.

3.15 Deployment approaches - Proof of concept deployment

Assuming that you are migrating a large group of users or that you still wish to gain some key feedback from specific users about using the product, we recommend beginning with a smaller scale pilot or proof of concept deployment. The goal or a proof of concept deployment is to begin the rollout with a small group of selected users who can provide useful feedback and serve to further champion the larger scale deployment initiative.

You should plan one or more pilots to validate the functionality and deployment procedures that are planned by your organization. Lessons learned from such pilot activities can help make the general upgrade process smoother.

3.15.1 Benefits of proof of concept deployment

Beginning with a smaller scale proof of concept deployment, prior to a larger rollout, can help ensure the success of your migration to Notes and Domino. This approach allows you to select your initial audience for the introduction of the technology, manage expectations more effectively, and gain valuable knowledge and feedback which can be incorporated into your full scale deployment.

Key benefits include:

- Ability to determine test audience.

  When determining the initial team to participate in the proof of concept, you want to select participants who represent a broad range of users in your organization, from those who are early adopters of new technology to users who are especially resistant to change. Pilot participants can include:

  - IT staff
  - Administrative assistants
  - Key executive(s) (choose judiciously)

    Note: Choosing administrative assistants and the specific executives with whom they work is especially important, given that assistants frequently have full delegation rights to the executive's mail file.

  - People who are more resistant to change
  - Some volunteers

- Solicit continued feedback and use this going forward.

  In order to maximize the benefits of a pilot deployment, you want a proper feedback mechanism or channel in place. This allows you to document and

improve upon your initial deployment plan and to implement a more effective rollout plan to the larger audience.

3.15.2 Key steps that are involved in the proof of concept deployment

When preparing to implement a pilot rollout of Notes and Domino in preparation for the migration, we recommend that you follow these general steps:

1. Determine the group of pilot users.
2. Ensure that the following has been identified and communicated:
   a. Pilot users responsibilities and expectations of their participation
   b. Pilot users testing instructions
   c. Pilot critical success factors
3. Provide proper training and manage user expectations. Because pilot users are operating in a mixed environment, most likely with both Exchange and Domino users, train users on using Notes and Domino, together with what they may expect to see in a period of co-existence.
4. Build or validate the infrastructure to be used for pilot team, including:
   a. If users need to first be migrated from Exchange to Domino, follow the appropriate steps outlined in Part 4, “Migration Process - tools and procedures” on page 337.
   b. Install Notes on the client machines for pilot users.
5. Initiate the migration pilot and monitor results on a regular basis,
6. After a determined amount of time in which users have been working with the system on a regular basis, solicit final pilot user feedback and document the results. Incorporate feedback or recommendations into a deployment plan for larger audience.

3.15.3 Overview of the migration process

When considering a migration from Microsoft Exchange to Lotus Domino, there are a couple of different strategies available:

- The single step or straightforward process
- The coexistence and migration process

Single step process

Single step migration can be defined as a complete migration from a Microsoft Exchange environment to a Lotus Domino environment without a transitional

period of coexistence (also known as the “rip and replace” method). In this scenario, there is no need for gateways to interconnect Microsoft Exchange and Lotus Domino.

The single step migration process is ideal when an organization meets these criteria:

- Limited number of users to migrate on a single server.
- Users are typically located close to each other.
- Enough migration resources can be engaged in the migration effort to complete the tasks at hand over the shortest period of time.
- The migration process can be performed in a single event.
- The organization has a simple mail topology, for example, consisting of a couple of Exchange mail servers that need to be consolidated onto a single Domino 7 server.

In general, if the organization meets these conditions, the single step migration process can be used effectively.

Coexistence and migration process

Any mid-term or phased migration process requires the coexistence of both the old Microsoft Exchange servers with the new Lotus Domino environment. The coexistence period can vary from a few weeks to a couple of months. During this coexistence period, use gateways or connectors to provide message transfer between the two environments.

Mid-term coexistence planning is practical for organizations that meet these criteria:

- A large number of users in the Microsoft Exchange environment in a distributed environment.
- An organizational unit in multiple locations where it would be difficult to migrate all locations at the same time to Lotus Domino.
- An organization that has a complex Microsoft Exchange topology with multiple sites, servers, and gateways.

3.15.4 Migration tools

Migration tools provide a smooth and easy way to migrate the server and related data from an existing mail server to the new messaging environment. There are various tasks involved when migrating from an old mail server to a new one. These tasks include the conversion of users’ mail data and calendaring and scheduling information stored on the server, directory propagation and, in some

cases, the client. A separate chapter includes information on the coexistence and migration of Public Folders. A good migration tool should be able to perform these basic tasks successfully with the least amount of effort. In addition, migration tools should also support the most possible messaging environments. This section briefly covers the Lotus Domino Upgrade Services and Common Migration Tool (CMT) from BinaryTree.

For detailed information about using these tools, as well as migration results, refer to Chapter 11, “Server level migration Using Domino Upgrade Services” on page 339 and Chapter 13, “Server Level Migration process using CMT from Binary Tree” on page 401.

Domino Upgrade Services

Domino Upgrade Services (DUS), a part of the Domino Administrator client, lets you easily upgrade your existing messaging and directory system to Lotus Notes and Domino 7. DUS automates the entire process of upgrading, creating users, and converting mail for one user at a time or for your entire existing environment. DUS supports all popular LAN mail systems with the same upgrade procedures for each of them. And best of all, DUS is integrated into the normal user registration process of the Domino Administrator.

DUS provides the smoothest migration path from Microsoft Exchange to Domino 7. With the Microsoft Exchange migration tools, you can migrate users and convert their mail and calendar information to Domino 7, with full fidelity. Best of all, mailbox conversion runs on any administrator workstation, which leaves the Domino server free to serve the users. Like all Domino Upgrade Services, the Microsoft Exchange DUS is built right into the Domino Administrator client.

Common Migration Tool from BinaryTree

The Common Migration Tool (CMT) builds on years of proven e-mail and calendar/schedule migration solutions from BinaryTree.com. The individual product solutions have now been integrated into one: CMT. Apart from Microsoft Exchange, CMT allows you to migrate from Novell Groupwise and Netscape Mail servers to Lotus Domino. It also has utilities that migrate data at the client level. These include migration from Microsoft Outlook, Netscape Messenger, Microsoft Outlook Express, Qualcomm Eudora, and Lotus Organizer® to Lotus Notes.

3.15.5 Acquiring the necessary information for migration

Prior to creating the migration plan, you should consider the various migration scenarios, client deployment options, data migration options, and the coexistence options. With the questions in the prior sections in mind, discuss what is to be migrated, what can’t be migrated and what will have to be

redeveloped in Domino. Along with all this, consider the Domino deployment and pay particular attention to client selection and deployment.

So before deciding what and when to migrate, we have to consider these questions:

- What is the main purpose of the migration (move to Domino, consolidate servers, security, and so forth)?
- How many users are to be migrated?
- How many locations do you have to migrate?
- What is the time frame for migration?
- Is information stored in Exchange or the Client needed?
- Are there other mail systems connected to Exchange?

With those questions in mind, think about the following issues.

Consider the training requirements and Client deployment issues, then decide:

- What Client are you migrating to (this will determine what data can be migrated):
  - Notes client
  - Domino Access for MS Outlook
  - Domino Web Access
  - Web browser
  - Mixed environment
- Available training resources:
  - Rooms
  - Materials
  - Personnel
  - Availability (the company)
  - Cost
- Post migration support/Helpdesk

Consider what information should be migrated:

- Data on server - server migration only (technically the only option for Domino Web Access)
- All data - server and local
- Locally saved data - local only
- No data
- Calendar information

- Distribution lists
- Directory information
- Public folders and forms. Consider the following:
  - Not migrating redundant forms
  - Development work required to provide the same facilities
  - Complexities of public folders/NSF coexistence

With regard to client migration, what type of information has been added to the personal address books:

- Entries copied from Global Access List (GAL)
- Custom entries
- Entries added from received mail
- No PABs used or allowed

It is important to review this information because the Client migration tools are not always able to resolve some addresses added via extraction from the GAL or recipient information.

With regard to physical infrastructure, consider the resources available:

- Hardware reuse:
  - Is it reusable?
  - Will you need to consolidate on same or new platform?
  - Is it redundant?
- With regard to the physical infrastructure, review the reuse/redeployment of any storage architecture in place.
- Internal IS support and Helpdesk.
- Network bandwith. This issue needs to be considered in terms of both Server and Client data migration and deployment.
  - With regard to server migration, assuming all Exchange servers are accessible from one location, consider bandwith usage for each user migration from remote servers.
  - With regard to Client deployment, specifically for Domino Access for Outlook, consider the bandwith available for all connections (WAN, LAN Dialup, and so forth). The Domino Access for Outlook deployment requires you to download both code and a replication/synchronization of the user's mail file.

    A similar situation may evolve with a remote client deployment and local replication of users migrated server-based mail files.

- Network support and future plans for the network.

With regard to actual migration, consider the following in terms of timing and planning of the deployment:

- Number and types of other mail connections to Exchange
- Address resolution, internal and external
- Support of coexistence tools
- Mailflow restrictions
- Directory management
- Mailflow performance
- Scalability of coexistence tool
- Public folders/Workflow
- Calendars
- Instant messaging
- Internet addressing and message flow
- Facilities that will no longer be available, regardless of the Client selection (for example, voting, resource scheduling, and others).

With regard to the actual migration, consider the following:

- Number of users to be migrated
- Grouping of users to be migrated at the same time (this could reduce the mailflow over connectors)
- Number and size of documents present in public folders
- Access restrictions on public folders
- Amount of developers work required to emulate forms and integration with backend applications
- Selection criteria for documents to be migrated (if not all documents)
- Whether all directory information must be migrated
- Reliability of coexistence tools
- Other mail systems - migration or gateway support
- Should directory structure/naming be emulated in Domino
- Internet connection migration
- Helpdesk retraining
- User training

- Methods of client deployment
- Server and client locations
- Passwords
- Post migration clean-up

With regard to coexistence, consider the following:

- Coexistence duration
- Number of users on either system at the mid-stage of the migration
- Calendar and scheduling requirements
- Internet coexistence requirements
- Expected message throughput of the gateway at the mid-stage of the migration
- Support personnel training
- Cost
- Post-migration cleanup

  All the migration tools available are non-destructive. This means that a migrated users NT/Exchange account would still be online. It is therefore necessary to remove his account from the Exchange system, or if there is a need to access data, to restrict the user sufficiently (no creation of new mail, not listed in the Exchange directory, and so forth). Be sure to back up all accounts before removing them.

3.16 Realigning the expectations

An original set of success criteria were defined for the pilot project, and you should review them now. Are they still appropriate, in light of lessons learned during the previous sections? If so, include them in your deployment planning. If not, discuss the success criteria with senior management and update the criteria so they continue to be relevant. The success criteria should also be included in the final deployment plan document.

Have the expectations realigned and communicated. This part of the communication is the most crucial part since these will be the expectations the users are measuring the results against. Deviations from the expectations can impact your project in a negative way.

3.17 Deploying the coexistence and migration strategy

There are basically two methods used to roll out Domino: staged or instantaneous. Variations on these methods are called different things, but pretty much every strategy is a variation of these two, in technical projects.

The important thing to remember is that the strategy's success will depend on good planning more than the method you choose. As always, you should be prepared for unforeseen events.

Meeting the prerequisites

Before you can roll out Domino, you need to be certain that all the prerequisites of the Domino rollout have been completed. Be sure that servers, network cabling, and other infrastructure is in place prior to beginning implementation. It will be difficult to install and configure clients if there is a problem with network connectivity, for instance.

It may be the case that all of this is handled by another area of the IT department, but it is critical the project manager understand what needs to happen, so that he or she can ensure it has been completed.

Staged rollout

In this type of rollout, the rollout team takes a step-by-step approach. This approach is quite common in smaller companies, where person power may be limited. For example, if you have just two people to handle the rollout, there are limits to the number of machines they can get ready in a day.

The staged rollout is also used in larger companies, if the rollout can be subdivided neatly. This is supported by coexistence during the actual migration.

The major advantage to this approach is that the risk if any given step goes wrong is minimal since it is only a fraction of the total project. The biggest disadvantage is that the total migration project can take a long time. Be aware that there tends to be a short span of time left between steps to determine if the one step has been successfully implemented before performing the next step.

Instantaneous rollout

This refers to a methodology where the entire rollout is done all at once, in one major step. Several underlying or background steps may have been performed prior to the rollout, though.

The biggest advantage with this type of rollout is that there is no period of coexistence. Be advised that for this type of rollout, management needs to be prepared for downtime. The downtime is needed to perform several steps all at

once. If you choose an instantaneous approach, management needs to be prepared for the possibility that there will be problems encountered along the way (like an operating system that refuses to install in a stable manner) that can cause the project to take a long time.

Most instantaneous projects are scheduled to run over a weekend or long weekend, and if there are problems, the rollout may run into Tuesday or even Wednesday. Management needs to know this is possible.

Reality check

In the real world, you rarely have the luxury of taking a system down during production hours. At the same time, management will not want to have a project which drags on interminably. Therefore, most rollouts end up falling somewhere between the extremes of instantaneous and staged.

Consider performing whatever you can separately, in controllable steps, to minimize risk. Do as much as you can at a time, after office hours. In this way you will benefit from doing big chunks at once, time-wise, but without the required production downtime a big bang requires.

Distributing client software

Depending on the platform you use, there are different tools available for software distribution. More appear on the market regularly; we recommend that you search Web automatic client deployment software.

Some of the tools available are architected for Notes client deployment, for example Automated Deployment Toolkit from Wolcott Systems Group and InstallPump from SoftQuest. You can also use Microsoft Active Directory for distributing Notes clients. The basic idea behind automated software distribution is to make installing multiple clients more efficient. This is generally done using some kind of template file, or a profile, which is set up once and then “pushed” to the user’s desktop. Then, the only tasks left in the client installations are the user-specific setup items.

Automated Deployment Toolkit (ADT) from Wolcott Systems Group is an automated, managed system for deploying, upgrading, or migrating an existing messaging system to Notes R5 and Notes 6. ADT centrally manages and automates the client deployment process and integrates with industry-leading data migration and training tools, saving companies significant time and expense.

Another option is to use one of the software products that are architected for distributing any software to the workstation. The most commonly used tools include IBM Tivoli Configuration Manager, Microsoft SMS, and ZenWorks.

Unless you work in a fairly small company, we recommend strongly that you consider using some kind of automated installation for the client installation.

For further information about distributing Notes clients automatically, refer to the Web sites and product documentation from the deployment software vendors, or to the IBM Redpaper *Distributing Notes Clients Automatically*, REDP3693.

Backup and disaster recovery

One of the most common errors made in Domino rollouts is not beginning backups until after the entire rollout is complete. We cannot stress enough that this is a bad idea. If you need to back out of changes that were made on a particular day, you will need a good backup from the day before to accomplish this.

Recovery planning

The concept of recovery planning is to save the organization from losing data. The type of disaster you are trying to be prepared for does not matter. If you're prepared for the worst, you can get back to normal much faster.

Make sure, as a minimum, to have a rollback plan in place.

3.18 Final phase: Closure

This phase will close the migration project, transitioning the new system to ongoing operations and support. You should begin as soon as all migration-specific issues have been resolved. This phase should include:

- Acceptance report from the sponsor.
- Finalization of all project documentation.
- Completion of all technical documentation for the new system.
- Completion of a post-migration review and analysis of lessons learned.
- Closing down or securing the Exchange environment. (Refer to Chapter 23, "Migration Project wrap up - Removing the Microsoft Exchange environment" on page 715for details.)
- Disposal or reallocation of any hardware or software remaining from the replaced system.

4

Overview of the Migration Procedures

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter serves as an overview for the steps required for Migrating users from Exchange to Domino, and highlights the chapters where we provide more specific information for each step. This is intended to provide a general roadmap of the high level steps involved in a migration effort.

Subsequent chapters in Part 3, “Coexistence - Tools and Strategies” on page 105, and Part 4, “Migration Process - tools and procedures” on page 337 will highlight in much greater detail the specific tools and approaches to be used.

Finally, this approach does not express a single path / *only way* to migrate, but merely demonstrates best practices that the team has developed over the many

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years they have spent in customer environments. There are many variations on the these procedures, but in general each and every step is undertaken.

4.1 Migration steps

Figure 4-1 illustrates a high level overview of the migration steps in a migration project. The following steps are the minimum needed to be undertaken any Migration from Exchange to Domino.

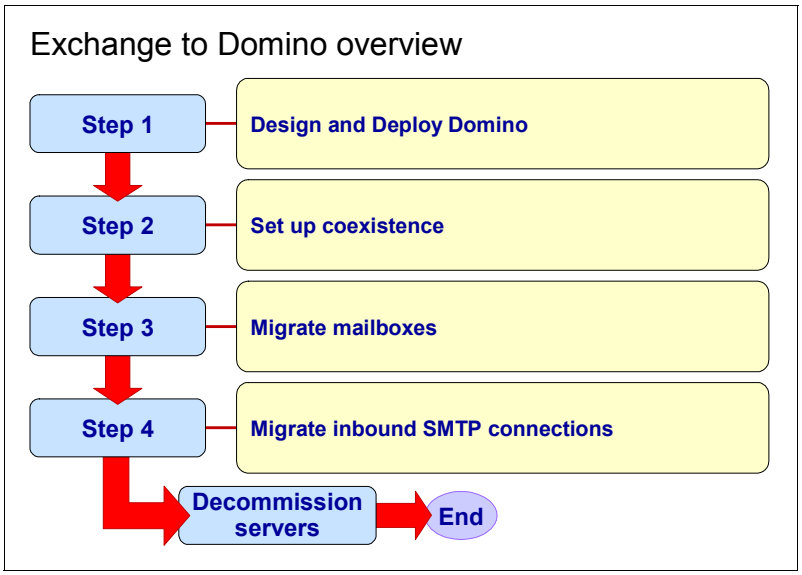

Figure 4-1 Migration Steps

The steps are detailed below, along with additional information on substeps involved in completing each of the steps.

4.1.1 Step 1 Install Domino

While this may seem obvious, you can't migrate if you have nothing to migrate to. This will be your ultimate destination. There are many Redbooks on deploying and configuring Domino, for the sake of completeness however, this Redbook also provides an appendix on installing Domino for the planning of the migration. (See Appendix F, "Installing Domino" on page 823.) We also recommend the Redpaper *Lotus Notes and Domino 7 Enterprise Upgrade Best Practices*, REDP-4120, (http://www.redbooks.ibm.com/abstracts/redp4120.html?Open) for administrators who are new to Domino.

It is important that you take time to plan and deploy your domino infrastructure, including defining Administrative policies. Although implementing changes can

be rather simple, getting it right first time can save many of man hours in making changes later.

We fully appreciate that your main objective is to migrate your messaging environment, but Domino is a platform for advanced collaboration and application development/deployment. Please review the information in this and other redbooks before deploying a full domino messaging and collaboration infrastructure, as this will ensure that you get the maximum return on your investment.

4.1.2 Step 2 - Set up co-existence strategy and implementation plan

- Plan the co-existence strategy and understand the differences between the systems and how these will manifest themselves for users.
- Communicate the co-existence strategy early to a select group of users
- Educate users through training about the new system and what to expect during a period of co-existence.
- Set up Exchange for mail coexistence
- Set up Domino for mail coexistence
- Deploy mail / directory coexistence solution

For detailed instructions on deploying the proper co-existence solution, see Part 3, “Coexistence - Tools and Strategies” on page 105.

Important: Co-existence is possibly the most important, and in all likelihood, the most challenging aspect of a migration project. Please review all chapters in Part 3, “Coexistence - Tools and Strategies” on page 105, as well as Chapter 10, “Co-existence test results - what to expect” on page 309 to better understand in advance what some of the challenging issues are.

4.1.3 Step 3 Define Migration Plan

Defining the migration plan has been thoroughly discussed in Chapter 3, “Migration project overview” on page 43 of this Redbook. However, we like to reiterate the importance of user profiling. Know who the key users are, the early adopters, and make sure they are properly trained in advance. Their first impression will have a critical impact on the longer term success and impression of the migration project. For example, if higher level directors will be involved in the early stages of the migration, be absolutely sure to also migrate their Personal Assistant at the same time. Chances are that the Personal Assistant

has important delegation rights to the director's mail file - and this ability for the director and assistant to work together - *on the same system* - is critical..

Important: Please review Chapter 3, "Migration project overview" on page 43, specifically 3.8, "The communication plan" on page 53.

4.1.4 Step 4 - Begin with a Proof of Concept/ Pilot Deployment

Assuming that you are migrating a large group of users or that you still wish to gain some key feedback from specific users about using the product, we recommend beginning with a smaller scale pilot or proof of concept deployment. The goal or a proof of concept deployment is to begin the rollout with a small group of selected users who can provide useful feedback and serve to further champion the larger scale deployment initiative.

You should plan one or more pilots to validate the functionality and deployment procedures that are planned by your organization. Lessons learned from such pilot activities can help make the general upgrade process smoother.

Please refer to Part 3.15.1, "Benefits of proof of concept deployment" on page 82 for details in how this can lead to a successful migration.

4.1.5 Step 5 - Migrate Users at the server level

The following Procedures can be used for migrating users from Exchange to Domino. The physical migration of a user mailbox may be only a click of a button However, additional procedures should be undertaken to complete the process.

Note: Specific technical details for a migration procedure is documented in Part 4, "Migration Process - tools and procedures" on page 337. This section is merely intended to serve as a overview of the steps and key considerations.

Additionally, the specific steps to this process are highlighted in Appendix B, "Migration Procedures - abbreviated overview" on page 769.

1. Utilizing the Migration plan select the users for migration
   a. Inform user of migration

      Do this many times, request the user clean up his mailbox. If you were in the process of moving to a new home - you wouldn't take the trash with you, right? In the case of a migration, why take your non-business and unwanted emails to your new system?

Tip: While it sounds obvious - make sure users who are about to be migrated have cleaned out their mail files and emptied the trash from their mail file. This will have a significant impact to reduce the number of messages requiring migration.

2. Register the User in Domino either using Domino administration -> People and Groups -> Tools > register -> Migrate.
3. After selecting the system to be exchange and choosing the relevant profile
4. Select the users to migrate.

   At this moment in time, do not migrate the mailbox (i.e. select option do not convert mail)

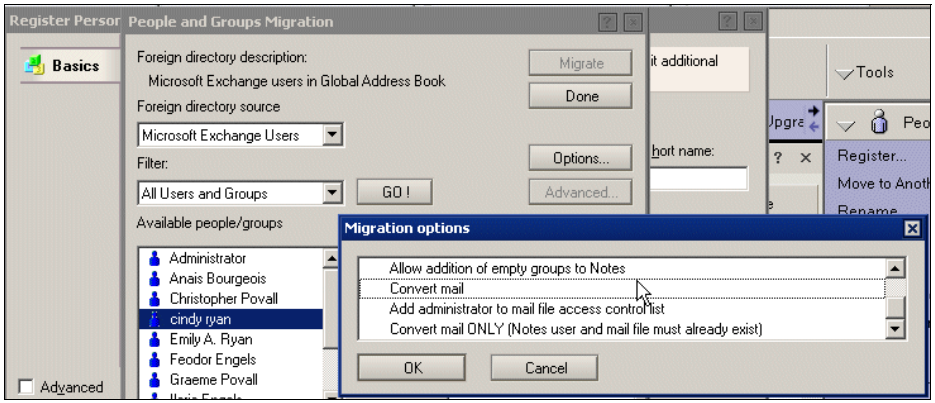

Figure 4-2 Migration options on User registration

Alternatively, if you are using the CMT, select ADD users > Registration > register

5. Register users in Domino,

   If using Domino migration tools deselect the option to convert mail and select add admin to ACL (this is necessary to be able to add migrated mail documents later

6. Install mail client for user being migrated - (Outlook Connector or Full Notes clients) optional enable sametime
7. Set an Autoforward on the exchange account - the specific steps are described in Appendix B, “Migration Procedures - abbreviated overview” on page 769.

Note: Setting the autoforward is an important step for a successful migration If non migrated users still in exchange reply to mail or select a recipient from local contacts the replyto address will be the old exchange address. Setting an autoforward will ensure that all mail is received in his new mailbox on Domino

8. Once the autoforward configuration is set, all email for the user will be forwarded to the Domino account. the user can be migrated any time from this point onwards

Considerations - Migrating the mail account using CMT

Note: Full instructions on using the CMT to migrate users can be found in Chapter 13, “Server Level Migration process using CMT from Binary Tree” on page 387

The following instructions are a brief summary of the migration of the users’ data to Domino and assumes that users have already been registered (either using CMT or DUS)

a. Open CMT
b. Add users
c. Select import from foreign directory and click run wizard
d. Enter the target domino server if different from default
e. Select the tick boxes, migrate to notes folders, migrate rich text, distribution lists, resolve names.
f. Click ok on the next screen, and ensure select users from exchange is selected and click ok
g. Select the user(s) you are migrating and add users
h. Click left hand pane [REGISTRATION] to see user list,
i. Select user(s) you want to migrate and check that the information is correct in the doc (server name and mail file)
    i. if migrating to a different server than to the registered home server, then you will need to change the entry in CMT
j. select the top PANE [SERVER MIGRATION]
k. select the user(s) to migrate and click ok.
l. Users will now be migrated.
m. Check migration and mailflow changes are successful

Considerations - Migrating the mail account using DUS

Note: Again specific instructions on using the DUS to migrate users can be found in Chapter 11, “Server level migration Using Domino Upgrade Services” on page 339.

The following instructions are a summary of the steps to undertake to migrate a user:

a. Open administrator and click the people and Groups tab
b. Select Register
c. Select Migrate person
d. Select Exchange as the source
e. Select the user accounts to migrate
f. Click Migrate
g. Click **Register All**
h. The accounts will now be migrated
i. Check migration and mailflow changes are successful

Final steps - post server migration

9. If using Exchange Connectors for directory synchronization, run a **synchronize now** and replicate directory between exchange servers
10. Provide users with desktop support (possibly via sametime where appropriate)
11. In some migrations a removal of the account would be required once a successful migration has been acknowledged.

4.1.6 Step 6 - Deploy End user data migration option

Once the server migration is complete you should consider data held locally by users (i.e. PST files). This data can be migrated into the local notes account, Detailed instructions can be found in the following chapters

- Chapter 12, “Migrating local Outlook data using Notes Upgrade Services” on page 367
- Chapter 14, “Local Data Migration using the Binary Tree tools” on page 439

Summary of local data migration using CMT

a. Open CMT

b. Select End user migration

c. Select and open account

d. Open end user migration section

e. Click send end user migration doc

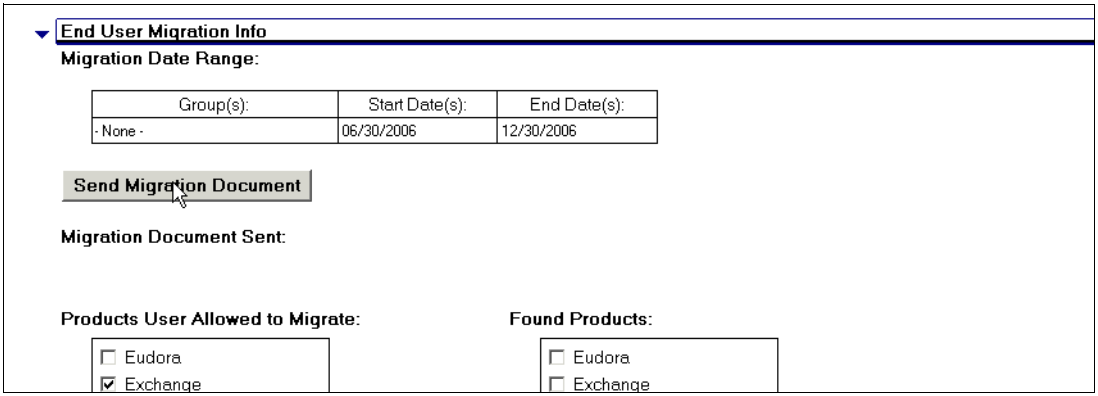

Figure 4-3 CMT send end user migration

In some cases you may have customized the mail template with the additional script provided by Binary Tree, which will migrate end user data automatically on mailbox open. In this case, the above 5 steps are not required

Summary of local data migration With Domino Migration tools

a. Ensure when installing the Notes client that the migration tools are selected

b. Using domino admin people & Group Tab

   i. Select the users that you have migrated

   ii. Select Upgrade from the right hand tools bar

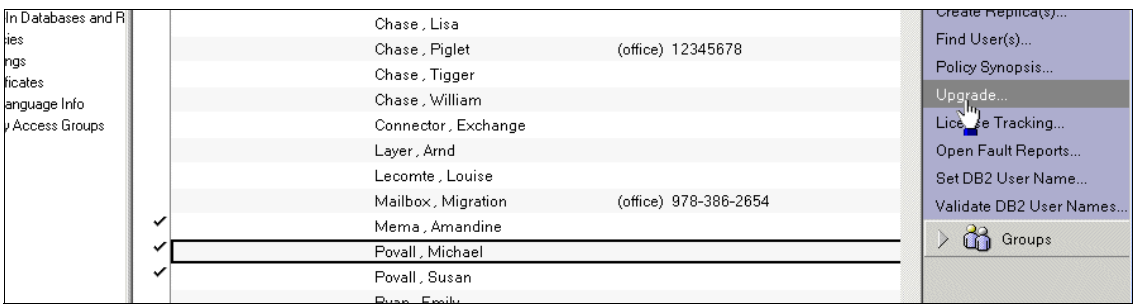

Figure 4-4 DUS end user migration Upgrade

In the upgrade message basics screen

i. Select convert local ccmail/MS mail/MS exchange data to Notes

ii. Also select the Notify me when users have completed conversion button

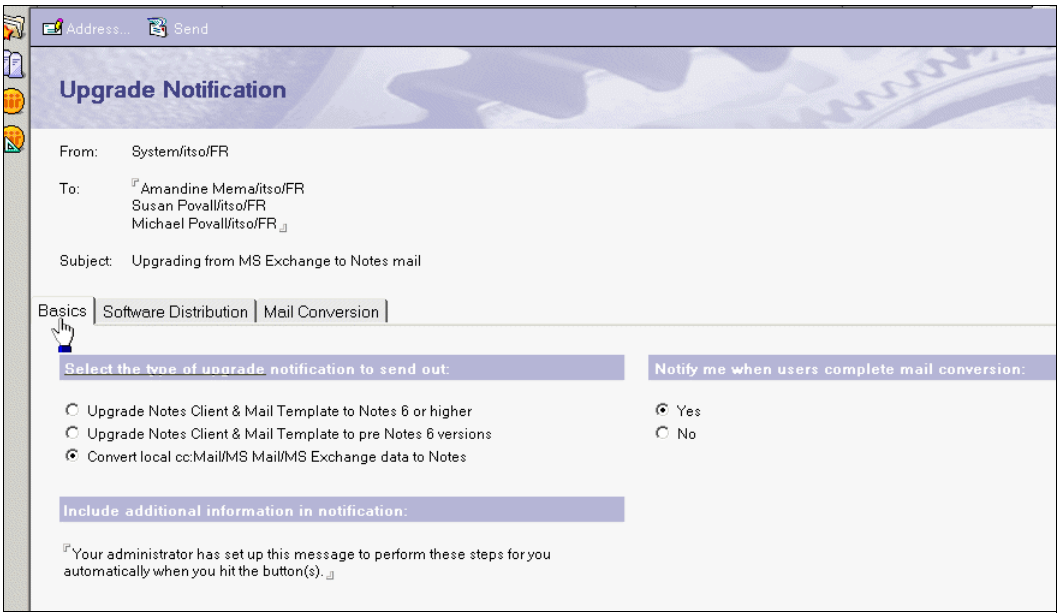

Figure 4-5 Upgrade notification basics tab

– You can customize the message the user will receive if you wish

c. Click the mail conversion tab

d. If you have chosen to have the migration tools on a shared drive, enter the path

e. Select Exchange from the conversion options

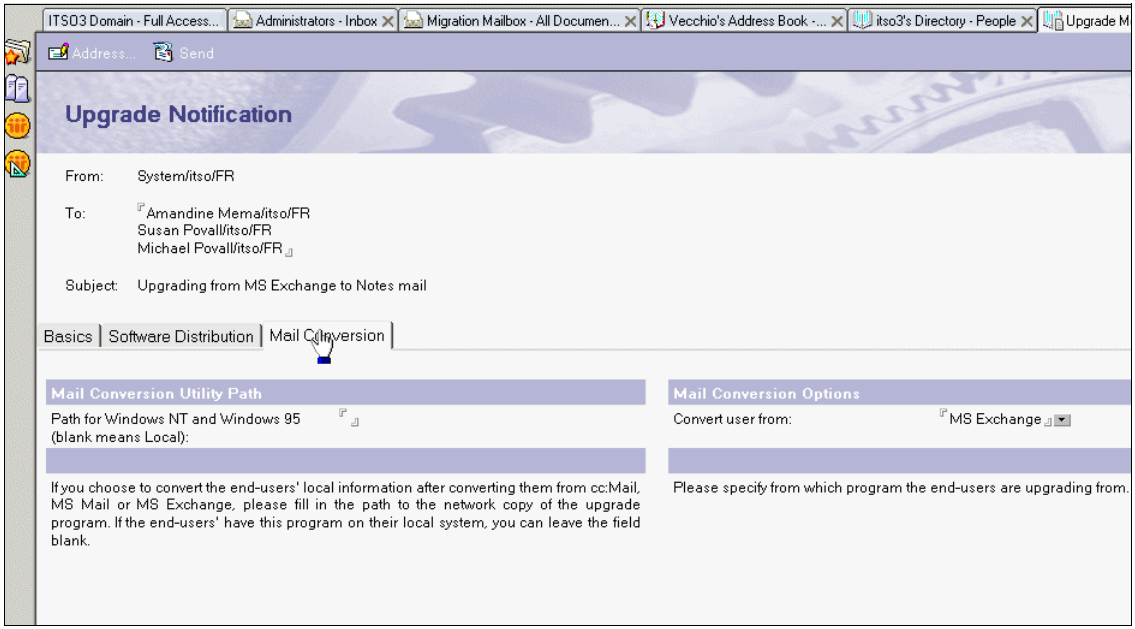

Figure 4-6 Upgrade notification Conversions tab

f. Click Send

The user will receive an email message with a button that will migrate the local pst file data into notes.

Note: Outlook is required and the end user's local profile will be utilized to access the pst file.

4.1.7 Step 7 - Backup Exchange

When all accounts are migrated, backup exchange server. Keep in mind that this may be a legal requirement and that there may be requirement for restore the data.

4.1.8 Step 8 - Clean up mail routing

Migrate all external connections Inbound and outbound (SMTP).

- Modify DNS MX records

- Change relay in domino if required

4.1.9 Step 9 - Clean up Infrastructure

- Review and Remove Coexistence tools where no longer required, as all users should be migrated.
- Remove foreign directories
- If required, remove LDAP from Directory Assistance

4.1.10 Step 10 - Decommission Exchange

Attention: Please refer to Chapter 23, “Migration Project wrap up - Removing the Microsoft Exchange environment” on page 715 for more details on this topic.

If you are reusing the old Exchange servers as is, then you will need to remove Exchange from the server. There are many technotes available on Microsoft’s support website on how to do this, and they include detailed instructions on removing registry entries. If you are not familiar with this process, or you are intending on rebuilding the OS, then ensure that the Hard disk has been fully wiped as it is possible that end user information could be retrieved if not properly cleaned.

Part 3

Coexistence - Tools and Strategies

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5

Using the Microsoft Exchange Connector for coexistence (Exchange 2000)

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter shows you how to install, configure, and use the Microsoft Exchange Connector for seamless coexistence with Lotus Notes. Although the Exchange Connector for Lotus Notes may not always be the best coexistence option for your environment, it is easy to set up and, properly managed, it is a useful and inexpensive coexistence option.

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In this chapter covers the following topics:

- Setup and configuration of Domino Server
- Install and configure Notes Client
- Install and configure Exchange Connector for Lotus Notes

Attention: This chapter focuses specifically on using the Exchange Connector for Microsoft Exchange 2000. For information on using the Exchange Connector for Microsoft Exchange 2003, please refer to Chapter 6, “Using the Microsoft Exchange Connector for coexistence (Exchange 2003)” on page 169)

5.1 Overview of the Exchange Connector

The Exchange Connector for Lotus Notes is a product provide by Microsoft which provides integration between Lotus Notes users and Microsoft Exchange users. The "Connector" acts as an intermediary between the two products, allowing mail from either product to route without having to implement SMTP Routing.

5.1.1 Conceptual Overview of how it works

The Exchange Connector for Lotus Notes supports directory synchronization, e-mail messages, and meeting requests. In addition you can also use Calendar Connector, in conjunction with Exchange Connector for Lotus Notes, to provide Free or Busy information when scheduling a meeting.

The following figure Figure 5-1 illustrates the Directory Synchronization process. The Directory Synchronization keeps each Directory service up to date with the most recent user and group attributes.

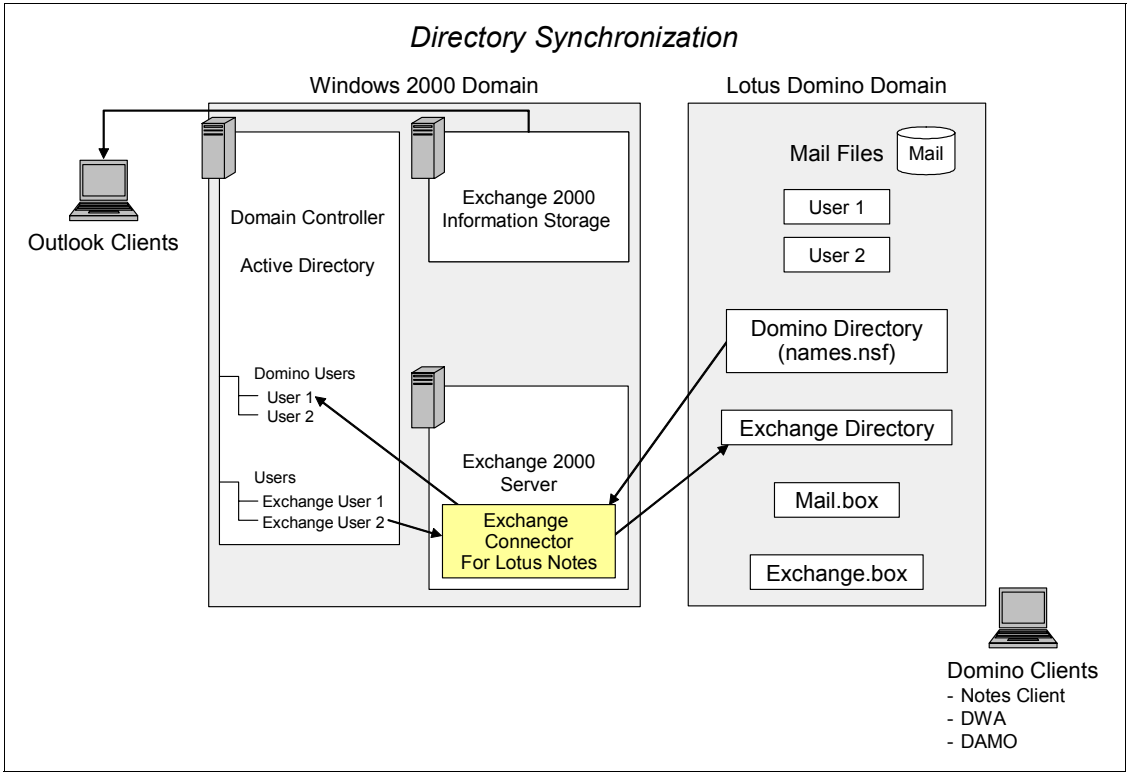

Figure 5-1 Directory Synchronization

The Exchange Connector for Lotus Notes converts messages sent between Exchange and Lotus Domino into a format that is understood by the receiving system.

The following figure illustrates Figure 5-2 on page 110 demonstrates a message sent from a Domino user and received by an Exchange users.

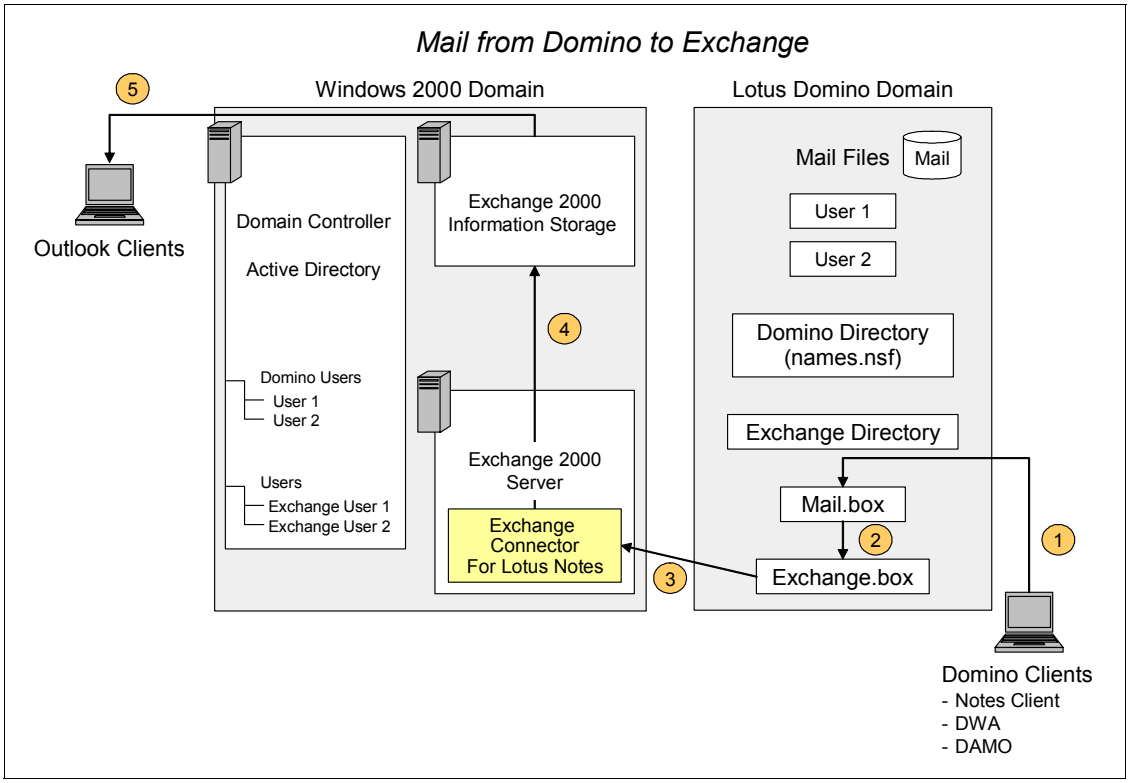

Figure 5-2 Mail from Domino user to Exchange user

The following illustration Figure 5-3 on page 111 demonstrates a message sent from an Exchange user to a Domino user.

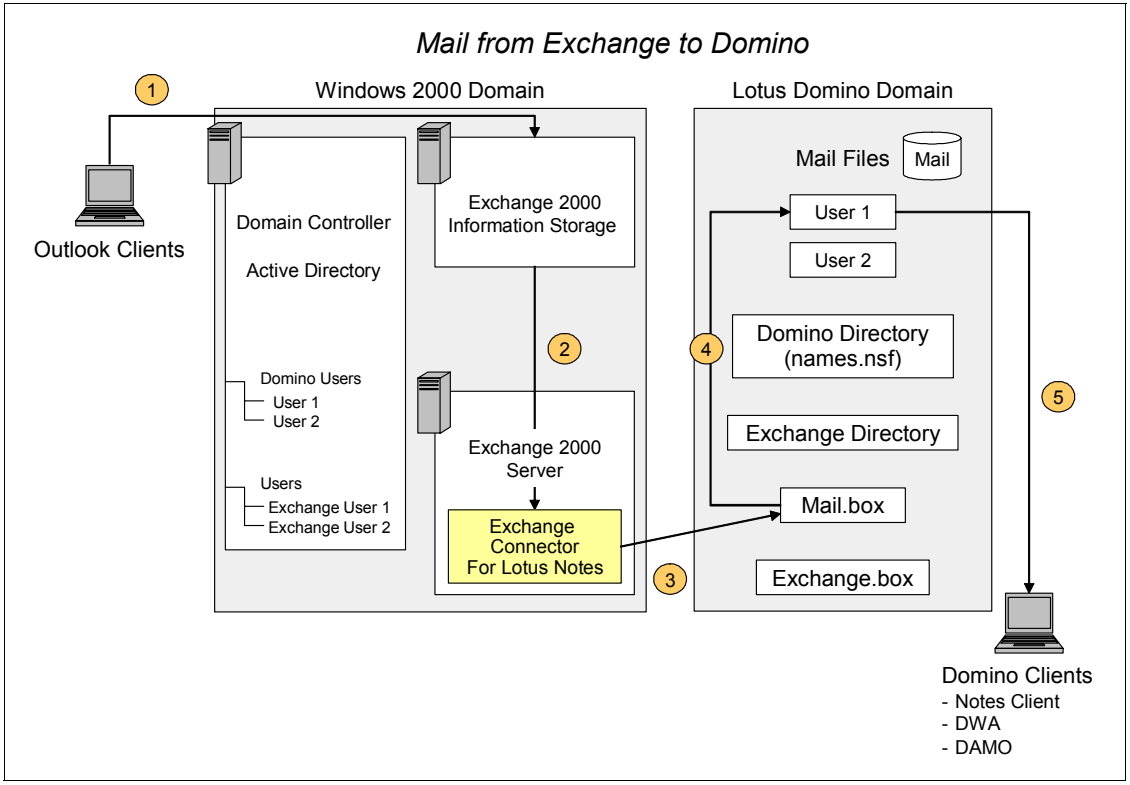

Figure 5-3 Mail from Exchange user to Domino user

5.2 Preparation

Before you begin to install and configure the Exchange Connector for Lotus Notes, you need to verify that you have a supported setup, and gather some specific information about your current environment that will be needed during the installation and configuration of the Connector.

5.2.1 Supported Environment

To run the Microsoft Exchange Connector for Lotus Notes, your environment must meet the following prerequisites:

- Windows 2000 Server SP1 or later (SP2 recommended)
- Exchange 2000 Service Pack 1 (SP1) or later (SP2 recommended)
- Has network connectivity to the server running Lotus Domino

- Can resolve the name of the server running Lotus Domino

Tip: For further information refer to the following URL:

http://www.microsoft.com/technet/prodtechnol/exchange/2000/library/e2klotus.mspx

5.3 Installing the Exchange Connector

To successfully install the Exchange Connector for Lotus Notes, the following tasks needs to be accomplished:

On the Domino Server

- ☐ Register the Exchange Connector (i.e create an ID file)
- ☐ Prevent the Exchange Connector ID synchronization (optional)
- ☐ Create the Exchange Connector mailboxes
- ☐ Set up the Exchange Connector mailbox Access Control List (ACL)
- ☐ Create a Foreign Domain document in Domino directory
- ☐ Create the Exchange / Domino directory
- ☐ Implement Directory Assistance

On the Exchange 2000 Server:

- ☐ Install a Notes Client
- ☐ Set up the Notes Client
- ☐ Install the Exchange Connector for Lotus Notes
- ☐ Configure the Exchange Connector for Lotus Notes
- ☐ Enable the proxy addresses
- ☐ Start the Exchange Connector services
- ☐ Start Directory Synchronization

The following sections describe each task in detail.

5.3.1 Register a Lotus Notes User ID for Exchange Connector

In order to transfer messages and synchronize directories between Lotus Domino and Exchange 2000, Exchange Connector for Lotus Notes must have its

own Lotus Domino user ID. As the Lotus Domino Administrator, you will need to create an ID file for the Exchange Connector for Lotus Notes.

From the Domino Administrator's Notes desktop, follow these steps:

1. If you have not already done so, create a link to the certifier ID (CERT.ID). If not, when prompted for the certifier ID later, you will have to ensure a network path is available to the Domino server to access it. We generally do not recommend copying the CERT.id to a local workstation, as this might compromise security.
2. Launch the Domino Administrator Client from your workstation and log on as a user who has Lotus Domino Administrator permissions.
3. From menu select File → Open Server. Chose your registration server from the dialog box Figure 5-4.

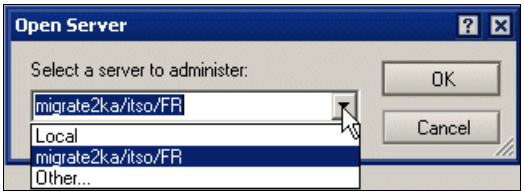

Figure 5-4 Open Server Dialog Box

In our example the server name was migrate2ka/itso/FR, which is also our mail server; in your Domino infrastructure this may not be the case, so be sure you select the correct server

4. Select the People & Groups Tab.

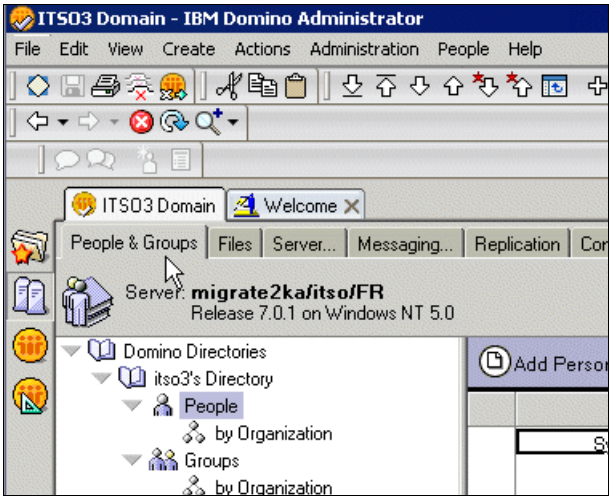

Figure 5-5 People & Groups

5. Select People in the Tools Pane and click Register Figure 5-6 on page 114.

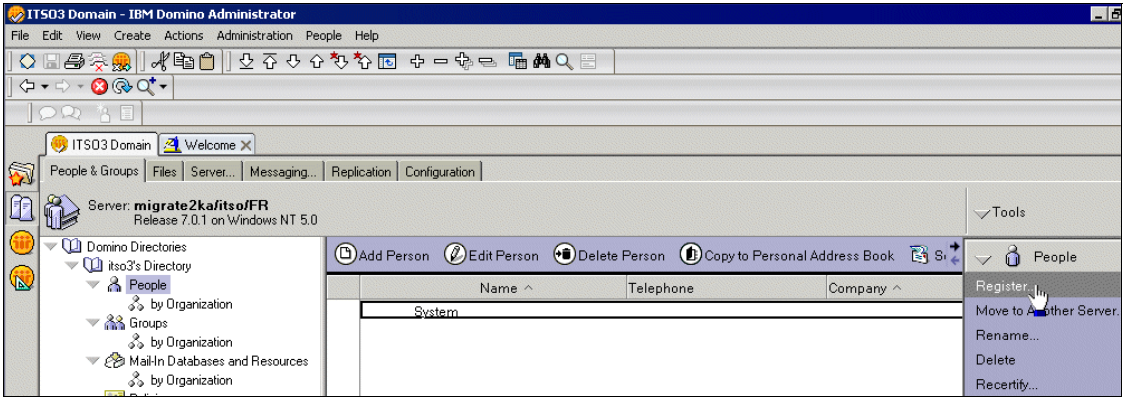

Figure 5-6 Select Register Person

6. After clicking Register, you maybe presented with the “Select certifier ID” box. Select your CERT.id and if necessary change the registration server. Click Ok Figure 5-7.

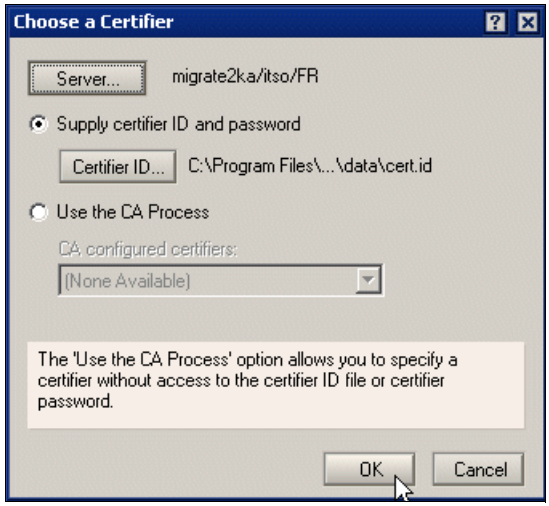

Figure 5-7 Select Certifier ID

7. Enter the certifier password when prompted Figure 5-8 on page 115

Figure 5-8 Password Box

If you have not set up a Recovery ID process, a message pops up that warns you that the certifier does not contain recovery information. Click OK to continue (figure CertifierRecoveryInformationWarning)

Figure 5-9 Certifier Recovery Information Warning

8. Use The following steps to create a Person document for the Exchange Connector Figure 5-10
   a. Select the Advanced checkbox
   b. In the First Name field, type *Exchange*
   c. In the Last Name field, type *Connector*

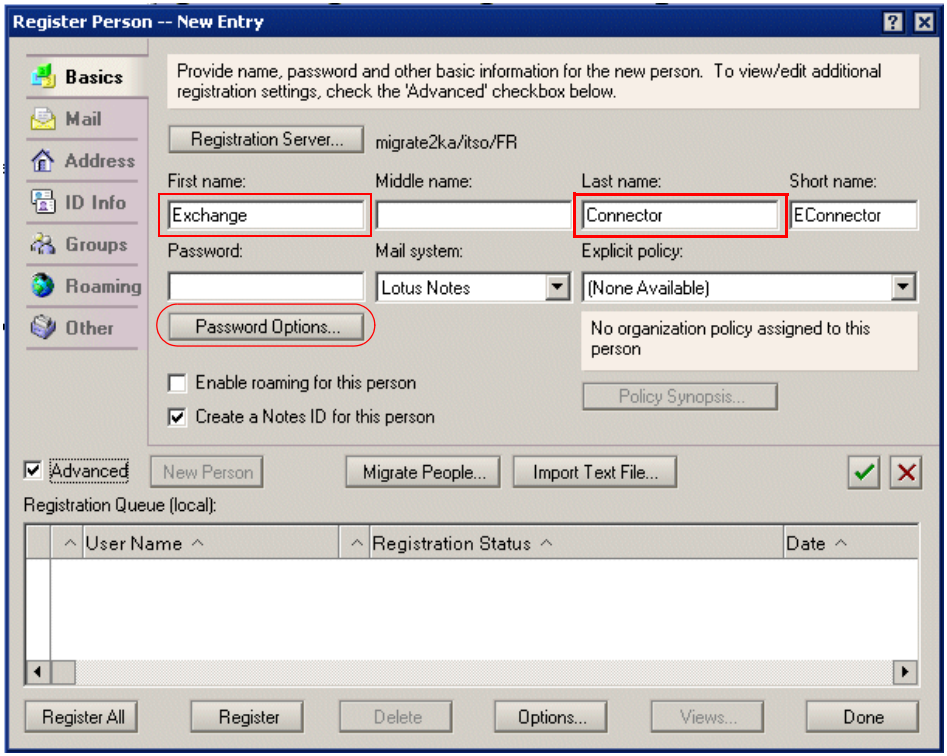

Figure 5-10 Register Person Advanced window

9. Click Password Options button and move the scale to Weak, setting a minimum password length field of 0 (optional). Click OK to continue Figure 5-11 on page 118.

   This is required so that you can allow the Microsoft Exchange Connector for Lotus Notes to run in unattended mode, with no password prompt.

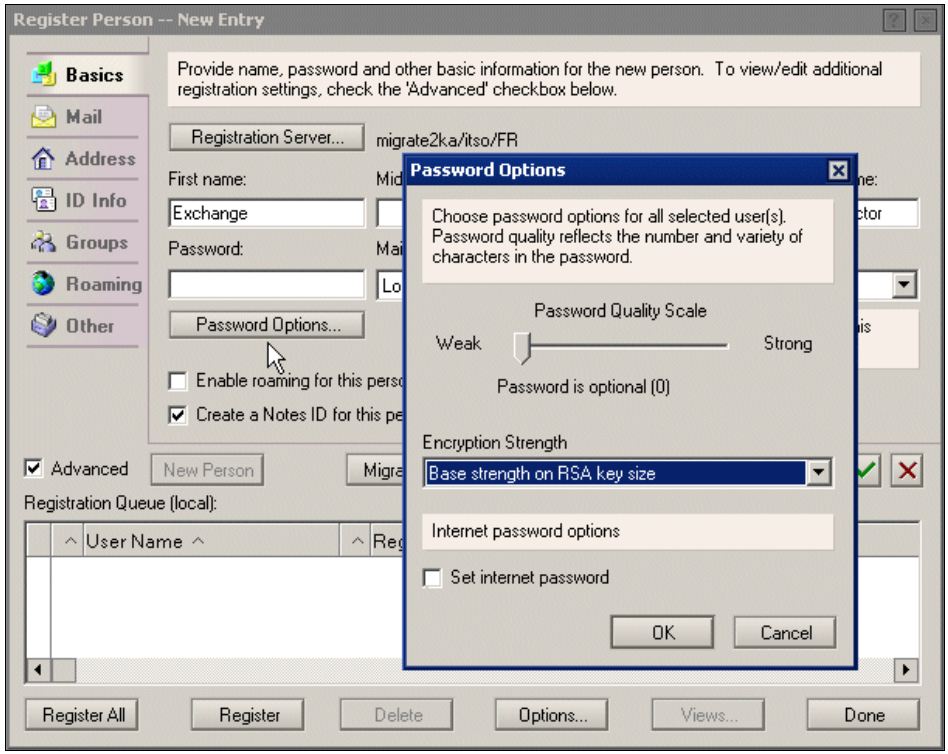

Figure 5-11 Password options

10. Select the Mail Navigator tab. Set mail system field to None.

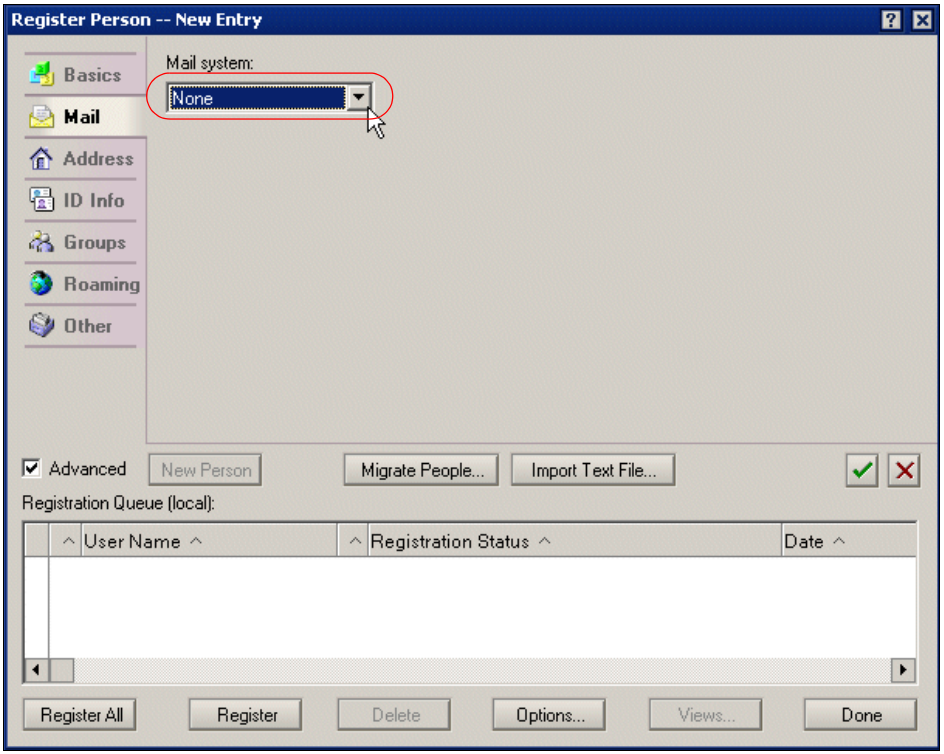

Figure 5-12 Setting mail type

11. Select the ID Info tab. Complete the following steps:

    a. Depending on the expected length of time for the coexistence, set the expiration date of the certifier at a safe point beyond your planned contingency.

    b. Select the level of security for your region: North american or International.

    c. In the Store user ID field, select to store the ID in a file, and have the user ID stored in the default directory D:\Lotus\Notes\Data\ids\People.

Note: In the 'Location for storing user ID', make sure you deselect 'In Domino directory.

    d. Click green checkmark to continue Figure 5-13 on page 120.

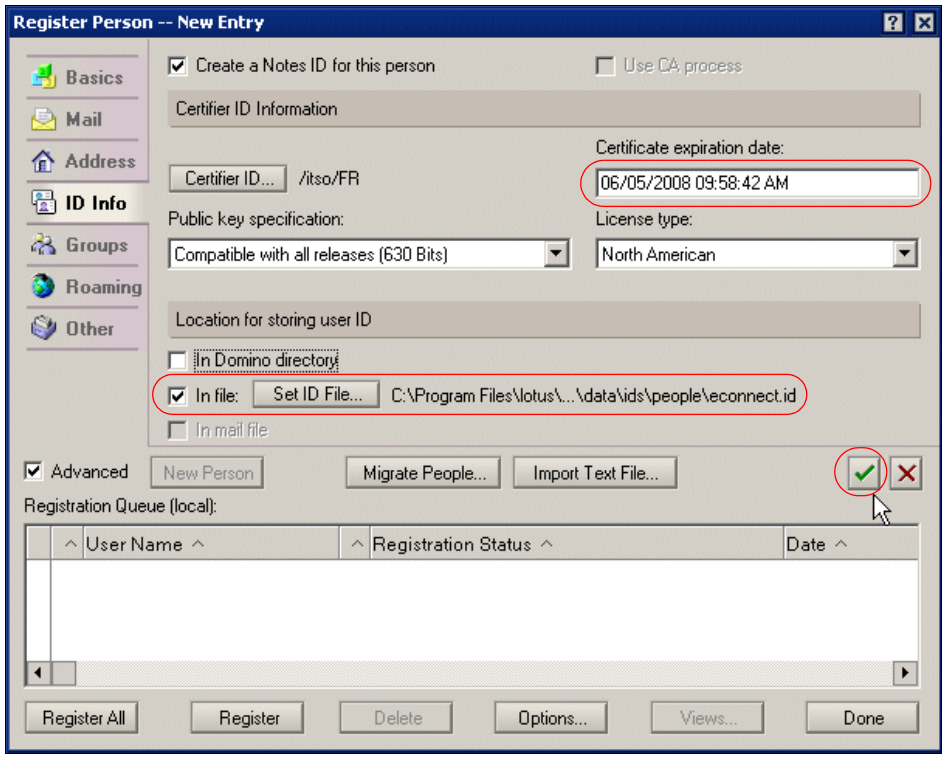

Figure 5-13 Setting security options

12. Click the Register button on the bottom left of the screen Figure 5-14 on page 121.

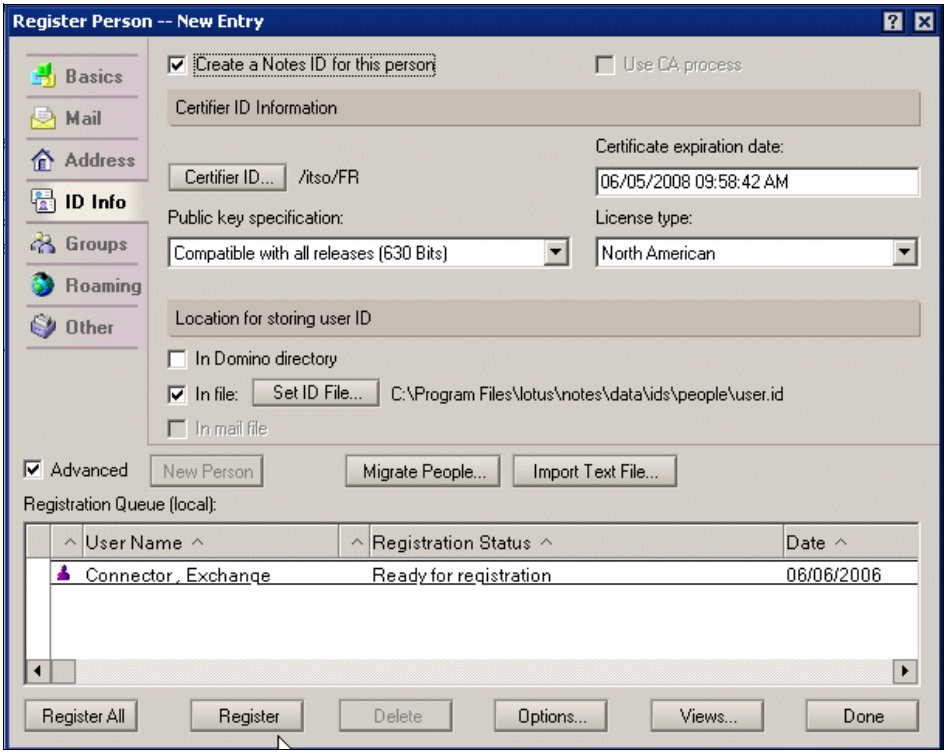

Figure 5-14 Registration queue

The Exchange connector will be registered and a person document added to the direcotry. The ID file will be created and stored in the specified directory.

5.3.2 Prevent Exchange Connector ID Synchronization (optional)

This is an optional step to be followed should you decide to hide the Exchange Connector ID from Exchange users or other Lotus Domino domains.(The procedure below can performed directly from within the Domino Directory.) Figure 5-15 on page 122.

Click the People and Groups tab.

1. In the left pane, click People.
2. In the right pane, select the user ID you created for Exchange Connector for Lotus Notes. For example, Connector, Exchange.
3. Click Edit Person.

4. On the Administration tab, in the Foreign directory sync allowed text box, type No.
5. Click Save and Close.

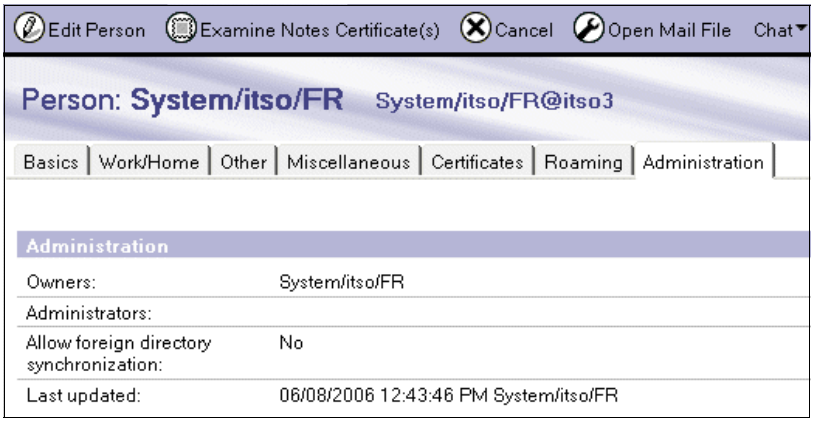

Figure 5-15 Person Document Administration Tab

5.3.3 Create and Setup Exchange Connector Mailboxes

In order to route messages to Exchange, you need to create the following two mailbox databases on the Domino server:

- Connector mailbox. File name Exchange.box
  The mailbox stores mail being routed from Lotus Domino to Exchange. Later, when you create the foreign domain document and configure Exchange Connector for Lotus Notes, you specify the name of the connector mailbox. All mail routed from Lotus Domino to Exchange is then sent to the connector mailbox, from which it is retrieved by Exchange Connector for Lotus Notes.
- Connector mailbox for bad mail. File name Exchange.bad.
  This mailbox stores any mail that fails to transfer to Exchange.

To create and setup exchange.box following these steps:

1. Start Lotus Domino Administrator and log on as a user who has Lotus Domino Administrator permissions.
2. Select File → Open Server.
3. In the Select a server to administer dialog box, in the Server text box, type the name of your Lotus Domino Server, including the certifier information. For example, migrate2003b/itso/fr. Click OK.
4. Select the Files tab.
5. From Menu bar, Click File → Database → New.

6. In the New Database dialog box:
   - From the Server drop-down list, select the server running Lotus Domino.
   - In the Title text box, type a name for the new database. For example, type Exchange Mailbox.
   - In the File Name text box, type a name for the new database. For example, type exchange.box. You specify this name later when you configure the foreign domain document and Exchange Connector for Lotus Notes.
   - Click the Template Server option, then from the Server drop-down list, select the server running Lotus Domino, and then click OK.
   - Select the Show advanced templates check box.
   - From the scroll box, below the Template Server option, select Mail Router Mailbox (7), and then click OK.

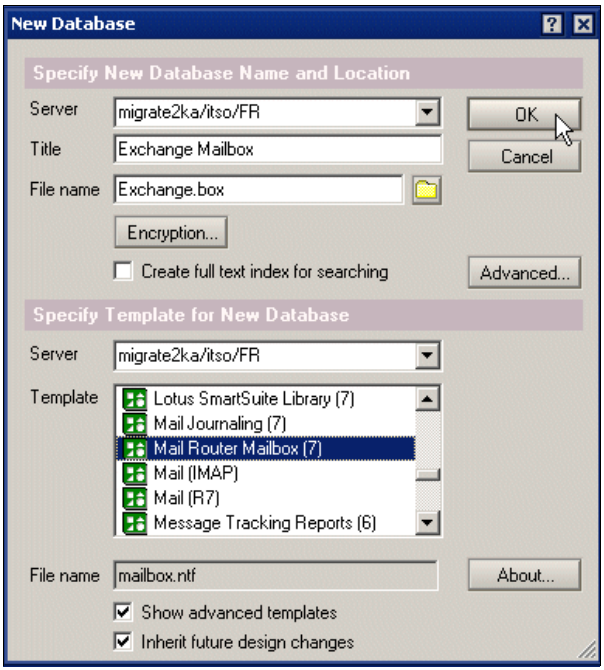

Figure 5-16 Create exchange box

7. The new mailbox is created. Press Escape to close the About Mail Router Mailbox message (or select File → Close).
8. Click File, point to Database, click Access Control, and then click Add.

9. In the Person, server, or group text box, click the browse icon.
10. Select the user ID for Exchange Connector for Lotus Notes, click Add, and then click OK.
11. From the Access drop-down list, select Manager, select the Delete documents check box, and then click OK.

To create and setup exchange.bad following these steps:

1. .Repeat steps 1-5 from 'Create and Setup Exchange Connector Mailboxes'
2. In the New Database dialog box:
   - From the Server drop-down list, select the server running Lotus Domino.
   - In the Title text box, type a name for the new database. For example, type Exchange Bad Mailbox.
   - In the File Name text box, type a name for the new database. For example, type exchange.bad. You specify this name later when you configure the foreign domain document and Exchange Connector for Lotus Notes.
   - Click the Template Server option, then from the Server drop-down list, select the server running Lotus Domino, and then click OK.
   - Select the Show advanced templates check box.
   - From the scroll box, below the Template Server option, select Mail Router Mailbox (7), and then click OK.
3. The new mailbox is created. Press Escape to close the About Mail Router Mailbox message (or select File → Close).
4. Click File → Database → Access Control, and then click Add.
5. In the Person, server, or group text box, click the browse icon.
6. Select the user ID for Exchange Connector for Lotus Notes, click Add, and then click OK.
7. From the Access drop-down list, select Manager, select the Delete documents check box, and then click OK.

5.3.4 Create Foreign Domain Document

For messages to be routed from Lotus Domino to Exchange a Foreign Domain Document must be created. Follow these steps to create a Foreign Domain

Document:

1. Launch the Domino Administrator Client from your workstation and log on as a user who has Lotus Domino Administrator permissions.
2. Click Configuration Tab
3. In the left-hand pane click Messaging, then click Domains.
4. In the View Action Menu Click Add Domain Figure 5-17.

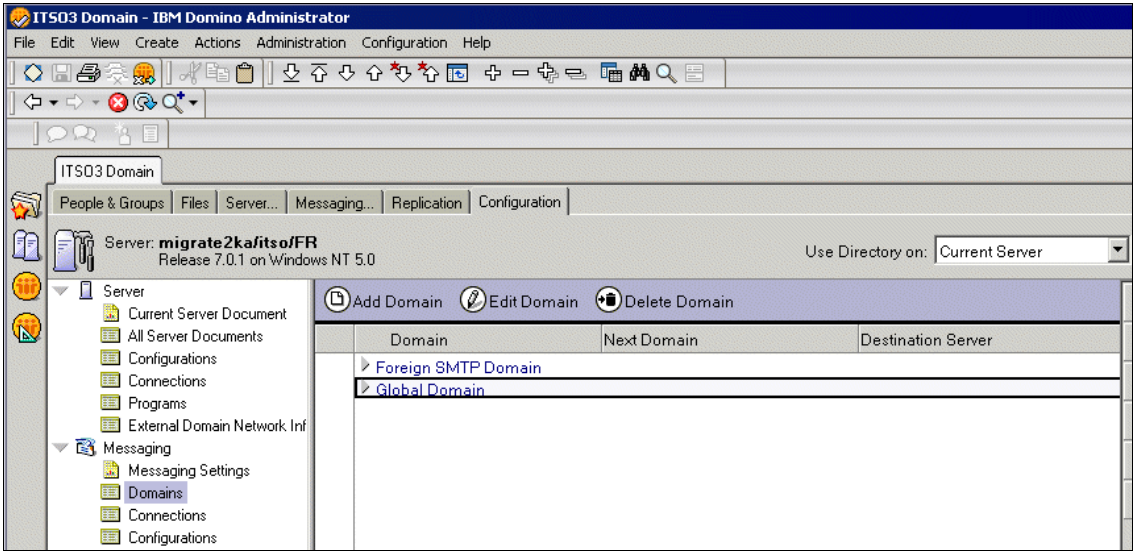

Figure 5-17 Add Domain

5. On the Basic tab Figure 5-18
   a. Domain type field, select Foreign Domain.
   b. Foreign Domain Name field, type Exchange.
   c. Domain description field, type Domain for the Exchange/Notes Connector

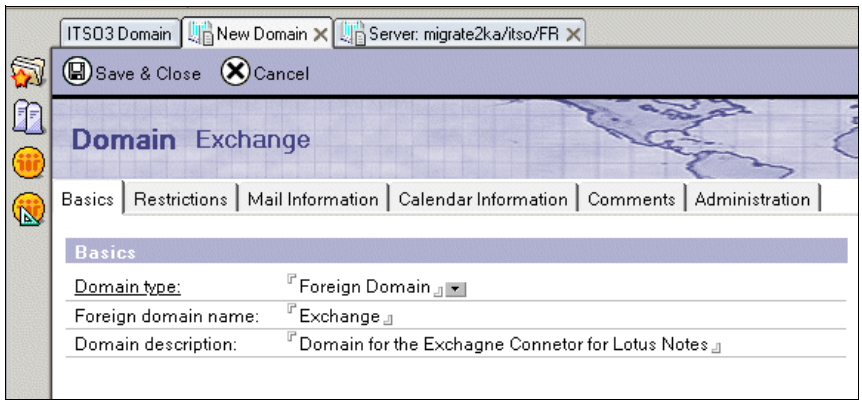

Figure 5-18 Domain Document Basic tab

6. On the Mail Information tab Figure 5-19 on page 126
   a. Gateway server name, type the name of your Domino Server. For example: migrate2ka/itso/FR.
   b. Gateway mail file name, type Exchange.box.

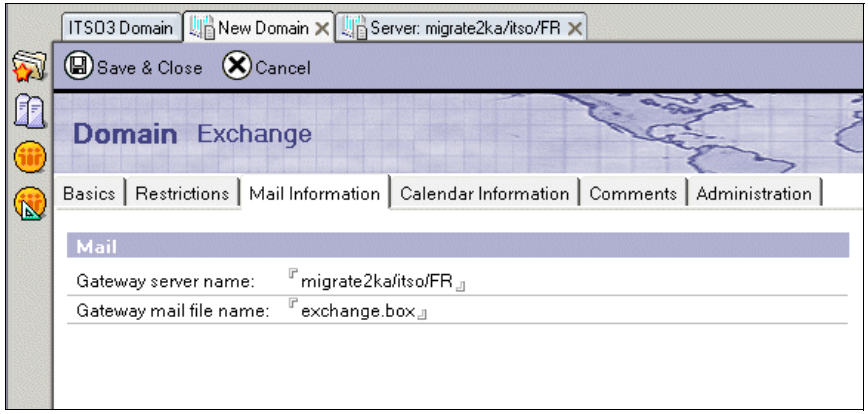

Figure 5-19 Domain Document Mail Information tab

7. Click Save and Close.

5.3.5 Create Exchange User Directory

Create an address book which will be used to synchronize your Domino and Exchange Address books for the purpose of name lookup and resolution.

Note: It is possible to synchronize the Exchange addresses into the names.nsf. We found that this can cause some complications when migrating and it is simpler and cleaner to synchronize with a secondary directory and set up directory assistance.

Use the following steps to create a secondary address book:

1. Launch the Domino Administrator Client from your workstation and log on as a user who has Lotus Domino Administrator permissions.
2. From the menu bar, Click File → Database → New.
3. From the New Database Dialog box:
    - From the Server drop-down list, select the server running Lotus Domino.
    - In the Title text box, type a name for the new database. For example, type Exchange Names.
    - In the File Name text box, type a name for the new database. For example, type exchangenames.nsf. You specify this name later when you configure the DirSync for the Exchange Connector for Lotus Notes.
    - Click the Template Server option, then from the Server drop-down list, select the server running Lotus Domino, and then click OK.
    - Select the Show advanced templates check box.
    - From the scroll box, below the Template Server option, select Domino Directory, and then click OK Figure 5-20.

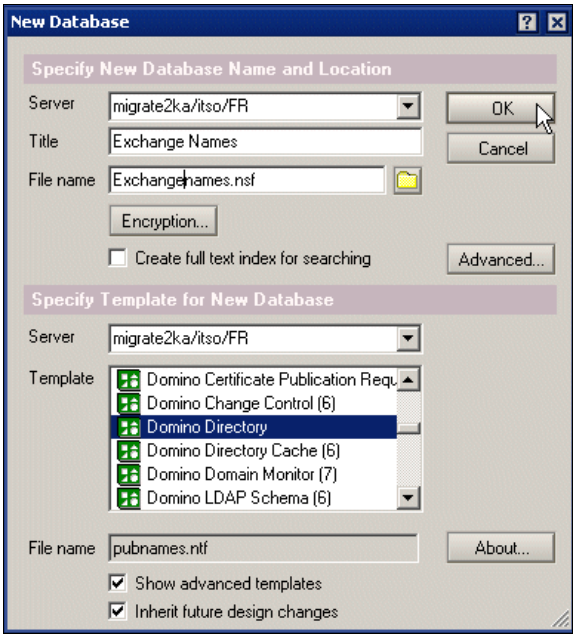

Figure 5-20 Create Exchangenames.nsf

Note: If you received error 'You are not authorized to perform that operation: Server Name DBName.nsf'. See Lotus Software Knowledge Base Document.

Title:Error Attempting to Create a Database From pubnames.ntf.Doc #: 1086231

URL:http://www.ibm.com/support/docview.wss?rs=899&uid=swg21086231

4. The new address book is created. Press Escape to close the About the Domino Directory message (or select File → Close)
5. Click File → Database → Access Control, and click add.
6. In the person, server, or group box, click the browse icon.
7. Select the user ID for Exchange connector for Lotus Notes, Click Add, and then Click Ok.
8. From the Access drop-down list, select Manager, select the Delete documents check box.
9. Select all Roles and Click Ok Figure 5-21.

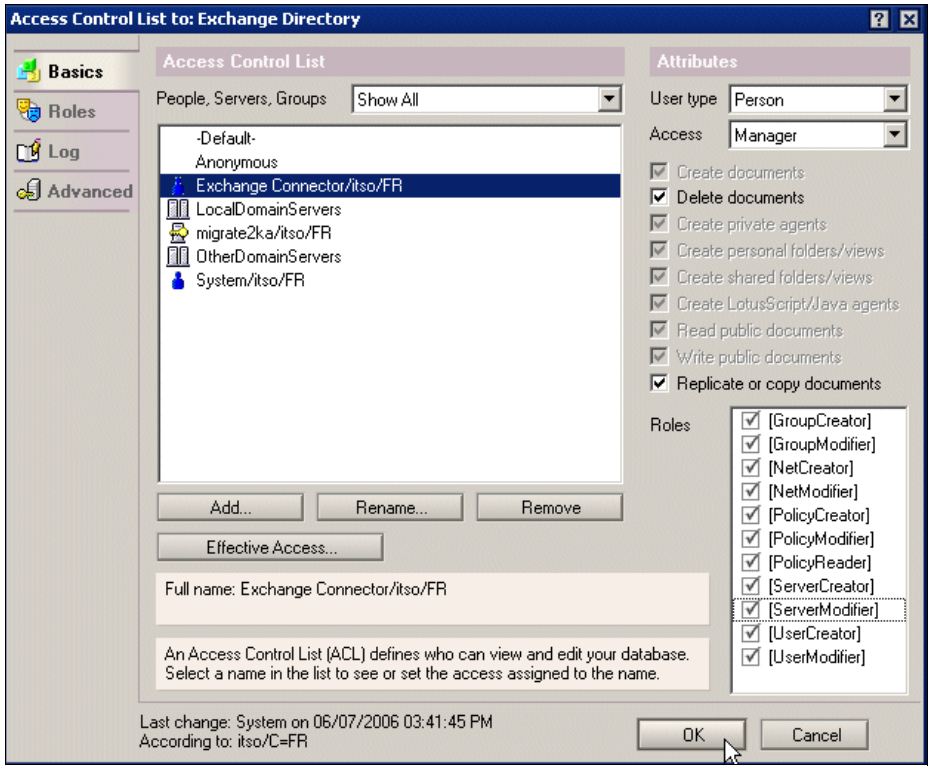

Figure 5-21 ACL Exchange Directory

5.3.6 Implement Directory Assistance

Now that a secondary address book has been created you will want to implement Directory Assistance for the purpose of name lookup and resolution.

There are two major steps in implementing Directory Assistance.

1. Enable Directory Assistance in Server Document.
2. Create a Direcotry Assistance Database.

Use the following steps to Enable Direcotry Assistance:

1. Launch the Domino Administrator Client from your workstation and log on as a user who has Lotus Domino Administrator permissions.
2. Click on Configuration tab.
3. Click on Server, then All Server Documents Figure 5-22.

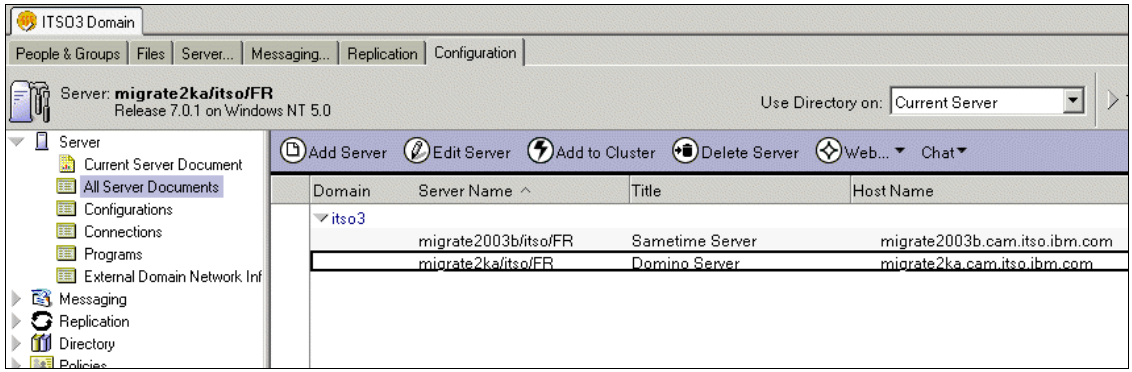

Figure 5-22 Configuration Tab

4. Open Domino Server document in edit mode.
5. In field Directory assistance database name, type DA.nsf Figure 5-23.

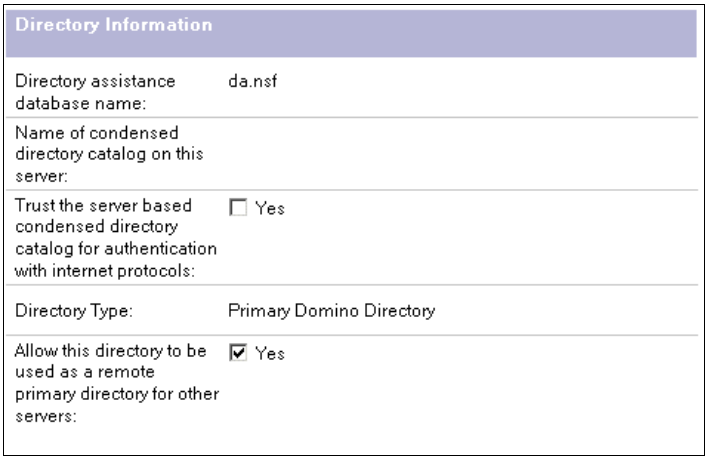

Figure 5-23 Server Document

6. Click Save and Close.

Use the following steps to create a Directory Assistance Database:

1. Launch the Domino Administrator Client from your workstation and log on as a user who has Lotus Domino Administrator permissions.
2. From menu bar, Click File → Database → New.
3. From the New Database Dialog box:

- From the Server drop-down list, select the server running Lotus Domino.
- In the Title text box, type a name for the new database. For example, type Direcotry Assistance.
- In the File Name text box, type DA.nsf
- Click the Template Server option, then from the Server drop-down list, select the server running Lotus Domino, and then click OK.
- Select the Show advanced templates check box.
- From the scroll box, below the Template Server option, select Directory Assistance, and then click OK Figure 5-20.

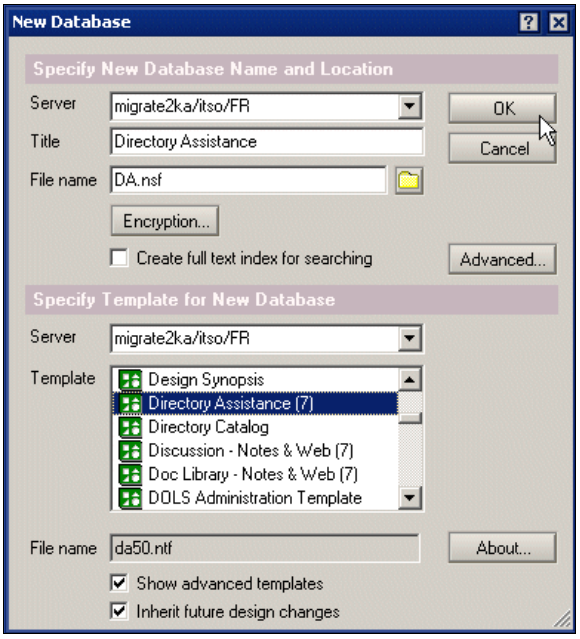

Figure 5-24 New Database dialog box

Click on Add Direcotry Assistance

4. The Directory Assistance database is created. Press Escape to close the About the Domino Directory message (or select File → Close)
5. In view action bar, Click Add Directory Assistance.
6. On the basic tab complete the following fields:
   a. Domain type, select Notes.
   b. Domain name, type a unique name. For example: Unique

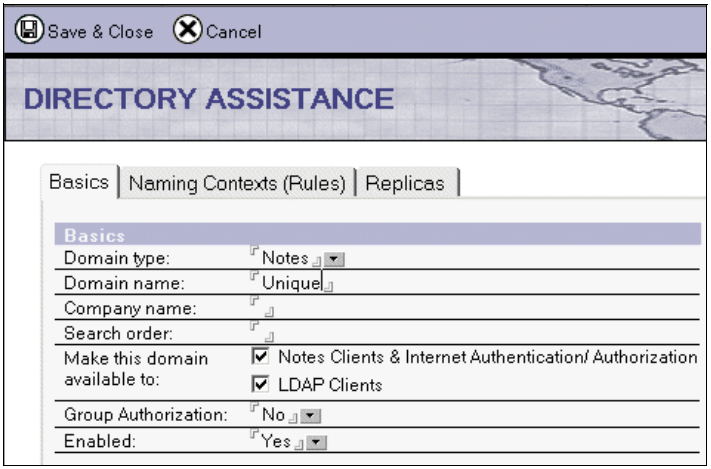

Figure 5-25 Directory Assistance basic tab

7. Click on Replicias tab
8. Paste a Database Link for Exchangename.nsf Figure 5-26.

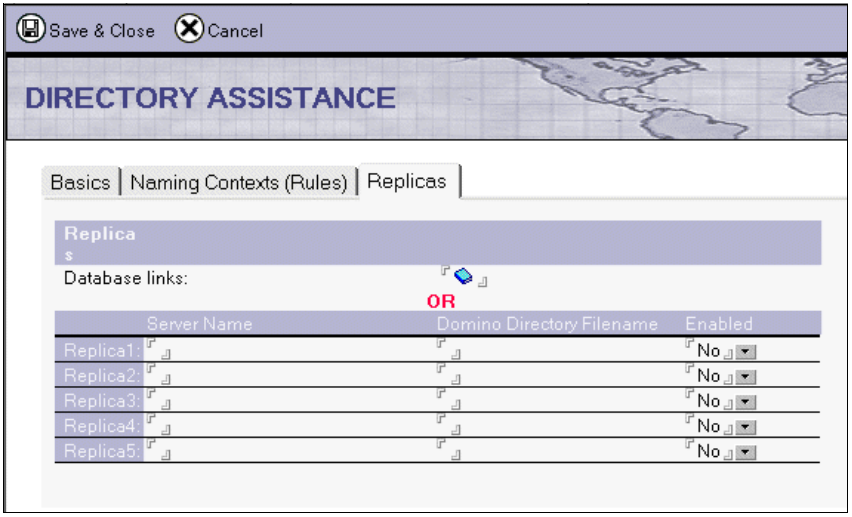

Figure 5-26 Directory Assistance Replicas tab

9. Click Save and Close

Note: Remember to restart the Domino Server.

Note: For further instructions on how to set up directory assistance, see the Lotus Domino 7 Administrators Help database.

To verify Directory Assistance is set up properly issue a ‘Show xDir” from the Domino Console. You should see the exchangenames.nsf is listed.

```
> show xdir

   DomainName       DirectoryType          ClientProtocol Replica/LDAP Server
   ---------------- ---------------------- -------------- ----------------------
 1 ITSO3            Primary-Notes          Notes & LDAP   names.nsf
 2 EXCHANGE         Secondary-Notes        Notes & LDAP   Exchangenames.nsf

Directory Assistance Database 'da.nsf' in use
```

Figure 5-27 Show Xdir

5.3.7 Install and Setup Notes Client

In order for the Exchange Connector for Lotus Notes to access the Domino server, it requires access to several of the DLLs from Lotus Notes. You will be required to install a Lotus Notes client on the Exchange Server.

Note: When deciding which version of the client to install, consider the information in the following Knowledge Base article:

Lotus Notes Client Versions That Are Tested with the Exchange Notes Connector

http://support.microsoft.com/?ID=316035

For our test environment while written this redbook we installed a 7.0.1 client.

From the Exchange Server, perform the following steps to install the Notes client:

1. Launch the Notes Client Setup Utility.
2. At the Welcome screen Click Next Figure 5-28.

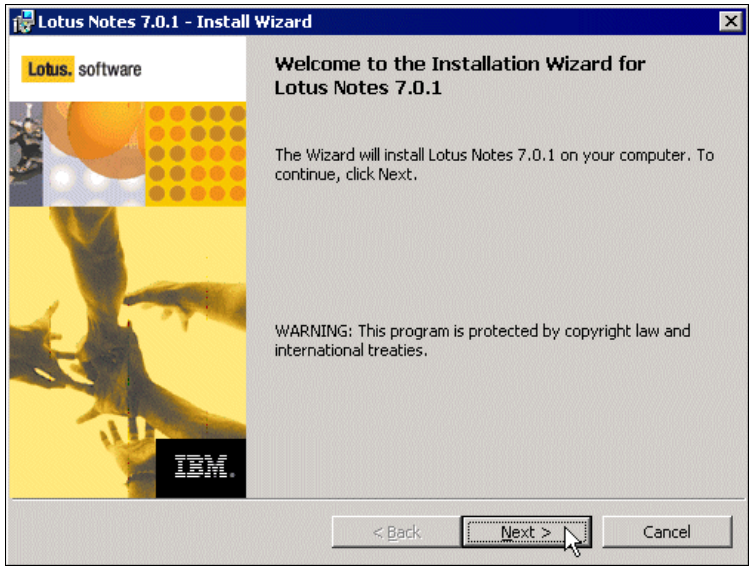

Figure 5-28 Welcome Install Wizard

3. Accept the terms in the license agreement and click Next Figure 5-29 on page 134.

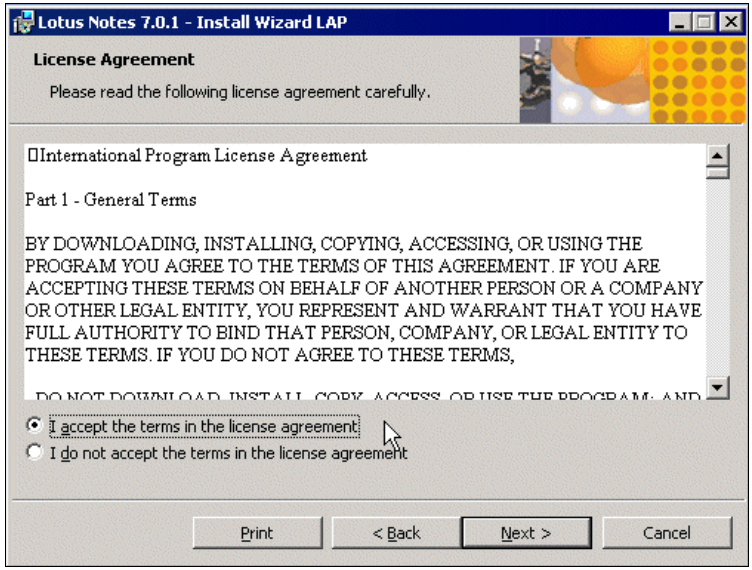

Figure 5-29 License Agreement

4. Enter the required information on the user and organization and click Next Figure 5-30.

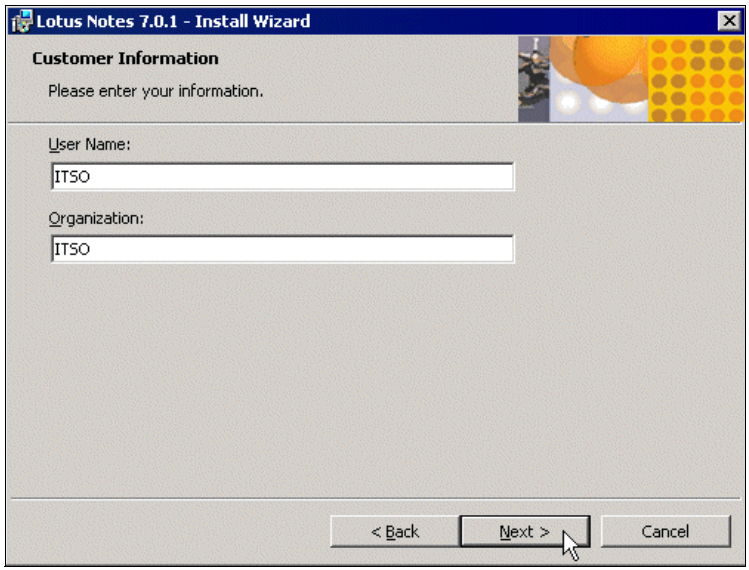

Figure 5-30 User Information

5. Unless others wise required, *do not* change the Path names for the Notes program and data files Figure 5-31 on page 136.

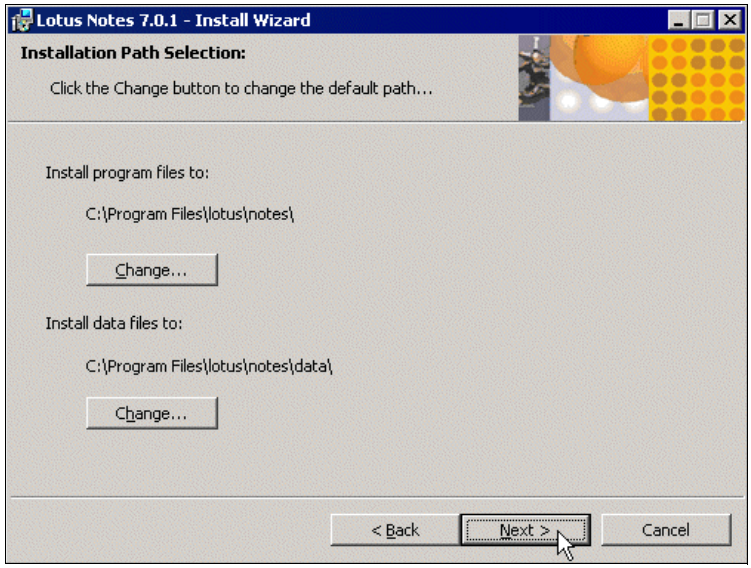

Figure 5-31 Installation Path Selection

6. Select the Install Notes Client button and select install to hard drive Figure 5-32. This will install all the subcomponents necessary. Click Next.

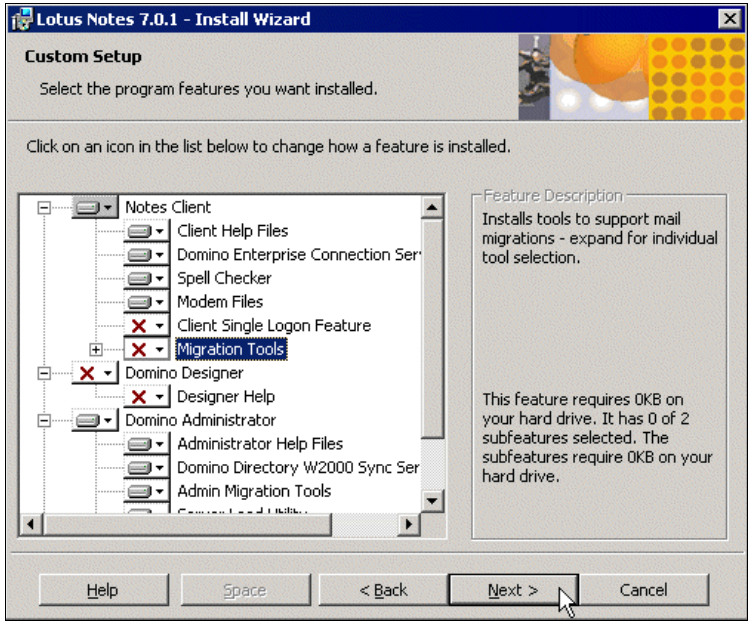

Figure 5-32 Setup

7. Click Install Figure 5-33.

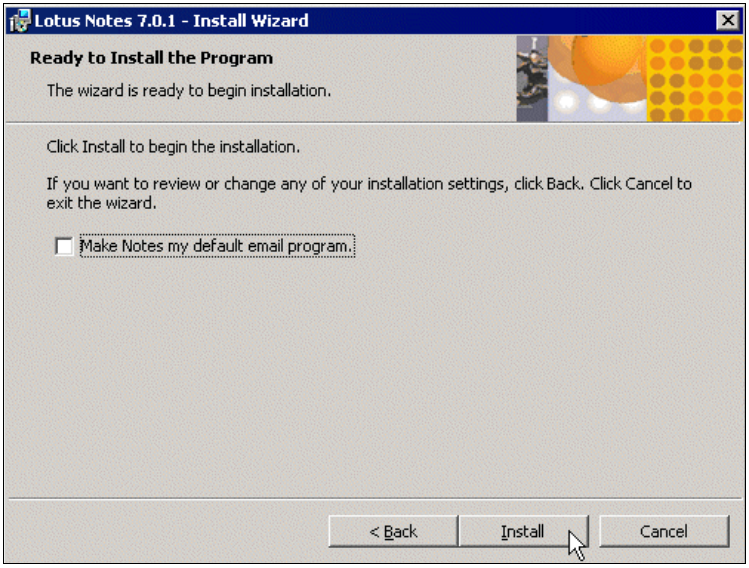

Figure 5-33 Install Program

8. Click Finish Figure 5-34.

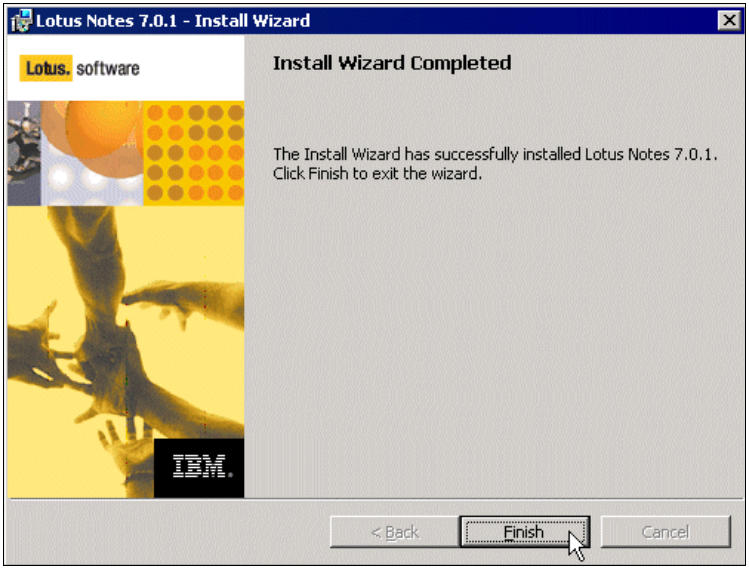

Figure 5-34 Install Wizard Complete

After the installation is complete, ensure that the lotus notes direcotry is in the server's system path. If you need to update the system path, do so using the following steps:

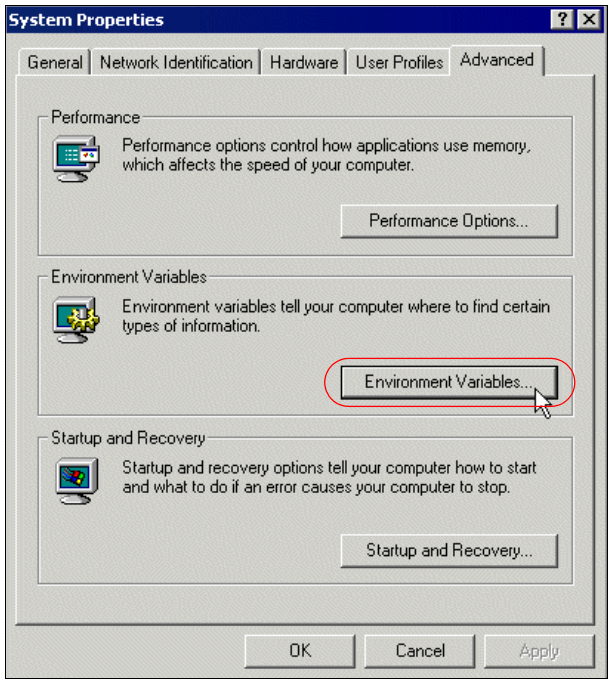

Figure 5-35 System Advanced Properties tab

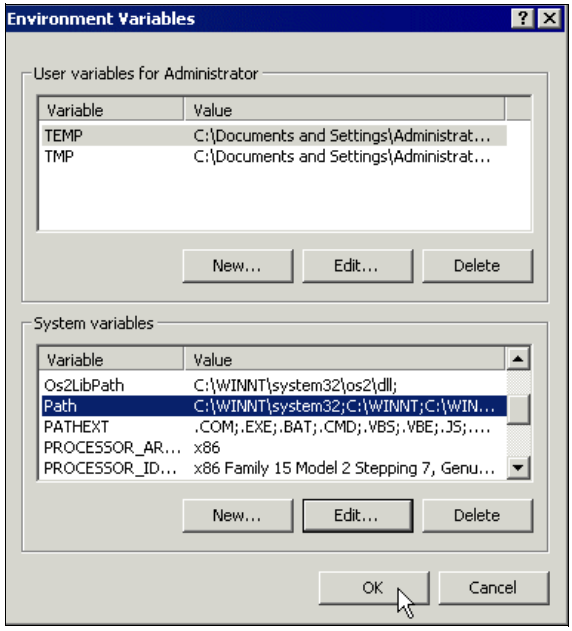

Figure 5-36 Environment Variables

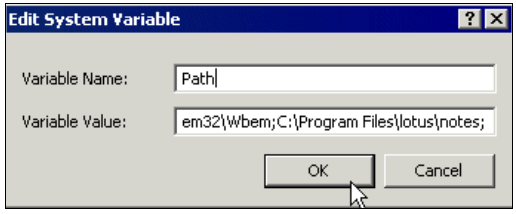

Figure 5-37 Variable Value

Configure the Notes Client

To set up the Notes client for the Exchange Connector, you need to use the ID file created to represent the Exchange Connector for Lotus Notes. In our example we created the user “Exchange Connector” with an ID file of econnect.id.

We placed the ID file in the D:\Lotus\Notes\Data\ids\People directory on the Domino server. The ID file needs to be copied to the Exchange Server’s \Notes\data directory, or when requested specify a path to the location of the ID file on the Notes server.

Use the following steps to setup the notes client on the Exchange Server machine:

1. To set up the client you need to first launch it. Double-click the icon on the desktop.
2. At the Notes Workstation Setup dialog box click OK.
3. At the Welcome screen show in Figure 5-38 Click Next.

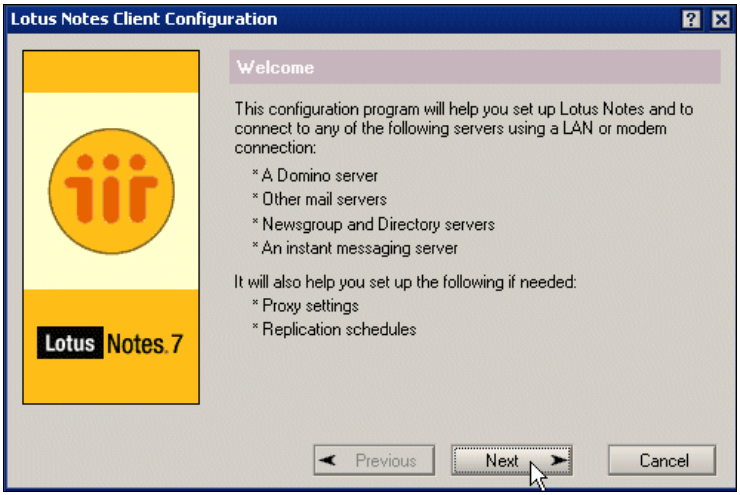

Figure 5-38 Lotus Notes Client Configuration

4. In the Your Name field, type Exchange Connector Figure 5-39 on page 141.
5. In the Domino Server Name, type the name of your Domino Server Figure 5-39 on page 141.
6. Click Next.

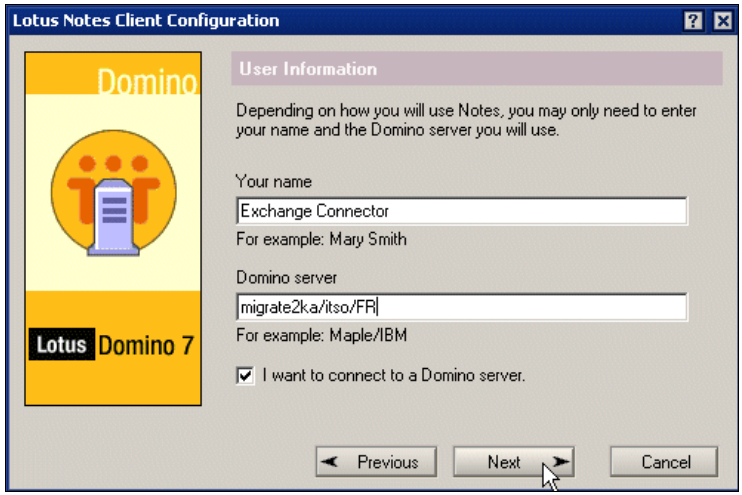

Figure 5-39 User Information

Note: In the Domino Server field you can you either the name of the server or the IP address.

7. Enter the location of the ID file for Exchange Connector Figure 5-40.
8. Click Next.

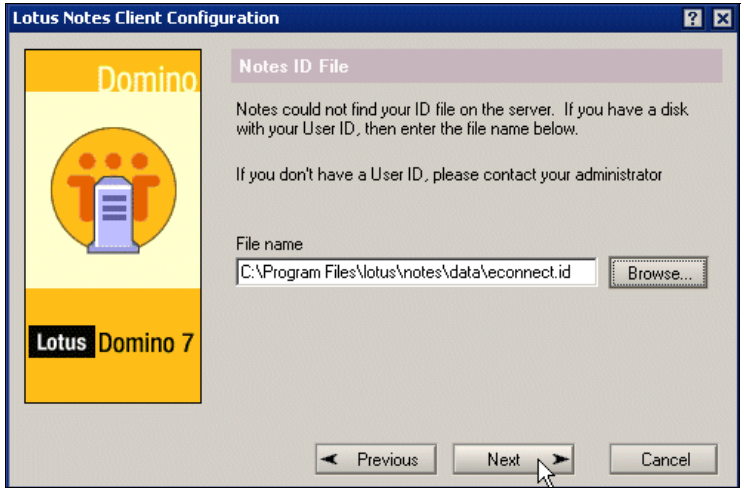

Figure 5-40 Notes ID File location

Note: This ID file has no password so we will not be prompted for an authentication password.

9. The Exchange Connector does not require any of the additional services. Click Next Figure 5-41.

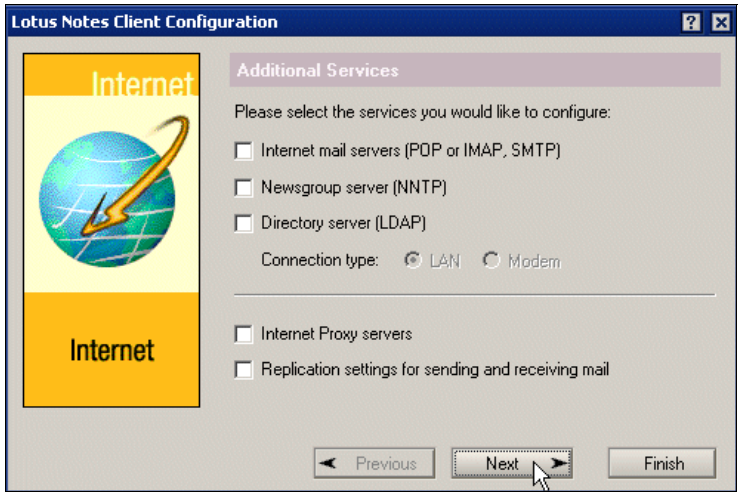

Figure 5-41 Additional Services

Figure 5-42 Notes Client Setup complete

You have now successfully installed and configured the Notes Client on the Exchange Server.

5.3.8 Install Exchange Connector for Lotus Notes

From the Exchange Server complete the following steps to install the Exchange Connector for Lotus Notes:

1. Insert Exchange 2000 CD into the CD-ROM drive.
2. Run Setup.exe from the \setup\i386 directory.

3. On the Microsoft exchange 2000 Installation Wizard Welcome page, click Next.

Figure 5-43 Install Welcome Wizard

4. On the Component Selection page Figure 5-44 on page 144:
   a. In the Action drop-down menu next to Exchange 2000, select change.
   b. In the Action drop-down menu next to Microsoft Exchange messaging and collaboration Services, select change.
   c. In the Action drop-down menu next to Microsoft Exchange Connector for Lotus Notes, select Install.
   d. Click Next.

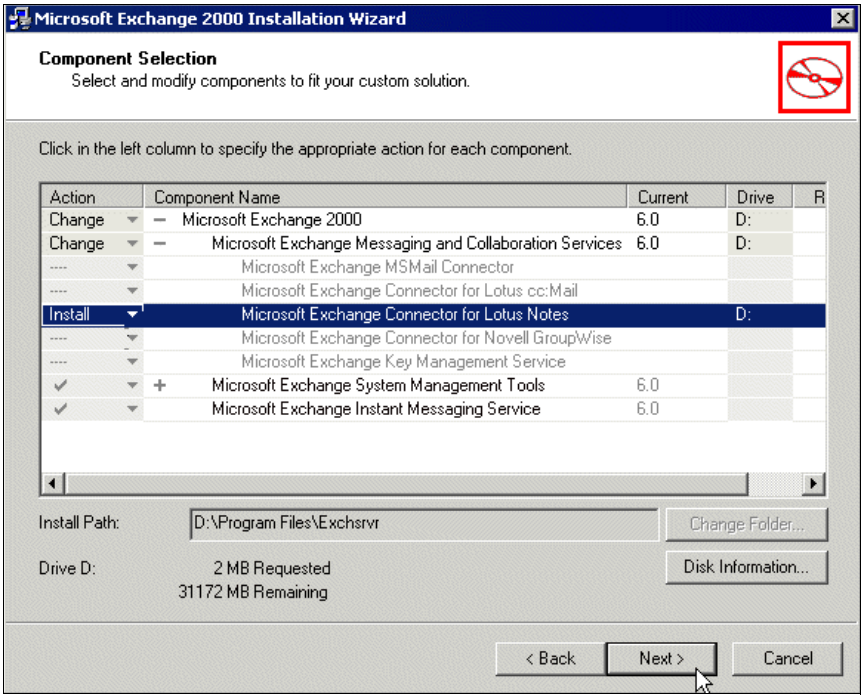

Figure 5-44 Component Selection

5. On the Component Summary Dialog, Click Next Figure 5-45.

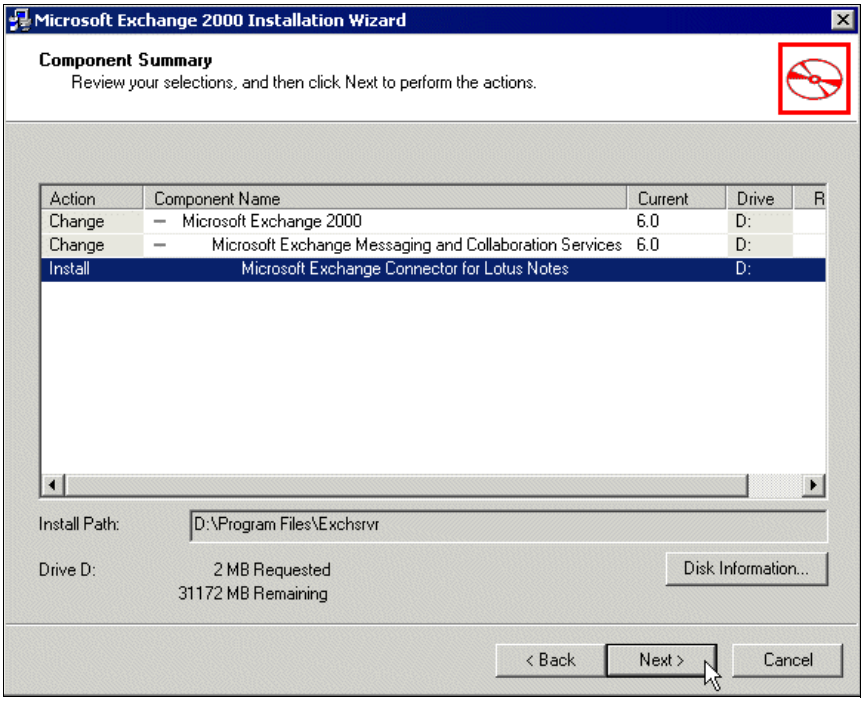

Figure 5-45 Component Summary

6. Click Finish Figure 5-46

Figure 5-46 Install complete

5.3.9 Configure Exchange Connector for Lotus Notes

Exchange connector for Lotus notes is configured using the Exchange System Manager. The figure below Figure 5-47 shows the location of the connector when viewing for both routing and administrative groups is enabled.

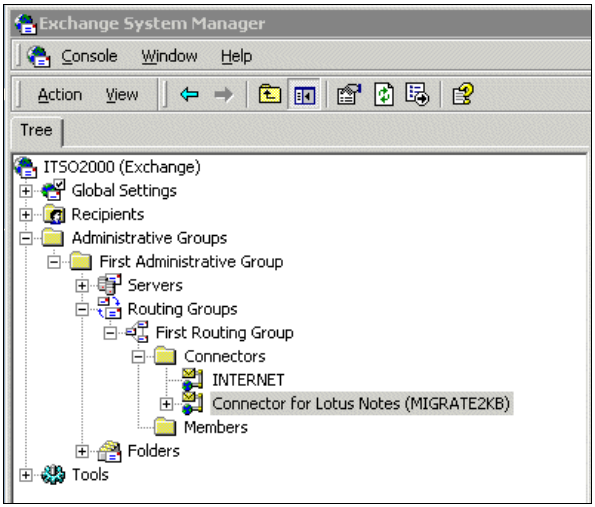

Figure 5-47 Exchange System Manager

Use the following steps to configure the Exchange Connector for Lotus Notes:

1. Right-Click Connector for Lotus Notes, and Click Properties.
2. On the General tab Figure 5-48 on page 148:
   a. In the Notes Server field, type the name of your Domino Server.
   b. Click Modify, type the path to your notes.ini file (include the file name) and Click OK. For example: c:\Program Files\lotus\notes\notes.ini

Note: Leave the password and confirm password fields empty. Remember we did not require a password for the Exchange Connector ID.

   c. In the Connector Mailbox field, type Exchange.box
   d. In the Polling interval field, type the interval (in seconds) that Exchange connector for Lotus Notes uses to check for new messages delivered to Exchange.

Note: For the polling interval field, we suggest using the default of 15 seconds.

   e. In the Notes Server language drop-down list, select the language of the server running Lotus Domino.
   f. In the Convert Notes Doclinks to drop-down list, select one of the following formats for Exchange Connector for Lotus Notes to use to convert Lotus Notes document links:

- **OLE document link** This is represented by an icon in the Exchange message. When the user clicks on the icon, Lotus Notes is started and the document link works as it should. (Lotus Notes must be installed on the client computer.)
- **RTF attachment** (Default) Document is converted to an RTF attachment. Because this attachment is a copy of the data from the actual notes document, users cannot edit the document.
- **URL shortcut** The document link is converted to a URL. When you click the URL, the default Web browser tries to access the computer running Lotus Notes to which the link points. (The user still requires a Lotus Notes name, password, and license to access the document, unless anonymous authentication is allowed.)

Note: Recommend default setting of RTF attachment.

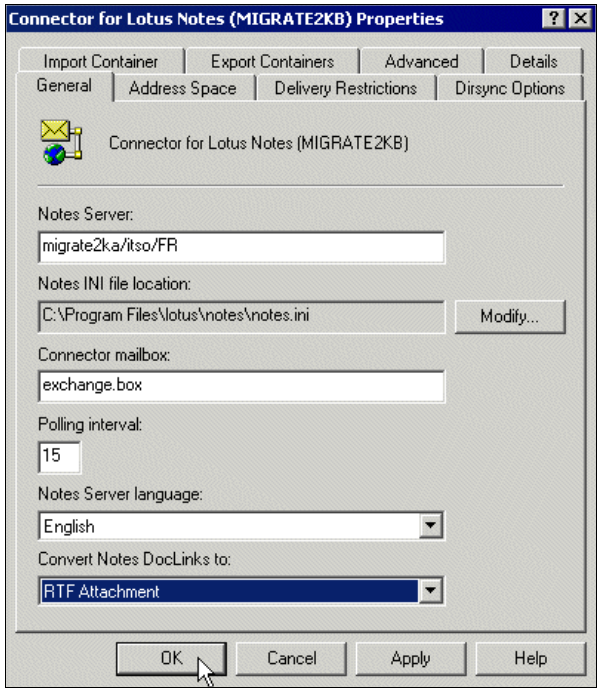

Figure 5-48 Connector properties box -General tab

3. On the Import Container tab Figure 5-50:
   a. To select the Active Direcotry container to which Lotus Domino users are imported, Click Modify

Note: Recommended you create a special organizational unit for all your Lotus Domino users.

b. On the Choose a container tab, select container, and then Click OK.

c. On the Exchange System Manager Dialog box, Click OK Figure 5-49.

Figure 5-49

d. In the When replicating a mailbox whose primary Windows account does not exist in the domain drop-down list, select one of following options for Active Directory to use when new users are imported:

- Create a disabled Windows user account
- Create a new Window user account
- Create a Windows contact

Note: Recommend Create a Windows contact.

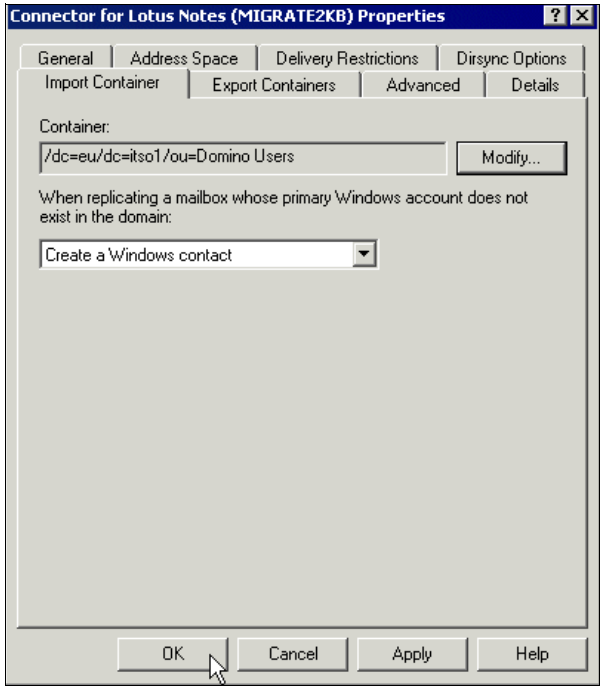

Figure 5-50 Import tab

4. On the Export Containers tab Figure 5-51 on page 151:
   a. Click Add
   b. In the choose a container tab, select the group you want to export, and Click OK.
   c. On the Exchange System Manager Dialog box, Click OK.
   d. Repeat the previous three steps for each group you want to export.

Note: Nested organizational units are not selected for export if you select the parent organizational unit. You must select each organizational unit individually.

   e. Select Export contacts and Export groups.

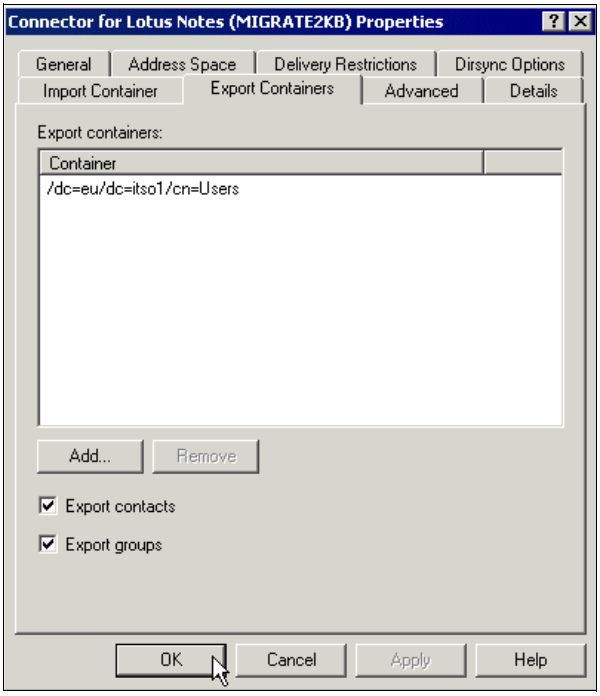

Figure 5-51 Export tab

5. On the Address Space tab:
   a. Click add Figure 5-52 on page 152

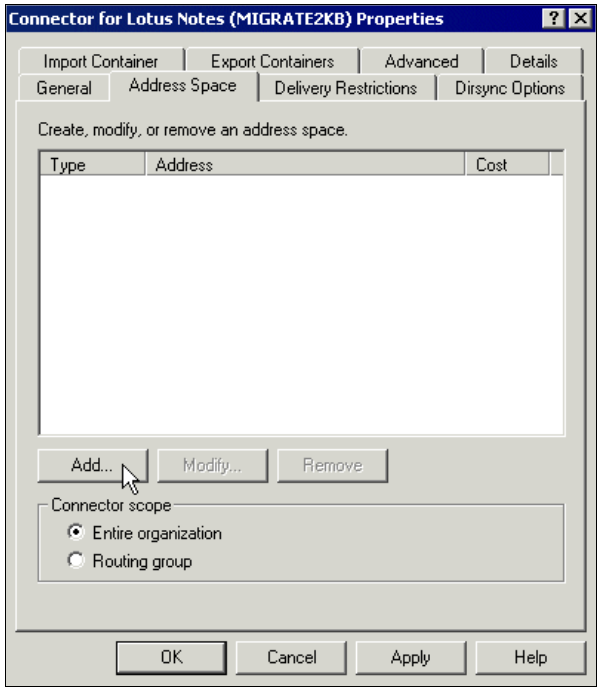

Figure 5-52 Address Space tab

b. On the Add Address Space dialog, Select Notes, and Click Ok Figure 5-53.

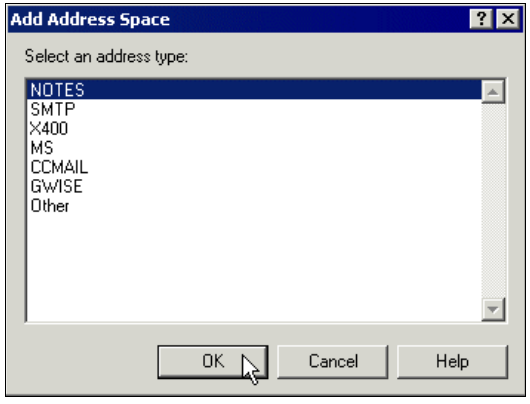

Figure 5-53 Select Address Type

c. On the Lotus Notes Address Space Properties dialog Figure 5-54 on page 153:

i. In the User name field, type *

ii. In the Domain field, type the name of the Lotus Domino Domain. For example: itso3.

iii. Leave cost at 1.

iv. Click OK

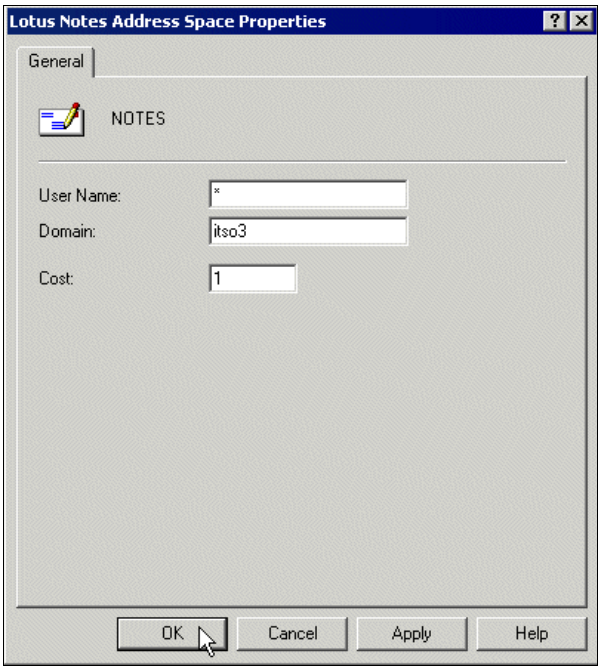

Figure 5-54 Select Domino Domain

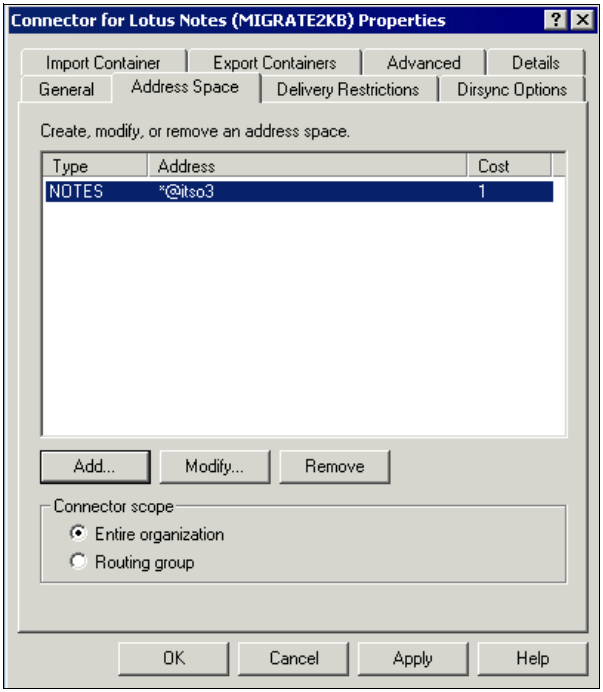

Figure 5-55 Address Space dialog

6. ‘On the Dirsync Options tab:
   a. From the Exchange Notes directory update schedule drop-down list, select a schedule for directory synchronization Figure 5-56 on page 155.

Note: Do not schedule synchronization during peak traffic hours. If your directory information changes infrequently, schedule synchronization for once a day. If your directory information changes frequently, schedule synchronization for two or more times a day.

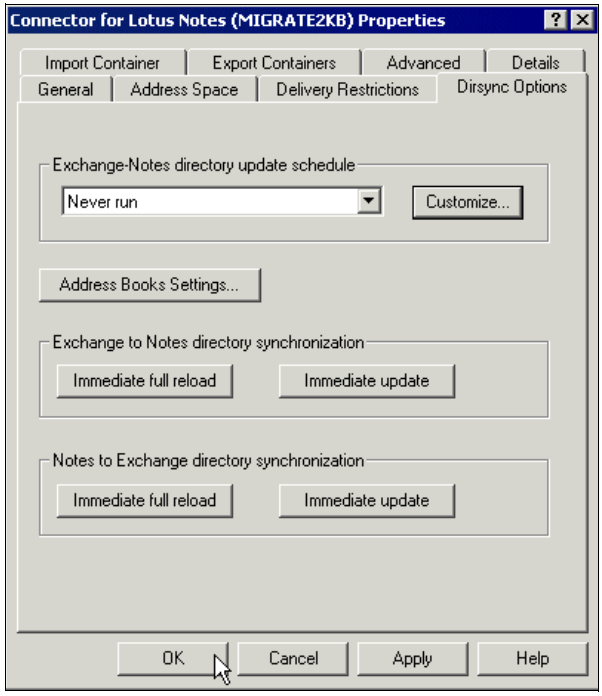

Figure 5-56 Dirsync Options tab

b. Click Address Book Settings Figure 5-57

c. In the Target Name and Address Books section, type exhangenames.nsf, in the default name & address book field.

d. In the Source Name and Address Books section, type names.nsf.

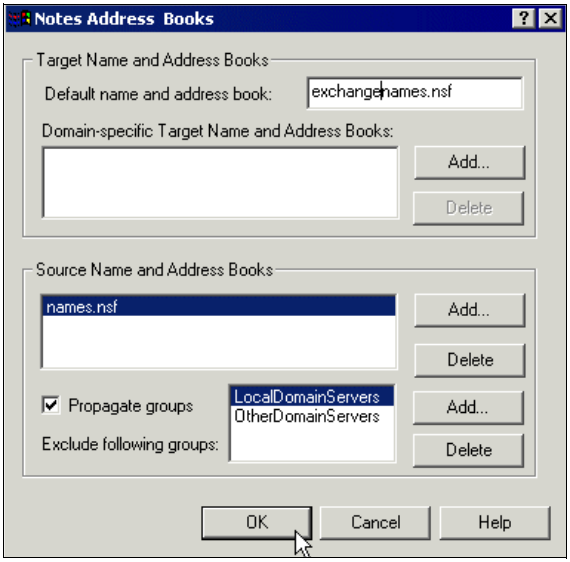

Figure 5-57 Select Target and Source Address Books

7. On the Advanced tab:
   a. In the Notes letterhead field, type the Lotus Notes letterhead name you want to append to the top of message sent from Exchange 2000 users to Lotus Domino users.

Note: The letter head name you specify must match the letterhead name defined in the Lotus Notes mail database to which messages are sent. if the names do not match, no letterhead is used.

   b. In the Notes router mailbox field, enter mail.box or if running multiple mail.boxes type mail1.box.
   c. From the Delivery order drop-down list, select the order in which messages are to be delivered from Exchange 2000 to Lotus Domino. The options are:
      i. **Priority** priority messages, such as urgent messages, are delivered to the outbound queue first. This is the default setting.
      ii. **FIFO** Messages are delivered to the outbound queue on a first in, first out (FIFO) basis.
      iii. **Size** Smaller messages are delivered to the outbound queue before larger messages.

d. From the Notes database maintenance schedule drop-down list, select a schedule for compacting database files.

e. Under Routable domains, Click Add

f. On the Add Routable Domain dialog, type the name of the Lotus Domino domain to which Exchange Connector for Lotus Notes does not connect directly, and then Click OK. Repeat for each additional domain.

g. Message Size limit can be set. (Optional)

h. Click OK

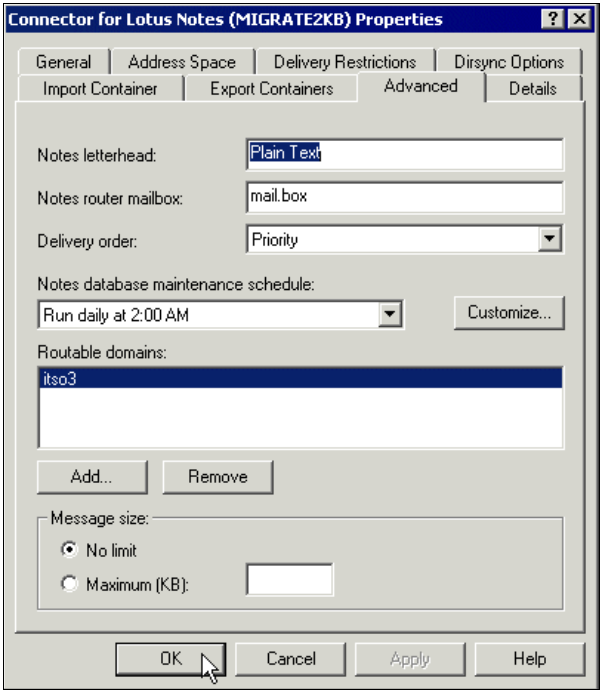

Figure 5-58 Advanced Tab

5.3.10 Enable Lotus Domino Proxy Addresses

The default Lotus Notes e-mail address format that is used for Exchange 2000 users is based on the user's display name and the name of the Exchange organization. You can modify the rule used to represent Exchange e-mail addresses in Lotus Domino. This address rule uses a set of symbols to determine how Exchange addresses appear in the Lotus Domino organization.

The default format for Lotus Note's addresses assigned to Exchange users is:

&d/organization@domain name

Here is what the various portions of this address signify:

• &d = the Lotus Notes display name (typically the full name) of the user.

• Organization = the name of the user's Exchange organization.

• domain name = the Lotus Domino foreign domain name that represents the Exchange organization. This is the name you specified in the earlier section “Identify Exchange as a Foreign Domain.”

Use the following steps to enable and customize Lotus Notes proxy addresses:

1. From Exchange System Manager, expand Recipients, and then click Recipient Policies.
2. Right-click Default Policy, and then click Properties.
3. On the E-Mail Addresses (Policy) tab, select the NOTES check box (this enables the address), and then click Edit.

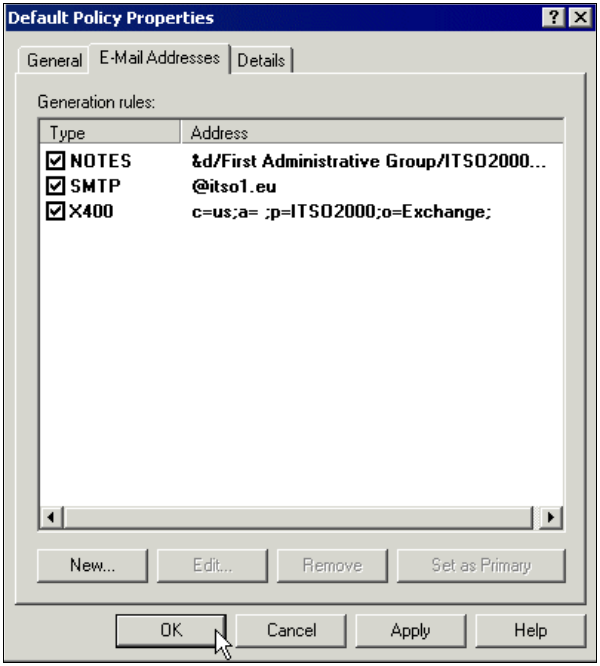

Figure 5-59 Default Policy Properties box

Note: After directory synchronization occurs, the connector creates secondary proxy addresses for Lotus Domino recipients. These addresses, which do not display bold formatting on the E-Mail Addresses tab, are used as unique identifiers for Lotus Domino recipients. Do not delete these secondary proxy addresses. In general, you should only delete addresses that you create manually.

4. In the Address text box, modify the address format. Use the symbols in the following table to represent various values in the format string.

Table 5-1 Proxy address configuration symbols

To substitute	Use this symbol	Notes
The user's alias	&M or &m	Typically the mailbox name.
The user's initials	&I or &i	Typically the user's middle initial.
An e-mail address based on the user's display name	&D or &d	Blanks and initials between the given name and surname are ignored. If there is a comma in the display name, the portion of the string to the left of the comma is interpreted as the surname; the portion to the right of the comma is interpreted as the given name.
The user's given name	&G or &g	Typically the user's first name.
The user's surname	&S or &s	Typically the user's last name.
An ampersand (&)	&&	To use an ampersand, you must precede it with another ampersand.

For example, you set the address format to &d@Exchange. A user whose display name is Jacob Ryan receives a Lotus Notes address of: Jacob Ryan@Exchange.

Note: For additional symbols that can be used, see the following Knowledge Base article:

Q285136 How to Customize the SMTP E-mail Address Generators Through Recipient Policies

http://support.microsoft.com/?ID=285136

6. After you configure the address formula, click OK.

7. On the Default Policy Properties tab, click OK.

8. You are asked if you want to update all corresponding recipient e-mail addresses to match the new addresses. To run Recipient Update Service immediately, click Yes. To update the addresses the next time Recipient Update Service runs, click No. Non-Exchange addresses are always updated, even if you made manual changes to specific addresses.

9. Wait for Recipient Update Service to populate the Exchange address lists. The time required varies depending on the update interval set on the service.

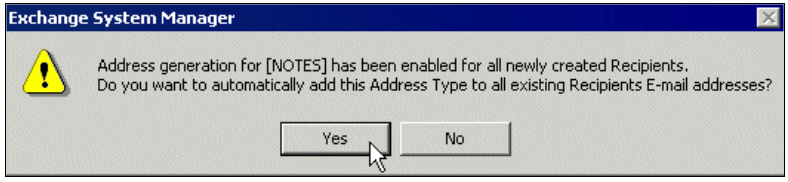

Figure 5-60 Click Yes

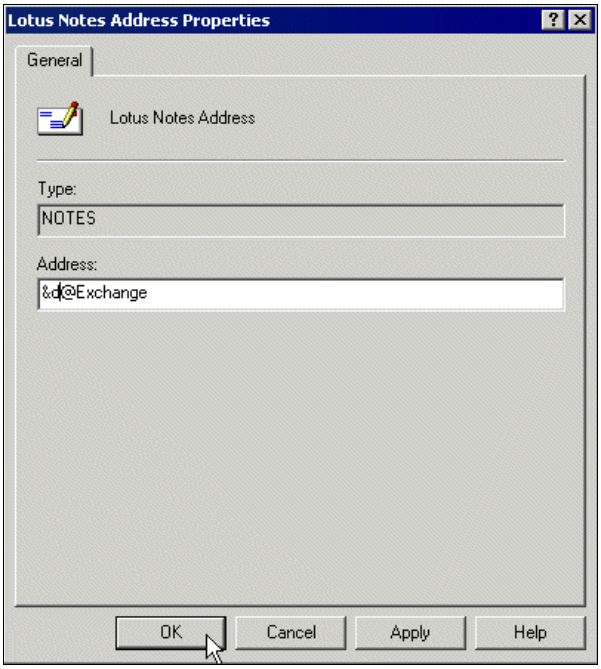

Figure 5-61 Recipient Policies Address Format

Finally, Figure 5-61 illustrates the result of the Recipient Policies

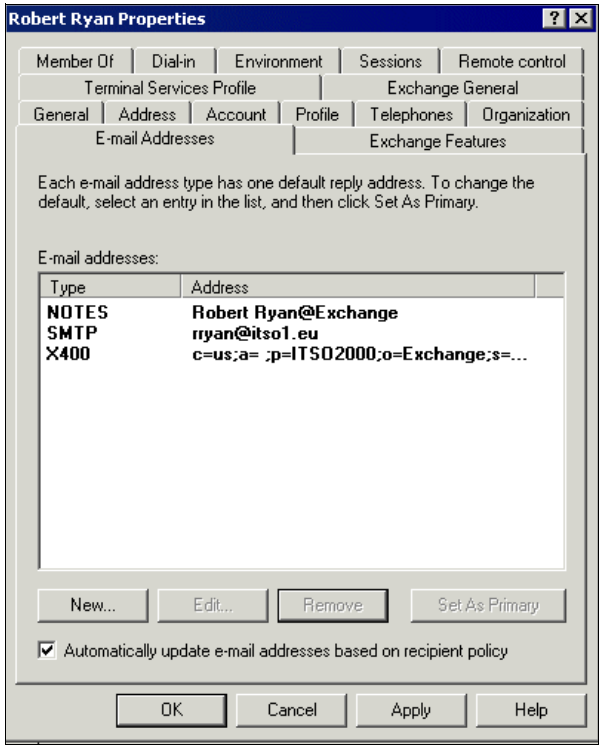

Figure 5-62 E-Mail Addresses tab

5.3.11 Start Exchange Connector Services

For operation of the Exchange Connector for Lotus Noes, you have two related services:

1. Microsoft Exchange Connectivity Controller
2. Microsoft Exchange Connector for Lotus Notes

Use the following steps to start Exchange Connector Services Figure 5-63 on page 163:

1. Click Start → Programs → Administrative Tools → Services.
2. Right-click Microsoft Exchange Connector for Lotus Notes, Click Start.

Note: By starting the Connector for Lotus Notes, it will start the Connectivity controller.

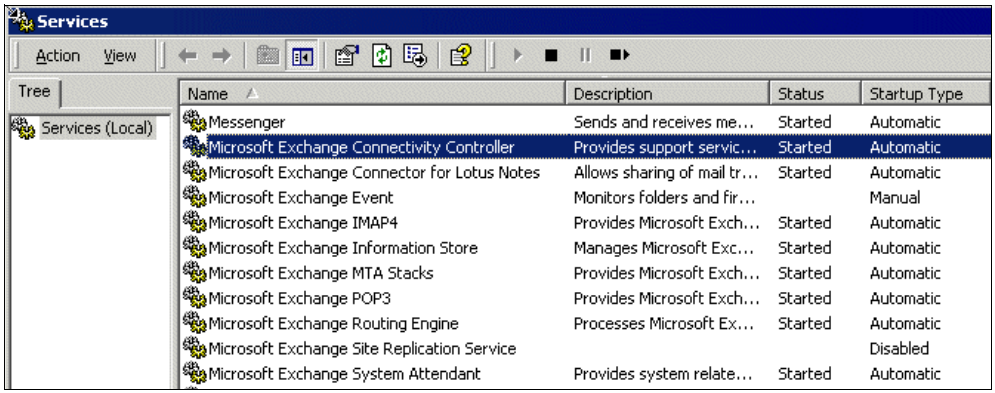

Figure 5-63 Services

Note: Suggest you change the startup type to Automatic.

5.3.12 Start Direcotry Synchronization

Before you begin the directory synchronization, review the directories for both Exchange and the Domino server, noting the user names listed in Exchange and those in the Domino Directory. You will use these names to verify the directory synchronization.

Use the following steps to synchronize the directories Figure 5-64 on page 164:

1. From the Exchange System Manager, right-click Microsoft Exchange Connector for Lotus Notes.
2. Click Properties.
3. On the Dirsync Options tab:
   a. Click Immediate full reload button in the Exchange to Notes direcotry synchronization section.
   b. Click Ok to acknowledge the full reload request.
   c. Click Immediate full reload button in the Notes to Exchange direcotry synchronization section
   d. Click Ok to acknowledge the full reload request.
4. Click OK.

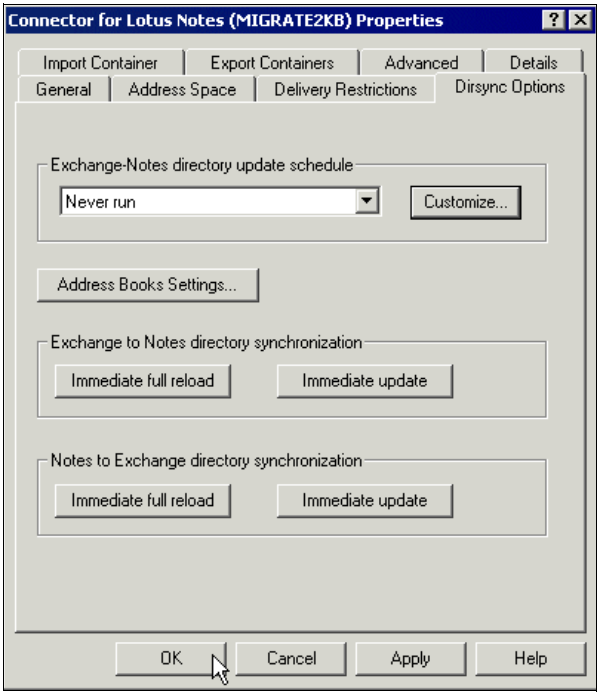

Figure 5-64 Dirsync dialog

Verify the Synchronization

To verify the directory synchronization from the Exchange Administrator program:

1. From Exchange Manager System, select the Notes Recipients container.
2. Locate any custom recipients (the ones with a card in front of their names) Figure 5-65 on page 165.

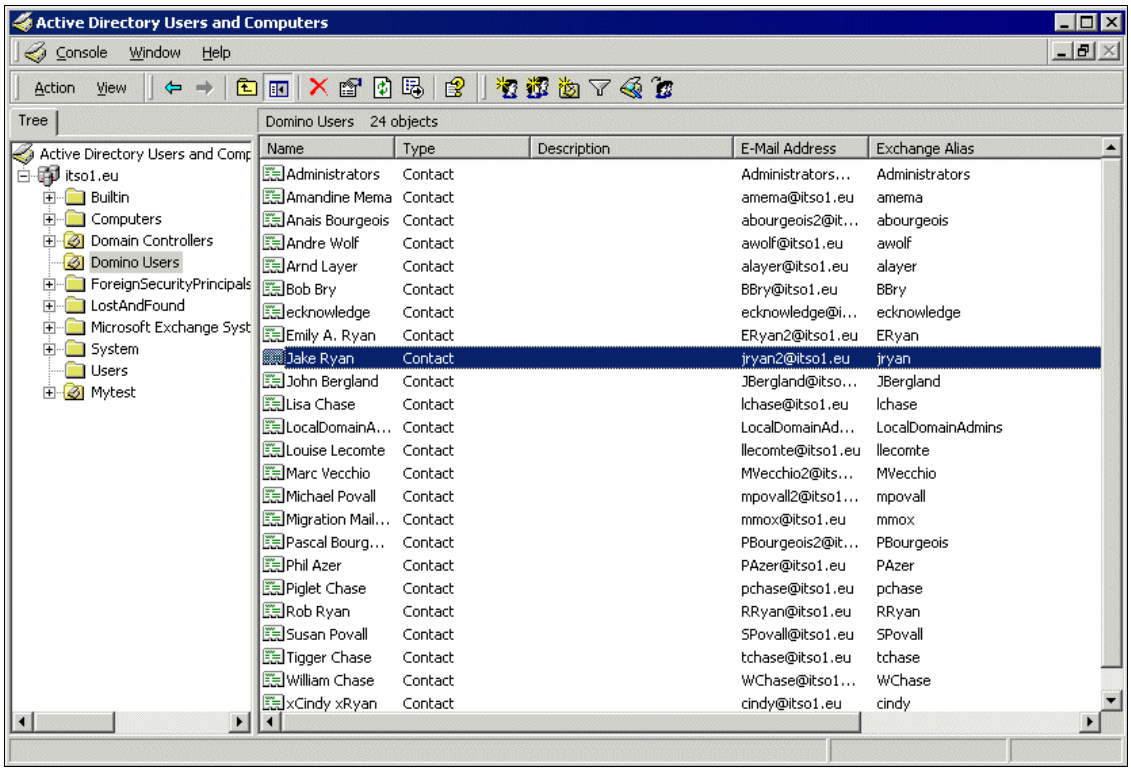

Figure 5-65 Notes User Container

Here is an example of a Domino user in the Active Directory Figure 5-66 on page 166.

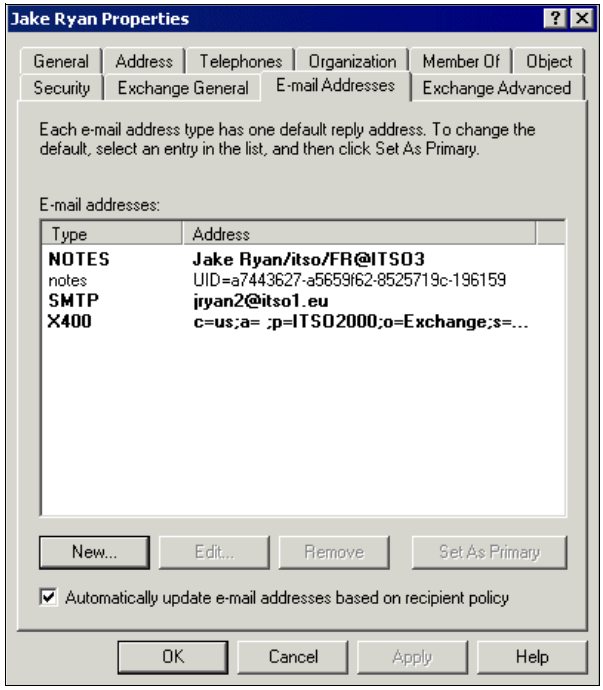

Figure 5-66 Notes User in Active Direcotry

To verify the directory synchronization from Domino:

1. Launch Adminstrator Client
2. Click File → Database → Open and Launch exchange.nsf
3. Go to People view Figure 5-67 on page 167.

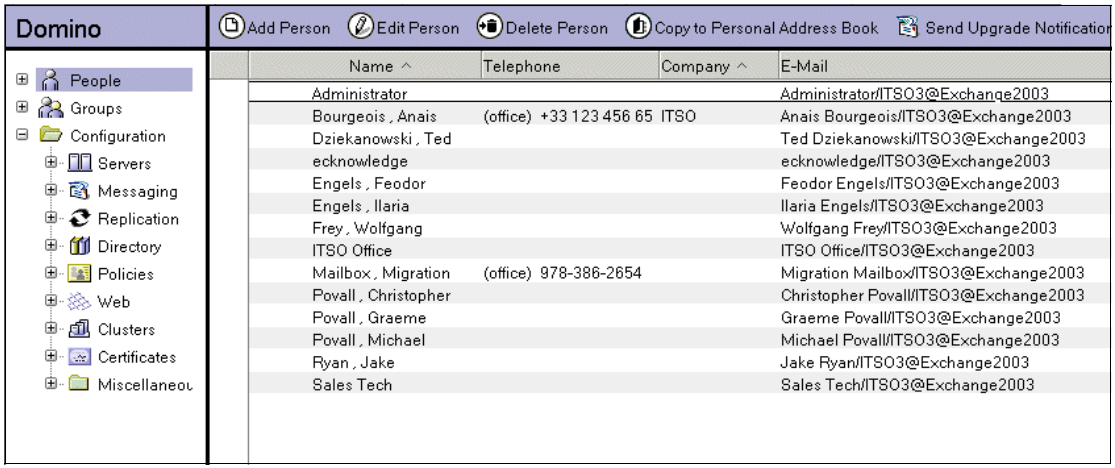

Figure 5-67 Exchange.nsf People view

Here is an example of Exchange user in Exchange.nsf on Domino Server .

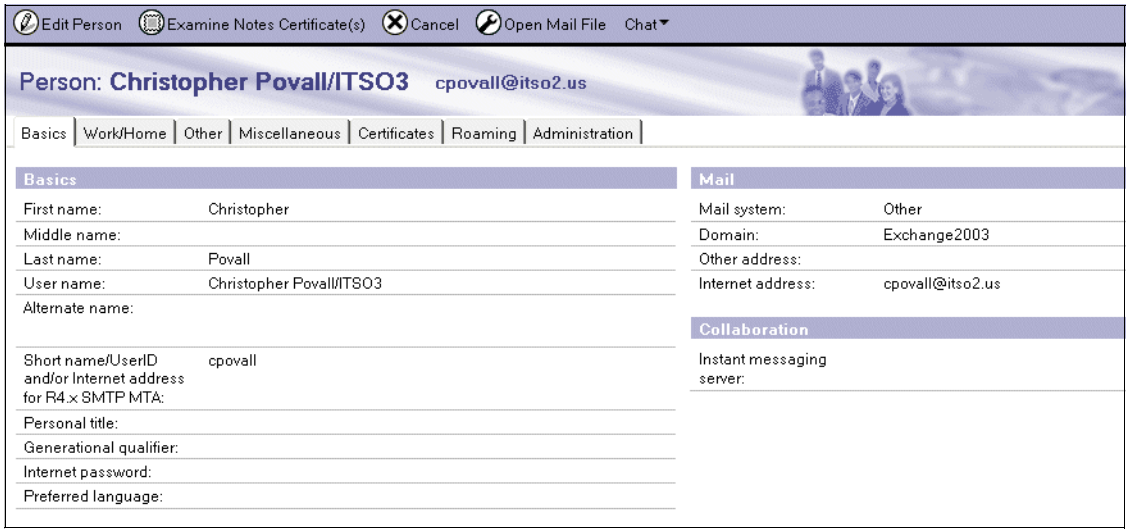

Figure 5-68 Exchange user in Exchange.nsf on Domino Server

6

Using the Microsoft Exchange Connector for coexistence (Exchange 2003)

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter shows you how to install, configure, and use the Microsoft Exchange Connector for seamless coexistence with Lotus Notes and Domino 7. Although the Exchange Connector for Lotus Notes may not always be the best coexistence option for your environment, it is easy to set up and, properly managed, it is a useful and inexpensive coexistence option. The following topics are included in this chapter:

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- Installing the Exchange Connector
- Configuring the Exchange Connector
- Customizing the Exchange Connector for Lotus Notes
- Running and monitoring the Exchange Connector
- Customizing the Directory Mapping

Attention: This chapter focuses specifically on using the Exchange Connector for Microsoft Exchange 2003. For information on using the Exchange Connector for Microsoft Exchange 2000, please refer to Chapter 5, “Using the Microsoft Exchange Connector for coexistence (Exchange 2000)” on page 107)

6.1 Overview of the Exchange Connector

The Exchange Connector for Lotus Notes enables communication between individuals using Microsoft Exchange Server 5.5, Exchange 2000 or Exchange 2003 Server and IBM Lotus Domino. Exchange Connector for Lotus Notes, which is available for Exchange 2003 Server, Exchange 2000 Server or Exchange Server 5.5 Service Pack 4 (SP4), supports directory synchronization, e-mail messages, and meeting requests. You can also use Calendar Connector, which is available for the same three Exchange platforms previously mentioned, in conjunction with Exchange Connector for Lotus Notes, to provide visibility to an individual's Free or Busy information when scheduling a meeting.

6.1.1 What has been improved in the Exchange Connector 2003

According to Microsoft, and to a limited extent, supported by our testing in the Redbooks lab, the following improvements have been integrated into the Exchange Connector 2003.

- Improved the HTML rendering,
- Better calendar and connnector support
- Improved RTF rendering,
- Slightly simplified the install procedures.

In our test results, documented in 10.3, “Coexistence with MS Exchange Connector” on page 320, we found the results to be on par with native SMTP routing in terms of message fidelity.

6.1.2 Conceptual Overview of how it works

The Exchange Connector for Lotus Notes supports directory synchronization, e-mail messages, and meeting requests. In addition you can also use Calendar Connector, in conjunction with Exchange Connector for Lotus Notes, to provide Free or Busy information when scheduling a meeting.

The following figure Figure 6-1 on page 172 illustrates the Directory Synchronization process. The Directory Synchronization keeps each Directory service up to date with the most recent user and group attributes.

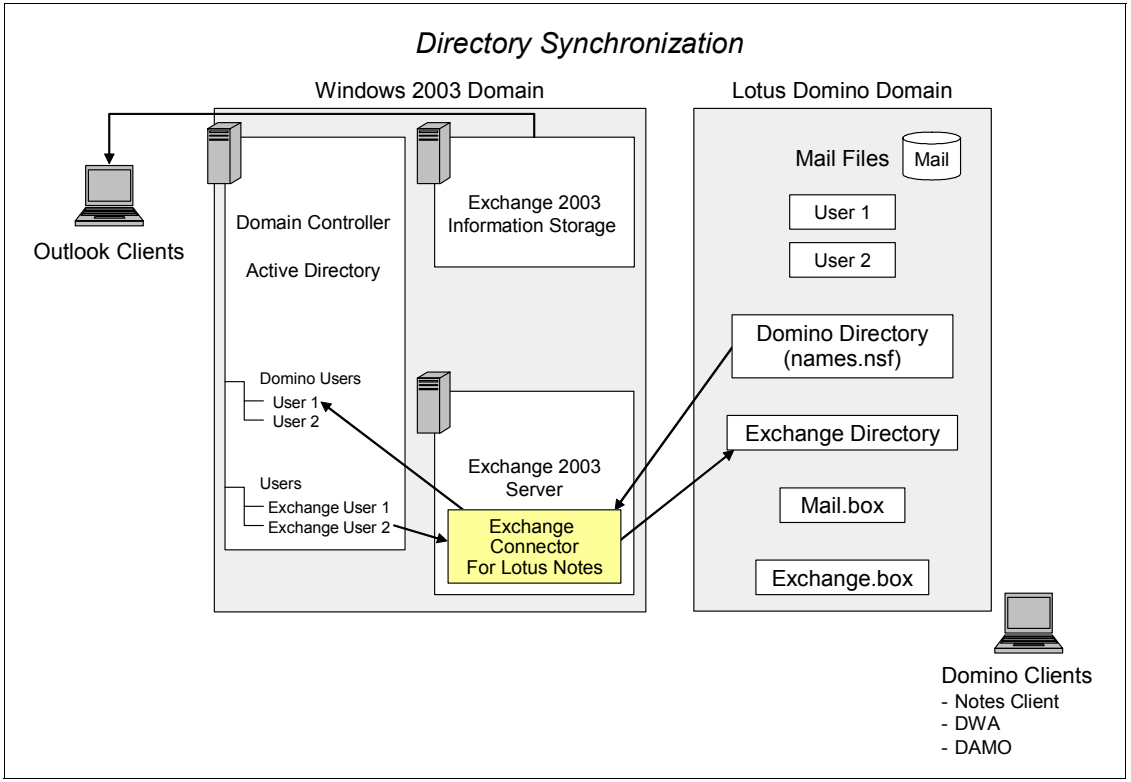

Figure 6-1 Conceptual overview of Directory Synchronization

The Exchange Connector for Lotus Notes converts messages sent between Exchange and Lotus Domino into a format that is understood by the receiving system.

The following figure illustrates Figure 4-3 on page 77 demonstrates a message sent from a Domino user and received by an Exchange users.

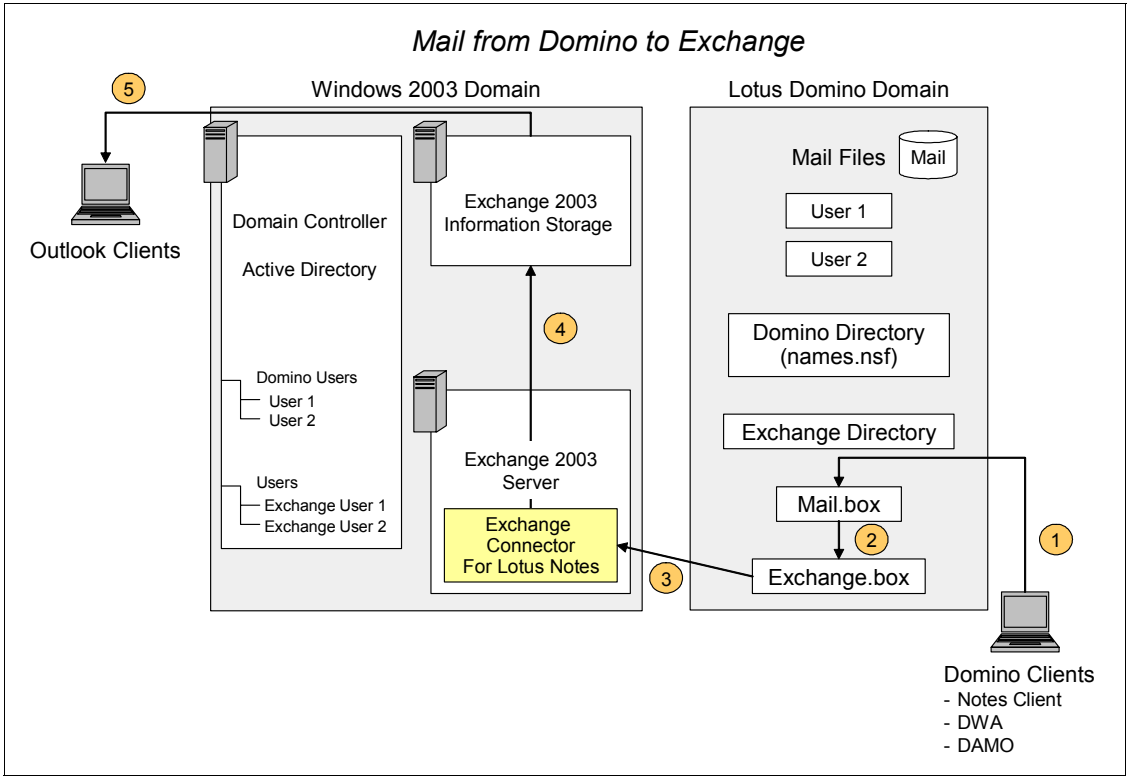

Figure 6-2 Conceptual overview of Exchange Connector for Mail routing from Domino to Exchange

The following illustration Figure 4-4 on page 78 demonstrates a message sent from an Exchange user to a Domino user.

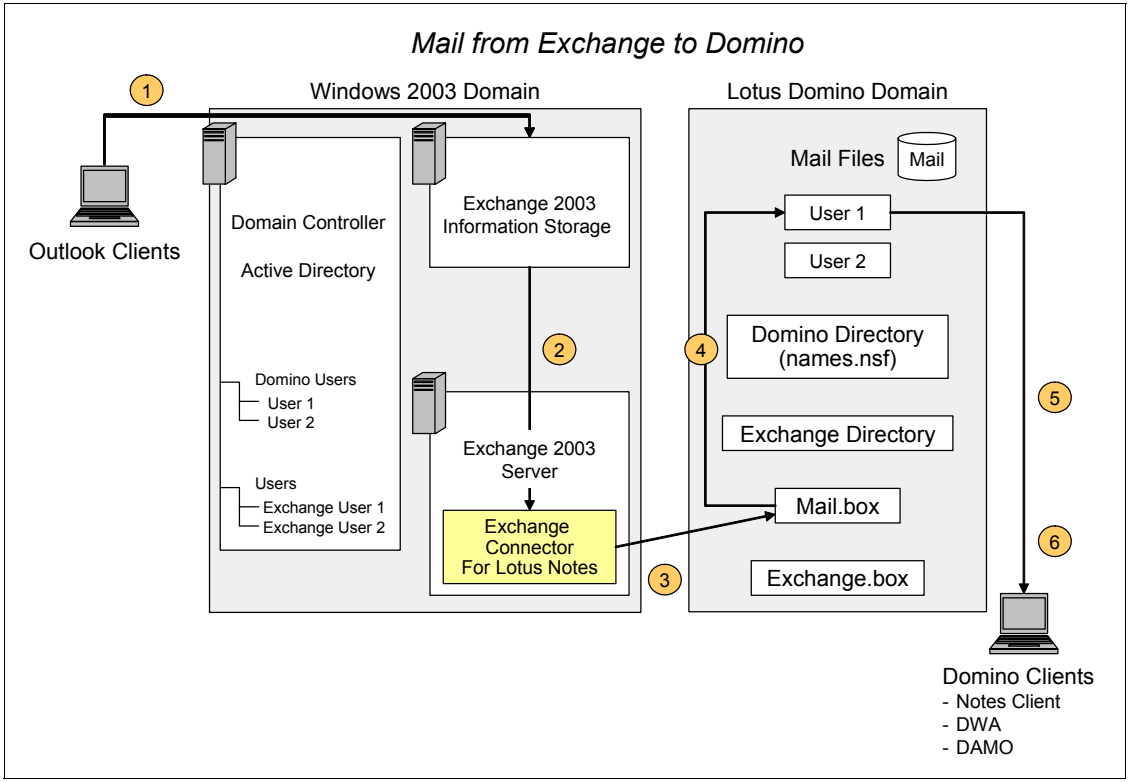

Figure 6-3 Conceptual overview of Exchange Connector for Mail routing from Exchange to Domino

6.2 Preparation

Before you begin to install and configure the Exchange Connector for Lotus Notes, you need to verify that you have a supported setup, and gather some specific information about your current environment that will be needed during the installation and configuration of the Exchange connector.

6.2.1 Supported Environment

To run the Microsoft Exchange Connector for Lotus Notes, your environment must meet the following prerequisites:

- Windows Server 2003 or
- Windows Server 2000 SP1 or later (SP2 recommended)
- Exchange Server 2003 Service Pack 2 (SP2)

- Has network connectivity to the server running Lotus Domino
- Can resolve the name of the server running Lotus Domino

Tip: For further information refer to the following URL:

http://www.microsoft.com/technet/prodtechnol/exchange/guides/NotesDirAndMailMigrat/7084e96b-3f6a-4751-ae6e-9c9df6747943.mspx?mfr=truex

6.2.2 General setup information

To install and configure the Exchange Connector for Lotus Notes you will need to gather information on the following:

- From the Domino side:
  - The server names for mail and registration and Connector location
  - The Domino administrator ID and password
  - Client and server versions
- From the Exchange side:
  - The Exchange server name where the Connector will be installed
  - The administrator account and password
  - Information on the Exchange environment, organization and site names
  - Information on the NT domain

A checklist is provided in Appendix E, “Exchange Connector installation checklist” on page 821.

6.3 Installing and setting up the Exchange Connector

To successfully install and set up the Exchange Connector for Lotus Notes, the following tasks need to be accomplished:

On the Domino server:

- ☐ Register the Exchange Connector (i.e create an ID file)
- ☐ Prevent the Exchange Connector ID synchronization (optional)
- ☐ Create the Exchange Connector mailboxes
- ☐ Set up the Exchange Connector mailbox Access Control List (ACL)
- ☐ Create a Foreign Domain document in Domino directory

- ☐ Create the Exchange / Domino directory
- ☐ Implement Directory Assistance

On the Exchange server:

- ☐ Install a Notes Client
- ☐ Set up the Notes Client
- ☐ Install the Exchange Connector for Lotus Notes
- ☐ Configure the Exchange Connector for Lotus Notes
- ☐ Enable the proxy addresses
- ☐ Start the Exchange Connector services
- ☐ Start Directory Synchronization

The following sections describe each task in detail.

6.3.1 Step 1: Register the Exchange Connector on the Lotus Domino Server

Prior to configuring Exchange Connector for Lotus Notes, you will need to create an ID file for Exchange Connector for Lotus Notes in order to transfer messages and synchronize directories between Lotus Domino and Exchange 2003.

From the Domino Administrator's Notes desktop, follow these steps:

1. If you have not already done so, create a link to the certifier ID (CERT.ID). If not, when prompted for the certifier ID later, you will have to ensure a network path is available to the Domino server to access it. We generally do not recommend copying the CERT.id to a local workstation, as this might compromise security.
2. Launch the Domino Administrator Client on your administration workstation.
3. From the workspace, select the Servers Domain tab and select your registration server. In our example the server name was migrate2003b/itso/fr, which is also our mail server. In your Domino infrastructure this may not be the case, so be sure you select the correct server.

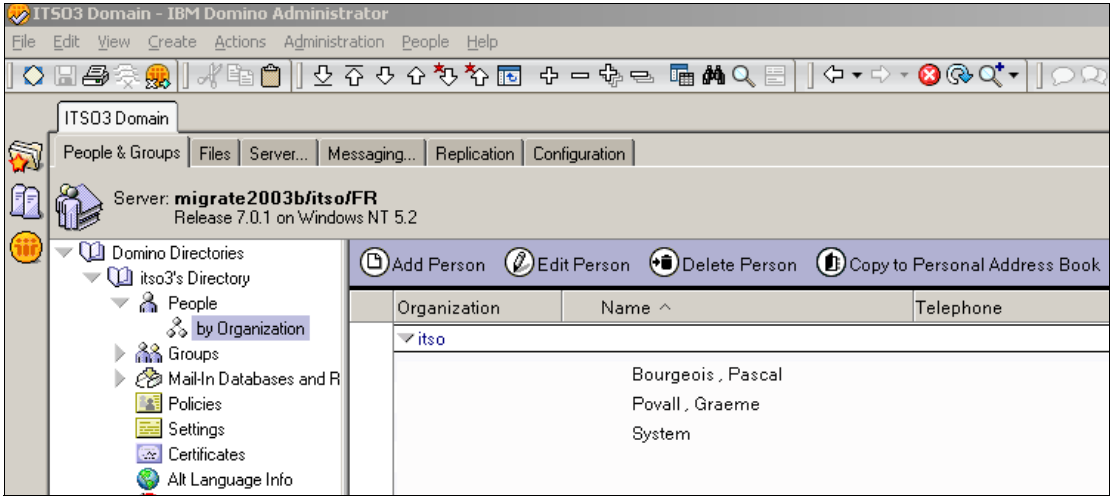

Figure 6-4 Select People and Groups

4. Select the People & Groups tab. This will display the People view of the Domino Directory (Figure 6-4).
5. Select People in the Tools pane and click Register, as shown in Figure 6-5.

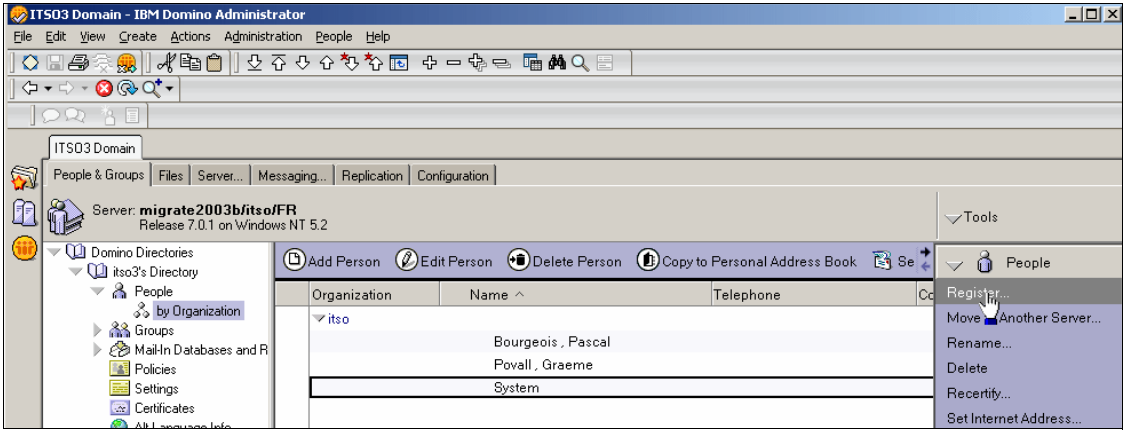

Figure 6-5 Select Register person

6. After clicking the Register link, you may be presented with the “Select Certifier ID” box. Select your CERT.id and if necessary change the registration server. Once it is selected, click OK and enter the certifier password when prompted.

If you have not set up a Recovery ID process, a message pops up that warns you that the certifier does not contain recovery information. Click Yes to continue.

Note: We strongly recommend that ID Recovery is set up to prevent problems that occur when users lose or damage ID files or forget passwords. For further information, consult the Lotus Domino Administrator 7 Help (IDs, recovering).

7. You will presented with the Register Person new entry screen (Figure 6-6 on page 178).

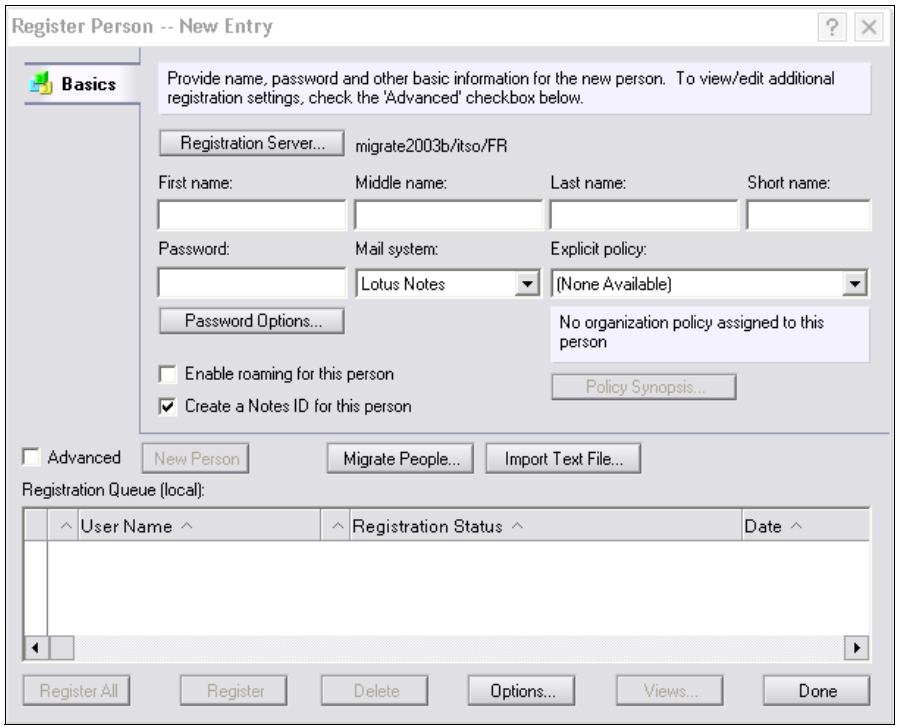

Figure 6-6 Register person - new entry

8. Use the following steps to create a Person document for the Exchange Connector.

   a. Select the **Advanced** checkbox to see more options.

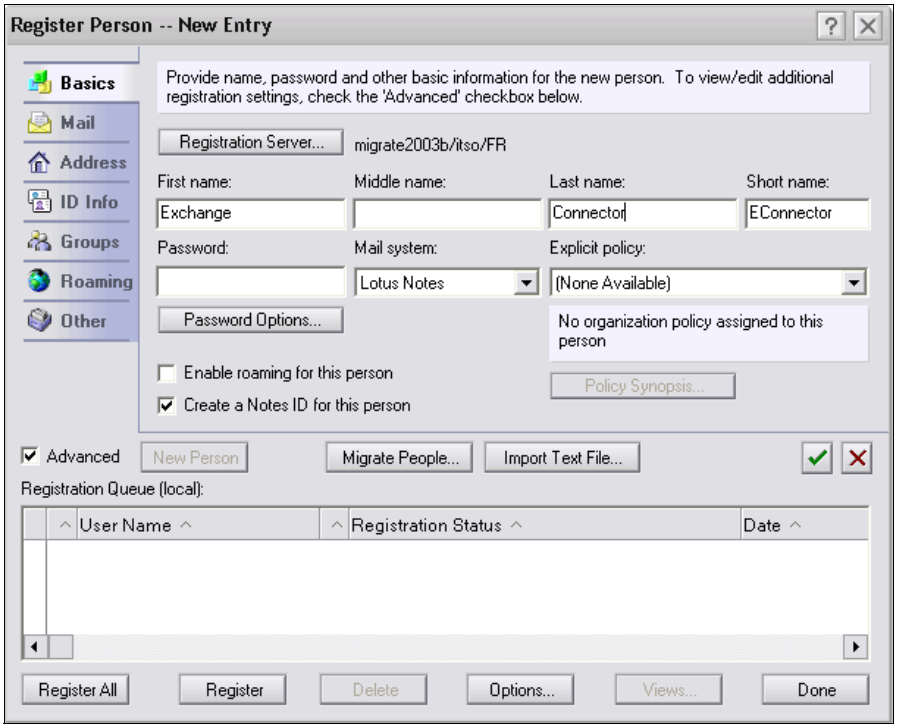

Figure 6-7 Register person advanced window

- In the First Name field, type `Exchange`.
- In the Last Name field, type `Connector`.

  We used these values because they are descriptive; you can use any values you like. However, at the least, you will need a last name for the Connector person document.

b. Click the Password Options button and move the scale to Weak, setting a minimum password length field of 0 (optional).

   This is required so that you can allow the Microsoft Exchange Connector for Lotus Notes to run in unattended mode, with no password prompt.

c. Select the Mail Navigator tab and for the Mail type field, select `None`. All remaining options will be removed, as can be seen in figure Figure 6-8 on page 180.

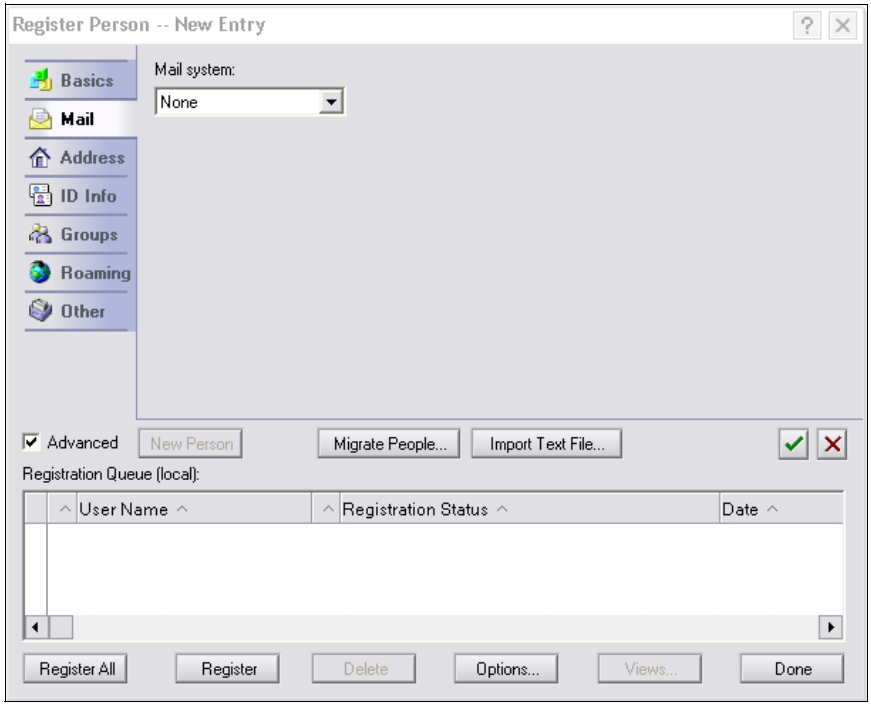

Figure 6-8 Setting mail type

d. Select the ID Info tab. You will be presented with the certifier screen (Figure 6-9 on page 181).

- Select the level of security (License type) for your region: North American or International.
- Depending on the expected length of time for the coexistence, set the expiration date of the certificate at a safe point beyond your planned contingency. Setting it too early will stop the functioning of the Connector at the specified date, whether you are ready or not.
- In the Store User ID field, select to store the ID in a file, and have the user ID stored in the default directory C:\Lotus\Notes\Data\ids\People.

Note: In the 'Location for storing user ID', make sure you deselect 'In Domino directory.

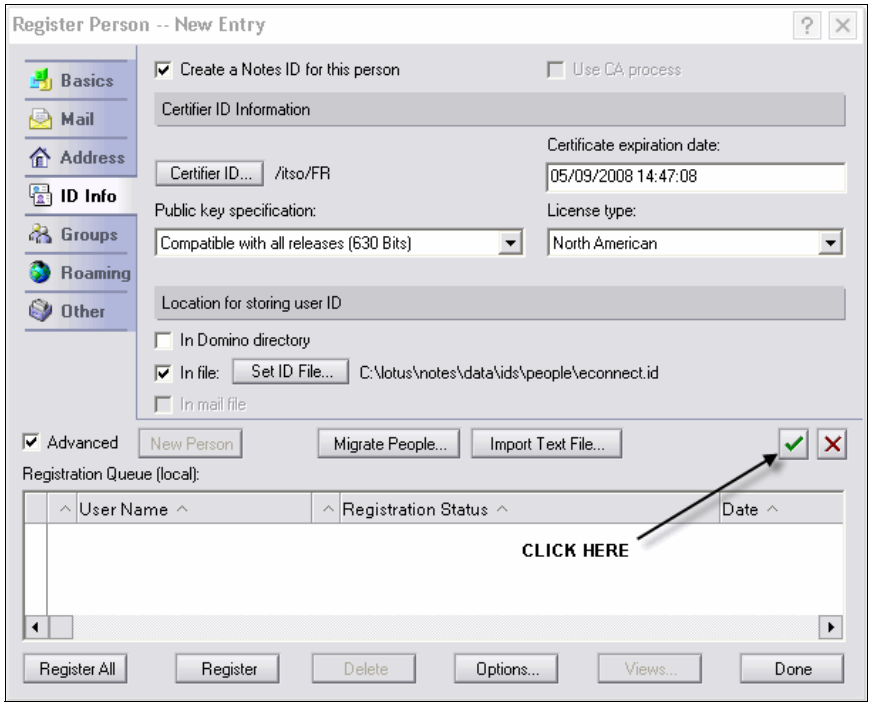

Figure 6-9 Setting security options

e. Click the green check box on the right side to complete your task. Your person will be put in the Registration queue.

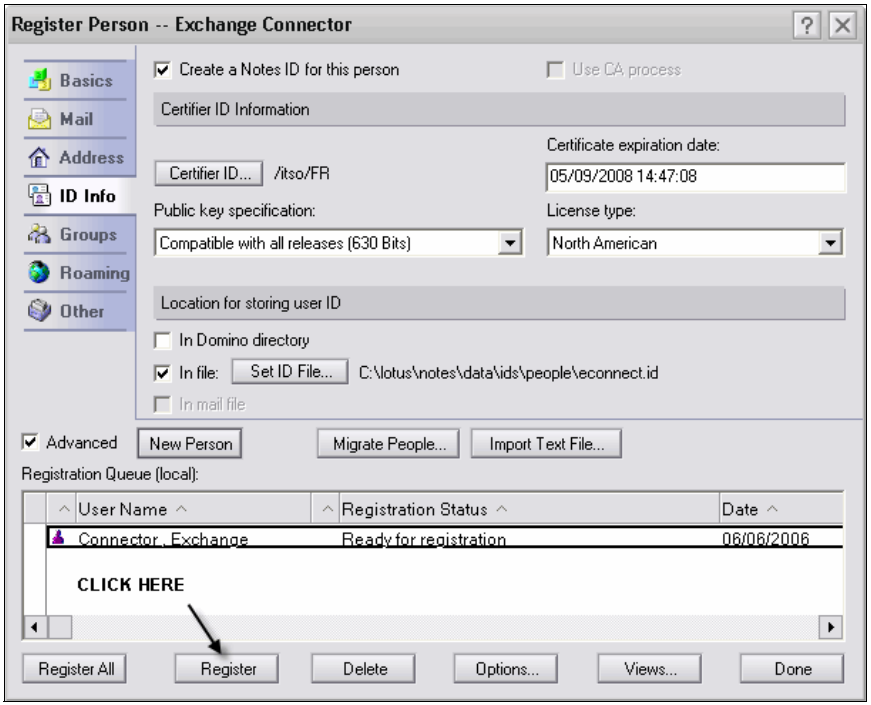

Figure 6-10 Registration queue

f. Click the Register button on the bottom left of the screen. The Exchange Connector will be registered, and a person document added to the directory. The ID file will be created and stored in the specified directory.

g. When you receive the Register person window, click OK.

h. Click Done. This will return you to the People & Groups view in the administration client.

You have now created the Exchange Connector's ID file.

6.3.2 Step 2: Prevent the Exchange Connector ID Synchronization (optional)

This is an optional step to be followed should you decide to hide the Exchange Connector ID from Exchange users or other Lotus Domino domains. (The procedure below can performed directly from within the Domino Directory.)

1. Start Lotus Domino Administrator and log on as a user who has Lotus Domino Administrator permissions.

2. Click the People and Groups tab.
3. In the left pane, click People.
4. In the right pane, select the name ID you created for Exchange Connector for Lotus Notes. For example, Connector, Exchange.
5. Click Edit Person in the view Action bar.
6. Click on the Administration tab, go to Allow foreign directory synchronization and select No.

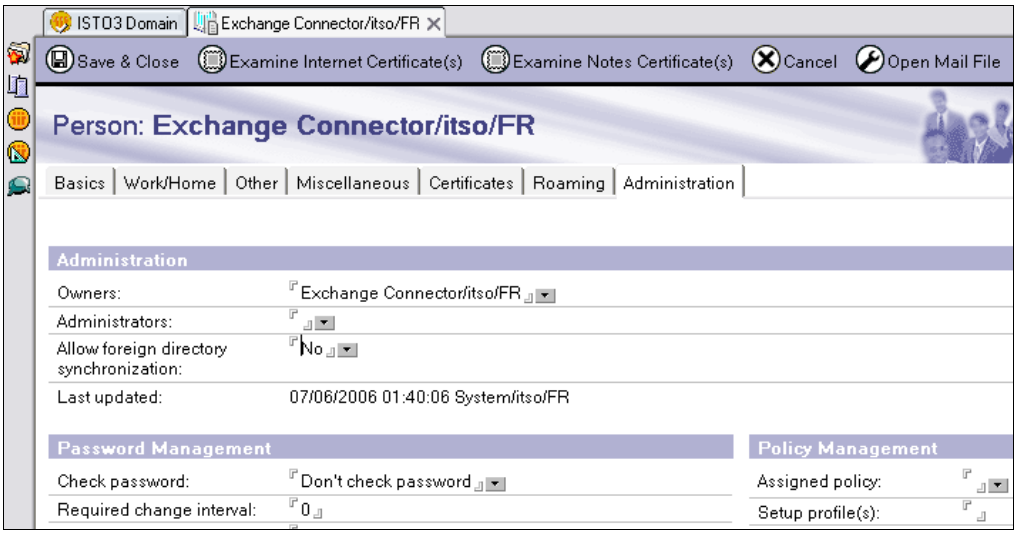

Figure 6-11 Preventing the Exchange Connector from synchronizing

7. Click Save & Close.

6.3.3 Step 3: Create the Domino mailboxes for routing mail to Exchange

In order to route messages to Exchange, you need to create the following two mailbox databases on the Domino server:

- Connector mailbox
  The mailbox stores mail being routed from Lotus Domino to Exchange. Later, when you create the foreign domain document and configure Exchange Connector for Lotus Notes, you specify the name of the connector mailbox. All mail routed from Lotus Domino to Exchange is then sent to the connector mailbox, from which it is retrieved by Exchange Connector for Lotus Notes.

- Connector mailbox for bad mail
  This mailbox stores any mail that fails to transfer to Exchange.

To create and set up the Exchange Connector mailbox

1. Start Lotus Domino Administrator and log on as a user who has Lotus Domino Administrator permissions.
2. Select File → Open Server.
3. In the Select a server to administer dialog box, in the Server text box, type the name of your Lotus Domino Server, including the certifier information. For example, migrate2003b/itso/fr. Click OK.
4. Select the Files tab.
5. Click File → Database → New.
6. In the New Database dialog box (Figure 6-12 on page 185):
   - From the Server drop-down list, select the server running Lotus Domino.
   - In the Title text box, type a name for the new database. For example, type Exchange Connector Database.
   - In the File Name text box, type a name for the new database. For example, type exchangeconnector.box. You specify this name later when you configure the foreign domain document and Exchange Connector for Lotus Notes.
   - Click the Template Server option, then from the Server drop-down list, select the server running Lotus Domino, and then click OK.
   - Select the Show advanced templates check box.
   - From the scroll box, below the Template Server option, select Mail Router Mailbox (7), and then click OK.

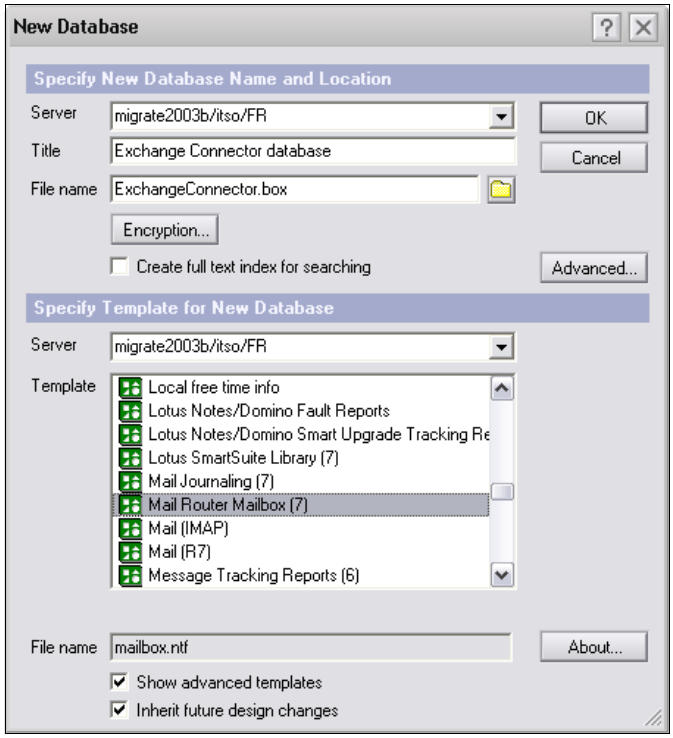

Figure 6-12 Creating the Exchange Connector mailbox

7. The new mailbox is created. Press Escape to close the About Mail Router Mailbox message (or select File → Close).
8. Select File → Database → Access Control, and then click Add.
9. In the People, Servers, Groups text box, click the browse icon.
10. Select the user ID for Exchange Connector for Lotus Notes, click Add, and then click OK.
11. From the Access drop-down list, select Manager, then select the Delete documents check box, and finally click OK.

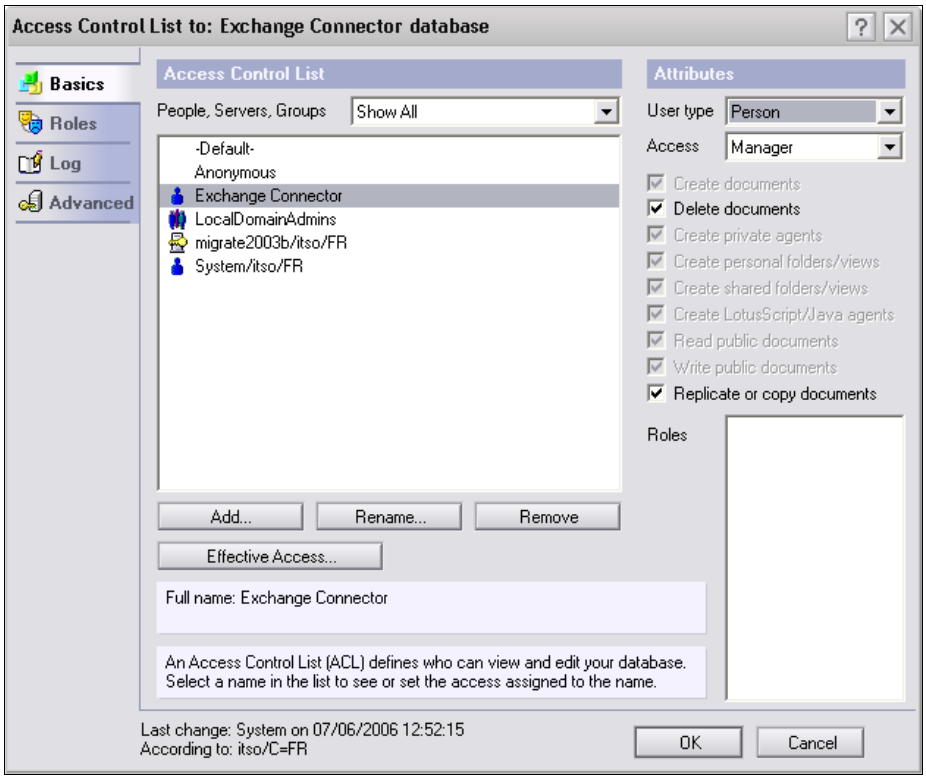

Figure 6-13 Setting up the mailbox Access Control List (ACL)

To create the connector mailbox for bad mail

The easiest way to create the connector mailbox for bad mail is to simply copy the connector database.

1. On a computer with Lotus Domino Administrator installed, start Lotus Domino Administrator and log on as a user who has Lotus Domino administrator permissions.
2. Select File → Open Server.
3. In the Select a server to administer dialog box, in the Server text box, type the name of your server running Lotus Domino, including the certifier information. For example, migrate2003b/itso/fr. Click OK.
4. Open the Exchange connector database:
   - Select the Files tab.
   - Select File → Database → Open.

- From the Server drop-down list, select the server running Lotus Domino.
- In the Filename text box, type the name of your connector database, for example exchangeconnector.box.
- Click Open.

5. Select File → Database → New Copy.
6. In the Copy Database dialog box (see Figure 6-14):
   - From the Server drop-down list, select the server running Lotus Domino.
   - The Title text box should show the name you entered for your connector database, for example Exchange Connector Database. Modify the name accordingly, for example Exchange Connector Database - Bad mail.
   - In the File Name text box, change the extension of the existing file name to **.bad**. For example, if the existing file name is exchangeconnector.box change the file name to **exchangeconnector.bad**.
   - Select Database design only and make sure the Access Control List check box is selected. Click OK.

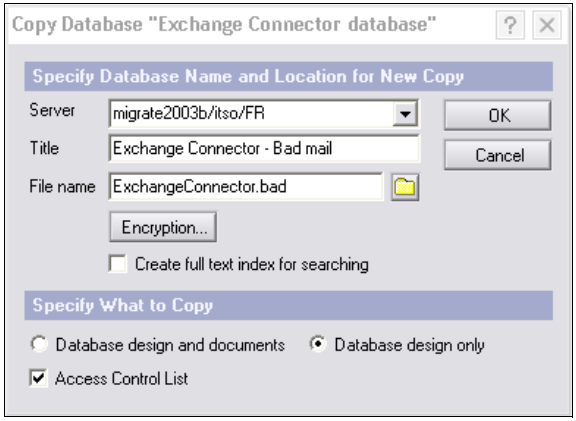

Figure 6-14 Creating the Exchange Connector mailbox for bad mail

The connector mailbox for bad mail is created.

6.3.4 Step 4: Create the Exchange / Domino Directory

We strongly recommend that you create an address book which will be used to synchronize your Domino and Exchange Address books for the purpose of name lookup and resolution.

Note: It is possible to synchronize the Exchange addresses into the Domino names.nsf. We found that this can cause some complications when migrating and it is simpler and cleaner to synchronize with a secondary directory and set up directory assistance.

Use the following steps to create a secondary address book:

1. Launch the Domino Administrator Client from your workstation and log on as a user who has Lotus Domino Administrator permissions.
2. From the menu bar, click File → Database → New.
3. From the New Database Dialog box:
    - From the Server drop-down list, select the server running Lotus Domino.
    - In the Title text box, type a name for the new database. For example, type Exchange Names.
    - In the File Name text box, type a name for the new database. For example, type exchangenames.nsf. You specify this name later when you configure the DirSync for the Exchange Connector for Lotus Notes.
    - Click the Template Server option, then from the Server drop-down list, select the server running Lotus Domino, and then click OK.
    - Select the Show advanced templates check box.
    - From the scroll box, below the Template Server option, select Domino Directory, and then click OK (see Figure 6-15).

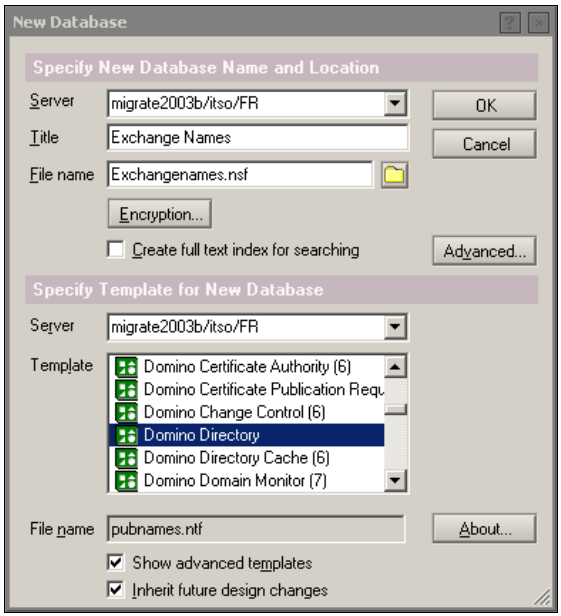

Figure 6-15 Create Exchangenames.nsf

Note: If you receive the error 'You are not authorized to perform that operation: Server Name DBName.nsf', see Lotus Software Knowledge Base Document.

Title:Error Attempting to Create a Database From pubnames.ntf.Doc #: 1086231

URL:http://www.ibm.com/support/docview.wss?rs=899&uid=swg21086231

4. The new address book is created. Press Escape to close the About the Domino Directory message (or select File → Close).
5. Click File → Database → Access Control, and click Add.
6. In the People, Servers, Groups text box, click the browse icon.
7. Select the user ID for Exchange Connector for Lotus Notes. Click Add, and then click OK.
8. From the Access drop-down list, select Manager, then select the Delete documents check box.
9. Select the Roles as shown on Figure 6-16 and click OK.

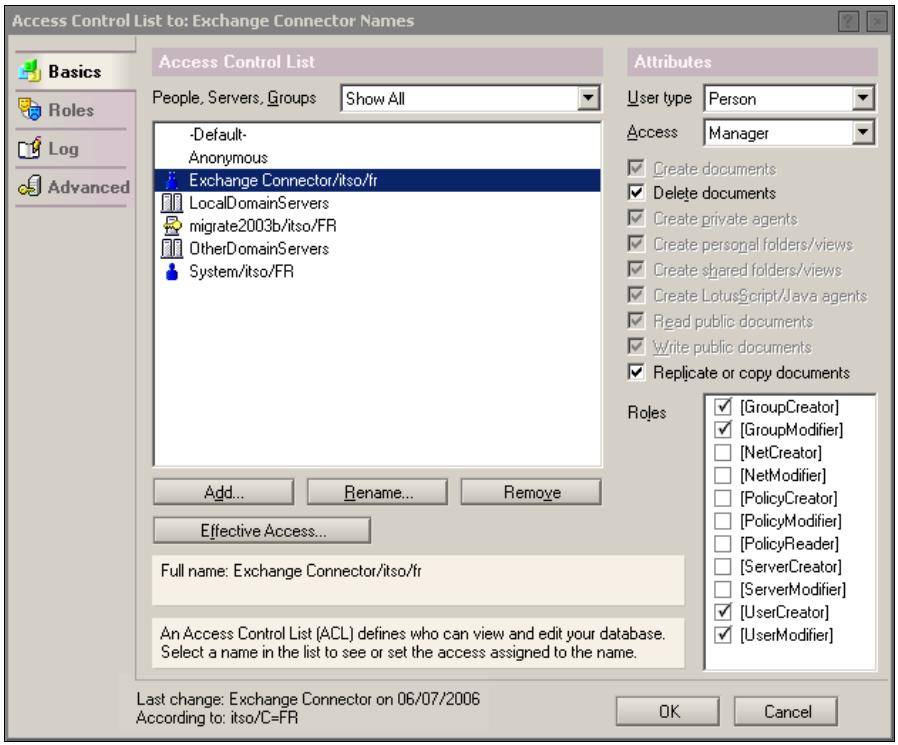

Figure 6-16 ACL Exchange Directory

6.3.5 Step 5: Implement Directory Assistance

Now that a secondary address book has been created you will want to implement Directory Assistance for the purpose of name lookup and resolution.

There are two major steps in implementing Directory Assistance.

1. Enable Directory Assistance in the Server document.
2. Create a Directory Assistance database.

Use the following steps to enable Directory Assistance:

1. Launch the Domino Administrator Client from your workstation and log on as a user who has Lotus Domino Administrator permissions.
2. Click on Configuration tab.

3. Click on Server, then All Server Documents (Figure 6-17).

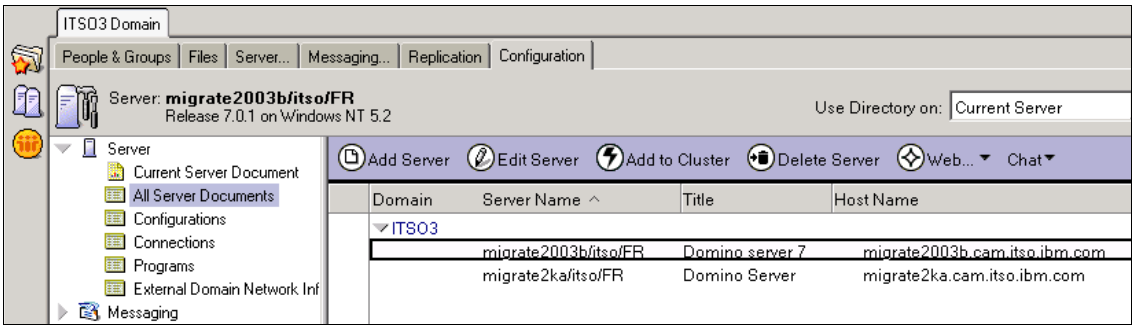

Figure 6-17 Configuration tab

4. Select your Domino server and click Edit Server.
5. In field Directory assistance database name, type DA.nsf (Figure 6-18).

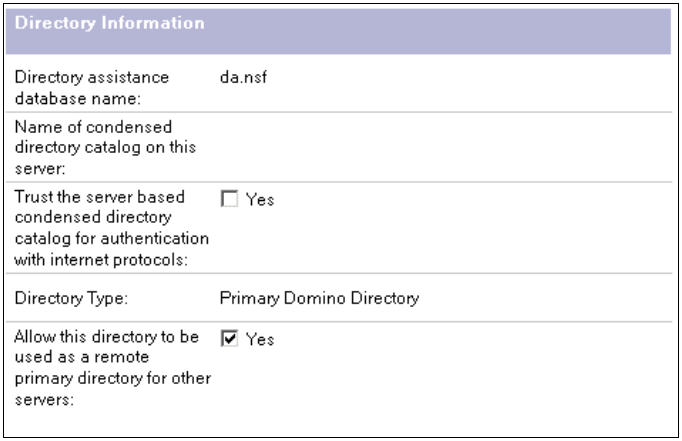

Figure 6-18 DA entry in Server document

6. Click Save & Close.

Use the following steps to create a Directory Assistance database:

1. Launch the Domino Administrator Client from your workstation and log on as a user who has Lotus Domino Administrator permissions.
2. From the menu bar, select File → Database → New.
3. From the New Database dialog box:

- From the Server drop-down list, select the server running Lotus Domino.
- In the Title text box, type a name for the new database. For example, type Directory Assistance.
- In the File Name text box, type DA.nsf
- Click the Template Server option, then from the Server drop-down list, select the server running Lotus Domino, and then click OK.
- Select the Show advanced templates check box.
- From the scroll box, below the Template Server option, select Directory Assistance, and then click OK (see Figure 6-19).

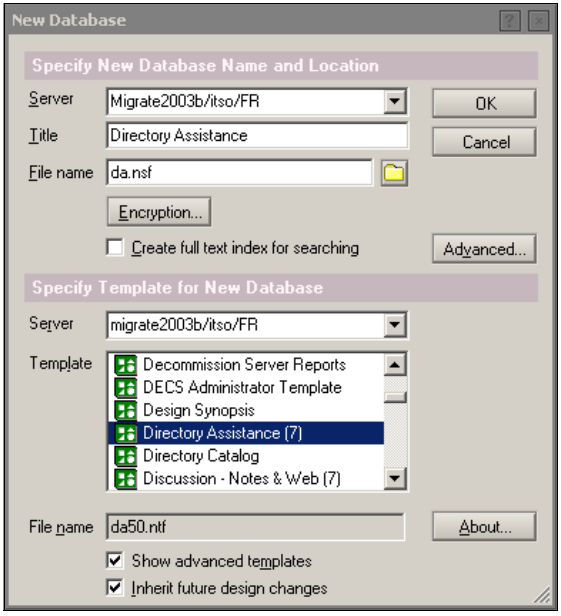

Figure 6-19 Creating Directory Assistance database

4. The Directory Assistance database is created. Press Escape to close the About the Domino Directory message (or select File → Close).
5. In the view action bar, click Add Directory Assistance.
6. On the Basics tab complete the following fields:
   a. Domain type, select Notes.
   b. Domain name, type a unique name. For example: Exchange

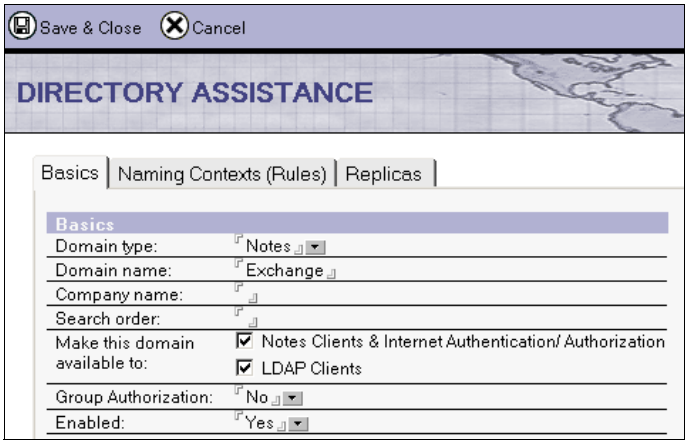

Figure 6-20 Directory Assistance Basics tab

7. Click on Replicas tab
8. Paste a Database Link for Exchangename.nsf (Figure 6-21).(If you don't know how to create a database link, click on the Database links text to display assistance.)

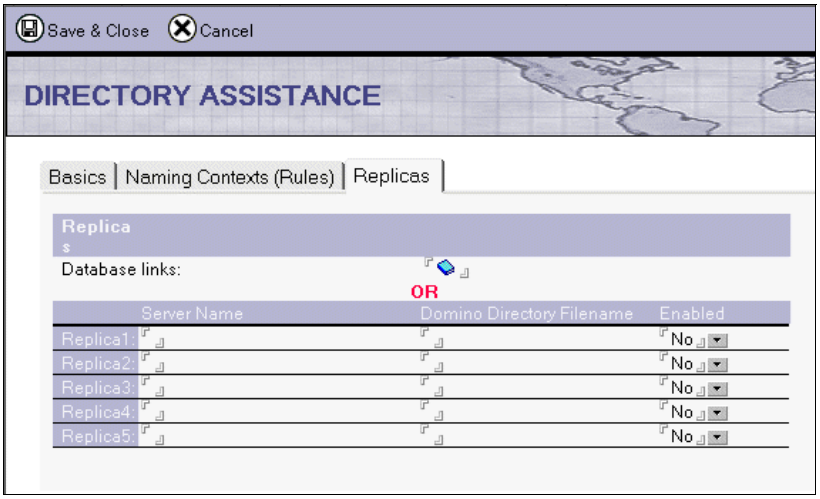

Figure 6-21 Directory Assistance Replicas tab

9. Click Save & Close

Note: Remember to restart the Domino server.

Note: For further instructions on how to set up directory assistance, see the Lotus Domino Administrator 7 Help database.

To verify Directory Assistance is set up properly issue a ‘Show xDir” from the Domino Console. You should see the exchangenames.nsf is listed.

```
> show xdir

   DomainName       DirectoryType          ClientProtocol Replica/LDAP Server
   ---------------- ---------------------- -------------- ----------------------
 1 ITSO3            Primary-Notes          Notes & LDAP   names.nsf
 2 EXCHANGE         Secondary-Notes        Notes & LDAP   Exchangenames.nsf

Directory Assistance Database 'da.nsf' in use
```

Figure 6-22 Show Xdir

6.3.6 Step 6: Create a Foreign Domain document

For messages to be routed from Lotus Domino to Exchange a Foreign Domain Document must be created. Follow these steps to create a Foreign Domain Document:

1. Launch the Domino Administrator Client from your workstation and log on as a user who has Lotus Domino Administrator permissions.
2. Click the Configuration tab, then select Messaging → Domains.
3. Click Add Domain.
4. In the Basics tab, enter the following information:
   - Select Foreign Domain for the Domain type from the drop-down list.
   - Enter any appropriate name (such as Exchange2003) for the Foreign Domain name.
   - Enter a short domain description (optional).
5. In the Mail Information tab, enter the following information (Figure 6-23):
   - In the Gateway server name field, specify the Domino server you will be using to connect to the Microsoft Exchange Server running the Exchange Connector for Lotus Notes (for example migrate2003b/itso/fr).
   - In the Gateway mail file name field, specify the name of the routing mailbox previously created (for example `exchangeconnector.box`).

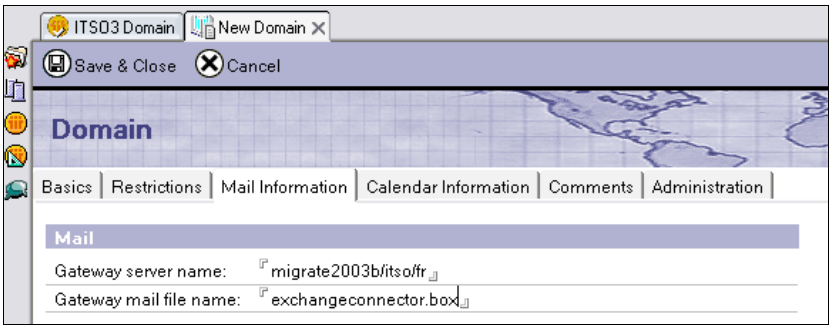

Figure 6-23 Creating a Foreign Domain document

6. Click Save & Close.

The newly created Foreign Domain document will appear in the Domains view (Figure 6-24).

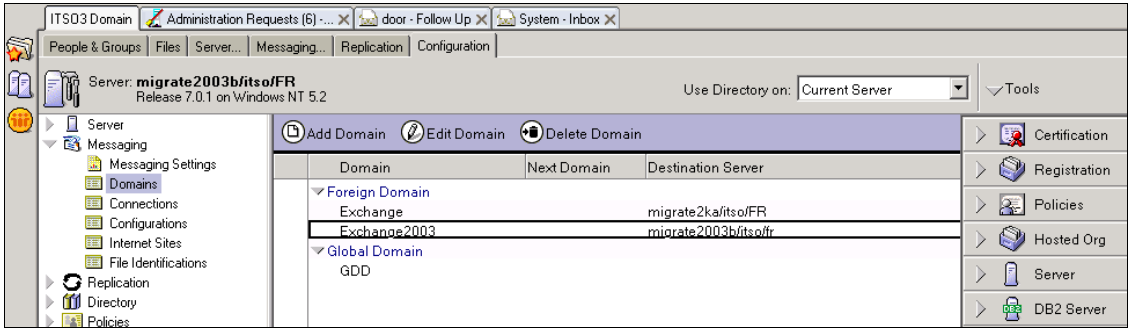

Figure 6-24 Domains view

6.3.7 Step 7: Install the Notes Client on the Exchange Server

In order for the Exchange Connector for Lotus Notes to access the Domino server, it requires access to several of the DLLs from Lotus Notes. You will be required to install a Lotus Notes client on the Exchange Server. Although we have tested and have not identified any problems using a Lotus Notes 7 client, Microsoft support has not yet verified that using a Lotus Notes 7 client with the Connector is a supported environment, and any problems reported will be treated on a best endeavours basis. Therefore, if you wish to remain in a Microsoft-supported configuration during the period of coexistence, we recommend that you use a Notes 6.x client on the Exchange server rather than a Notes 7 client. IBM does support a Lotus Notes 6 client connecting to a Lotus Domino 7 server.

From the Exchange Server, perform the following steps to install the Notes client:

1. Launch the Notes client Setup utility.
2. At the Welcome screen click OK.
3. Accept the terms in the license agreement and click Next.
4. Enter the required information on the user and organization and click Next.
5. Unless otherwise required, *do not* change the Path names for the Notes program and data files.

> **Tip:** We do, however, recommend that you install the data on a separate drive/partition.

6. Select the Install Notes Client button and select install to hard drive (see Figure 6-25). This will install all the subcomponents necessary. Click Next.

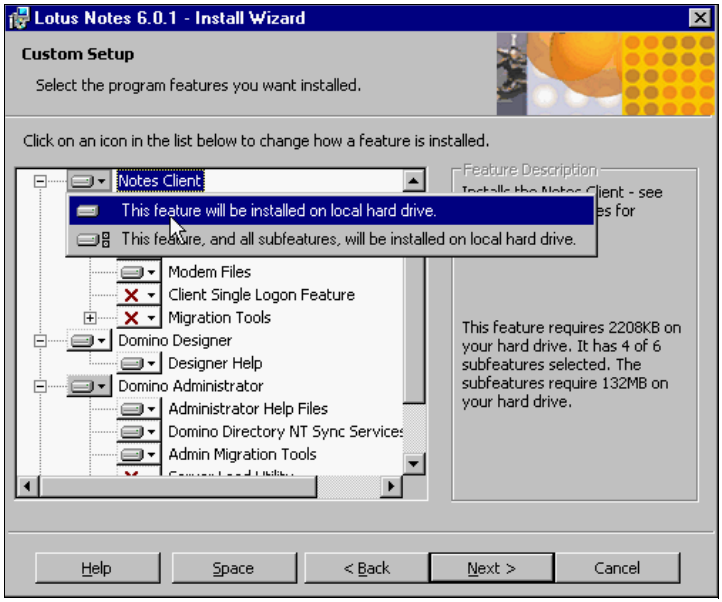

Figure 6-25 Notes installation - setup selection

7. Click Install.
8. When the installation is complete, ensure that the Lotus Notes directory is in the server's system path. If you need to update the system path, do so using the following steps:

a. To get to the Systems Properties box, click Start → Settings → Control Panel. Double-click the System icon.

b. Select the Environments tab and select Path in the Variable Field.

c. Add the Lotus Notes directory at the end of the Value Field, for example, c:\Program Files\Lotus\Notes; (This entry must terminate with a semicolon (;), for example c:\Program Files\Lotus\Notes\Notes.ini;)

d. Click Set.

e. Click Apply.

9. Click OK.

10. Close all windows.

Reboot the system.

Important: To ensure this change takes effect, it is necessary to reboot the system after the update to the Environment tab; failing to do so will prevent the Exchange Connector from working.

6.3.8 Step 8: Set up the Notes Client on the Exchange Server

To set up the Notes client for the Exchange Connector, you need to use the ID file created to represent the Exchange Connector for Lotus Notes. In our example we created the user “Exchange Connector” with an ID file of econnect.id (Figure 6-9 on page 181).

We placed the ID file in the c:\Lotus\Notes\Data\ids\People directory on the Domino server. The ID file needs to be copied to the Exchange Server’s \Notes\data directory, or when requested specify a path to the location of the ID file on the Notes server.

1. To set up the client you need to first launch it. Double-click the icon on the desktop.
2. At the Notes Workstation Setup dialog box, select the office network as the location and click OK.
3. You will be presented with the welcome screen shown in Figure 6-26 on page 198. Click Next to proceed.

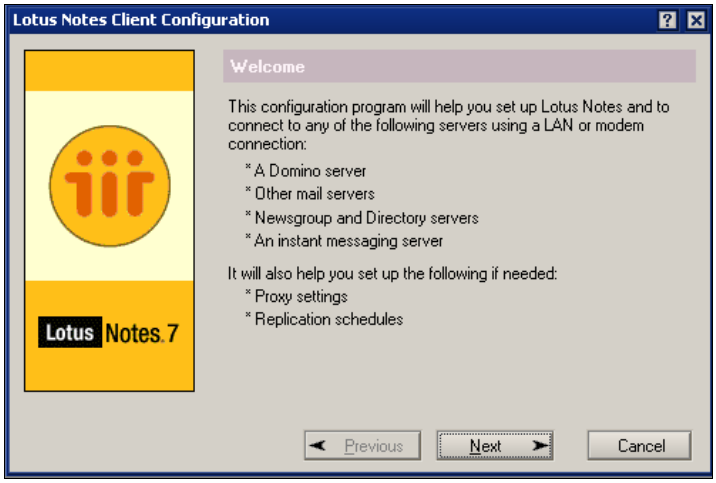

Figure 6-26 Notes client configuration welcome window

4. You are now requested to enter your username and server address. In our example this was `Exchange Connector`. Due to the lab environment and setup, we used the IP address instead of the Domino server name. Using the Domino server name should be the preferred method and should work as long as the Network and DNS have been set up correctly. See Figure 6-27.

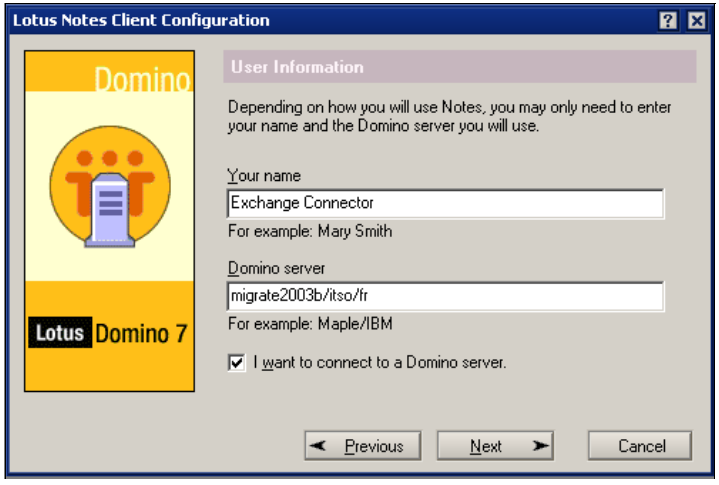

Figure 6-27 Entering user information

5. Check the box “I want to Connect to a Domino server” and click Next
6. Since we selected to *not* save the ID file in the Domino Directory, we are presented with the screen shown in Figure 6-28. Here we are required to

provide the location of the Exchange Connector's ID file. If it was copied to the local data directory the location is c:\Lotus\Notes\data\ids\people\econnect.id; if not, click Browse, locate the ID file, and click OK.

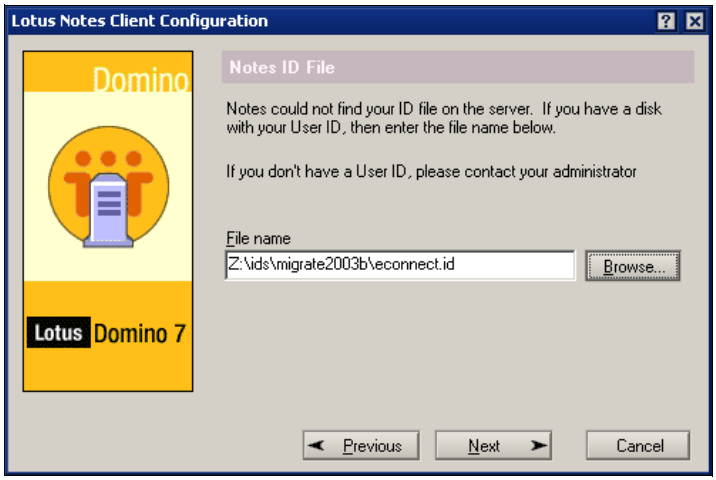

Figure 6-28 Specifying the location of the ID file

Click Next.

Note: This ID file has no password so we will not be prompted for an authenticating password.

7. The Exchange Connector does not require any of the additional services. Click Finish.
8. When you are presented with the Notes dialog box, click OK.

The setup of the Lotus Notes client code is complete.

6.3.9 Step 9: Install the Exchange Server 2003 Connector for Lotus Notes

1. From the Exchange server, insert the Exchange 2003 CD into the CD-ROM drive.
2. Open a command prompt and type cd **e:\setup\i386\setup.exe** where **e:** is the drive letter for the CD-ROM drive.
3. Click Next at the Welcome dialog box.
4. Once you have read the Licensing Agreement, click Yes.

5. On the Component Selection page (Figure 6-29):
   a. In the Action drop-down menu next to Microsoft Exchange, select Change.
   b. In the Action drop-down menu next to Microsoft Exchange Messaging and Collaboration Services, select Change.
   c. In the Action drop-down menu next to Microsoft Exchange Connector for Lotus Notes, select Install.
   .

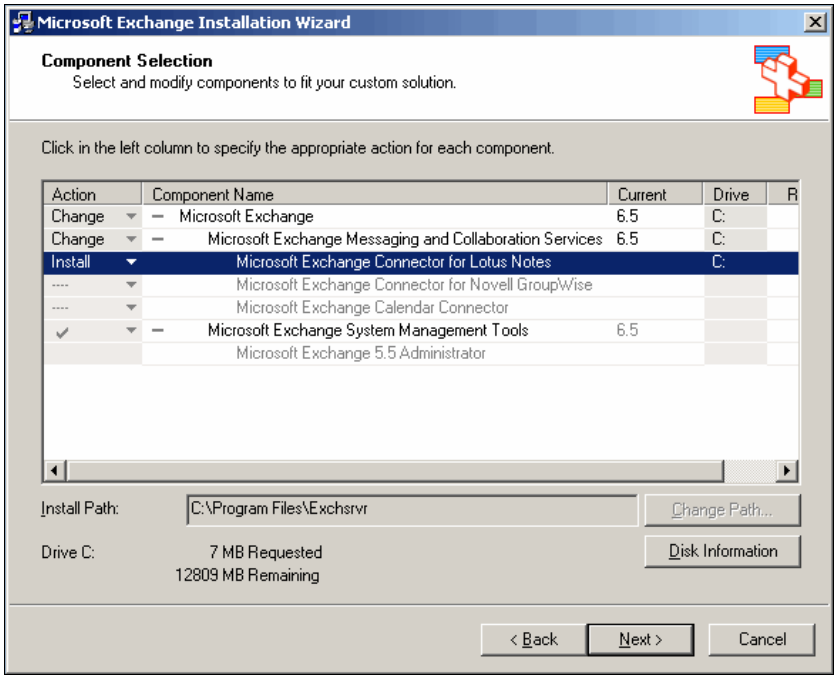

Figure 6-29 Selecting Exchange Connector for Lotus Notes

6. Click Next.
7. Review your component selection, and click Next.

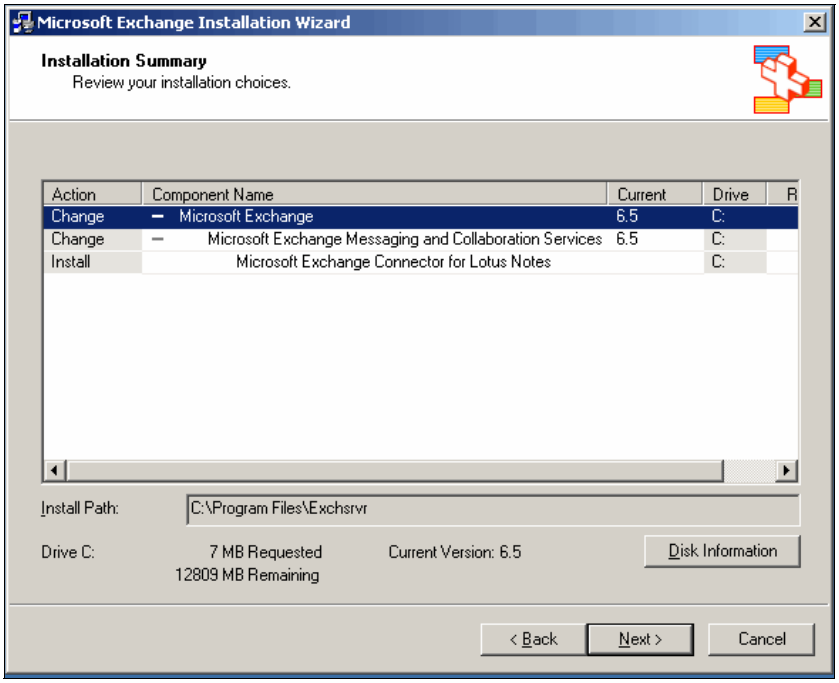

Figure 6-30 Component Installation Summary

8. Once the component installation is over, click Next.

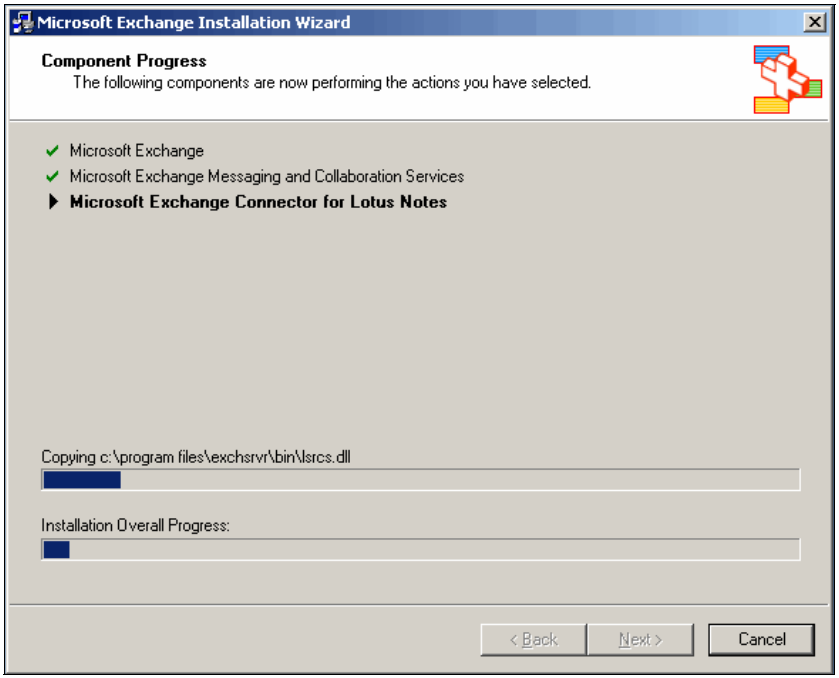

Figure 6-31 Component Installation

9. Click Finish.

Note: A newer release of Exchange Connector for Lotus Notes is available from the Microsoft web site and can be downloaded at the url:

`http://www.microsoft.com/downloads/details.aspx?familyid=D9F3A35E-1046-47B5-B09B-BDA9DE60CD9D&displaylang=en`

6.3.10 Step 10: Configure the Exchange Connector for Lotus Notes

Exchange connector for Lotus Notes is configured using the Exchange System Manager. The figure below (Figure 6-32) shows the location of the connector when viewing for administrative groups is enabled.

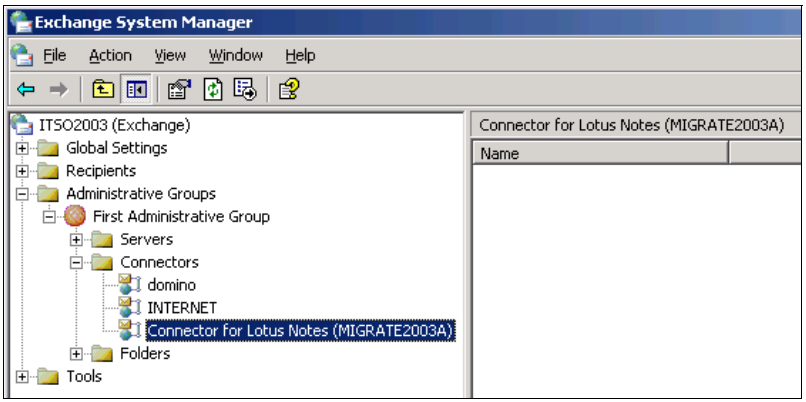

Figure 6-32 Exchange System Manager

Use the following steps to configure the Exchange Connector for Lotus Notes:

1. Right-click Connector for Lotus Notes, and click Properties.
2. On the General tab (Figure 6-33 on page 204):
   a. In the Notes Server field, type the name of your Domino server.
   b. Click Modify, type the path to your notes.ini file (include the file name) and click OK. For example: c:\Program Files\lotus\notes\notes.ini

Note: Leave the password and confirm password fields empty. Remember we did not require a password for the Exchange Connector ID.

   c. In the Connector Mailbox field, enter the name of the mail box previously created on Step 3. Type exchangeconnector.box
   d. In the Polling interval field, type the interval (in seconds) that Exchange connector for Lotus Notes uses to check for new messages delivered to Exchange.

Note: For the polling interval field, we suggest using the default of 15 seconds.

   e. In the Notes Server language drop-down list, select the language of the server running Lotus Domino.
   f. In the Convert Notes Doclinks to drop-down list, select one of the following formats for Exchange Connector for Lotus Notes to use to convert Lotus Notes document links:

- **OLE document link** - This is represented by an icon in the Exchange message. When the user clicks on the icon, Lotus Notes is started and the document link works as it should. (Lotus Notes must be installed on the client computer.)
- **RTF attachment** - (Default) Document is converted to an RTF attachment. Because this attachment is a copy of the data from the actual notes document, users cannot edit the document.
- **URL shortcut** - The document link is converted to a URL. When you click the URL, the default Web browser tries to access the computer running Lotus Notes to which the link points. (The user still requires a Lotus Notes name, password, and license to access the document, unless anonymous authentication is allowed.)

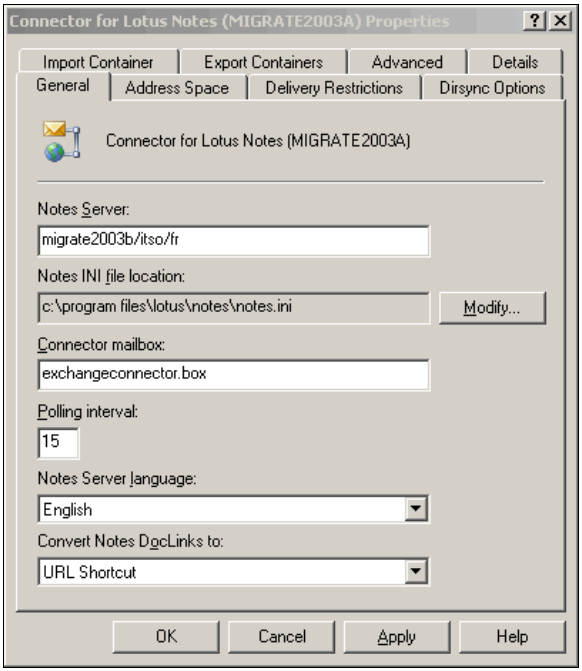

Figure 6-33 Connector properties box - General tab

3. On the Import Container tab (Figure 6-36):
   a. Click Modify to select the Active Directory container to which Lotus Domino users are imported.

Note: We recommend that you create a special organizational unit for all your Lotus Domino users.

b. On the Choose a container tab, select the appropriate container where to import the Lotus Domino users, and then click OK.

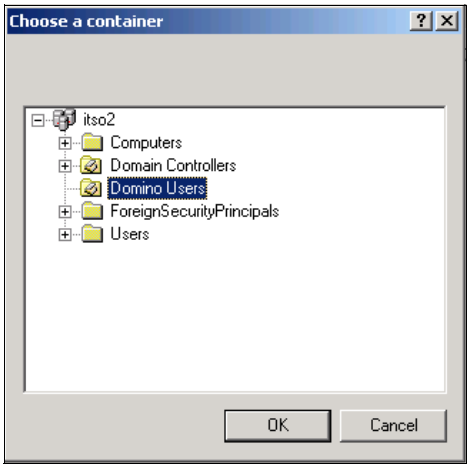

Figure 6-34 Selecting the Import container

c. On the Exchange System Manager dialog box, click OK (Figure 6-35).

Figure 6-35 Granting the required permissions

d. In the When replicating a mailbox whose primary Windows account does not exist in the domain drop-down list, select one of following options for Active Directory to use when new users are imported:

- Create a disabled Windows user account
- Create a new Window user account
- Create a Windows contact

Note: We recommend that you select Create a Windows contact as it is likely that your Domino users are already registered in Active Directory.

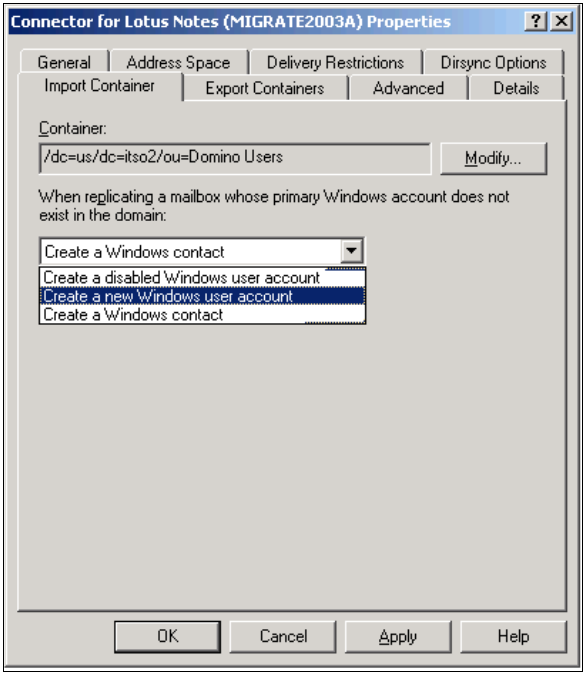

Figure 6-36 Import container tab

4. On the Export Containers tab (Figure 6-38 on page 208):
   a. Click Add
   b. In the Choose a container tab, select the group you want to export, and click OK.

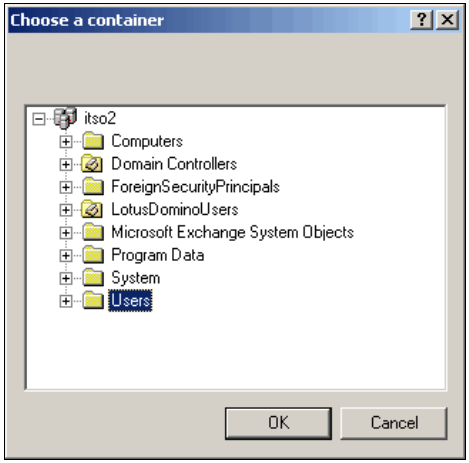

Figure 6-37 Selecting the Export container

c. On the Exchange System Manager dialog box, Click OK.

d. Repeat the previous three steps for each group you want to export.

Note: Nested organizational units are not selected for export if you select the parent organizational unit. You must select each organizational unit individually.

e. Select Export contacts and Export groups.

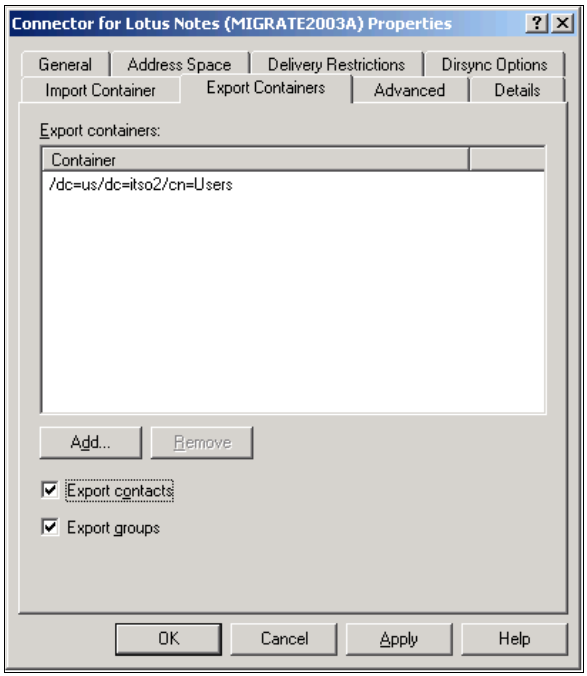

Figure 6-38 Export container tab

5. On the Address Space tab:
   a. Click Add (Figure 6-39 on page 209).

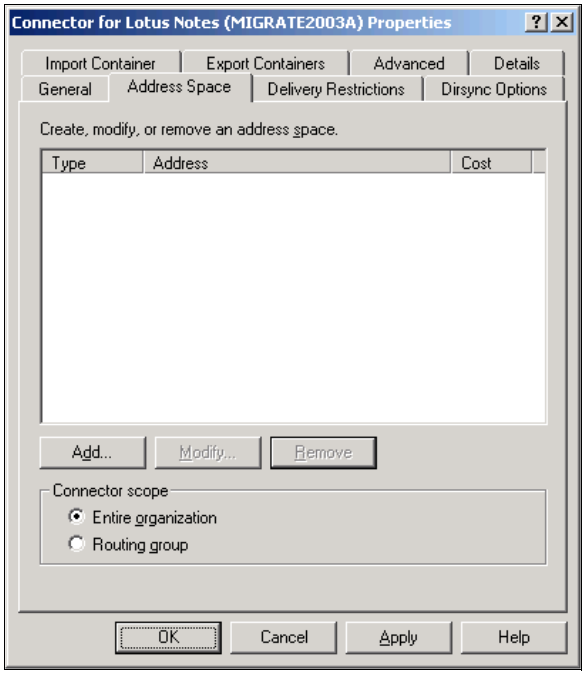

Figure 6-39 Address Space tab

b. On the Add Address Space dialog, select Notes and click OK (Figure 6-40).

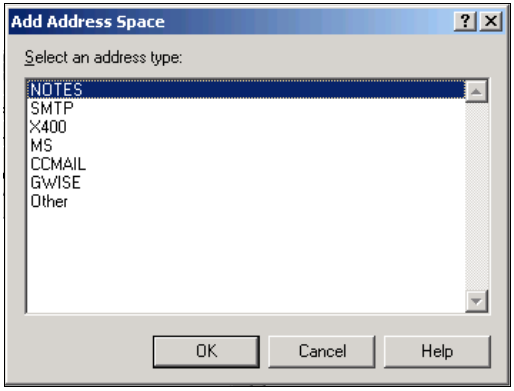

Figure 6-40 Select Address type

c. On the Lotus Notes Address Space Properties dialog (Figure 6-41 on page 210):

i. In the User name field, type *

ii. In the Domain field, type the name of the Lotus Domino Domain. For example: itso3.

iii. Leave cost at 1.

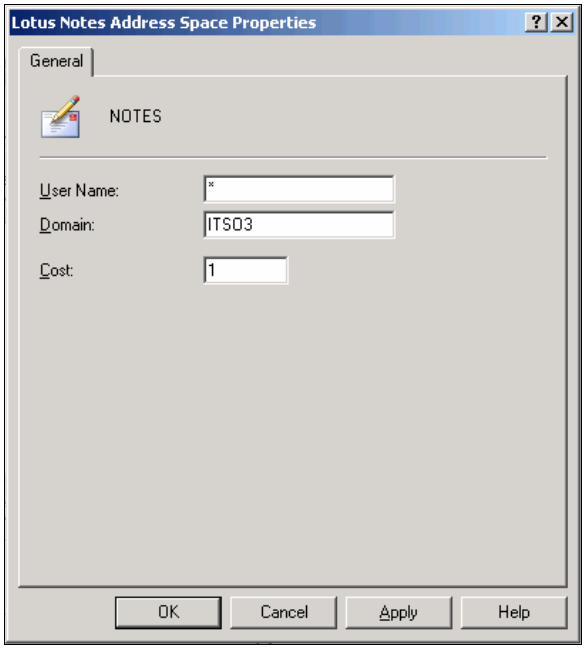

Figure 6-41 Select Domino Domain

i. Click OK

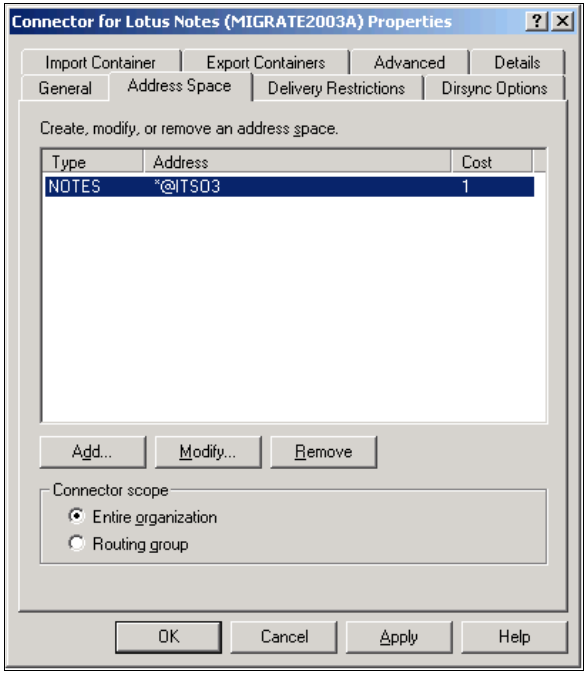

Figure 6-42 Address Space dialog

6. On the Dirsync Options tab:
   a. From the Exchange-Notes directory update schedule drop-down list, select a schedule for directory synchronization (Figure 6-43 on page 212).

Note: Do not schedule synchronization during peak traffic hours. If your directory information changes infrequently, schedule synchronization for once a day. If your directory information changes frequently, schedule synchronization for two or more times a day.

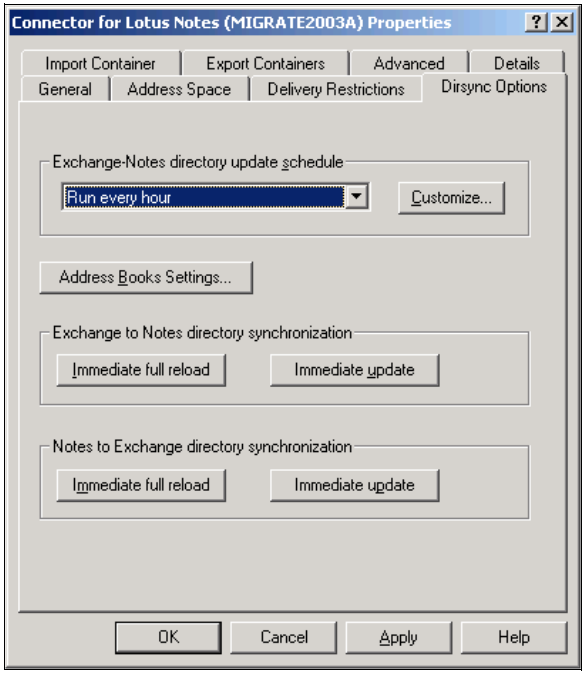

Figure 6-43 Dirsync Options tab

b. Click Address Book Settings Figure 6-44

c. In the Target Name and Address Books section, type exchangenames.nsf, in the Default name & address book field.

d. In the Source Name and Address Books section, type names.nsf.

e. Click OK.

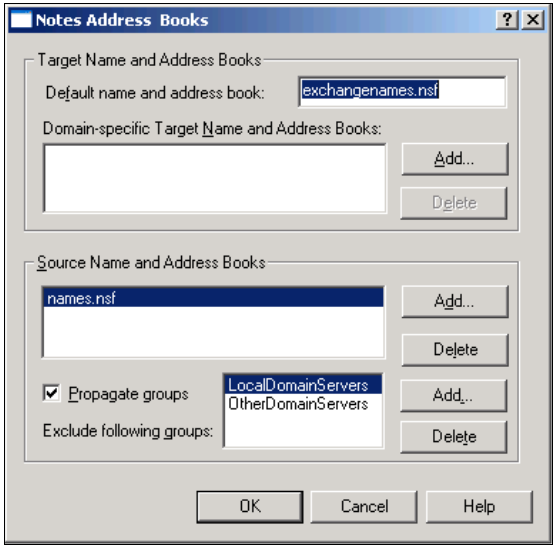

Figure 6-44 Select Target and Source Address Books

7. On the Advanced tab:
   a. In the Notes letterhead field, type the Lotus Notes letterhead name you want to append to the top of message sent from Exchange users to Lotus Domino users.

Note: The letterhead name you specify must match the letterhead name defined in the Lotus Notes mail database to which messages are sent. if the names do not match, no letterhead is used.

   b. In the Notes router mailbox field, enter mail.box or if running multiple mail boxes type mail1.box.
   c. From the Delivery order drop-down list, select the order in which messages are to be delivered from Exchange to Lotus Domino. The options are:
      i. **Priority** - priority messages, such as urgent messages, are delivered to the outbound queue first. This is the default setting.
      ii. **FIFO** - Messages are delivered to the outbound queue on a first in, first out (FIFO) basis.
      iii. **Size** - Smaller messages are delivered to the outbound queue before larger messages.

d. From the Notes database maintenance schedule drop-down list, select a schedule for compacting database files.

e. Under Routable domains, click Add.

f. In the Add Routable Domain dialog, type the name of the Lotus Domino domain to which Exchange Connector for Lotus Notes does not connect directly, and then click OK. Repeat for each additional domain.

g. Message Size limit can be set. (Optional)

h. Click OK

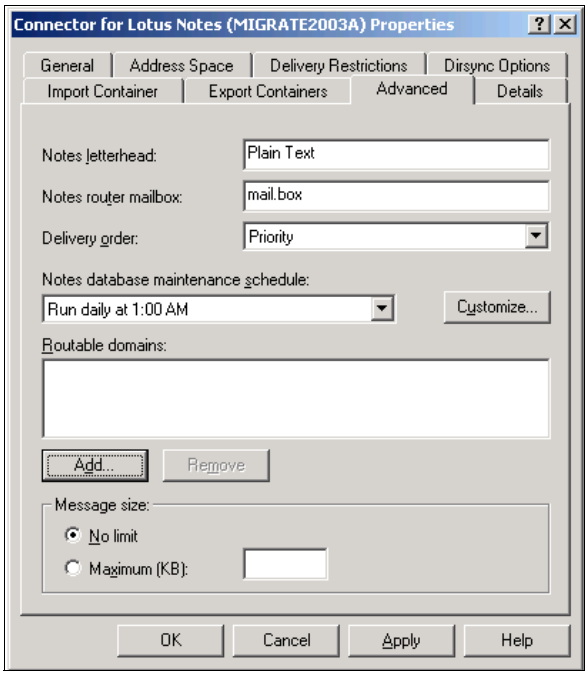

Figure 6-45 Advanced tab

6.3.11 Step 11: Enable the proxy addresses

If you have multiple Exchange servers, you need to synchronize the Site Addressing scheme within all the Exchange servers so that Domino addressing information is updated across the Exchange site. If this procedure is not done, e-mail from and to the Exchange servers, other than the one running the Microsoft Exchange Connector for Lotus Notes, will not flow until the next scheduled replication.

The default Lotus Notes e-mail address format that is used for Exchange 2003 users is based on the user's display name and the name of the Exchange

organization. You can modify the rule used to represent Exchange e-mail addresses in Lotus Domino. This address rule uses a set of symbols to determine how Exchange addresses appear in the Lotus Domino organization.

The default format for Lotus Note's addresses assigned to Exchange users is:

&d/organization@domain name

Here is what the various portions of this address signify:

- &d = the Lotus Notes display name (typically the full name) of the user.
- Organization = the name of the user's Exchange organization.
- domain name = the Lotus Domino foreign domain name that represents the Exchange organization. This is the name you specified in the earlier section "Step 6: Create a Foreign Domain document" on page 194.

Use the following steps to enable and customize Lotus Notes proxy addresses.

1. From the Exchange System Manager window, select your Exchange server, then expand Recipients and go to Recipient Policies. Click on Default Policy in the details pane, as shown in Figure 6-46.

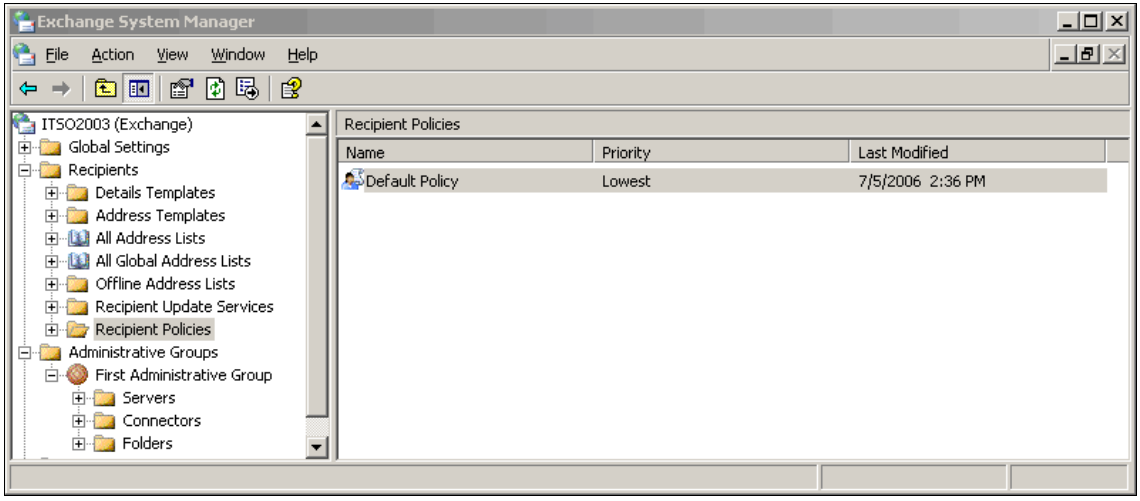

Figure 6-46 Recipient Policies

2. In the E-Mail Addresses (Policy) tab, select the NOTES check box to activate the address, then click Edit (see Figure 6-47).

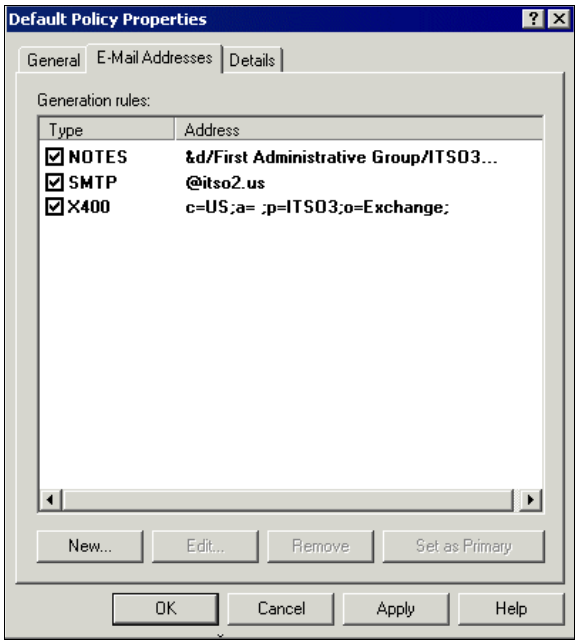

Figure 6-47 Enabling the Notes address

3. In the Address text box, modify the address format to suit your requirements. Non-Exchange addresses are always updated, even if you made manual changes to specific addresses.

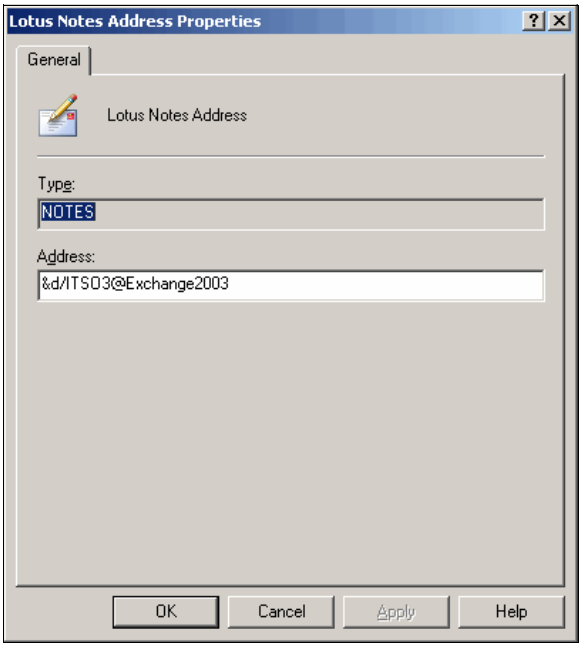

Figure 6-48 Editing the Lotus notes address format

Table 6-1 Proxy address configuration symbols

To substitute	Use this symbol	Notes
The user's alias	&M or &m	Typically the mailbox name.
The user's initials	&I or &i	Typically the user's middle initial.
An e-mail address based on the user's display name	&D or &d	Blanks and initials between the given name and surname are ignored. If there is a comma in the display name, the portion of the string to the left of the comma is interpreted as the surname; the portion to the right of the comma is interpreted as the given name.
The user's given name	&G or &g	Typically the user's first name.

To substitute	Use this symbol	Notes
The user's surname	&S or &s	Typically the user's last name.
An ampersand (&)	&&	To use an ampersand, you must precede it with another ampersand.

Note: For additional symbols that can be used, see the following Knowledge Base article (the same rules apply to all address formats):

Q285136 How to Customize the SMTP E-mail Address Generators Through Recipient Policies

`http://support.microsoft.com/?ID=285136`

Note: In a multi-domain environment where it is likely to have entries matching persons with the same names (ambiguous entries), we recommend that you include the domain name in the adress format. As a consequence, persons with the same names will be resolved properly.

4. Once you configure the address formula, click OK. The edited address will appear in the Policy Properties window.

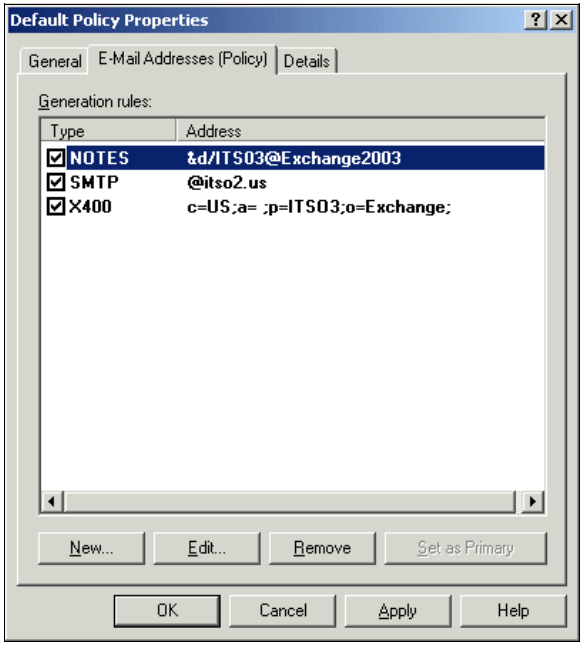

Figure 6-49 Edited Lotus Notes address format

5. Click OK to close the Policy Properties window.
6. A message asks you if you want to update all corresponding recipient e-mail addresses to match the new addresses. To run Recipient Update Service immediately, click Yes. Otherwise click No (addresses will be update the next time Recipient Updade Service is run).
7. Select Programs → Microsoft Exchange → Active Directory Users and Computers, open the properties for any Exchange user and in the E-Mail Addresses tab check that the changes are properly taken into account.

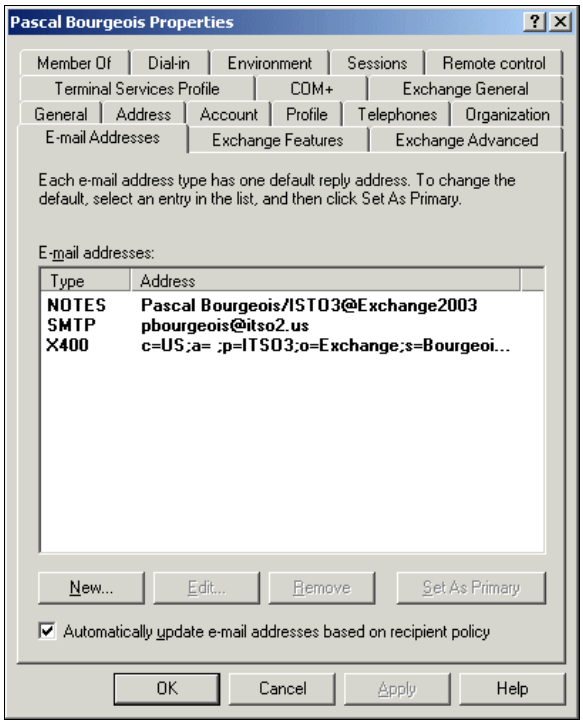

Figure 6-50 E-Mail addresses tab

6.4 Operating and monitoring the Exchange Connector Services

In this section we show you how to:

- Start the Connector
- Operate the Connector
- Run Directory Synchronization
- Monitor the Connector
- Stop the Connector

6.4.1 Start the Connector

For operation of the Exchange Connector for Lotus Notes, you have two related services:

- Microsoft Exchange Connectivity Controller
- Microsoft Exchange Connector for Lotus Notes

If you start the Exchange Connector for Lotus Notes, it will start the Connectivity Controller.

To start the Connector on the Exchange Server manually:

1. Choose Start → Settings → Control Panel.
2. Double-click the Services icon and scroll down to Microsoft Exchange Connector for Lotus Notes (Figure 6-51).

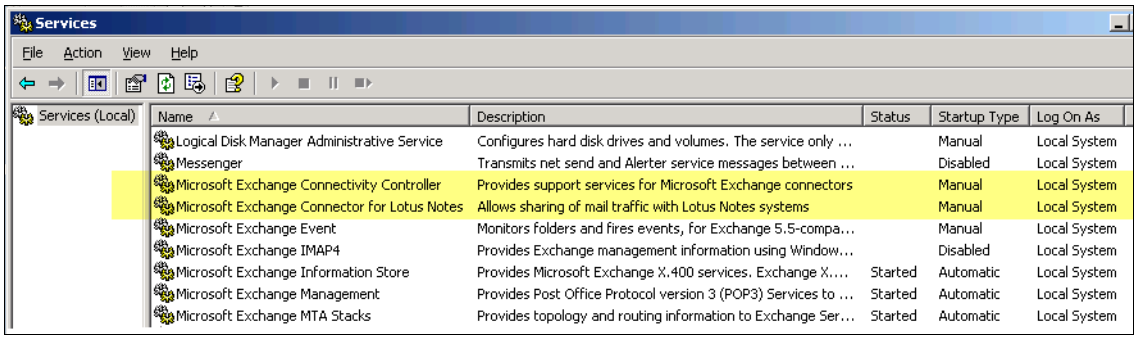

Figure 6-51 Starting the Exchange Connector

3. Righ-click and select Start. (Alternately, select Action → Start.) This also starts the Microsoft Exchange Connectivy Controller service.

You now have all services and tasks started and can continue to operate the Connector. After you have verified the operation of the Connector, you may wish to have it started automatically at server start-up. To do this, select Action Properties. In the Start up drop-down list, select Automatic, and then click OK.

6.4.2 Operate the Connector

Once you have started the Connector, it is ready for use. In this section we describe how to use the Connector to:

- Synchronize the directories
- Verify the directory synchronizations

Directory synchronization

Before you begin the directory synchronization, review the directories for both Exchange and Domino servers, noting the user names listed in Active Directory

and those in the Domino Directory. You will use these names to verify the directory synchronization. Use the following steps to synchronize the directories:

1. Open the Exchange System Manager.
2. Go to the Connectors container and select Connector for Lotus Notes.
3. Select Action → Propoerties. Go to the Dirsync Options tab.
4. Click the Immediate full reload button in the Exchange to Notes directory synchronization section.
5. At the dialog box, click OK to acknowledge the full reload request.

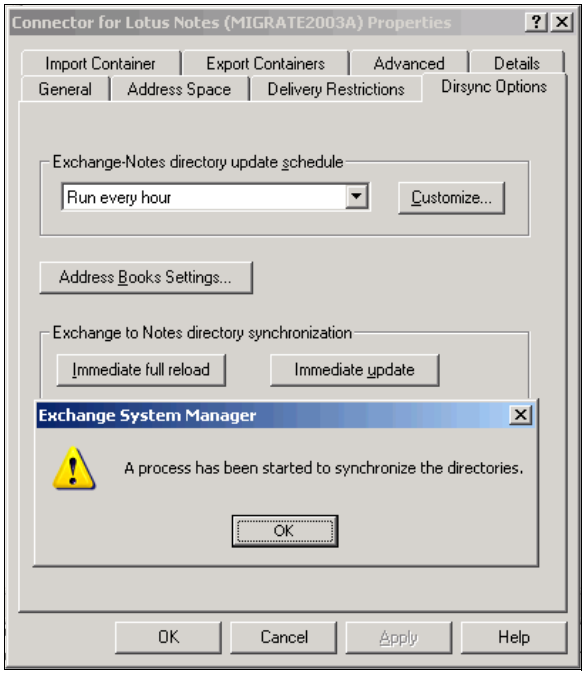

Figure 6-52 Synchronizing the directories

6. Click the Immediate full reload button in the Notes to Exchange directory synchronization section.
7. At the dialog box, click OK to acknowledge the full reload request.
8. Close the Properties box.

Since you have just requested an immediate full reload, the actual directory synchronization may take some time. Be patient!

Verify the synchronization

To verify the directory synchronization from the Exchange Administrator program:

1. From Exchange Manager System, select the Notes Recipients container.
2. Locate any custom recipients (the ones with a card in front of their names).

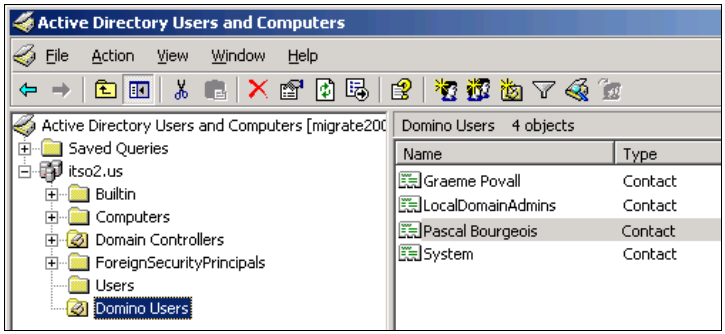

Figure 6-53 Notes Recipients container

3. Double-click the custom recipient representing a Notes user. In our example we used “Pascal Bourgeois.”
4. Note the e-mail fields and their address (see Figure 6-54) should show something like “Pascal Bourgeois@ITSO2.US.”

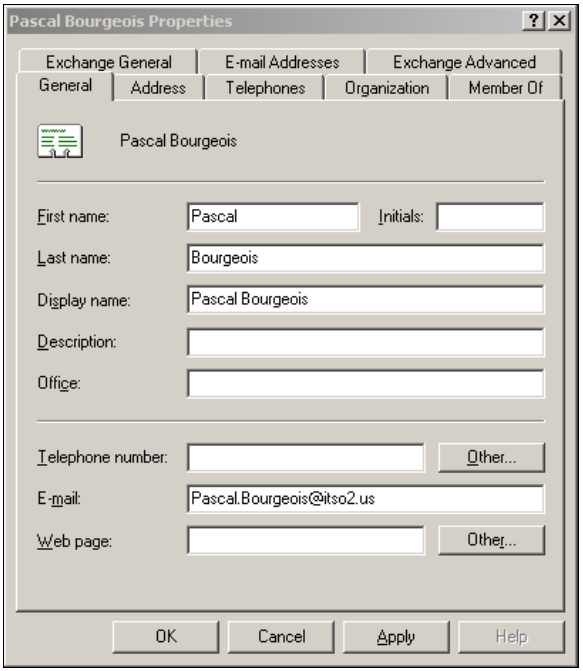

Figure 6-54 Pascal's Exchange recipient's entry

5. Click OK to close the custom recipient Properties box.

To verify the directory synchronization from the Domino Administrator:

1. Open the Exchange Directory database previously created.
2. Select the People view and locate a person document for the Exchange user; we used Anaïs Bourgeois.
3. Double-click the Person document.

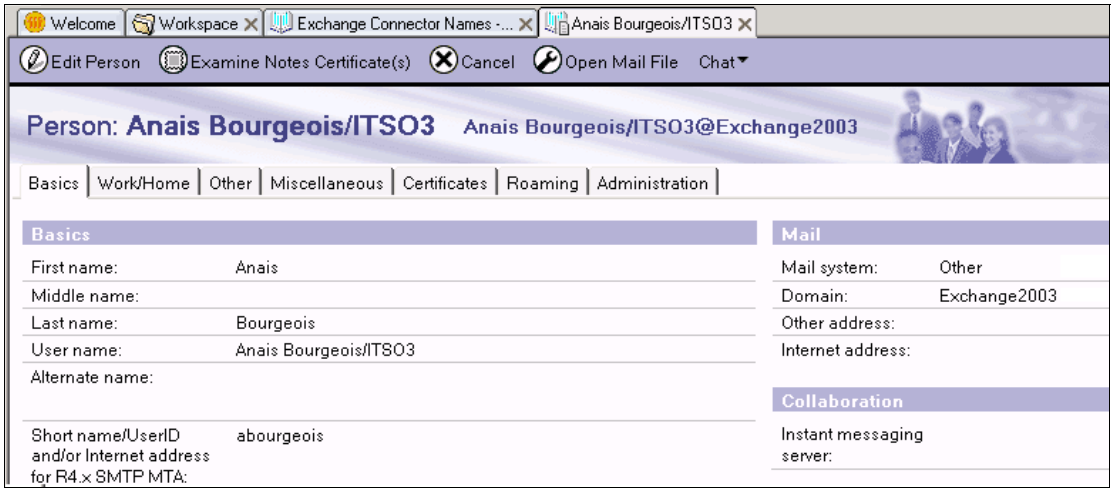

Figure 6-55 Domino entry

4. Note that the Mail system field states Other and the Domain field states Exchange.
5. Check the Miscellaneous tab. The Calendar Domain field should state Exchange.

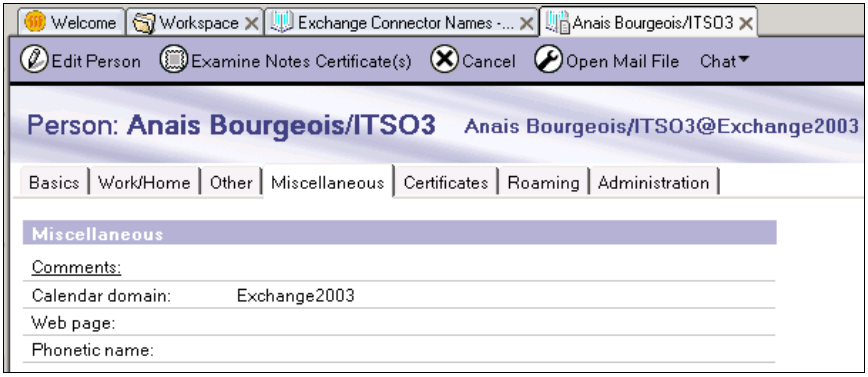

Figure 6-56 Calendar domain

Note: If the Calendar Domain field is empty, you must perform a new directory synchronization to update the field. If you later install the Calendar Connector and the field is left empty, you will not be able to query the free/busy time of an Exchange user.

6. Close the Person document

6.4.3 Monitor the Connector

Note to Reviewer: This section still being completed..

This section explains how to monitor the Exchange Connector for Lotus Notes.

1. From the Exchange Manager System, xxxxx
2. xxxx
3. You will see (in a few moments) the queues for the Connector. All the processes should be active (Figure 6-57).

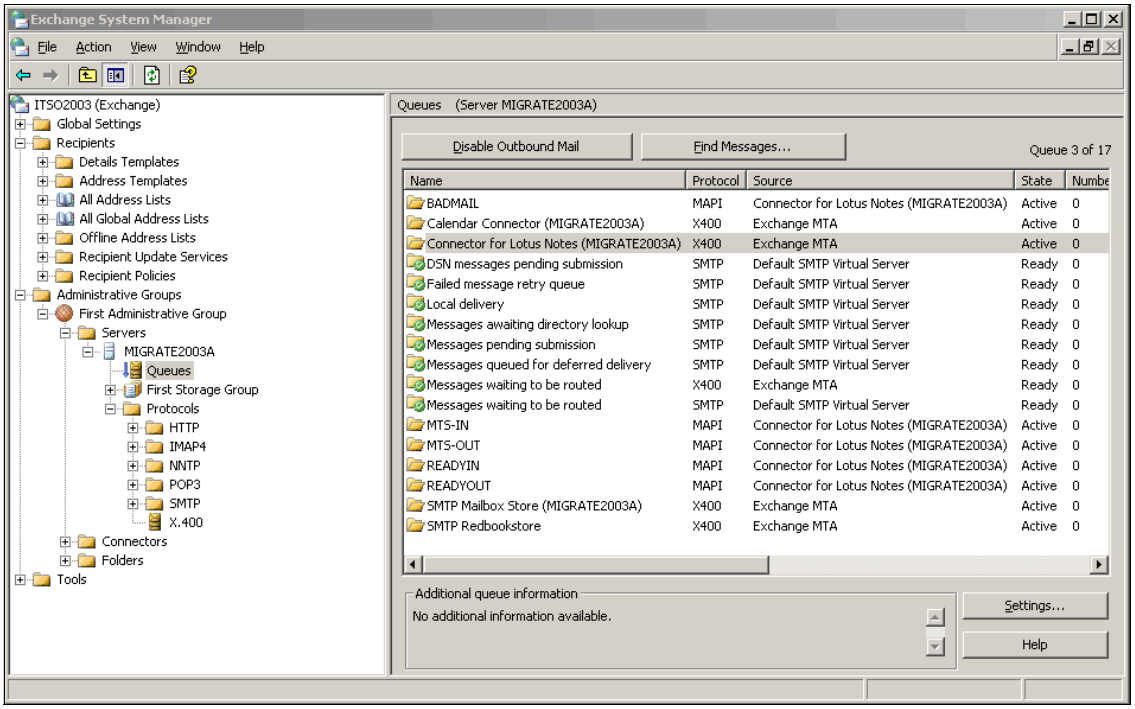

Figure 6-57 Browsing Queues

Additional information on the status of the process can be viewed by double-clicking a process name.

4. xxxxx.

5. Double-click the Log Browser.?????

Figure 6-58 The log browser

6. Double-click an entry for more details. You can see the level of detail kept for each action in Figure 6-59.

Figure 6-59 Log details

7. Click OK and then close the Browse Log panel.
8. Close the Exchange Connectivity Administrator program.

6.4.4 Stop the Connector

From the Exchange Server:

1. Choose Start → Programs → Administrative Tools → Services.

2. Stop the services (Microsoft Exchange Connectivity Controller, Microsoft Exchange Connector for Lotus Notes) by:

- Selecting the service(s) to stop.
- Selecting Action → Stop (or righ-clicking service and selecting Stop).

Congratulations! You have successfully completed the installation and testing of the Exchange Connector for Lotus Notes.

6.5 Tips and suggestions

The following section is intended to provide tips and suggesstions to make you more aware of nuances and possibly, special outcomes when using the Exchange Connector for Exchange 2003. Additionally, we recommend that you review Chapter 10, “Co-existence test results - what to expect” on page 309.

- Issue - Pictures or embedded graphics are removed when an Outlook user replies to an e-mail message that is from a Lotus Notes user

SYMPTOMS

Consider the following scenario. A Lotus Notes user sends an e-mail message that contains a picture or an embedded graphic to a Microsoft Outlook user. The Outlook user is in a Microsoft Exchange 2000 Server or a Microsoft Exchange Server 2003 organization. The Lotus Notes user receives a reply to the e-mail message from the Outlook user.

In this scenario, the replied to e-mail message that the Lotus Notes user receives from the Outlook user experiences one of the following symptoms:

• The picture or the embedded graphic is missing.

• There are random ASCII characters in the area where the picture should be.

CAUSE

This behavior occurs if the following conditions are true:

• The Outlook user is using Microsoft Word as the e-mail editor.

• The e-mail message is routed over the Microsoft Exchange Connector for Lotus Notes from Microsoft Exchange to Lotus Notes.

RESOLUTION

To resolve this behavior, modify the text in the Exchconn.ini file on the Microsoft Exchange

Server server that is running the Microsoft Exchange Connector for Lotus Notes. Then, you can restart the Microsoft Exchange Connector for Lotus Notes service. To do this, follow these steps:

1. Start Notepad.

2. In Notepad, open the Exchconn.ini file. By default, the Exchconn.ini file is stored in the Drive_Letter:\Program Files\Exchsrvr\Bin directory.

3. In Notepad, locate the following text in the opened Exchconn.ini file:

[LME-NOTES-MEXNTS]

4. Under the text located in step 3, add the following two text entries:

RTFStripTag=1

RTFConvertBin=14

5. Save the Exchconn.ini file, and then quit Notepad.

6. In the Services snap-in, restart the Microsoft Exchange Connector for Lotus Notes service.

The original technote can be found at this url:

`http://support.microsoft.com/?kbid=907977`

To add the MEXOUT_INCAPSULATESMTP registry value:

1. Start Regedt32.exe.

2. Locate the following registry key:

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\LME-NOTES\Parameters\

3. On the Edit menu, click Add Value, in the Value Name box type MEXOUT_INCAPSULATESMTP, and then in the Data Type box type REG_SZ.

4. When you are prompted for the string, type FALSE.

5. Restart the Exchange Notes Connector service.

The original technote can be found at this url:

http://support.microsoft.com/kb/251955/EN-US/

7

Using Microsoft Exchange Calendar Connector

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter provides detailed instructions on installing, configuring, and using the Microsoft Exchange Calendar Connector.

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7.1 Overview of the Calendar Connector

The Calendar Connector runs as a Windows Service on the Microsoft Exchange server. It provides for free/busy time searches between Lotus Domino Server and the Microsoft Exchange Server.

on the Microsoft Exchange the free/busy time calendar information for users is stored in the free/busy public folder. Lotus Domino stores users' free/busy time calendar information in a Domino database called Busytime.nsf.

When Lotus Notes users are added to Microsoft Exchange Server directory via directory synchronization, their fee/busy calendar information is also stored in the free/busy public folder on the Microsoft Exchange Server. Thus, when an Exchange user queries a Domino user's busy time, the most-up-to date data is retrieved by the Calendar connector.

When a Lotus Notes user queries an Exchange user's calendar, the Schedule manager attempts to supply the data. After checking the domino Directory and determining that the target user is not on the local Domino server, it will pass the query to the Calendar connector task for the other system. In the case of the Exchange Foreign domain, the Calendar connector task that will be used is called the Exchange Calendar connector task (EXCALCON).

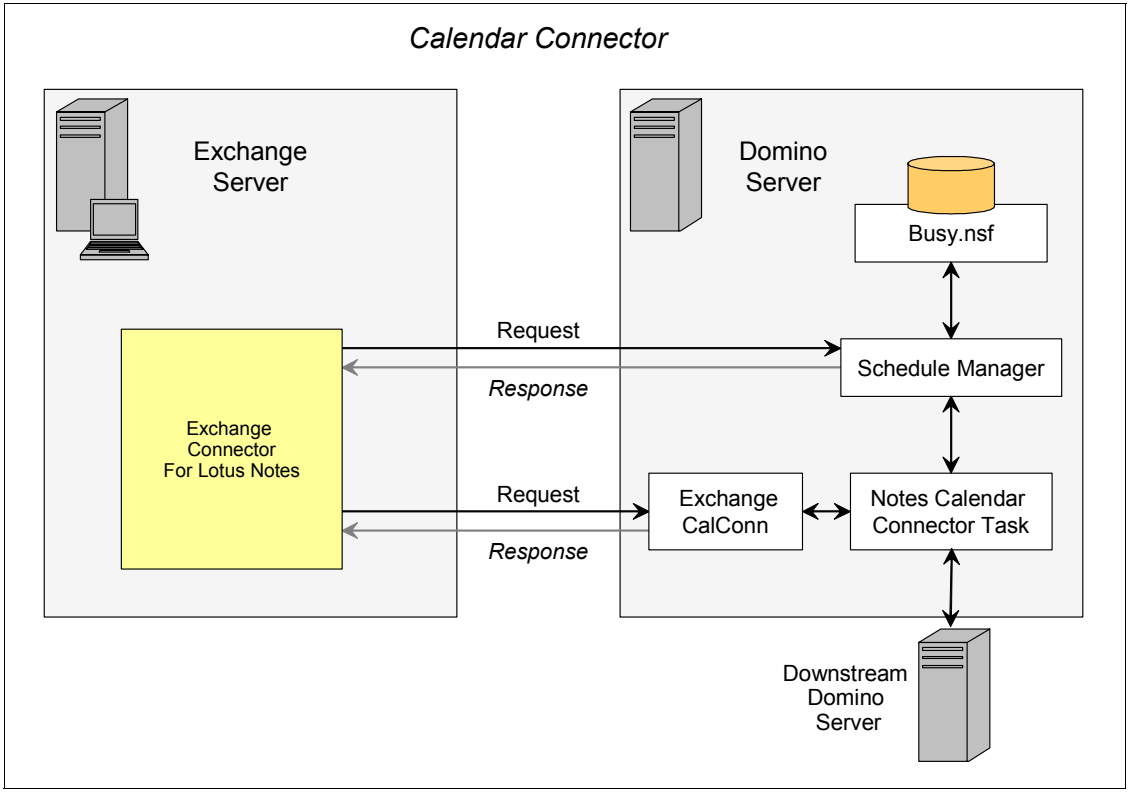

Figure 7-1 Conceptual overview of the Exchange Calendar Connector

7.1.1 Prerequisites

To run the Microsoft Calendar Connector, your environment must meet the following prerequisites:

- Windows 2000 Server SP1 or later (SP2 recommended)
- Exchange 2000 SP1 or later (SP2 recommended)
- Installed and configured Microsoft Connector for Lotus Notes

Note: Calendar Connector is also available for 2003. The steps below are written using 2000 connector. We point out the one configuration difference during the configuration of the general tab for 2003 connector, otherwise the install and configuration settings are the same.

7.2 Installing the Calendar Connector

To Successfully install the Calendar Connector, the following tasks need to be accomplished:

On the Exchange Server

- ☐ Install Calendar Connector
- ☐ Add a Local Replica for the Schedule & Free Busy public folder
- ☐ Configure Calendar Connector
- ☐ Start Calendar Connector

On the Domino Server

- ☐ Install the Calendar Connector Add-in for Lotus Domino
- ☐ Update the Foreign Domain Document for Exchange
- ☐ Start Calendar Connector Add-In

7.2.1 Install Calendar Connector

Calendar Connector is a separate tool provided on the Exchange 2000 SP1 or later CD. It is recommended that you install the version provided with SP2 or later.

You need to be logged onto the Exchange Server with administrator privileges to install the Connector.

Use the following steps to install the Calendar Connector:

1. Insert the Exchange 2000 SP1 or later CD into the CD-ROM drive of the server running Exchange 2000 SP1 or later.
2. Open a command prompt and type cd e:\calcon\i386 where e is the drive letter for the CD-ROM drive.
3. Type setup.exe, and then press ENTER.
4. At the Welcome dialog box, click Next Figure 7-2 on page 235.

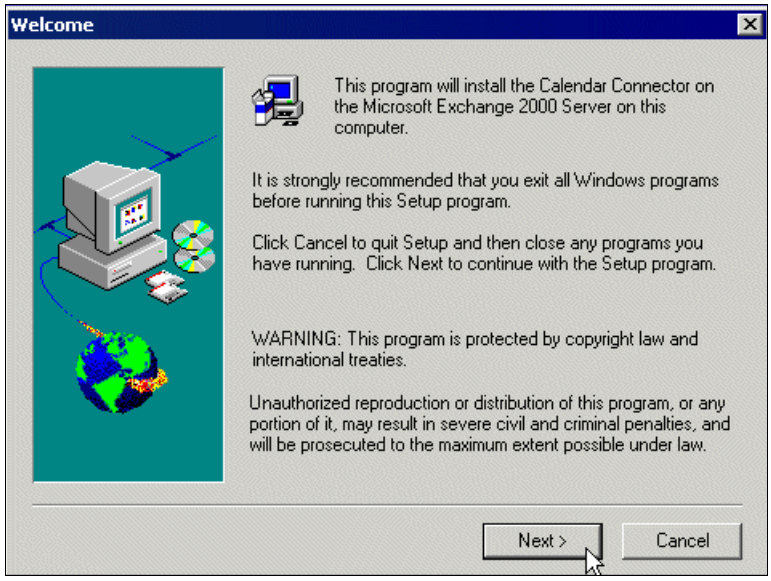

Figure 7-2 Welcome Wizard

5. On the Select Components dialog box, select Full installation including required Schema updates, and then click Next.

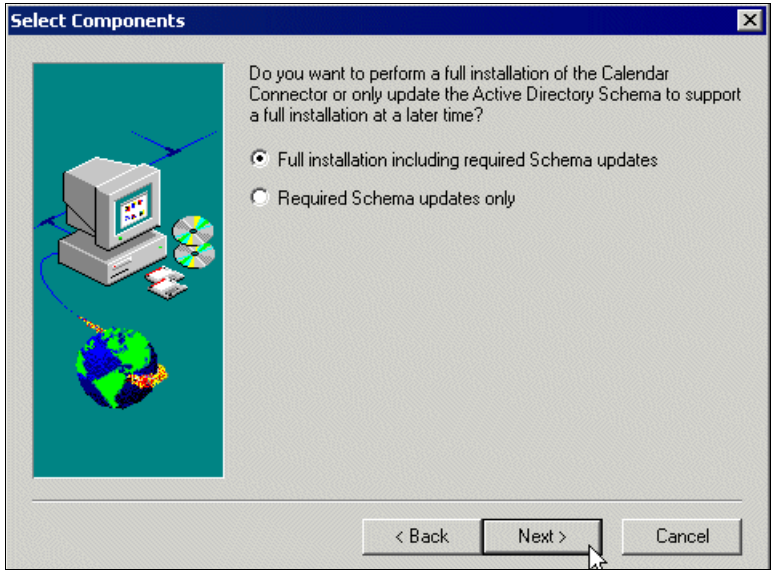

Figure 7-3 Select Components

6. After setup completes, click OK.

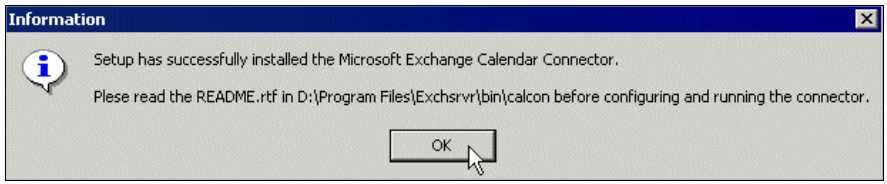

Figure 7-4 Install complete

Calendar Connector is now installed on the server running Exchange.

7.2.2 Add a Local replica for the Schedule+ Free Busy public folder

Scheduling information for users in an Exchange 2000 messaging environment is stored in a special public folder called SCHEDULE+ FREE BUSY. This folder is configured for each administrative group in the Exchange organization. A local replica of each administrative group organization needs to be on the Exchange Server running the Calendar Connector.

Use the following steps to add a local replica of Schedule+ Free Busy:

1. From the Exchange System Manager, navigate to SCHEDULE+ FREE BUSY Figure 7-5 on page 237,

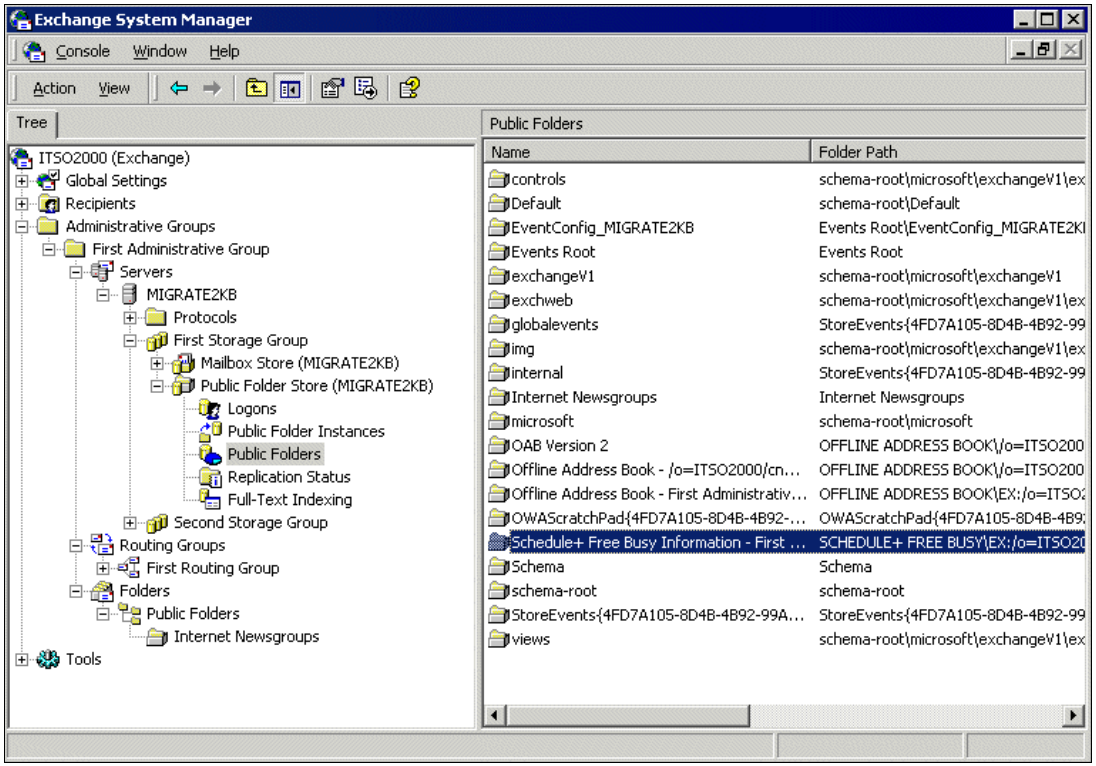

Figure 7-5 Schedule+ Free Busy

2. Right-click Schedule+ Free Busy, click Properties.
3. On the Replication tab, click Add.
4. On the Select a Public Store page, select the server running Exchange 2000 with Calendar Connector, and then click OK.
5. On the Public folder replication interval drop-down list, select Always Run.
6. Click OK Figure 7-6 on page 238

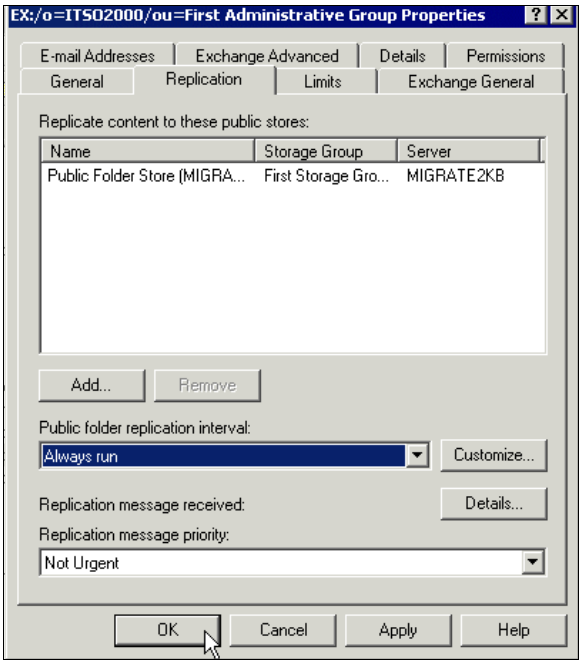

Figure 7-6 Replication Tab

Local replicas are now available on the server with the Calendar Connector.

7.2.3 Configure Calendar Connector

Now that you have installed the Calendar Connector, Use the following steps to configure the Calendar Connector:

1. In Exchange System Manager, right-click Calendar Connector, and then click Properties.

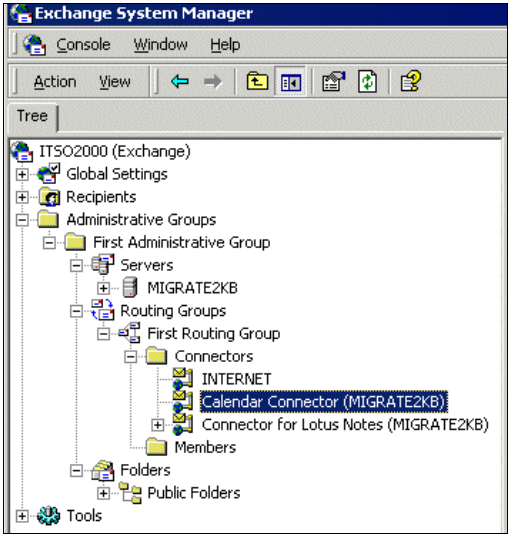

Figure 7-7 Exchange System Manager

2. On the General tab Figure 7-11 on page 241:

   a. Click Modify button.

Note: The next step differs from 2000 to 2003.

   b. **For 2000 Calendar Connector**: On the Select Exchange Notes or Groupwise Connector tab, select the Exchange Connector for Lotus Notes that is used to connect to the bridgehead server running Lotus Domino, and then click OK Figure 7-8.

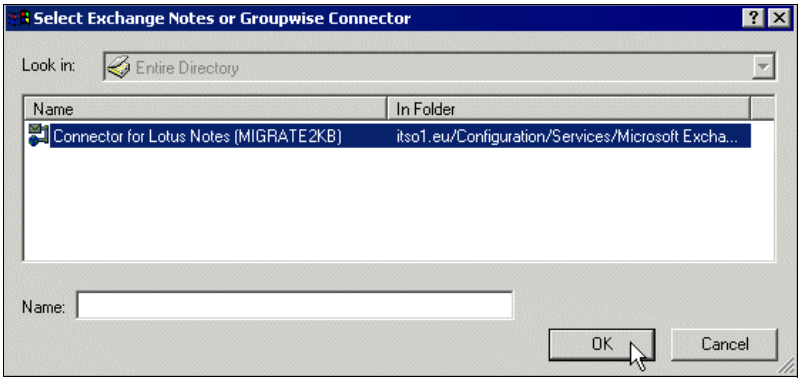

Figure 7-8 Select Connector for 2000

c. **For 2003 Calendar Connector**: On the Select Exchange Notes or Groupwise Connector, type connector, in the Enter the object name to select field and click Check Names Figure 7-9. Then Click OK.

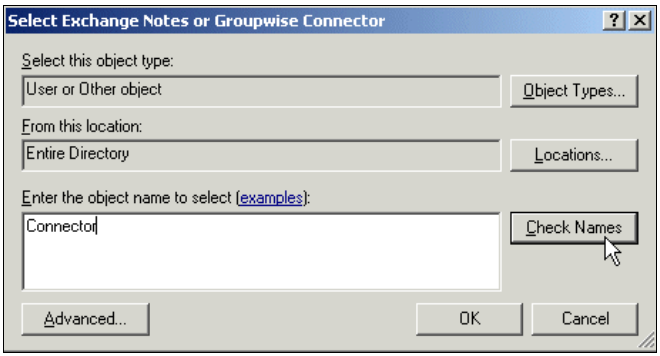

Figure 7-9 Select Connector 2003

Here is the result after clicking Check Names Figure 7-10 on page 240

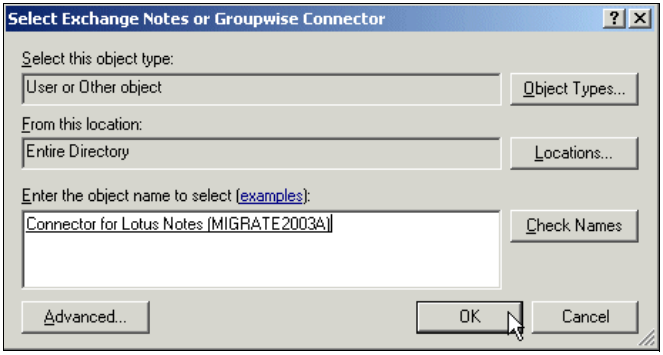

Figure 7-10 Select Connector

Note: The remaining steps are the same for both 2000 and 2003.

d. In the Number of days of free/busy information to request from foreign calendars field, enter the number of days that users are able to see free and busy information for users on the Domino server.

Note: Users Calendar will appear to be free if the Free and Busy information is beyond the number of days specified.

e. In the Maximum age in minutes of foreign free/busy data in Exchange that can be used without querying the foreign calendar field, enter the number of minutes between each query to the Domino Server. Suggest default of 5 minutes.

Note: The longer the time interval the least likely chance of up to date information.

f. In the Maximum number of seconds to wait for response from foreign calendars field, enter the number of seconds that Calendar Connector will wait for a response for an individual user's free and busy information. Suggest default of 15 seconds.

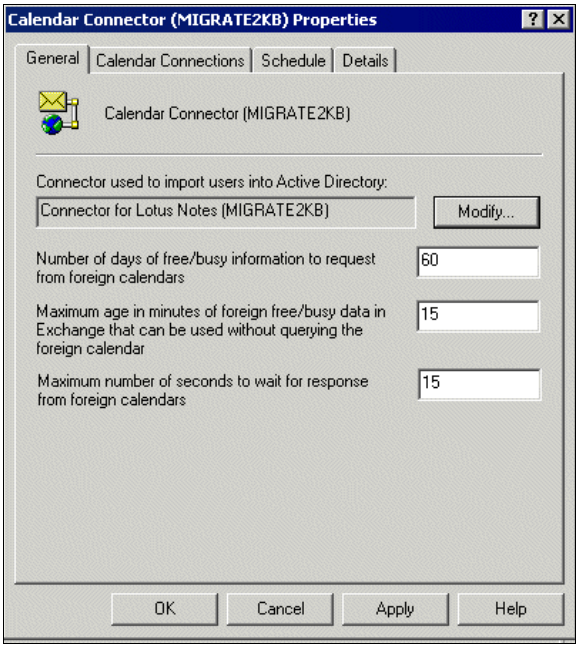

Figure 7-11 General tab

3. On the Calendar Connections tab:
   a. Click New.
   b. On the Calendar Type tab, select Lotus Notes, and then click OK Figure 7-12.

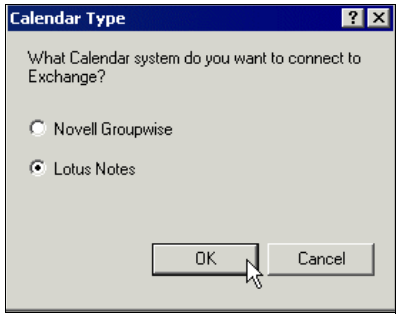

Figure 7-12 Calendar Type Lotus Notes

c. On the Notes Calendar Connection tab, in the NT Server Hosting the Notes Server field, type the network name of the computer that the Domino Server is running on or IP address.

Note: We used IP address.

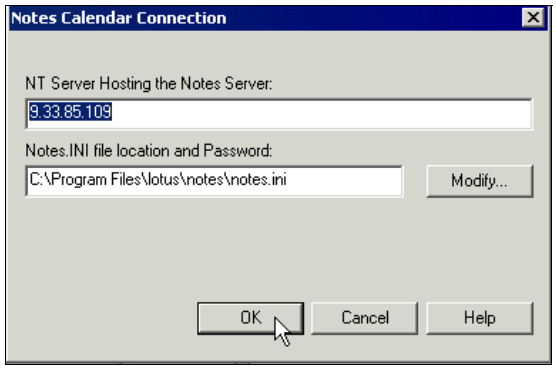

Figure 7-13 NT Server Hosting the Notes Server field

d. Click Modify.

e. On the Notes INI File and Password tab, type the path of the notes.ini file or click Browse to browse to the file Figure 7-14.

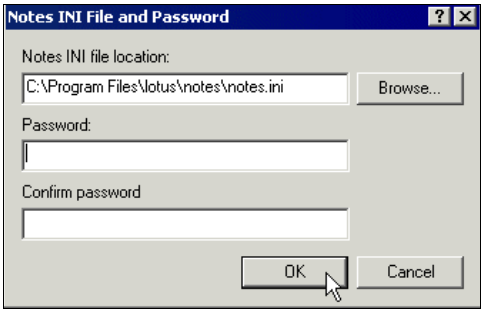

Figure 7-14 Notes INI path

Note: Password field may be left blank. We did not assign as password on the ID.

f. Click OK.

4. On the Schedule tab Figure 7-15
   a. Select Always.
   b. Click OK.

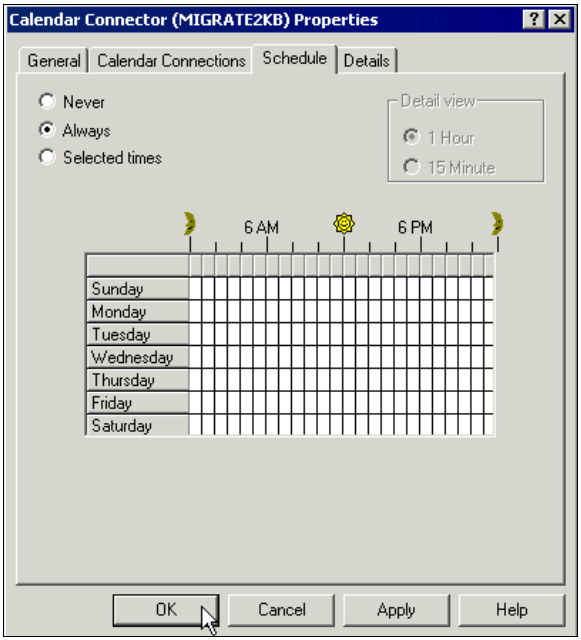

Figure 7-15 Schedule tab

7.2.4 Start Calendar Connector

Use the following steps to start the Calendar Connector:

1. Launch Administrative Tools, and then click Services.
2. Right-click Microsoft Exchange Calendar Connector, and then click Start.

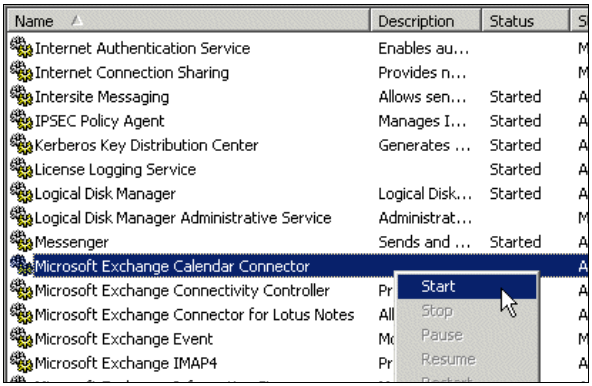

Figure 7-16 Start Calendar Connector

After yo have verified the operation of the Connector, you may wish to have them stared automatically. Use the following steps for automatic start of the calendar connector:

1. Launch Administrative Tools, and then click Services.
2. Right-click Microsoft Exchange Calendar Connector, and then click properties
3. On the General tab, select automatic in the startup type drop-down list.

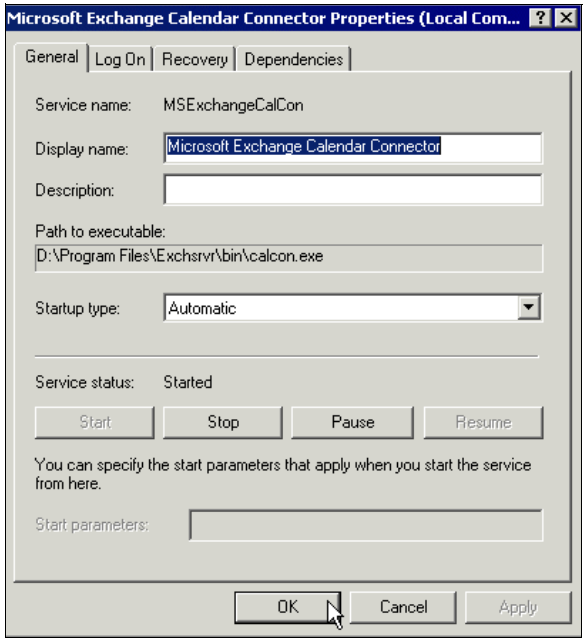

Figure 7-17 Automatic Start

7.2.5 Install Calendar Connector Add-In for Lotus Domino

The Calendar Connector provides an EXCALCON add-in task for the Domino Server, which allows Notes users to check Exchange free/busy time.

Note: The Lotus Calendar Connector add-in must run on a Windows operating system. If you are using Lotus Domino on an UNIX server, you must use a different, Intel-based server running Lotus Domino with Windows 2000 in order to connect to Exchange.

Use the following steps to install Calendar Connector Add-in (EXCALCON.EXE):

1. Locate the EXCALCON.EXE file. It should be in a subdirectory on the Exchange Server. Generally the path is: exchsrvr\BIN\calcon\excalcon.exe
Figure 7-18 on page 246

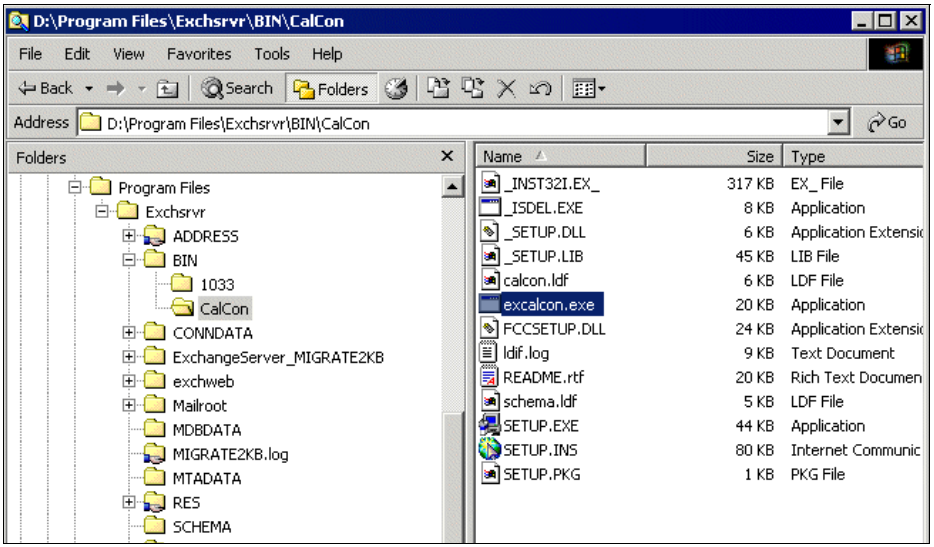

Figure 7-18 Excalcon.exe

2. Either copy the file to a disk or, more conveniently, set up a mapped disk to the Microsoft server and place the Exccalcon.exe in the Domino executable directory of the Domino Server.

7.2.6 Update Foreign Domain Document

You must update the Foreign Domain Document with the name of the Domino Server running the Calendar Connector add-in and specify the name of the gateway file as the Calendar system.

Use the following steps to update Foreign Domain Document:

1. Launch the Domino Administrator Client from your workstation and log on as a user who has Lotus Domino Administrator permissions.
2. On the menu bar, click View → Server → Domains.
3. Open your Exchange domain document in edit mode.
4. On the Calendar Information tab:
   a. In the Calendar server name field, type the name of the Lotus Domino server on which you installed the Calendar Connector add-in. You must type the full name, including the certifier information. For example:

      migrate2ka/itso/FR

   b. In the Calendar system text box, type exchange.box.

5. Click Save and Close.

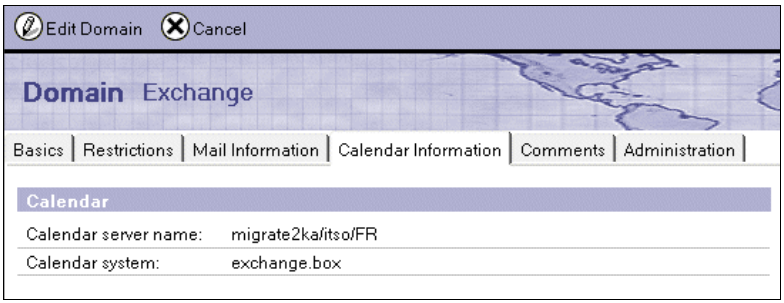

Figure 7-19 Calendar Information on Foreign Domain Document

7.2.7 Start Connector Add-In (EXCALCON)

Use the following steps to start the EXCALCON task

1. From the Domino Server Console, type

   load excalcon <server name> <system name>

   Where <server name> is the name of the Exchange Server and <system name> is the Connector's mailbox name (Exchagne.box).

   For example:

   load excalcon migrate2kb exchange.box

2. Press ENTER.

To verify that the Calendar Connector add-in loaded correctly, type show tasks at the console, and then ensure that there is an entry for Exchange Cal Conn. Using the previous example, it should look something like this:

Exchange Cal Conn Not Connected to migrate2kb for exchange.box. Stats=0 0/0 0

Note: The Stats information can be understood according to the following syntax: Stats=<a> <b/c> <d>, where:

• <a> = the total number of calendar requests made from Lotus Domino to Exchange.

• <b/c> = the average number of invitees over the average response time, in seconds, per Exchange calendar request made from Lotus Domino.

• <d> = the maximum response time, in seconds, for all calendar requests.

By default, the Calendar Connector add-in must be started manually each time the server running Lotus Domino restarts. You can automate startup of the Calendar Connector add-in by updating the notes.ini file on the server running Lotus Domino.

Use the following steps to automatically startup the Calendar Connector:

1. Open the notes.ini file in a text editor, such as Notepad.
2. Edit the ServerTasks= line of the ini. At the end of the ServerTasks= line Type:

   excalcon <server name> <mail-file name>

   For example prior to change the line may look like this:
   ServerTasks=Router,Replica,Update,Amgr,AdminP,CalConn,Event,Sched,Stats,HTTP,DIIOP,IMAP,POP3,NNTP,maps

   After you add the parameter for starting the Calendar Connector add-in, the line may look like this:

   ServerTasks=Router,Replica,Update,Amgr,AdminP,CalConn,Event,Sched,Stats,HTTP,DIIOP,IMAP,POP3,NNTP,maps,excalcon migrate2kb exchange.box

3. Save and Close.

7.2.8 Lookup Results

This section displays screen shots of free busy lookups from both Notes and Outlook clients.

Figure 7-20 on page 249 shows a meeting request by Phil Azer from his Notes client. A lookup is performed on invitee Rob Ryan who is an Exchange user.

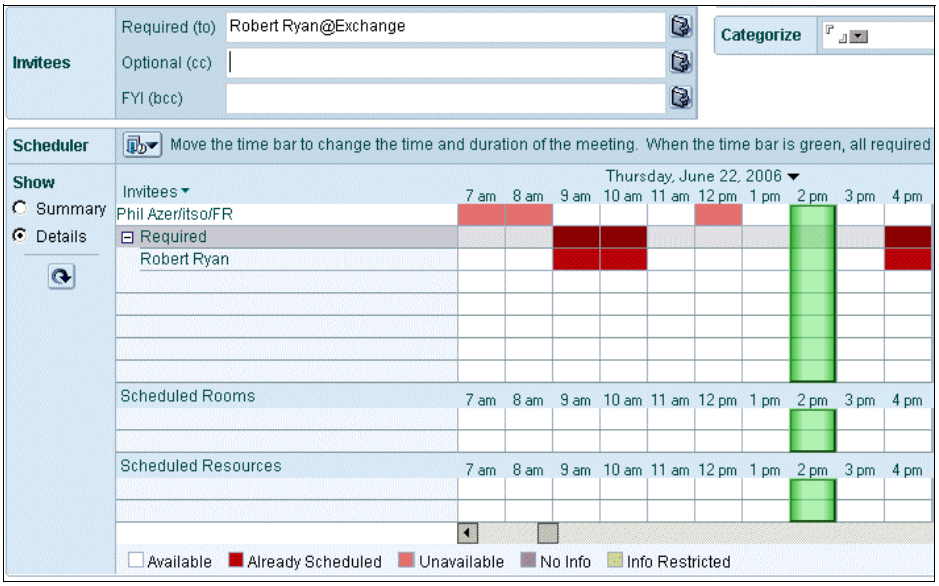

Figure 7-20 Free Busy lookup from Notes

Figure 7-21 on page 250 shows a meeting request by Rob Ryan from his Outlook client. A lookup is performed on invitee Phil Azer who is a Domino User.

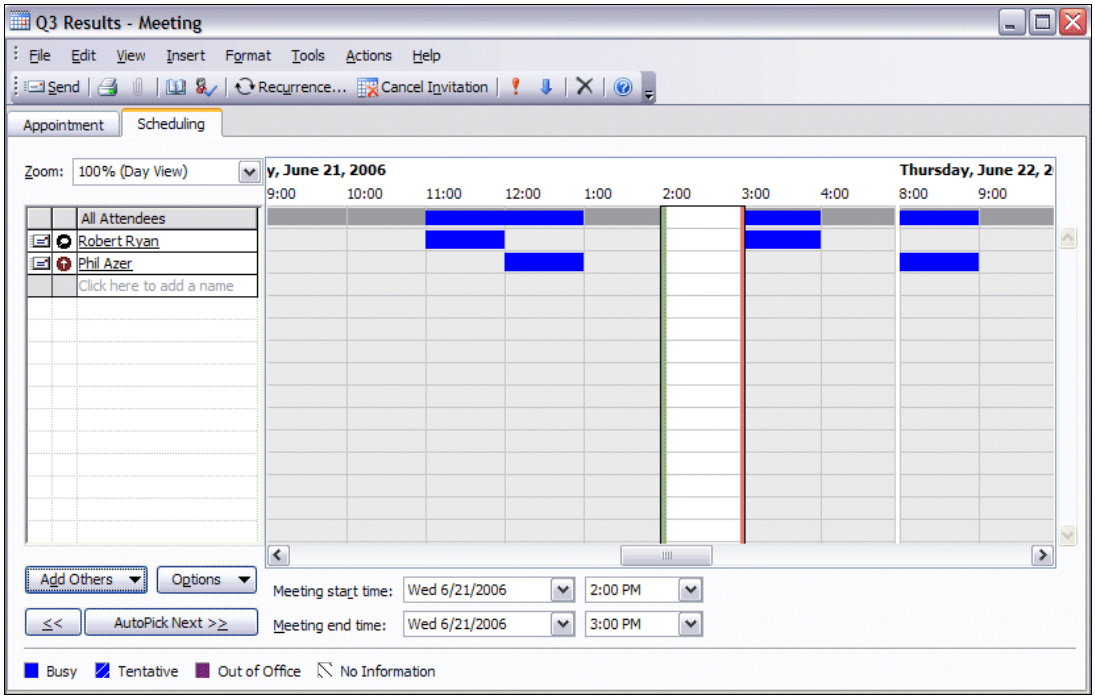

Figure 7-21 Free Busy from Outlook

8

Using the CMT for Exchange and Domino Coexistence

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter discusses a new addition to the products available for co-existence between Domino and Exchange. The product discussed in this chapter is the CMT (Common Migration Tool) for Exchange and Domino Coexistence from Binary Tree, Inc (http://www.binarytree.com).

The CMT for Exchange and Domino Coexistence (CMT for Coexistence) provides an improved solution for coexistence by combining strengths from the existing Microsoft Exchange Notes Connector functionality, and utilizing advantages of SMTP routing to greatly improve message fidelity and connection reliability.

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Note: At the time of this writing, the BinaryTree CMT for Coexistence was still in beta testing, specifically testing functionality for support of the Lotus Domino 7 Server.

Although this tool was still only in the beta phase, we found that it had advantages and certainly warrants mention and review in this Redbook.

Please note: the product has been deployed in production at 10+ customers of various sizes. As for lack of Lotus Domino 7 Server support, this only applies to the Coexistence Hub Server. All downstream Domino Servers supporting users and applications may indeed be at release 7.

8.1 Overview of the product

By combining the Microsoft Exchange Notes Connector with BinaryTree custom software and configuration, the CMT for Coexistence yields a highly functional, stable and reliable connection between Microsoft Exchange and Lotus Domino. It resembles in many points the coexistence solution using SMTP as described in Chapter 9, “Using SMTP routing for coexistence” on page 267, but also uses the feature of directory synchronization and free/busy time lookups which is provided by the Exchange Connector. Additionally, the CMT for Coexistence provides better message fidelity, especially with transformation in html than the Exchange Notes Connector does. Once you understand the overview of the product in this chapter, you can review the results of our coexistence testing in Chapter 10, “Co-existence test results - what to expect” on page 309.

Up to this point, the most popular and functional connectivity solution between Microsoft Exchange and Lotus Domino environments has been the Notes Connector for Microsoft Exchange. (See Chapter 5, “Using the Microsoft Exchange Connector for coexistence (Exchange 2000)” on page 107, or Chapter 6, “Using the Microsoft Exchange Connector for coexistence (Exchange 2003)” on page 169).

The Notes Connector addresses e-mail, calendar and scheduling and task data exchange, automated directory synchronization and free/busy lookup between Microsoft Exchange and Lotus Domino environments. The Notes Connector, however, has several shortcomings in the areas of fidelity of certain data translation as well as operational stability under heavy loads. To overcome these Notes Connector issues, Binary Tree's coexistence solution takes advantage of certain Notes Connector functionality, while utilizing other technology to greatly enhance fidelity of mail exchange and dramatically improve connection reliability by the introducing a number of configuration and programmatic changes into the environment.

The basic concept behind CMT for Coexistence is to force transmission of all mail and calendar data over an SMTP connection between the two Microsoft Exchange and Lotus Domino, which supports high fidelity MIME encoding of rich text and html data and iCAL encapsulation of calendar events, while utilizing the Notes Connector only for Directory Synchronization and free-busy lookup between the two environments.

8.1.1 Potential benefits

Such approach accomplishes the following goals:

- Enable high fidelity of mail and calendar data exchange between Microsoft Exchange and Lotus Domino environments by utilizing SMTP protocol with MIME and iCAL support for data transmission.
- Enable automated directory synchronization between Microsoft Exchange and Lotus Domino environments by utilizing Notes Connector's Directory Synchronization functionality.
- Enable free/busy schedule lookup between Microsoft Exchange and Lotus Domino users by utilizing Notes Connector's Calendar Connector.
- Increase reliability of the connection by substantially reducing the load placed on the Notes Connector and shifting it to the SMTP connection.

8.2 Technical overview of the product

CMT for Coexistence consists of two modules installed on a Domino Server and a series of Visual Basic® scripts set up on the Active Directory Server.

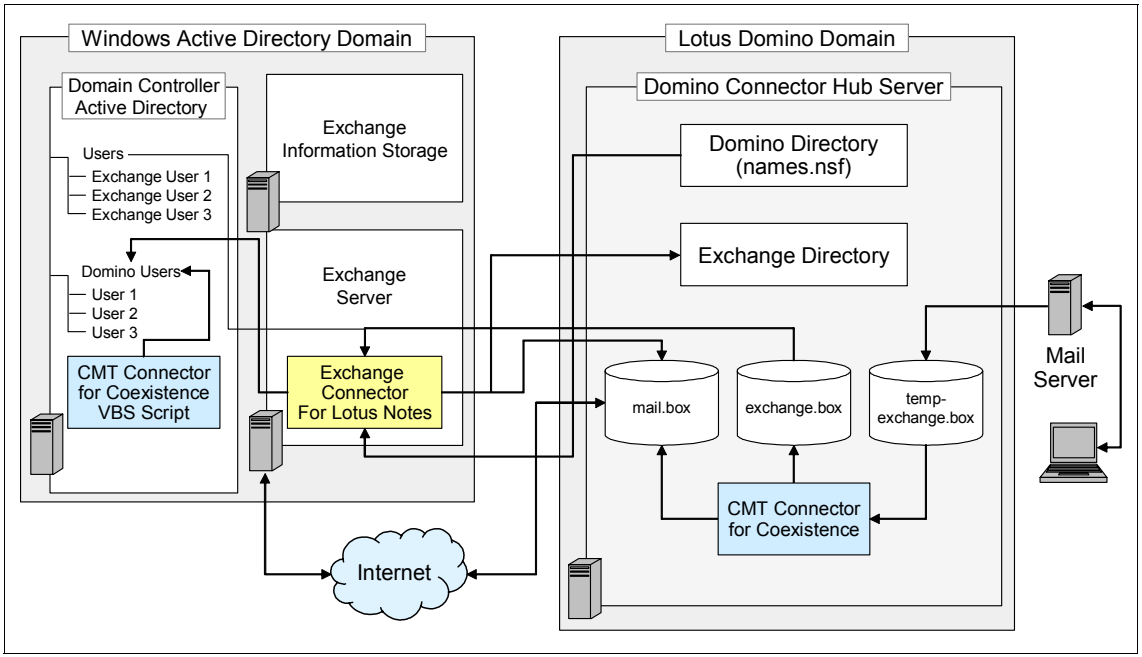

Figure 8-1 Overview over the BinaryTree CMT for Lotus Notes/Exchange Coexistence

Since Binary Tree's coexistence solution relies on iCAL support of SMTP protocol, it requires that all Domino Mail Servers be at release level 6.x and that the Microsoft Exchange Server, on which the Notes Connector as well as the SMTP Connector are implemented be release level 200x. These requirements are due to the fact that iCAL support is only available in Domino releases 6 and above and Exchange release 2000 and above. Since BinaryTree does not support Domino Server version 7.x yet, (as do Microsoft does not support the Exchange connector working with the Domino 7 as well) it is necessary to create a new Domino Server release 6.x (Notes Connector Hub). A standard Notes Connector for Microsoft Exchange with Calendar Connector and an SMTP Connector are implemented on a Microsoft Exchange Server release 200x. The main purposes of the Notes Connector are:

- To provide automated directory synchronization between Microsoft Exchange and Lotus Domino directories.

- To provide free/busy lookup between Microsoft Exchange and Lotus Domino environments.
- To (optionally) perform certain data exchange, such as e-mails originating in Lotus Domino with Database/View/Document Links as well as regular mail and calendar data exchange between selected Lotus Domino domains and Microsoft Exchange.

As cross-population of Exchange and Domino e-mail directories is performed by the Directory Synchronization portion of the Notes Connector, Notes and Exchange users appear in opposite directories with the following addressing information:

- Microsoft Exchange users in Lotus Domino Directory are created as users at a Foreign Domain, for example Exchange. Ordinarily a Foreign Domain used by the Notes Connector would direct all Mail and Calendar data to a Notes database on Notes Hub Server matching the Notes Connector configuration (f.e. exchange.box); however, Binary Tree's coexistence solution requires that the Foreign Domain is configured to send Mail and Calendar data to a different database on Notes Hub Server (f.e. tempexchange.box).
- Lotus Domino users in Microsoft Exchange directory are created with the Name Space of Lotus Domino, indicating that any data sent to the users, including Free-Busy scheduling inquiries should be routed via the Notes Connector for Microsoft Exchange. However, after the Microsoft Exchange Public Folder responsible for routing Free-Busy scheduling inquiries is updated with the latest Lotus Domino information, the users are updated with the Name Space of SMTP and a specific SMTP address pointing directly to the Notes Hub Server, so the mail transfer is being pushed to SMTP.

A Server Task (BTCAL) is installed on the Notes Hub Server to continuously poll the tempexchange.box database and transfer mail to Domino Router mailbox (mail.box), so that data destined for Exchange is sent with appropriate modifications via SMTP. Optionally, depending on the need, BTCAL can move data to the Notes Connector database (exchange.box), so that data destined for Exchange is sent via the Notes Connector.

Additionally, a Domino Extension Manager program (BTEX) watches the Domino Router mailbox (mail.box) for inbound messages containing iCAL attachments. These messages are placed in a "DEAD" routing state and a message is passed over to the Domino Server Task program. The Domino Server Task program reads the iCAL attachment and creates a $ICAL_UID field with the value of the iCAL UID value. The message is then released for delivery.

A Visual Basic script is deployed on the Active Directory server to modify addresses of Lotus Domino users newly synchronized by the Directory

Synchronization component of the Notes Connector. The script switch the primary e-mail address of the Notes users from Notes to SMTP namespace.

8.3 Advantages of the product

Advantages of using CMT for Coexistence include:

- Higher stability - failover and redundancy
- No dependency on a single threaded Exchange Connector for mail delivery
- Ability to create redundant alternative messaging paths via SMTP routing
- Better performance - throughput volume, attachment size, than the Exchange Connector, for CMT for Coexistence Connector is multi-threaded.
- Remove limits for temporary storage of attachments on connector servers
- Native use of SMTP - easier to complete migration or maintain coexistence scenario, better fidelity
- Message content fidelity - HTML - natively supported

8.4 Setup and Configuration

The detailed installation instruction is ultimately provided with the distribution of the product and will not be covered in exact detail here. Our intent here is to instead provide a general overview of what components are involved in setting up the tool.

Attention: As a prerequisite for installing this tool, you first need to set up the Exchange Connector as shown in either Chapter 5, “Using the Microsoft Exchange Connector for coexistence (Exchange 2000)” on page 107, or Chapter 6, “Using the Microsoft Exchange Connector for coexistence (Exchange 2003)” on page 169, depending upon your specific environment.

Once the Exchange Connector has been installed, the following steps are necessary on the Domino side:

1. Copy the binary files into the Domino program directory
   - add to the notes.ini the following configuration entries
     ServerTasks= btcal "Add BTcal task to serverTasks line".
     EXTMGR_ADDINS=btex
     BTExchangeDomain=Exchange
     BTExchangeServer=exchange1.supervalue.com

BTExchangeDB=tempexchange.box
BTExchangeRouter=exchange.box
btdelay=30
BTORPHANDELAY=120
BTProcessDomain=itso.fr,notes.itso.fr

2. Add an domain alias to the global domain Document (i.e. notes.itso.fr)
3. Create a mail box named tempexchange.box
4. Create a foreign domain named Exchange which will put the mail in the tempexchange.box (in the gateway mailfile name field)
5. Create a foreign SMTP domain document
6. Create a new SMTP connection pointing to Exchange server
7. The exchange side must be configured to send messages to Notes over SMTP:
   a. modify the default recipient policy to include the domain alias (i.e. exchange.itso.fr)
   b. create a second recipient policy
   c. update exchange mapping tables
   d. update the smtp namespace for notes connector
8. update the VBscript with the name of your AD LDAP
9. create a scheduled task to run the VB script after DirSync is scheduled to update the newly synchronized notes addresses to use of smtp namespace.

8.5 Using the product- step by step

The following screenshots illustrate how to use the product, and the changes it makes to the environment once it has been installed.

Once installed, the product modifies the recipient policies. Figure 8-2 on page 259, as well as Figure 8-3 on page 260 illustrate the modified default recipient policy in Exchange 2003.

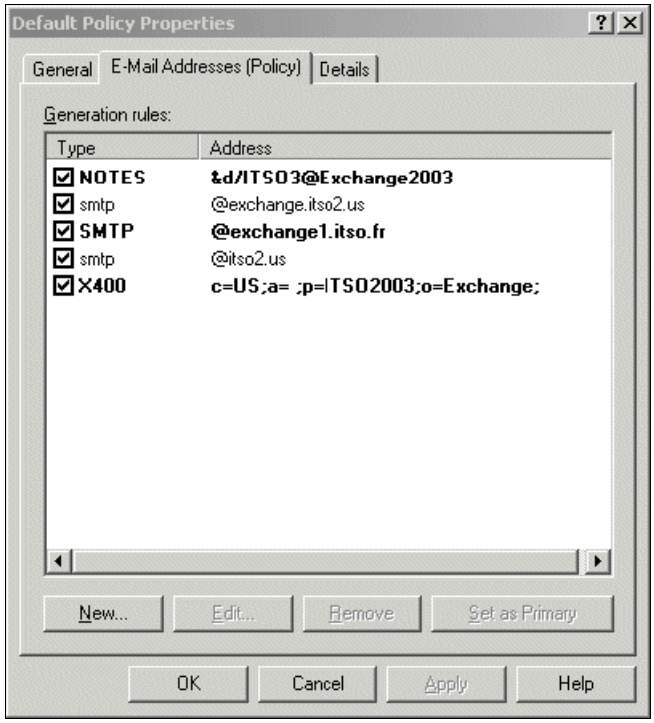

Figure 8-2 Modified default recipient policy in Exchange 2003

Figure 8-3 again illustrates a second modified recipient policy in Exchange 2003

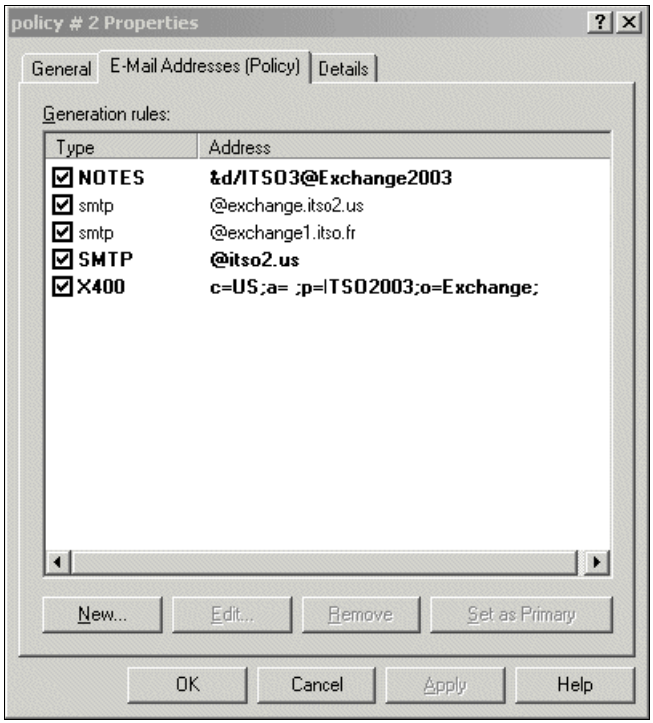

Figure 8-3 The second recipient policy

Notice how in Figure 8-4 , the connectors view in Exchange and in particular, how the SMTP connection to Domino has been established.

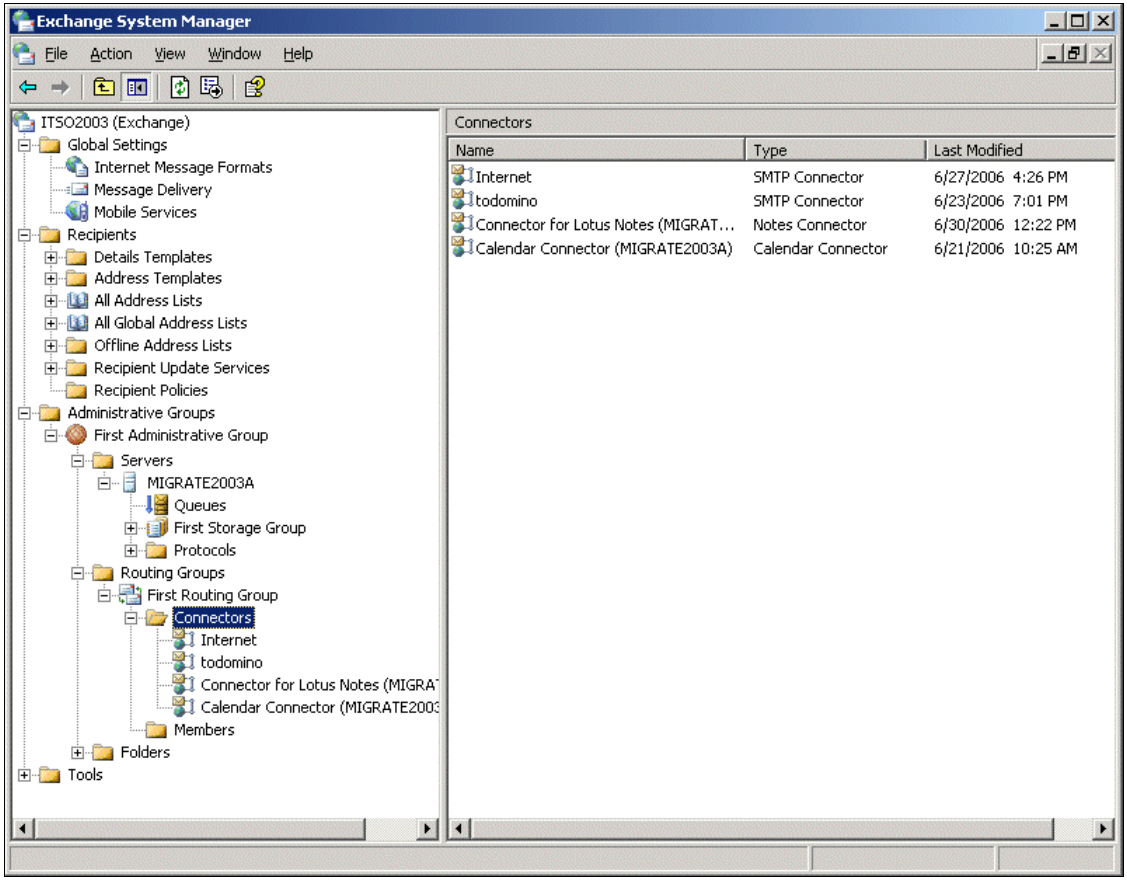

Figure 8-4 The connectors view in Exchange - notice the SMTP connection to Domino

After the VB script has been run during installation, and all modifications have taken place, a notes recipient looks like this: (Figure 8-5 on page 262).

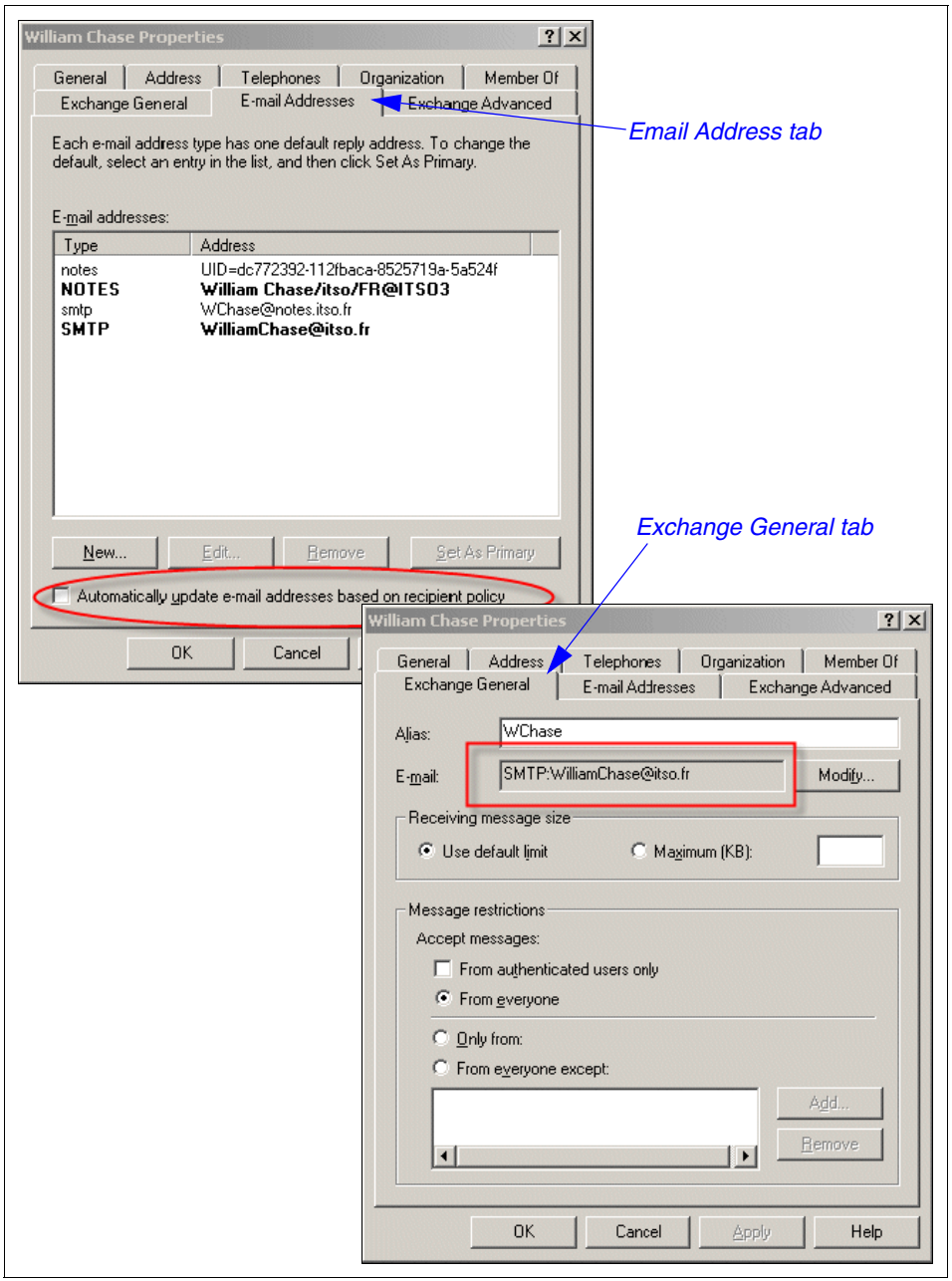

Figure 8-5 Notes recipient in Exchange - showing both the email and general tabs

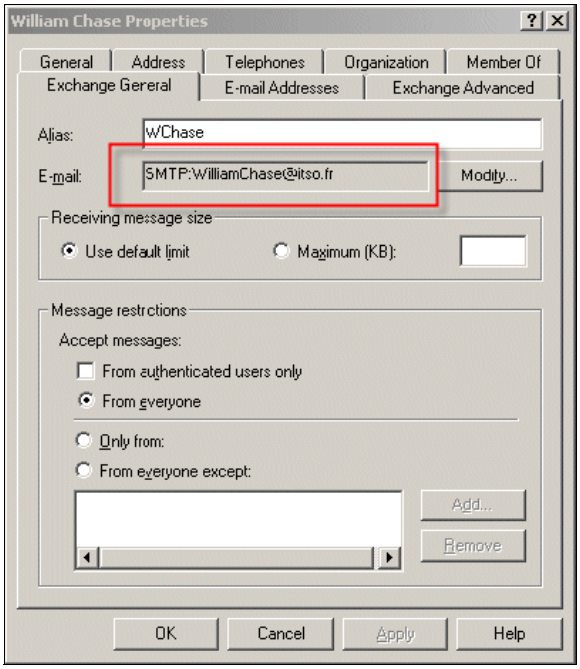

Figure 8-6

Notes users in exchange addressbook are configured to use an SMTP namespace.

The correct execution of the VB script can be controlled in the event monitor. Look for events with the source WSH (Windows scripting host), such as that shown in Figure 8-7 on page 264.

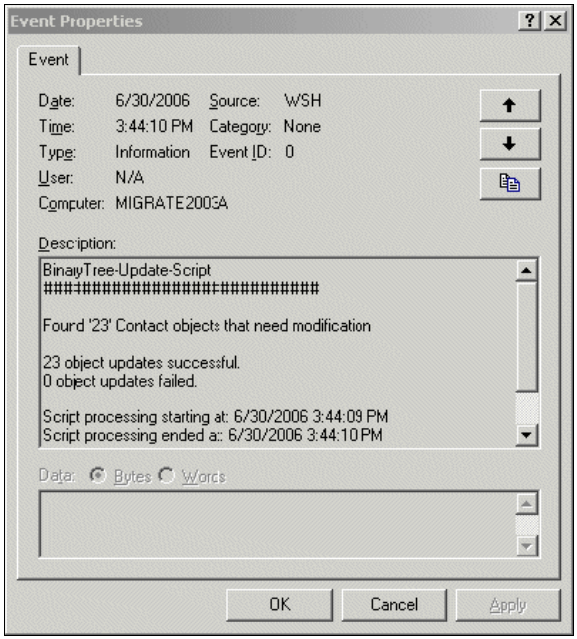

Figure 8-7 The update script successfully run

Finally, verification of the correct function on the Domino side can be monitored in the log.nsf. Below are examples of how message processing should appear in the logfile.

Example 8-1 Processing of an invitation from Outlook sent to notes (from log.nsf)

```
06/29/2006 11:13:52 PM  BTCal: Done checking for temporary messages.
06/29/2006 11:14:20 PM  BTCal: Done checking for temporary messages.
06/29/2006 11:14:48 PM  BTCal: Done checking for temporary messages.
06/29/2006 11:14:49 PM  BTExchange: Message 0011D611 from "Feodor
Engels" <fengels@itso2.us> with subject: "Invitation to the Breakfast
meeting" has been stopped for processing.
06/29/2006 11:14:53 PM  BTCal: sending message to processor
06/29/2006 11:14:54 PM  iCalendar: Logging conversion of request from
non-Notes source. Product ID: Microsoft CDO for Microsoft Exchange
06/29/2006 11:14:58 PM  BTCal Processor 1: processing complete.
06/29/2006 11:15:21 PM  BTCal: Done checking for temporary messages.
```

Example of BTCal process an email containing an icalendar attachment originated from Exchange.

Note: The upcoming release of Lotus Notes/Domino 7.0.2 provides many improvements in iCalendar proccessing. Since this release was not yet available at the time of this writing, it would need further testing to determine the exact extent to which using BTCal provides improvements for calendar processing, or if alternatively, native Domino processing of iCal now provides the same advantages.

Example 8-2 Processing of an email from Notes destinated to Exchange (from log.nsfl

```
06/29/2006 11:15:44 PM  Router: Transferred 1 messages to
MIGRATE2003B/ITSO/FR via Notes
06/29/2006 11:15:49 PM  BTCal: Done checking for orphaned messages.
06/29/2006 11:15:50 PM  BTCal: Transferred message 0011EB8E to the mail
router database.
06/29/2006 11:15:50 PM  BTCal: Done checking for temporary messages.
06/29/2006 11:15:50 PM  Begin CD to MIME Conversion(Process: Router
(00000F00:00000007), Database: C:\Program
Files\Lotus\Domino\data\mail2.box, Note: 000009EE)
06/29/2006 11:15:50 PM  End CD to MIME Conversion(Process: Router
(00000F00:00000007), Database: C:\Program
Files\Lotus\Domino\data\mail2.box, Note: 000009EE)
06/29/2006 11:15:50 PM  Router: Transferred 1 messages to [9.33.85.123]
(host 9.33.85.123) via SMTP
06/29/2006 11:16:18 PM  BTCal: Message 0011EB8E has been removed from
the router database.
06/29/2006 11:16:18 PM  BTCal: Done checking for temporary messages.
```

As shown in Example 8-2, BTCal server task stops the message that is intended for exchange in the tempexchange.box . It then puts it in the server mail.box for being sent to exchange using SMTP transfer.

9

Using SMTP routing for coexistence

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

Migrations between messaging systems are often seen as a painful exercise. The act of migration itself is not the cause of this, but more importantly, the results have a direct relationship with proper strategy and selection of the proper coexistence tool and strategy. With the correct planning configuration and testing this can be overcome

Traditionally the Exchange connectors have proven problematic with the following limitations:

- they don’t scale well under load,
- have limitations on support,

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- have prerequisite requirements and finally,
- create a single point of failure within the messaging infrastructure.

Ultimately, for a long term solution, these Exchange connectors are not recommended for long term coexistence.

Simple Mail Transfer Protocol (SMTP) on the other hand is supported by both Microsoft and IBM on all supported release levels, and with the advent of ical support, can be used to provide mail and meeting notice coexistence. Additionally, by configuring individual or multiple servers to route via SMTP, the single point of failure can be removed, thus improving the stability, reliability and scalability of the infrastructure.

For directory lookups you have several choices. You can configure the clients for LDAP lookups (refer to Chapter 16, “Directory Coexistence Using LDAP” on page 503) or, you can utilize the Exchange connectors Directory Synchronization (DIRSYNC) with some simple modifications to the mapping tables and recipient policies.If you are using Dirsync, then additional internal smtp addresses will be used.

Note: For more information regarding addressing and directory lookups in a co-existence environment, please refer to Chapter 16, “Directory Coexistence Using LDAP” on page 503, and Chapter 17, “Active Directory Integration” on page 527

This chapter covers the following topics:

- Overview of SMTP in both the Microsoft Exchange and Lotus Domino 7 environments
- Requirements for the Exchange SMTP Connector
- Configuring and customizing the Exchange SMTP Connector
- Configuring Lotus Domino 7 for SMTP message transmission
- Using SMTP in the Microsoft Exchange and Lotus Domino environments
- Configuring Exchange connectors fro SMTP Directory Synchronization

9.1 SMTP Scenario

The following diagram shows a typical SMTP configuration, We used this configurations as a starting point for our solution in our test lab to demonstrate a working smtp coexistence. For the benefit of simplicity relays, virus checkers, anti-spam servers and edge services have not been included.

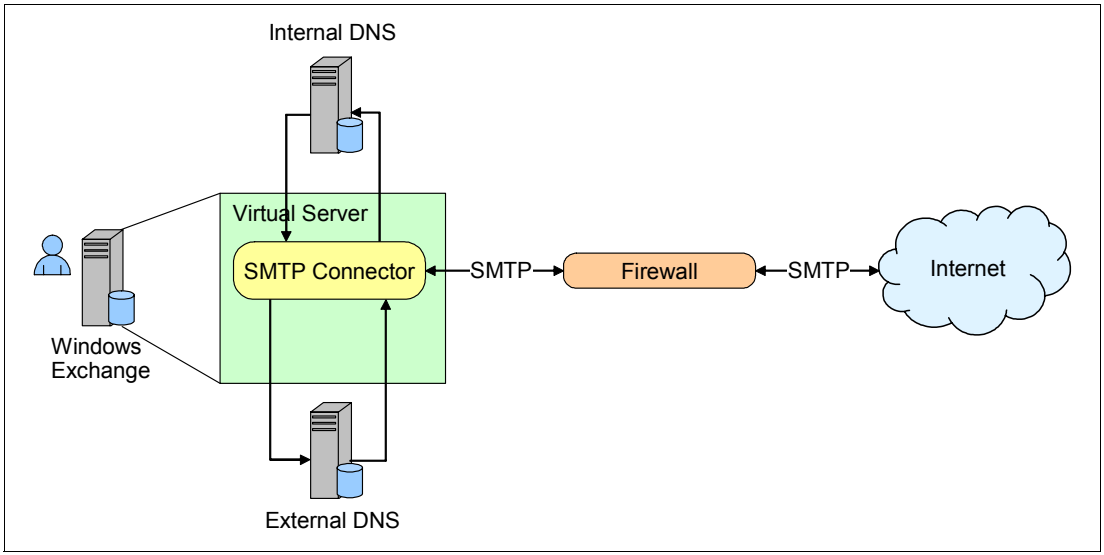

Figure 9-1 Typical SMTP configuration

When SMTP is configured in Exchange, The SMTP schema is expanded and management of SMTP moved from IIS to the Exchange system manager. (If you have not yet installed SMTP ensure that Pop mail is removed from the windows IIS installed components.) The components of the Windows and Exchange SMTP will be discussed later. In this configuration All SMTP/Internet mail is routed via the exchange smtp virtual server and connector utilizing internal DNS and External DNS to resolve destination addresses then directly routed to the Internet.

9.2 SMTP coexistence scenario

The scenario for our examples has two SMTP domains, as illustrated in Appendix 9-2, “SMTP coexistence configuration with Domino and Exchange” on page 270 We will in this chapter discuss the components and configuration requirements to create the scenario.

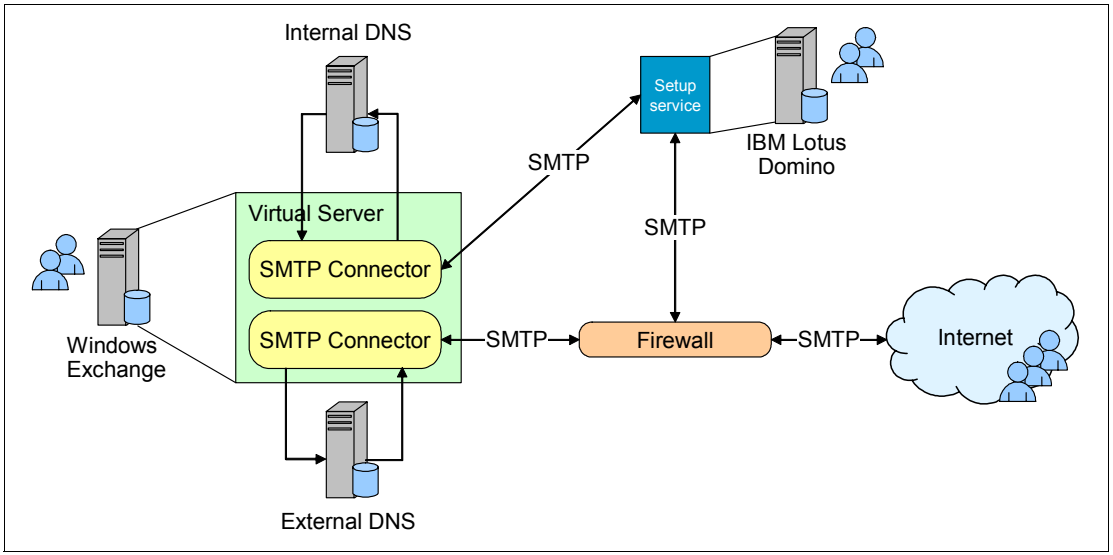

Figure 9-2 SMTP coexistence configuration with Domino and Exchange

9.3 Overview of the SMTP environment

In our discussion of the SMTP environment, we describe message transmission between Microsoft Exchange 2000/2003 and Lotus Domino 7.

In a later chapter we will discuss the options available for directory coexistence in an SMTP environment

Note: For more information regarding addressing and directory lookups in a co-existence environment, please refer to Chapter 16, “Directory Coexistence Using LDAP” on page 503, and Chapter 17, “Active Directory Integration” on page 527

During co-existence all inbound SMTP messages from the internet will be delivered directly to Exchange, (via inbound relays if used), Utilizing the SMTP connector, messages for users in the assigned domino local SMTP domains will

be redirected to Domino. Messages from Domino for all users not in the domino directory will be sent to the exchange server for delivery to the internet or

9.3.1 Microsoft Exchange SMTP overview

Since the release of Exchange 2000 SMTP as a transport layer has been built into the windows operating system. For Exchange mail delivery this has meant that the Internet Mail Service (IMS Exchange 5,5) is now provided by the SMTP service component of IIS (Internet Information Service). After the installation of Exchange all management of SMTP is undertaken in Virtual server component of the Microsoft Exchange System Manager. SMTP provides all message transfer and translation between All windows servers, Microsoft Exchange Servers and Internet messaging systems,.

Essentially the SMTP service Is made up of the following 2 components

Virtual Server

Each Virtual server represents an instance of the smtp service running on the Windows/Exchange server and provides the management and configuration and routing for that instance. Within the configuration both inbound and outbound parameters are defined, including IP address, listening port (default 25), relaying, security, delivery restrictions and options, delivery notifications, etc.

SMTP Connector

SMTP Connectors are used to connect to other mail systems and routing groups, it is also used to override options in a virtual server. In particular they enable you to configure a designated route for specific messages or domains.In our book we will cover the configuration of the SMTP connector to route messages specifically bound for the Domino recipients,

9.3.2 Lotus Domino 7 SMTP environment

SMTP has been the native mail routing protocol since Lotus Domino R5. Domino servers act as Internet mail servers by using SMTP/MIME routing as a native routing protocol, between Domino servers and multiple SMTP servers or even other Domino servers

Domino automatically converts between Notes and MIME format as required, which means that clients can send and receive mail with no concern about format. For example, if a Notes client sends a Notes-formatted message to an client, Domino converts the message to MIME format for the IMAP client.

9.4 Configuring Microsoft Exchange SMTP

Unlike Exchange 5.5, Exchange 2000 relies heavily on the Windows Operating system for it's routing. Most organizations will already have SMTP set up and configured to route mail via the internet to external organizations, customers suppliers etc...This section describes how to establish SMTP message transmission to Domino from Exchange using the SMTP Virtual server and Connector.

Pre-configuration tasks

Before you configure the SMTP Service to communicate with Domino, you should review the following list to ensure that the environment is configured correctly and that you have the information needed to complete the Internet Mail wizard.

- We are assuming that you already have the Exchange SMTP configured to route to the Internet via a direct connection or by transferring messages to a smarthost.
- Know the SMTP addressing schemes for your organization.
- Determine the SMTP address for the site.
- Determine the address space that Domino smtp will use.
- Obtain the host name and domain name of the Exchange server on which the SMTP Virtual server is installed.
- Determine whether Domain Name System (DNS) is used to provide host and domain name-to-Internet Protocol (IP) address resolution.
- Obtain the IP addresses of DNS servers or the SMTP hosts that Domino SMTP will be running.
- Ensure that the domino server address is in the DNS.. e.g DOMINO.itso1.eu, this will be useful for both secondary smtp addresses and for autoforward

Configuring the SMTP Connector (optional)

1. Open the Exchange Administrator program select Administration groups, First Administrative group.

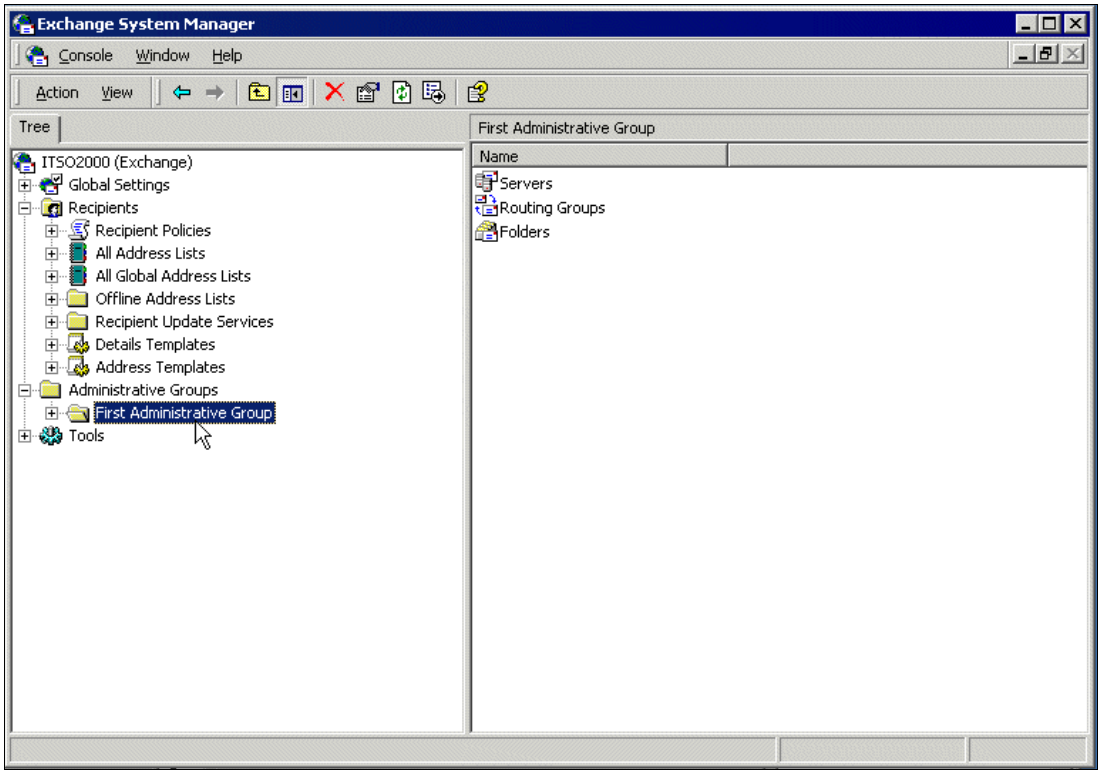

Figure 9-3 Exchange System Manager Administrate groups

2. Next select routing groups

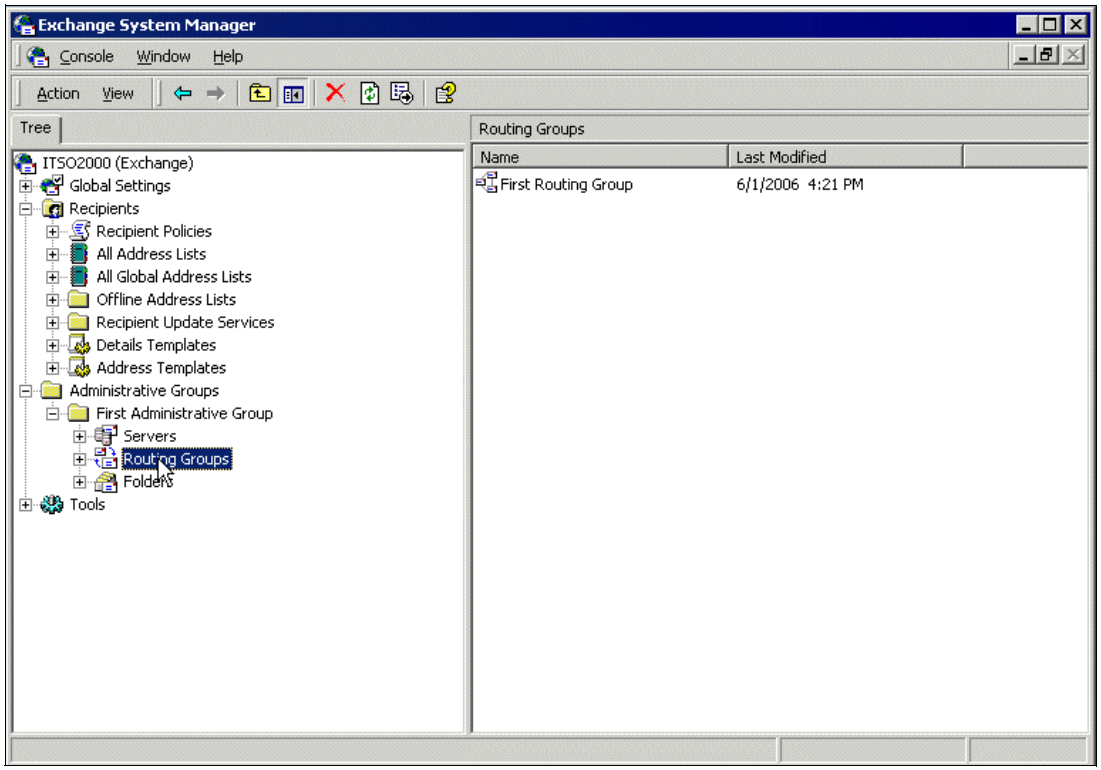

Figure 9-4 Selecting the Routing group

3. Select Routing Groups First routing Groups as seen inAppendix 9-4, “Selecting the Routing group” on page 274

Note: First Administrative groups and Routing Groups may be renamed from the default in your organization

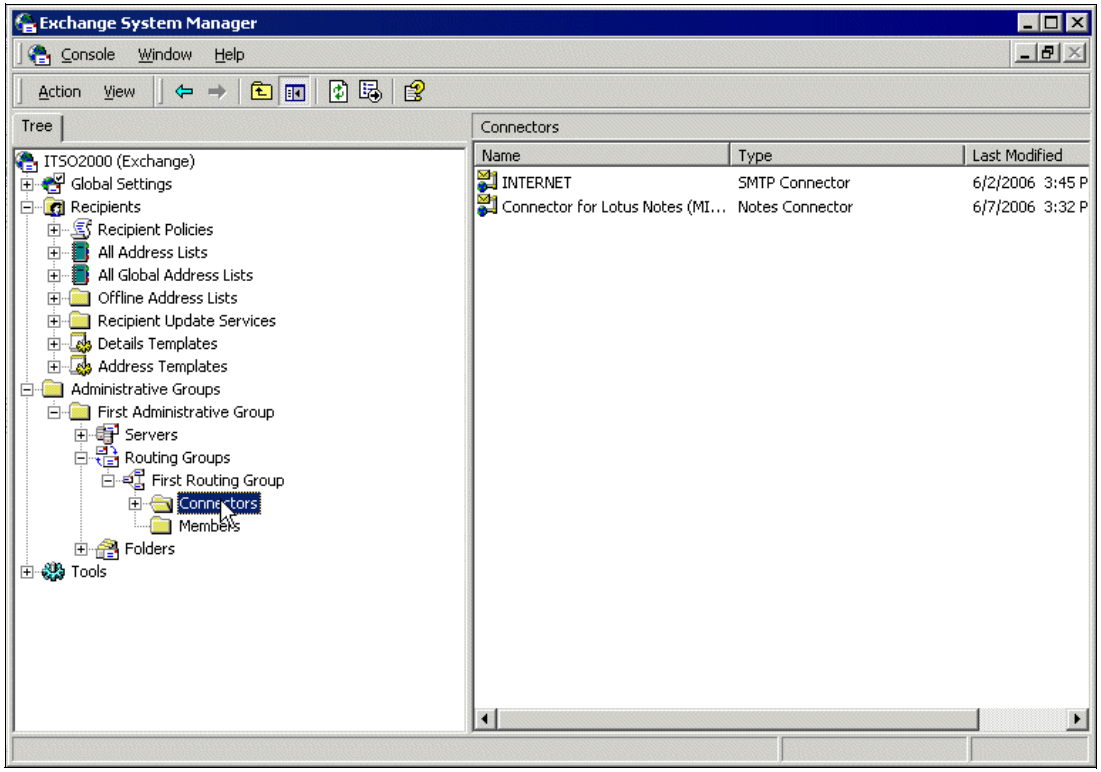

Figure 9-5 Connector view

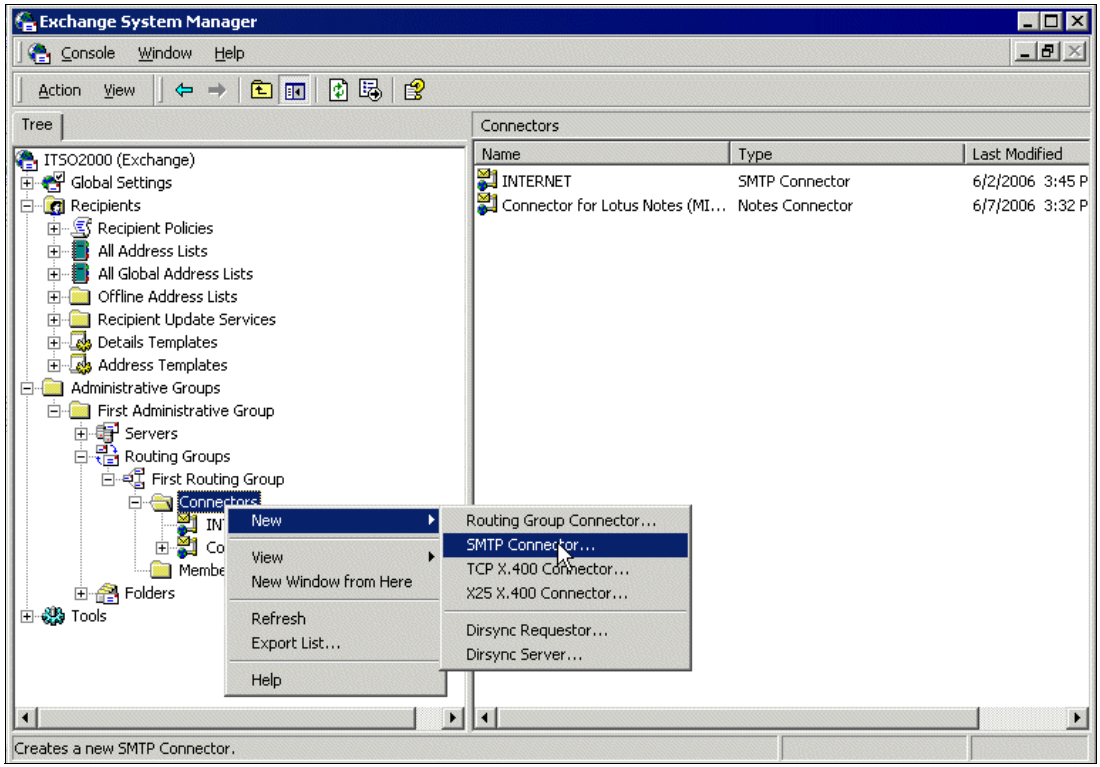

Figure 9-6 Creating a new connector

4. Next select Connector (Appendix 9-5, “Connector view” on page 275), and right click when Highlighted select New -> SMTP Connector seen in Appendix 9-6, “Creating a new connector” on page 276
5. You will be presented with SMTP Connector configuration box as seen in Appendix 9-7, “SMTP Configuration” on page 277. Enter a unique name and enter either the DNS name or IP address of the Domino Server.

> **Note:** If entering an IP address ensure that you enclose in square brackets []

6.

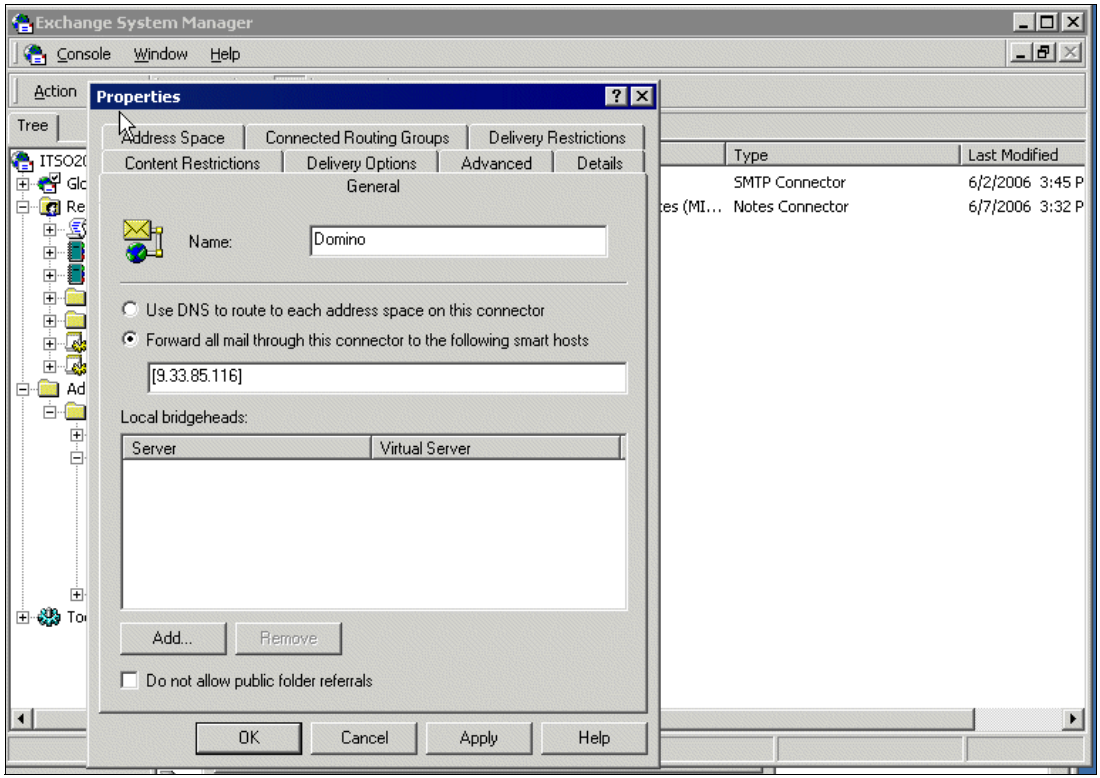

Figure 9-7 SMTP Configuration

7. Once you have entered the IP address of the domino server click the address space tab and select Add

8.

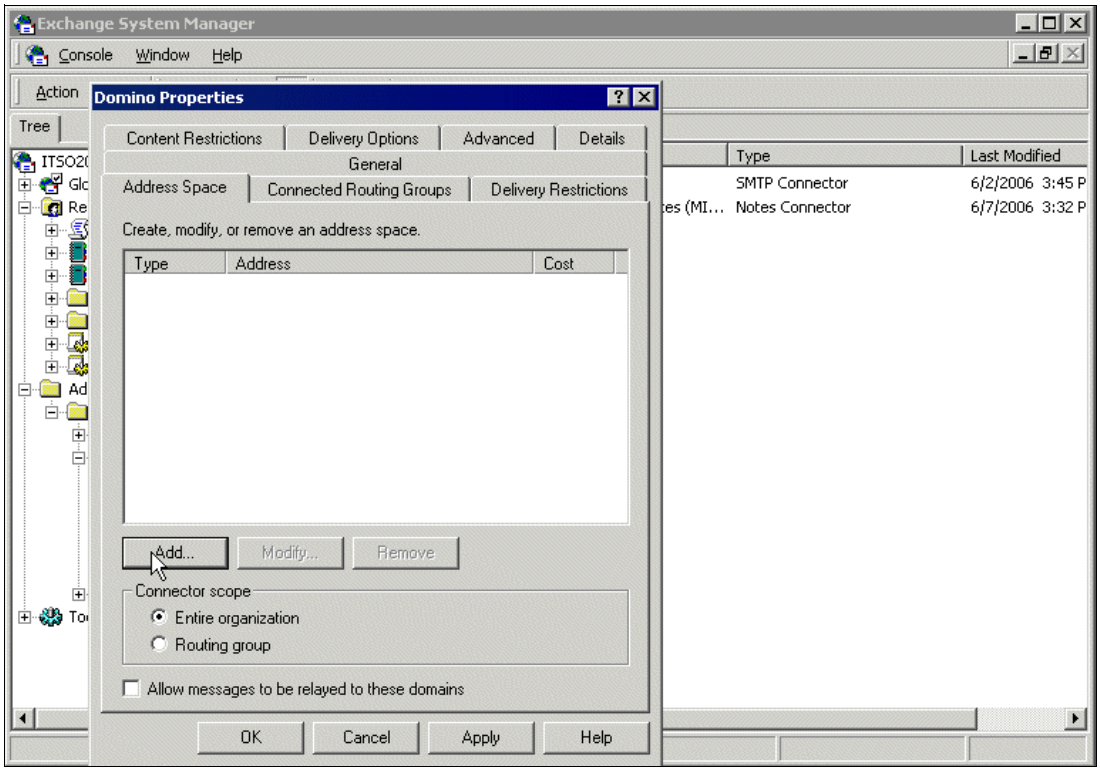

Figure 9-8 Adding an address space

9. Select SMTP from the dialogue box and click OK this will bring up the entry box for the smtp address space as seen in Appendix 9-10, “Customizing the address space” on page 280

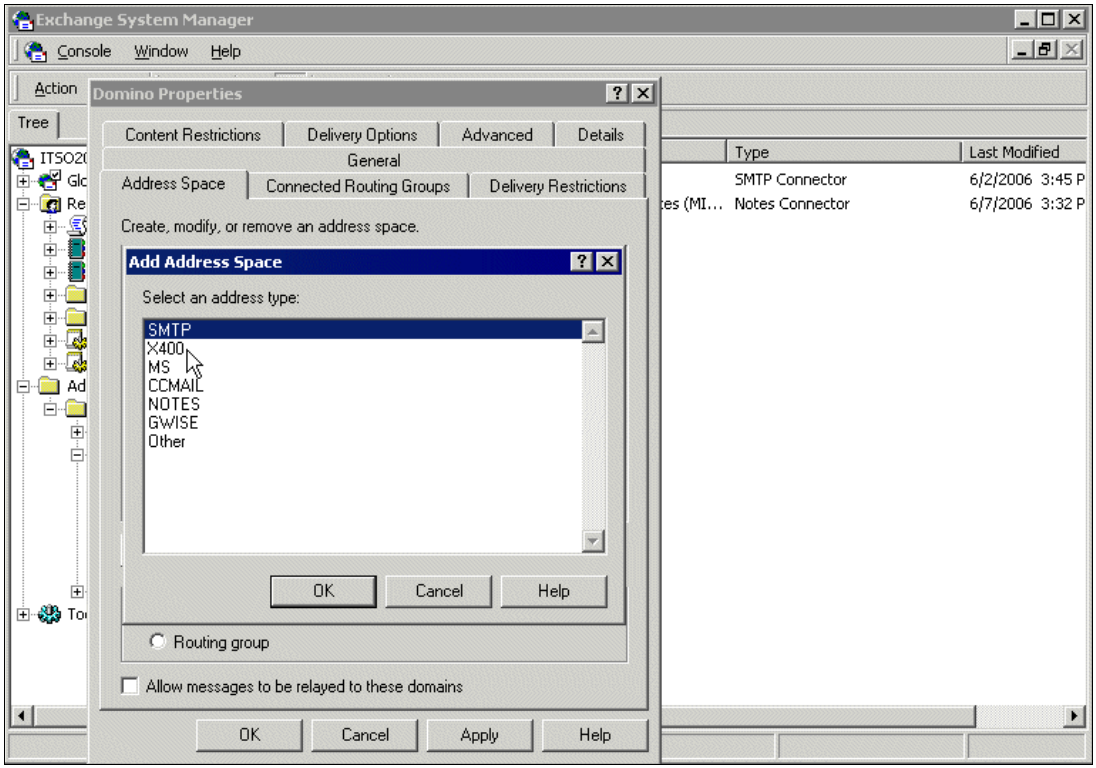

Figure 9-9 Address space choices

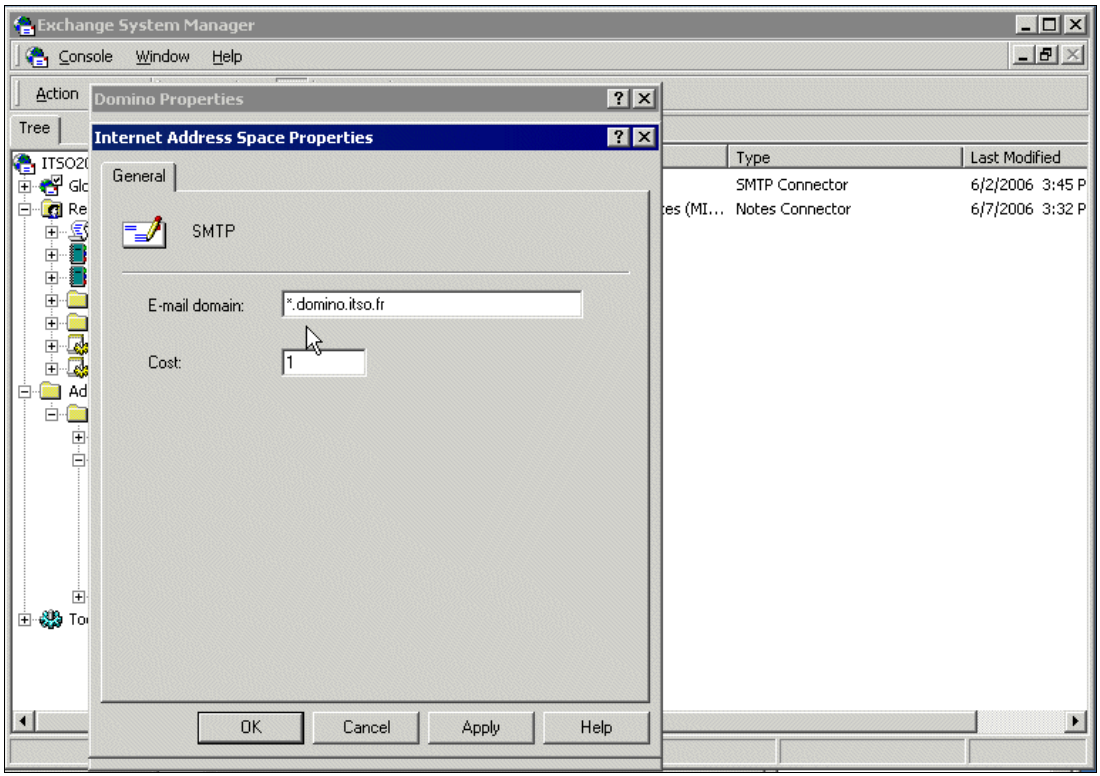

Figure 9-10 Customizing the address space

10. Enter the SMTP domain name for the domino server in our lab the domain for all our users will be domino.itso.fr

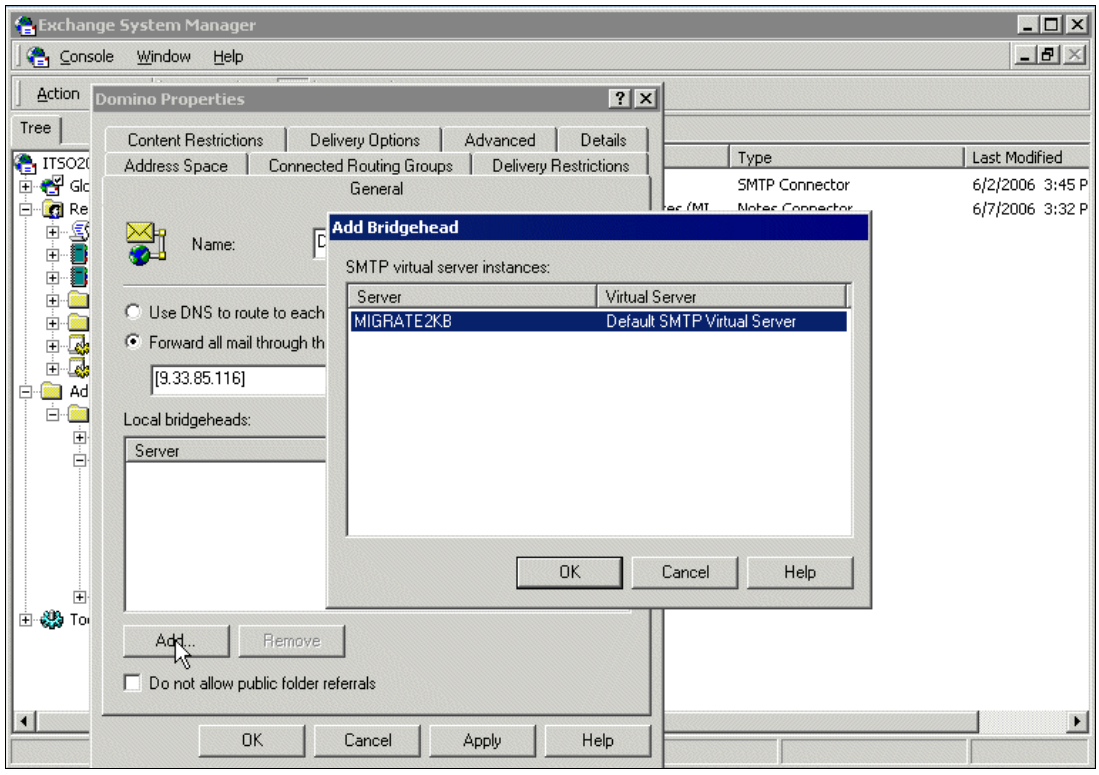

Figure 9-11 Entering a bridgehead server

11. Although we are not using a separate Bridgehead server the connector requires one. If you attempt to close the server without configuring one a dialogue box (shown in Appendix 9-13, “Error message” on page 283). To create a Bridgehead server link click on general parameters and Click Add select the Bridgehead server click OK.

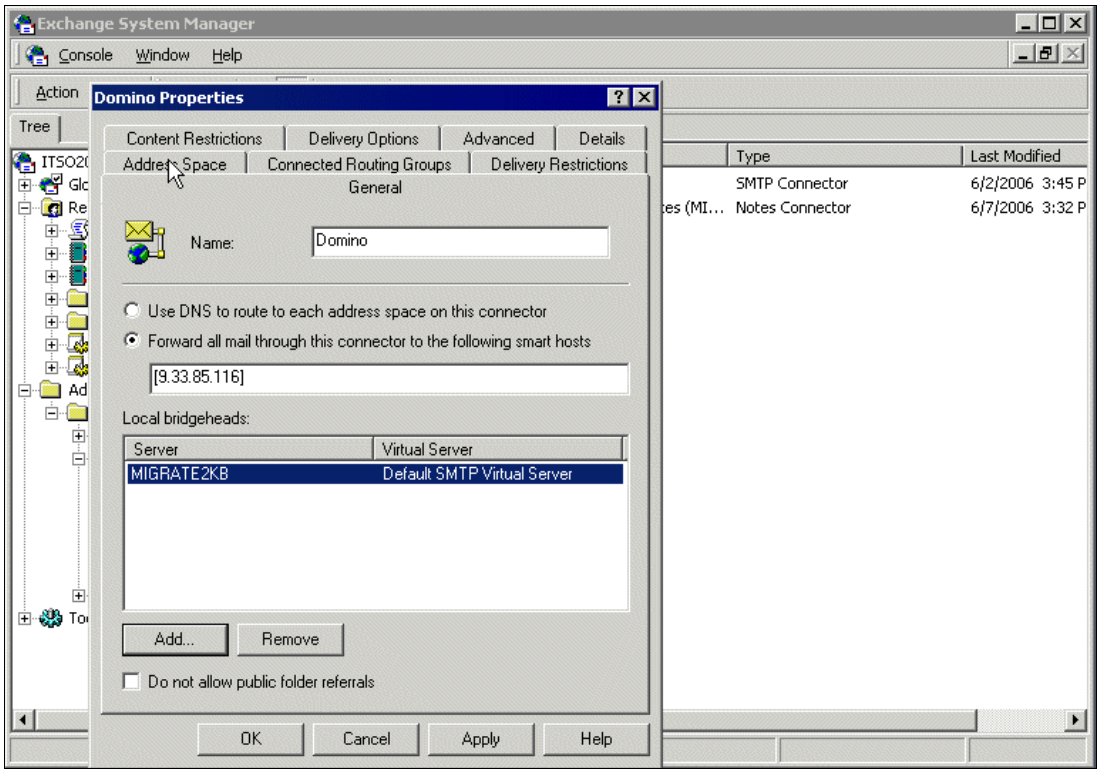

Figure 9-12 Completed connector

12. The completed Connector screen will now appear.
13. Click OK

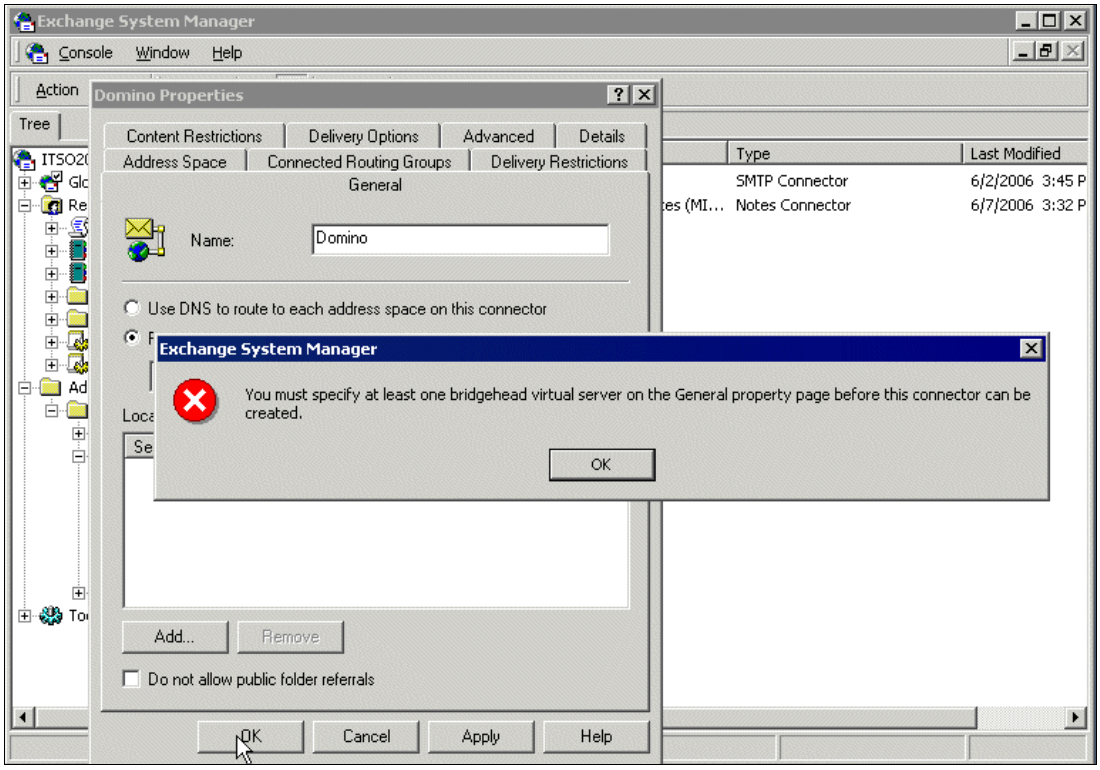

Figure 9-13 Error message

Configuring SMTP Virtual Server

So far we have established a relay for the domino server and enabled the SMTP routing from Exchange to Domino for mail destined to the multiple SMTP domains that Domino may support. To ensure that we Smarthost correctly (i.e. send to when local domain recipients not found in the Directory to a smart host server) we need to modify the Virtual server document. By adding the domino server address in the 'Forward all mail with unresolved recipients to host field in the messages tab of the virtual server properties. The following instructions can be followed

1. Open the exchange system administrator see and select Administrative Groups -> First Administration Group -> Servers

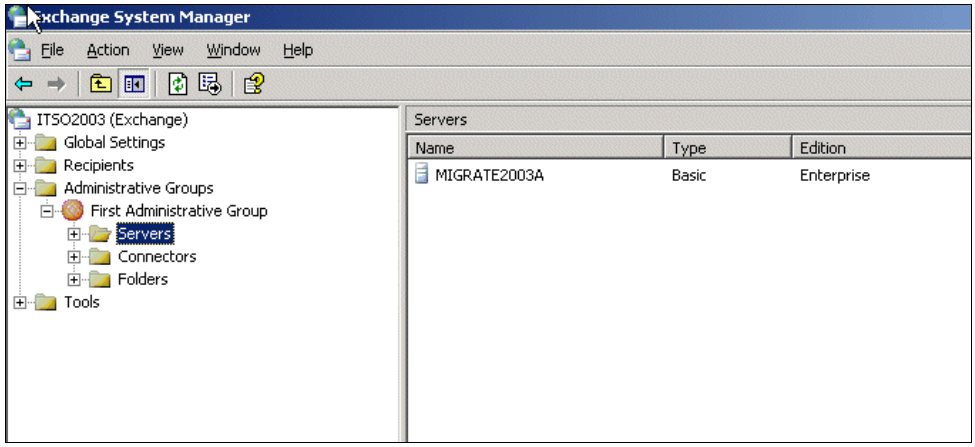

Figure 9-14 Exchange administration group server

2. Select the Exchange server where the virtual smtp server resides and select-> Protocols -> SMTP

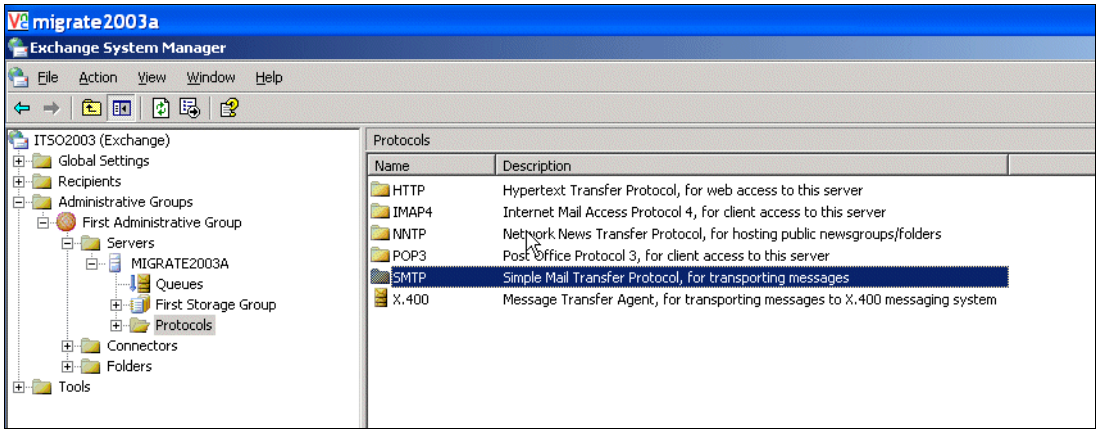

Figure 9-15 SMTP Protocol

3. Right click on the Default SMTP Virtual Server and select Properties as shown in Appendix 9-16, “Selecting Virtual server properties” on page 285

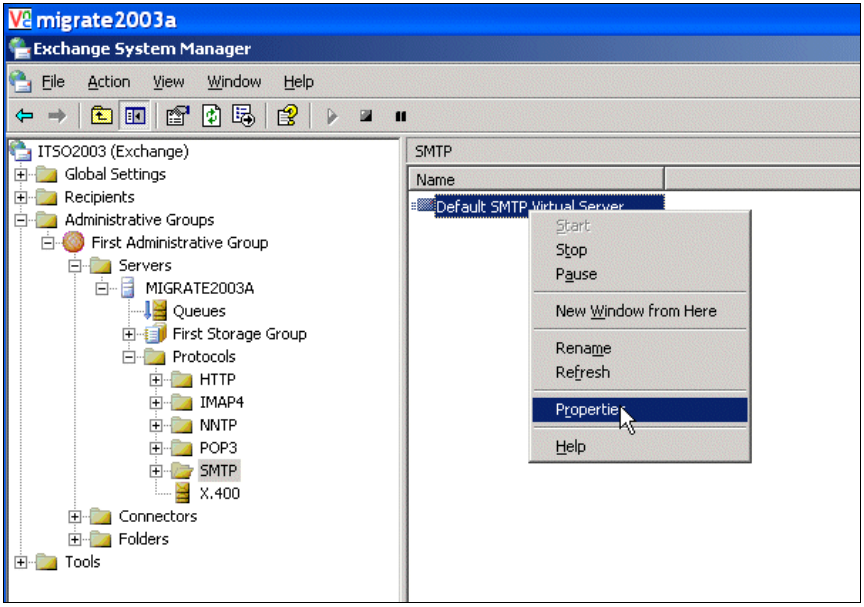

Figure 9-16 Selecting Virtual server properties

4. Select the messaging tab and in the **Forward all mail with unresolved recipients to host** field enter either the IP address (in square brackets to speed up address resolution) or the FQDN of the domino server, as can be seen in the following graphic (Appendix 9-17, “Setting the smarthost address field” on page 286) we entered the IP address

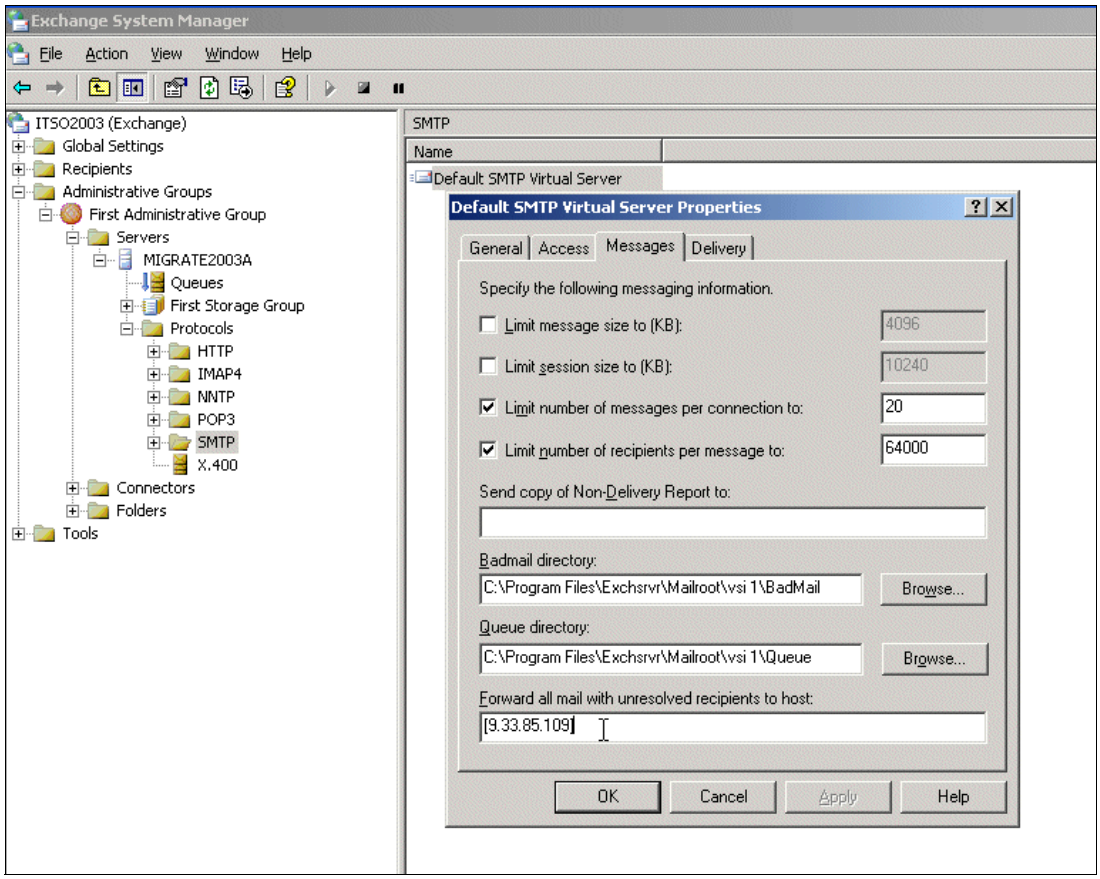

Figure 9-17 Setting the smarthost address field

5. After restarting the Exchange server you have completed the exchange smtp configuration and you are now ready to configure Domino SMTP services

From this pont onwards, all messages sent to user@itso1.eu if not found in the exchange server, will be forwarded to the domino server.

9.5 Configuring Lotus Domino 7 for SMTP message transmission

In this section we describe how to customize the Lotus Domino server for a direct SMTP connection for all Exchange bound mail traffic. If This is not the first

domino server in your organization or you already have SMTP configured then go direct to

Author Comment: Add link to creating a connection doc after it has been completed

You will need to make several modifications to the Lotus Domino 7 server to establish SMTP support. The necessary steps are as follows:

- Create or Modify the Global Domain documents to allow the domino server to send and receive SMTP mail.
- Enable SMTP routing in the Server document
- Create a Configuration Settings document to do the following:
  - Use SMTP to send mail outside the local Internet domain.
  - Use SMTP inside your local Internet domain.

9.5.1 Modify/Create the Global Domain document

The Global Domain Document tells domino server how to deal with Inbound and Outbound Internet or SMTP mail. It is not within this books scope to discuss your network Topology so it is assumed that the connection to the Exchange server is across and internal secured LAN or WAN.

To establish SMTP message transfer, begin by customizing the Global Domain document, using the following steps:

1. From the Domino Administration client, click the Configuration Tab of your Domino Server (Figure 9-18).

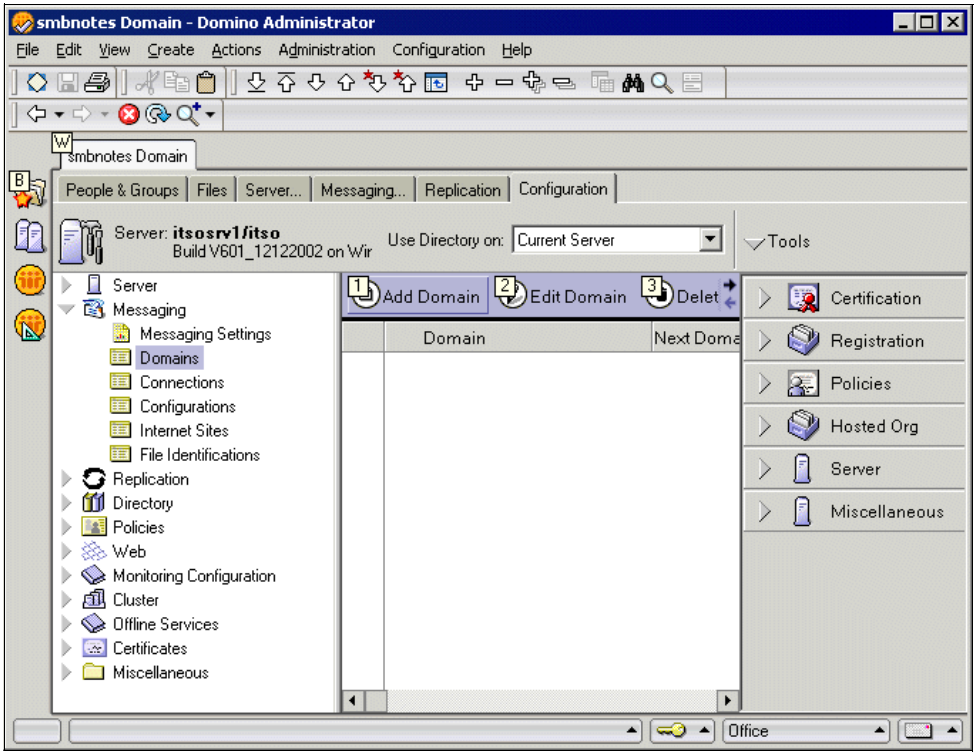

Figure 9-18 Domino Administration Program (Configuration tab)

2. From the Messaging navigator, select Domains. an example of this can be seen in Appendix 9-18, “Domino Administration Program (Configuration tab)” on page 288
3. Click the Add Domain button. the domain configuration screen shown in Appendix 9-19, “Domain Add window” on page 289 will be presented

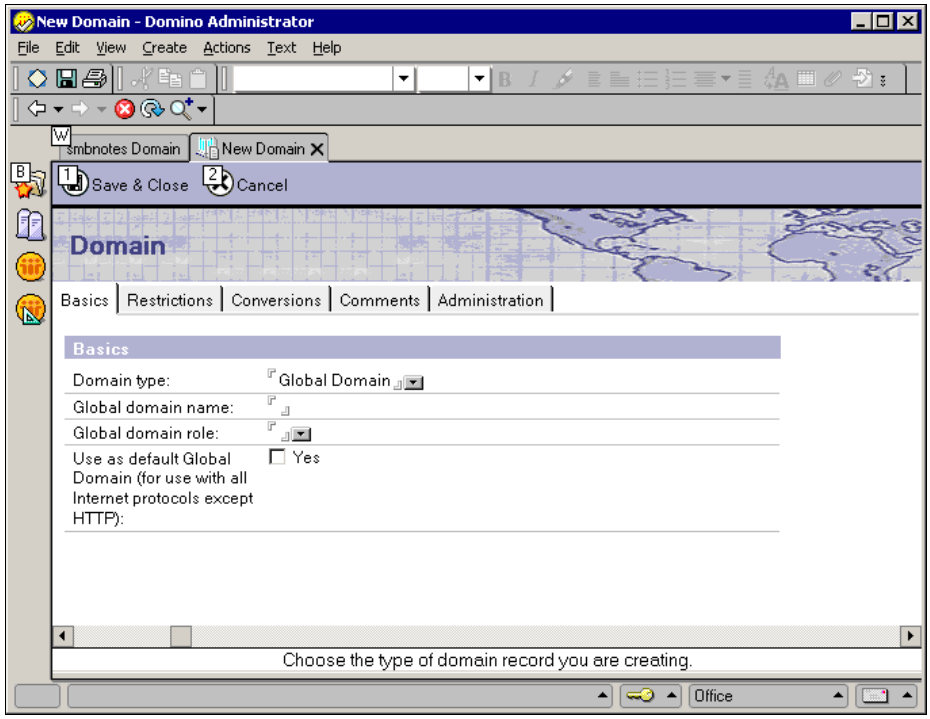

Figure 9-19 Domain Add window

4. Click the pull-down list selector to choose the Domain Type that you are creating.
5. Select a Global Domain document, as shown in Figure 9-20 on page 290.
6. Click OK.

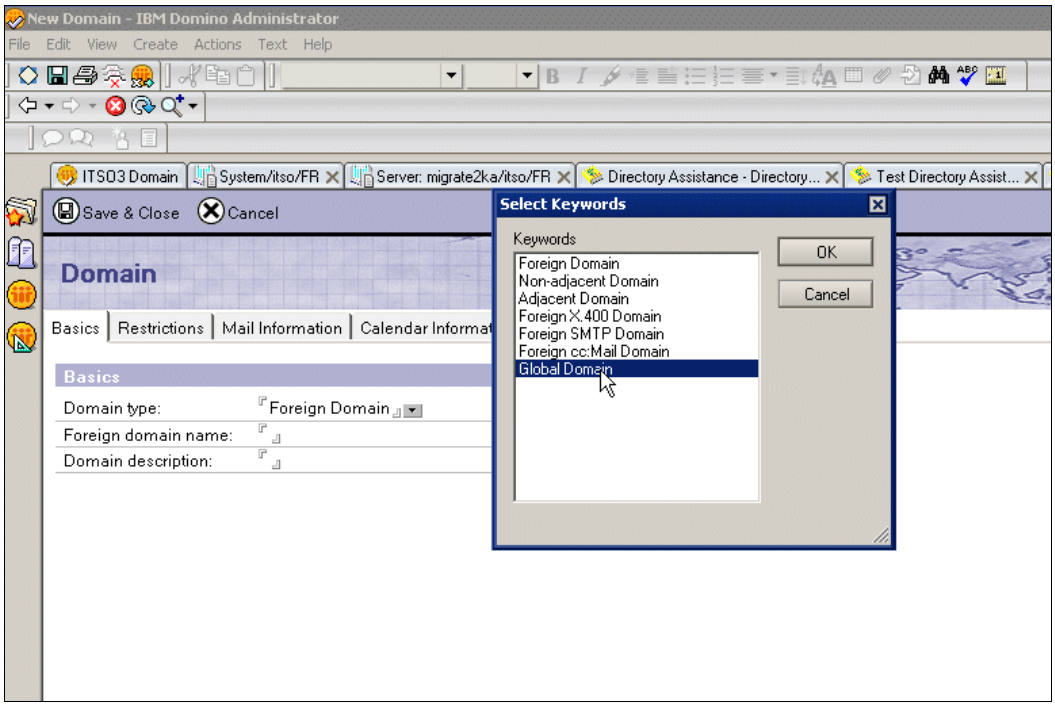

Figure 9-20 Domain Type dialogue box

7. Enter a name for the Global Domain Document in our case we where very creative and called ours GDD (Global Domain Document)
8. Enter a role for your domain of a role type of R5/R6/R7 Internet Domains or R4.x SMTP MTA. you can select this from the Global domain role pull-down list Figure 9-21 on page 291.

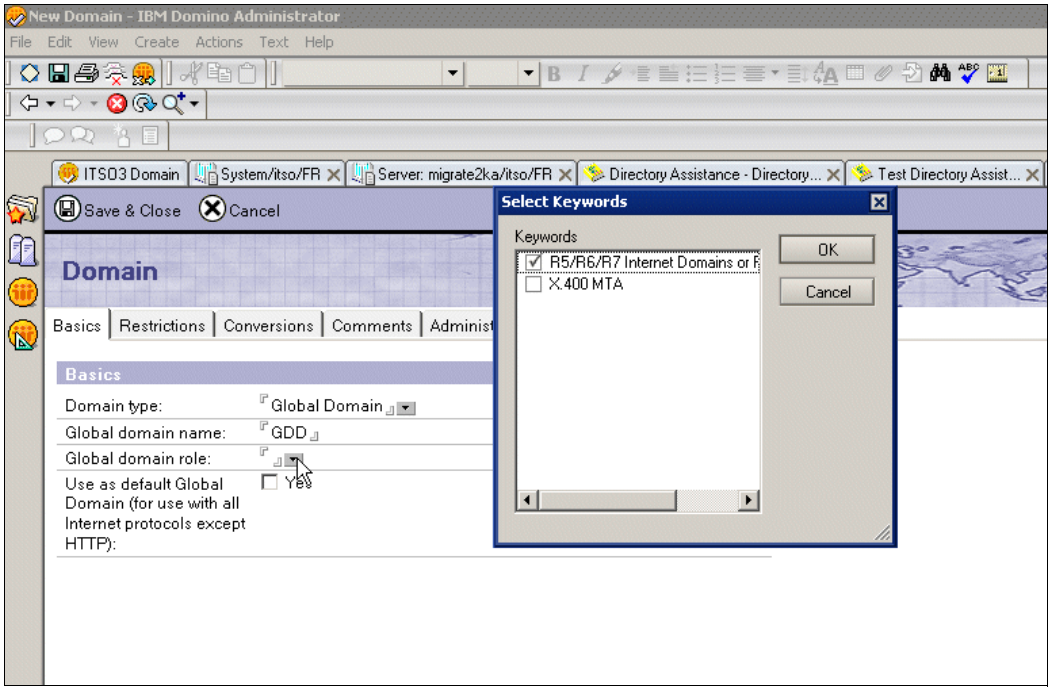

Figure 9-21 Global domain role

9. Tick the yes box for > Use as default Global Domain (for use with all Internet protocols except HTTP):
10. The completed Basics tab is shown in Figure 9-22 on page 292.

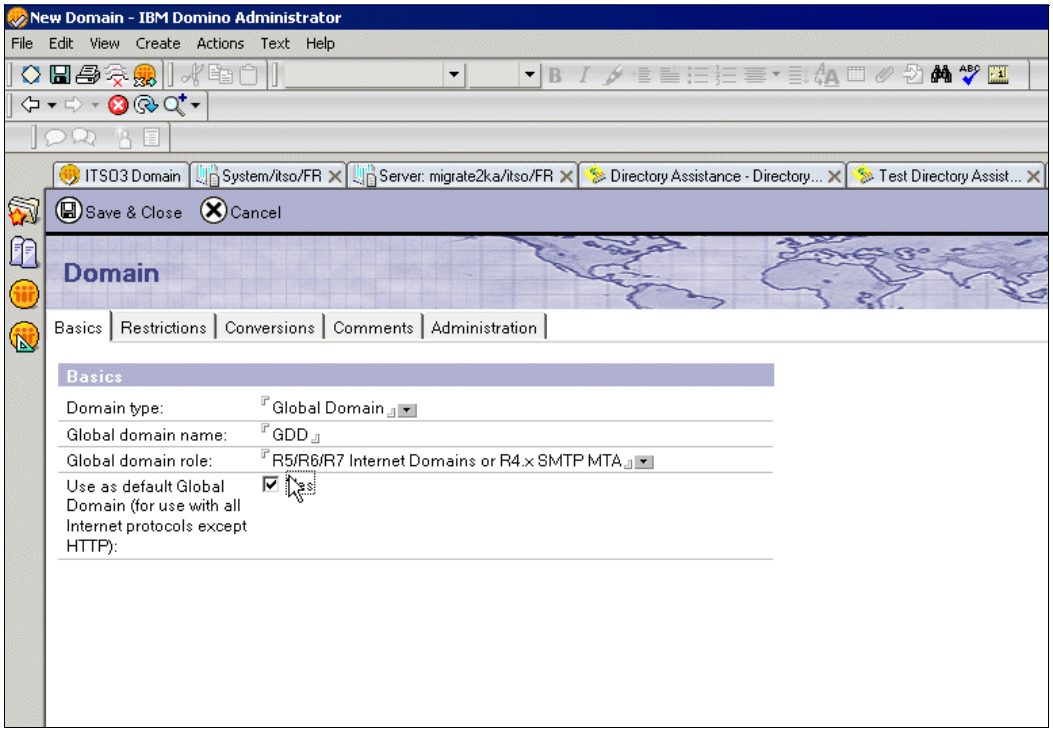

Figure 9-22 Competed Basics tab

11. Accept the defaults on the Restrictions tab.

> **Note:** In our testing we did not find any reason to change the restrictions Tab, However we advise that you revise the options in the top and configure appropriately for your site

12. Next Click the Conversions tab.

:

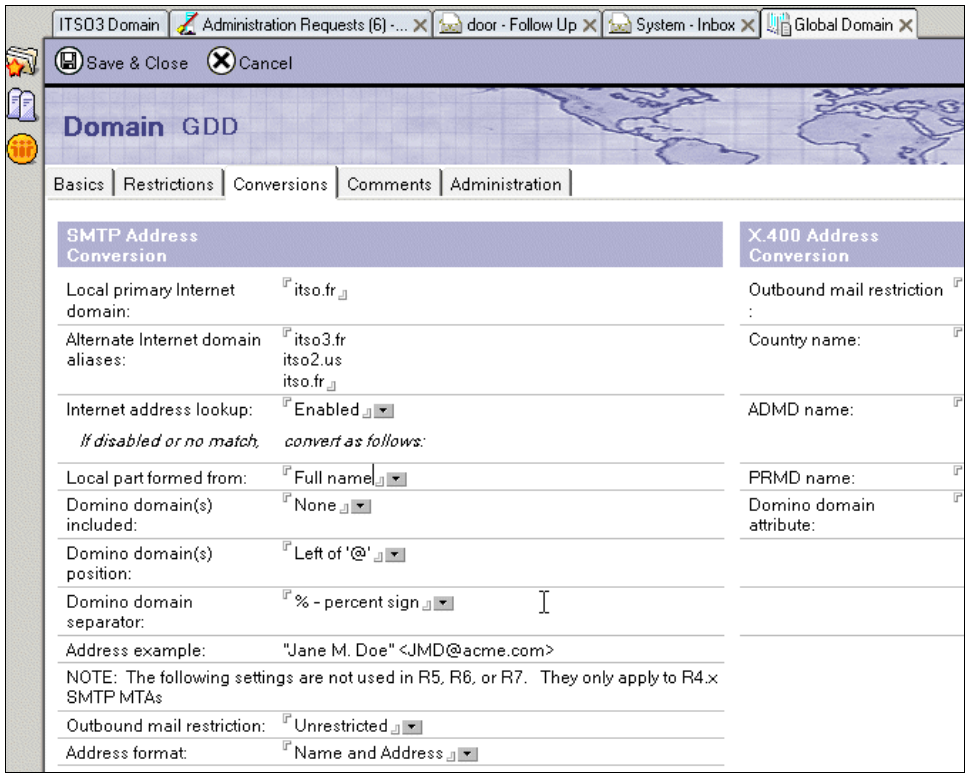

Figure 9-23 Conversions tab

13. The Conversions tab allows us to configure how Domino will interpret Inbound and generate outbound addresses. To ensure that Domino is correctly configured for address lookup and address generation we will need to make some changes from the defaults as can be seen in the graphic Figure 9-23.

14. You will need to change the following fields:-

    - Local primary Internet domain

      Needs to be set to your Domino's FQDN domain in our example this is itso.fr, as we where using multiple Internet addresses we added these to the alias fields as well

    - Local part Formed From

      In the event of a user not having an internet address you need to specify how the Local part will be formed. In our example we set this to

FullName. when an address is formed this way the address will be appended with your Primary Internet domain entered earlier

- Domino Domain(s) included field:

  We recommend that this be set to none Otherwise in conjunction with the Domain separator

- Internet Address Lookup

  Set this to enabled to ensure that Domino looks up the internet address before trying to create one

15. If appropriate, all other fields and tabs can be kept as default, for our connections to exchange this was so.
16. Save and close the Domain document.

This completes the procedure to create and modify the Global domain document.

9.5.2 Enabling Domino Routing and the SMTP Listener Task

Once you have completed creating the Global domain document you need to enable the smtp tasks on domino (SMTP routing and SMTP Listener). This is enabled via both the Server document and the configuration settings document

Enable SMTP Listener

. Use the following steps to customize the Server document for the SMTP listener task.

1. Whilst still in Domino Administrator navigate to the server configuration tab and select the All Server Documents view.as seen in Figure 9-24 on page 295 and select the appropriate server and click Edit server

Tip: Instead of selecting all server/server you could select current server, However experience has shown in a multi server environment this can lead to edit the wrong server if multiple administration tasks are being undertaken

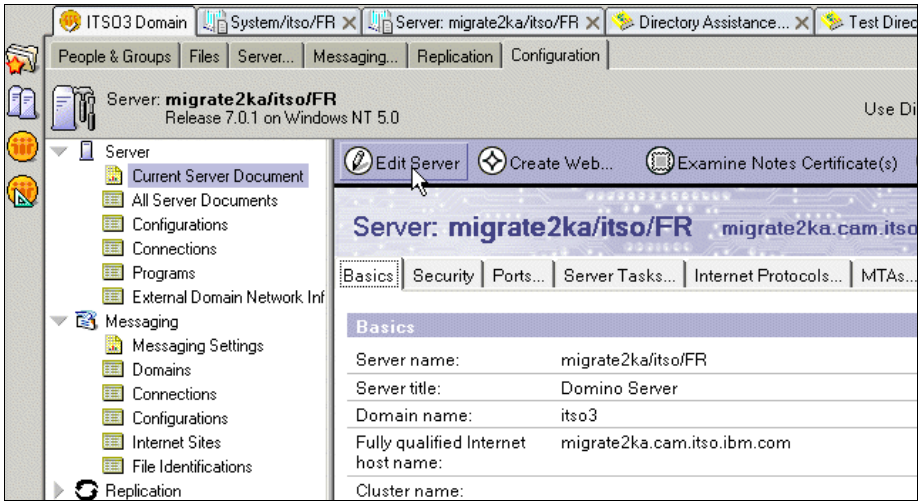

Figure 9-24 Edit server document

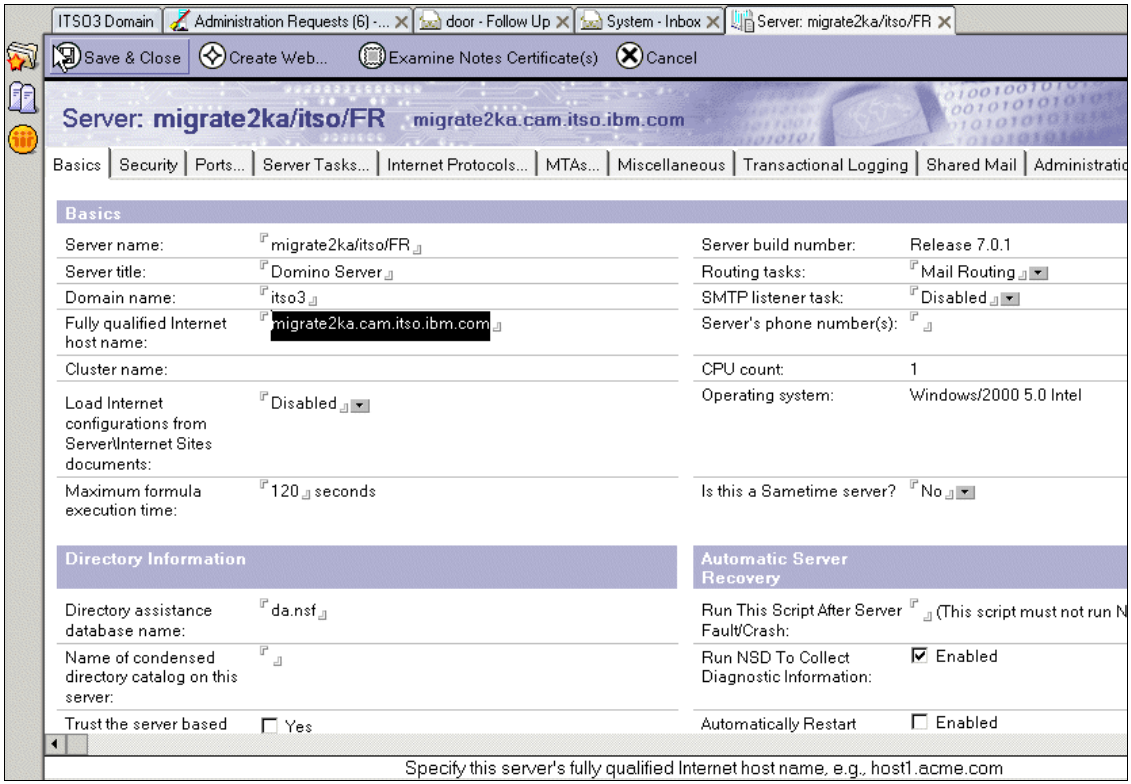

Figure 9-25 Server Configuration Document (Basics tab)

2. Enter your hostname as known to the dns in the Fully Qualified Internet Host name field In our lab this was migrate2ka.cam.itso.ibm.com as highlighted in Appendix 9-25, “Server Configuration Document (Basics tab)” on page 296
3. Enable the SMTP listener task field by selecting the drop down selection box next to disabled and change field to enabled. see Appendix 9-26, “Enabling SMTP Listener” on page 297

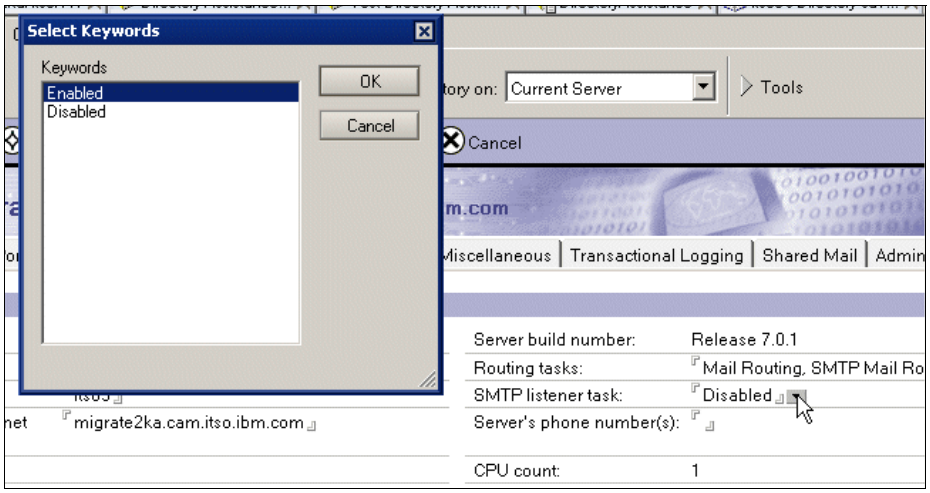

Figure 9-26 Enabling SMTP Listener

4. next select the drop down box next to routing tasks and select SMTP routing as shown inAppendix 9-27, “Server Configuration Document enable smtp routing” on page 297.

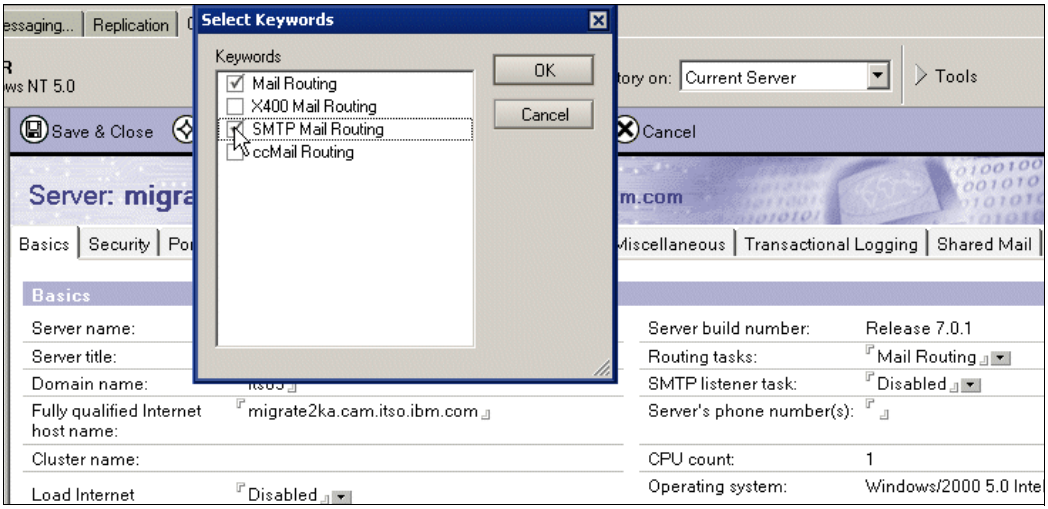

Figure 9-27 Server Configuration Document enable smtp routing

No fields other fields or options on the other tabs for the Server document need to be modified

5. Select save and Close

The SMTP listener task and routing is now enabled.

Establishing SMTP message routing Configuration

The following steps describe how to set up the SMTP routing for both internal and external Internet mail.

1. Under the server Navigator, select Configurations view.

.

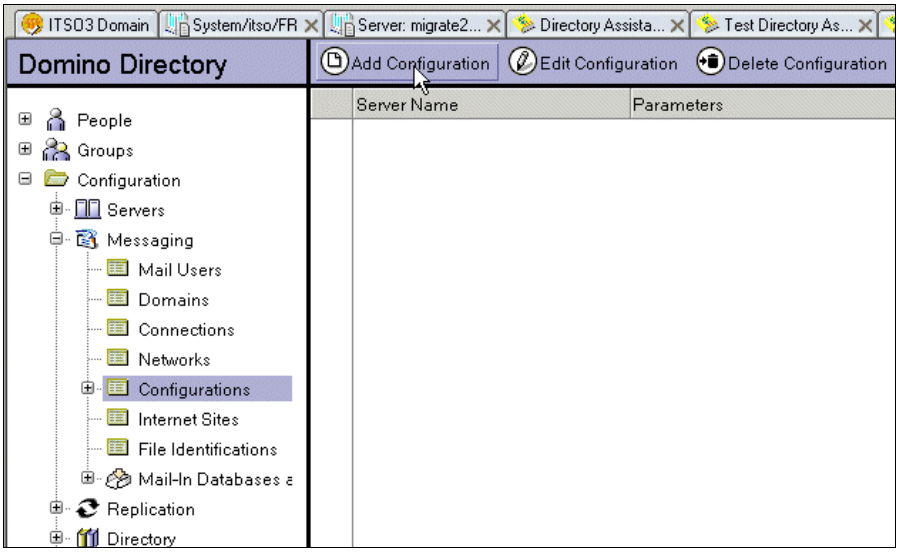

Figure 9-28 Server Configuration Document

2. Click the Add Configuration button. as shown above you will be presented with the Configuration documents basics screen shown in Appendix 9-29, “Server Configuration Document (Basics tab)” on page 299

.

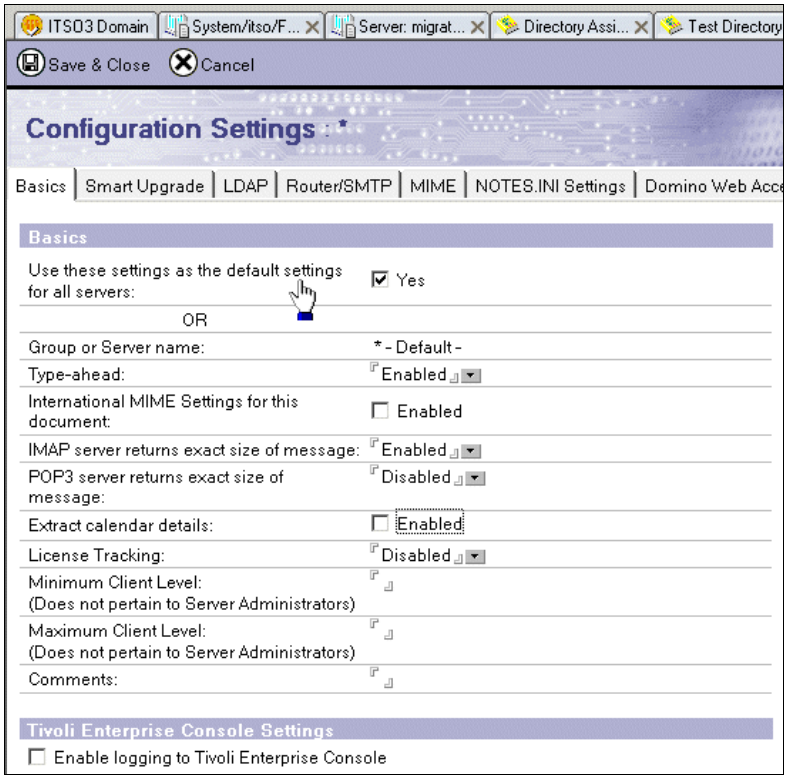

Figure 9-29 Server Configuration Document (Basics tab)

3. Select the 'Use these settings as the default settings for all servers:'

All other fields can be left as default

Note: There can be only one default configuration document. if this is an additional server in your organization then add your server name to the Group or server name field

4. .Click the Router/SMTP tab.

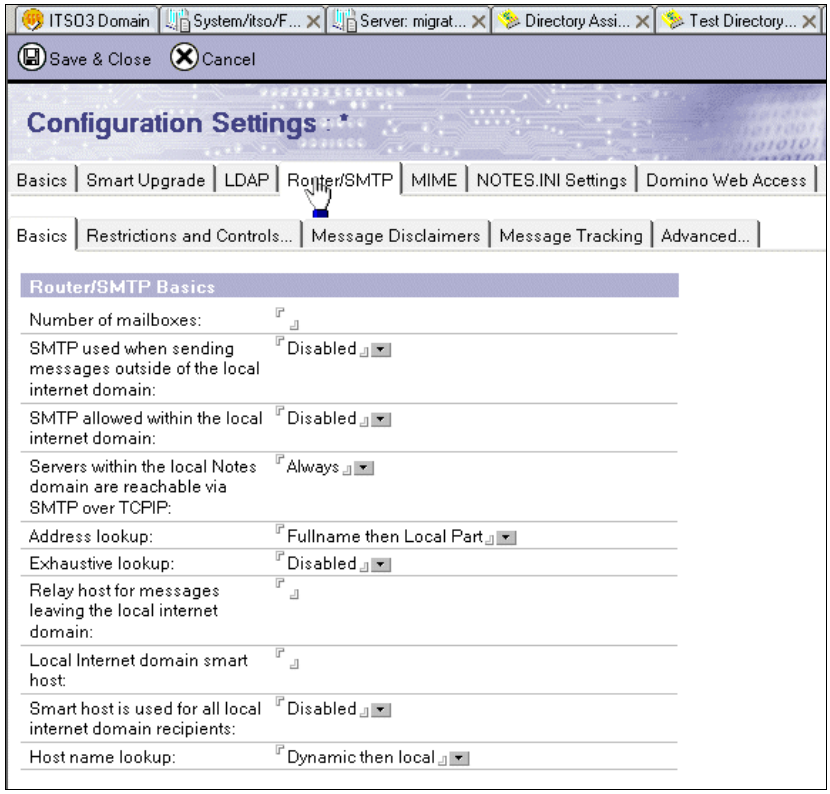

Figure 9-30 Server Configuration Document (Router SMTP/Basics tab)

5. On the Basics tab, complete the following fields:

- Number of mailboxes: `2`

> **Tip:** A good rule of thumb would be to specify two or more mailboxes, in order to better serve a production messaging volume.

- SMTP used when sending messages outside of the local Internet domain: `Enabled`
- SMTP allowed within the local internet domain: `Disabled`
- Relay host for messages leaving the local internet domain: (specify either an IP address or an FQDN of your relay.) If you do not use a relay leave blank.

Note: During the coexistence period you may not want to disrupt the current routing architecture thus you may want to continue routing all inbound and outbound smtp messages via the exchange server. If this is the case then the Exchange Bridgehead server will be the relay, ensure that the bridgehead servers is configured to allow inbound and outbound relaying to the FQDN of the domino server

6. Local Internet domain smart host: (enter the exchange Bridgehead server)
7. For the remaining tabs (Restrictions and Controls, Message Tracking, and Advanced), we made no changes and accepted the defaults.
8. Save and close the Configuration document.

All the documents have been configured within the Domino 7 server to enable SMTP message transmission, and you are now able to start testing mail flow.

9.6 Sending mail between Exchange and Domino via SMTP

In our lab we found it necessary to restart the exchange server before we were able to test to ensure that the configuration changes we had made to the smtp virtual server and connector would take effect

For testing mailflow in our scenario, we have a Microsoft Exchange user, Cindy Ryan send an e-mail message to a Notes user, Susan Pluvial. and then had the Notes user reply to the message, which prompts the Exchange user to send a meeting request, which is accepted by the recipient

Tip: Before you begin, make sure that the SMTP task has been loaded onto the Domino server

1. User “Cindy” logs on to the Exchange server with her profile.

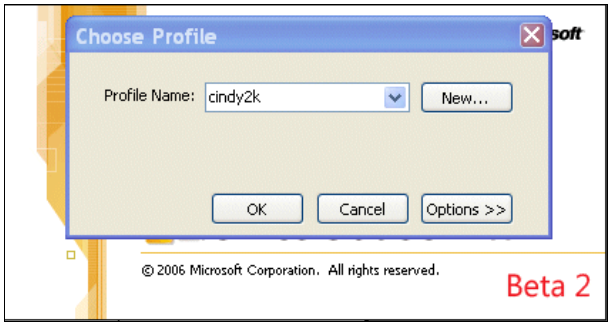

Figure 9-31 Microsoft MAPI profile

2. Cindy is presented with her Outlook inbox.

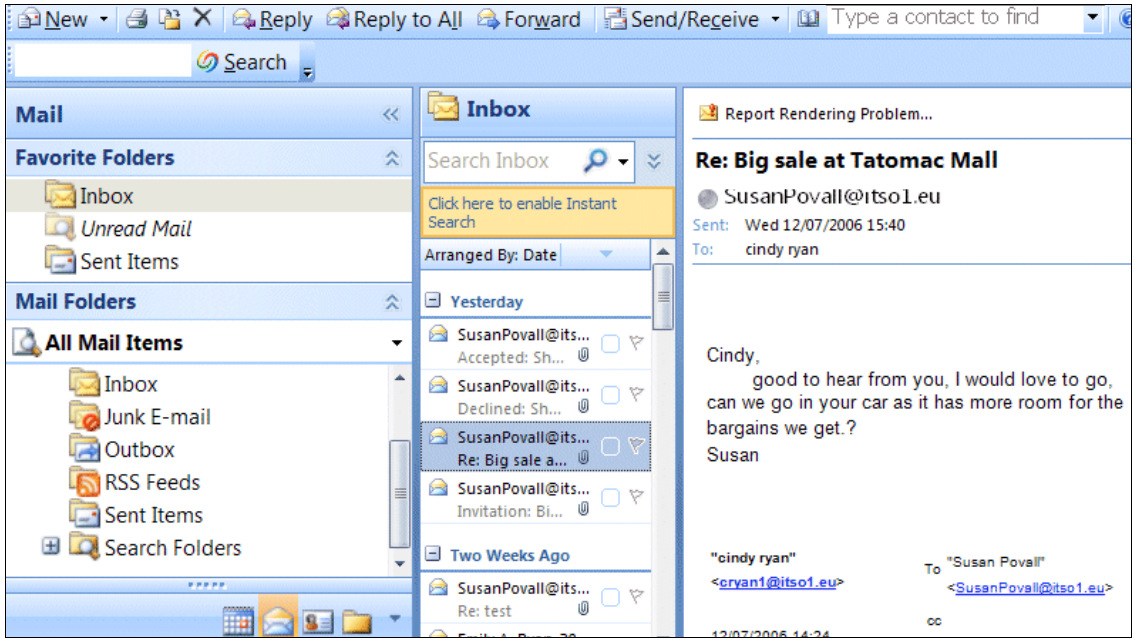

Figure 9-32 Outlook 2003 (Inbox View)

3. She then creates a new mail message regarding the Big Sale at the local mall however Cindy cannot remember Susan's email address and because her account is in domino does not exist in the Exchange directory. Cindy therefore needs to do an alternative address book lookup (LDAP)
4. she selects the alternative directory from the address book drop down list and is able to enter any of Susan's attributes (firstname, lastname telephone

number etc.). Cindy chose to search in firstname, however LDAP would have searched any of the mapped fields and returned all entries that contained the word Susan.

Note: Utilizing LDAP for directory lookups and using customized connectors for Directory synchronization is covered in another chapter

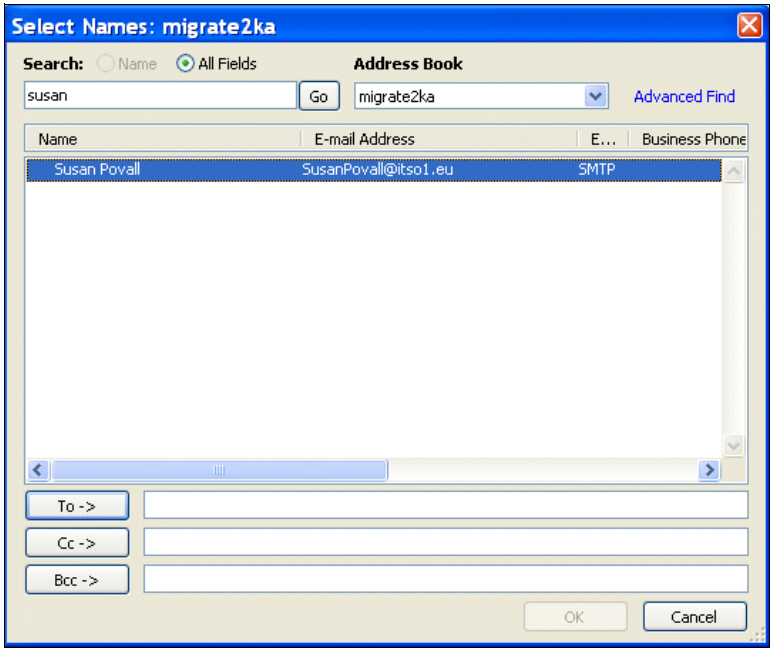

Figure 9-33 Selecting LDAP name from the address book

5. Cindy selects Susan's entry from the directory list and clicks the *To* button and adds her as a recipient for the email, she then clicks OK
6. Cindy continues to edit the email and sends to Susan

Figure 9-34 Cindy's email to Susan before sending

7. The Notes user, "Susan Povall" receives a new mail notification and opens the e-mail message sent via MS Exchange and delivered via SMTP.

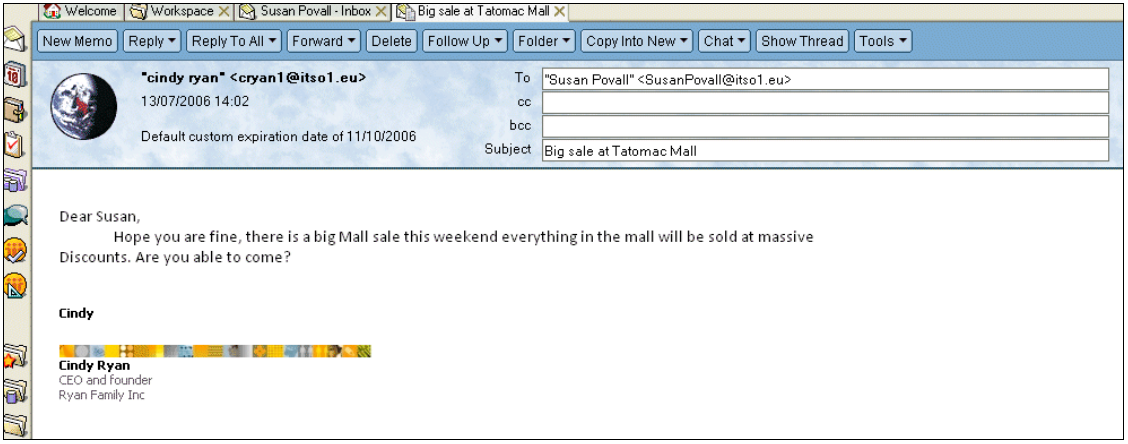

Figure 9-35 Lotus Notes client displaying the Exchange SMTP-based message

8. Susan (aka The Lotus Notes user) then replies to Cindy (aka the Microsoft Outlook user) sending the message back with her reply over the SMTP connection.

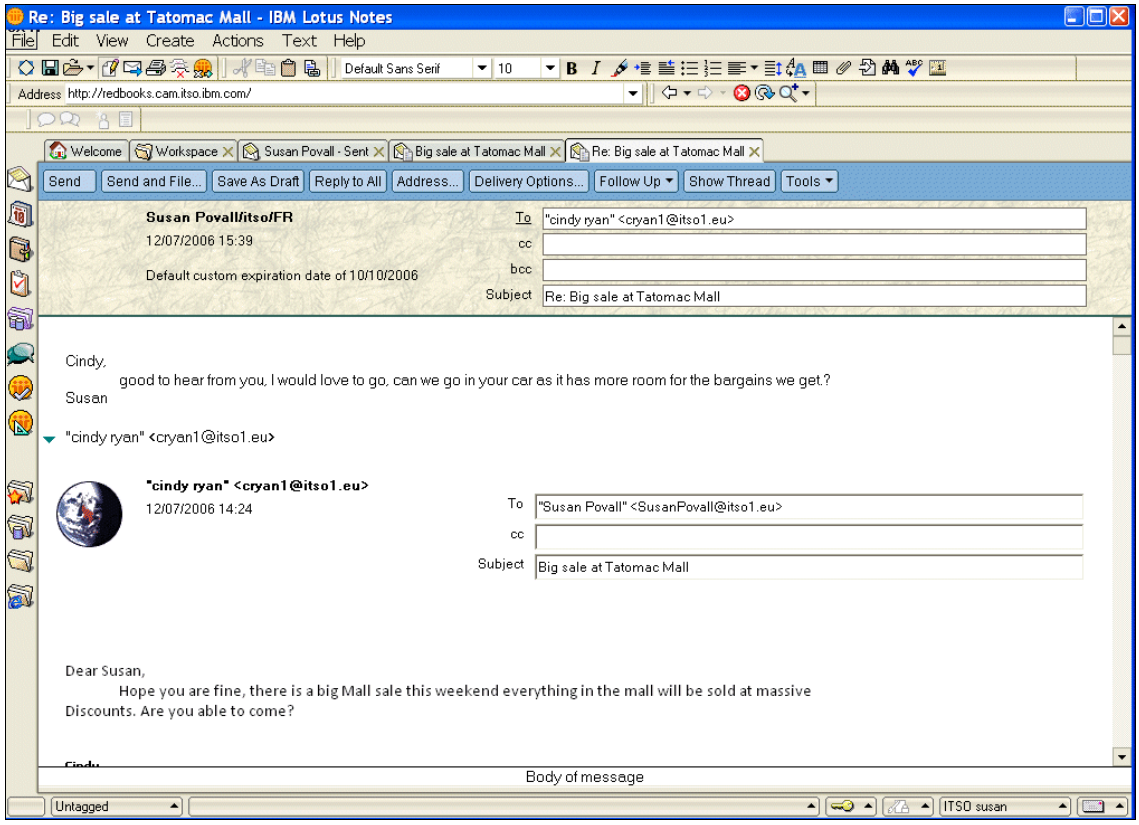

Figure 9-36 Lotus Notes user replying to the MS Exchange user

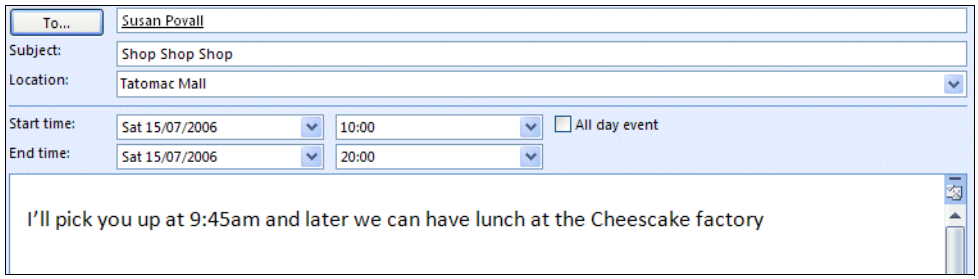

Figure 9-37 Exchange user creates meeting notice and sends to Notes user

9. Cindy receives the reply in her Outlook inbox. After reading the reply she creates a meeting notice and invites Susan to the big shopping spree.

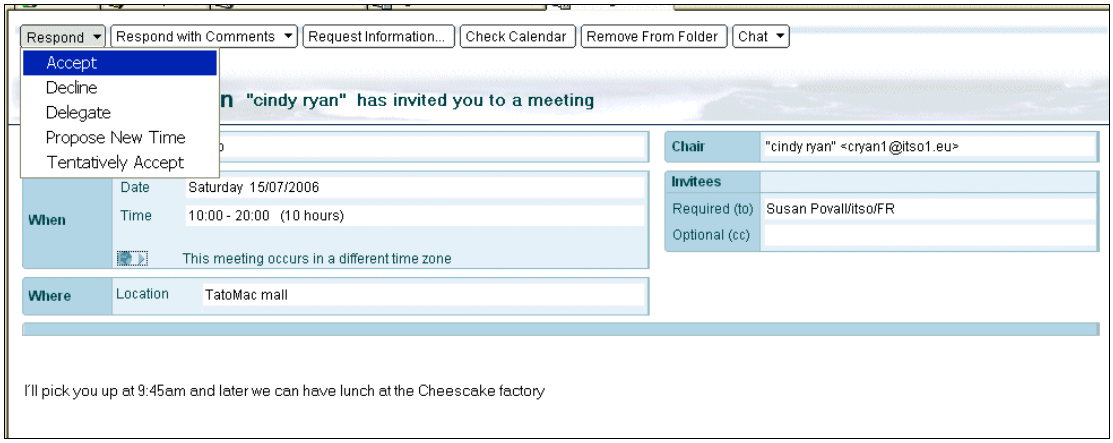

Figure 9-38 Meeting notice received in Notes via SMTP

10. Susan received the meeting notice intact (thanks to both systems supporting ical) and after accepting a calendar entry is created in Susan's Diary (not that she is likely to forget the big sale.), an acceptance is sent to Cindy

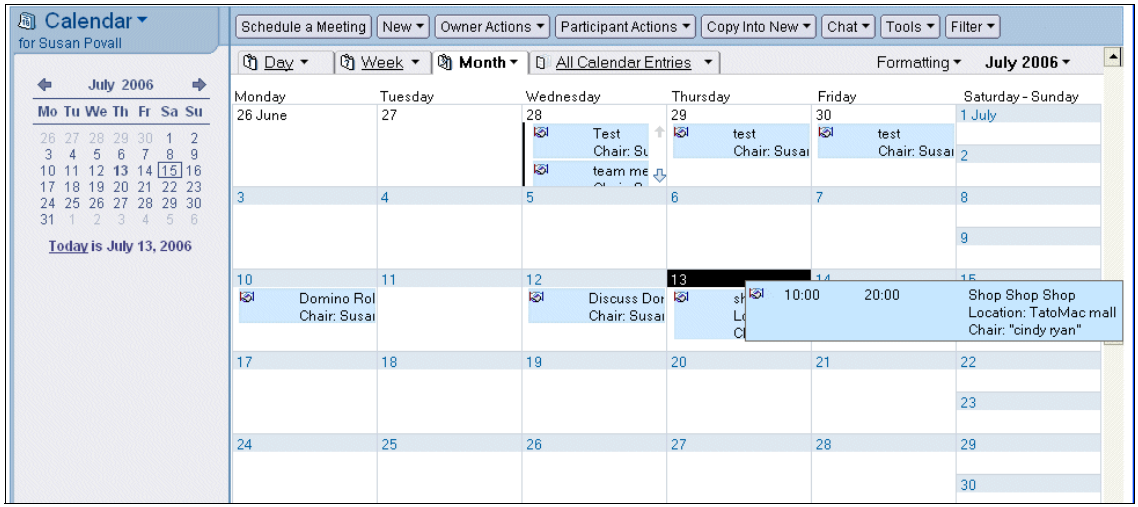

Figure 9-39 Calendar view showing accepted meeting

11. Cindy receives a notification that Susan has accepted here meeting request.and upon reviewing the appointment can see that the attendees have accepted.

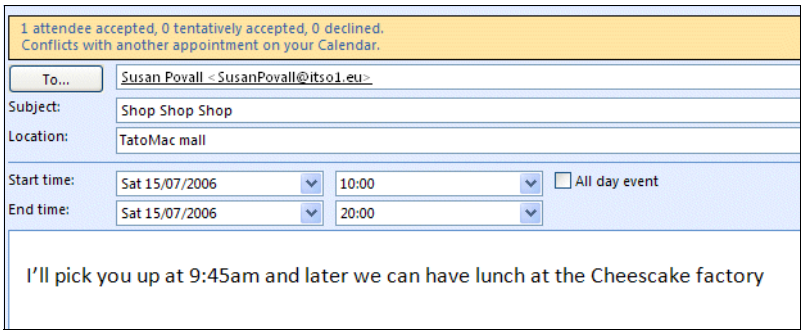

Figure 9-40 Meeting notice showing accepted by attendees

10

Co-existence test results - what to expect

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter discusses and illustrates the results users can expect during a period of coexistence between Exchange 2000 /20003 and Notes and Domino 7.

We describe the testing methodology we used with the intent that this can also be useful when planning a testing solution for your specific migration and co-existence strategy. We then approach the results based on the specific coexistence tool used for each scenario:

- “Coexistence with MS Exchange Connector” on page 320
- “CMT for Exchange and Domino Coexistence” on page 325
- “SMTP Routing” on page 329

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- “Coexistence with MS Exchange Connector” on page 320

Attention: The goal of this chapter is to demonstrate an approach and methodology to co-existence testing, and to highlight key issues to be aware of based on your co-existence solution. Due to time and scope limitations, it is not possible to cover every possible variation.

10.1 Methodology used for testing

In order to methodically test each of the co-existence solutions discussed in this book, we created the matrix shown in Figure 10-1 on page 312. The approach was to send a carefully formatted and representative message between both the Domino and Exchange systems, while covering an extensive sample of messaging and calendaring formatting and functionality. To conduct the test, we created a richly formatted document, containing specific elements such as rich text, tables, sections, document links and embedded graphics in order to verify how these would transfer between the two systems.

		Exchange			Notes		
		Exchange Connector	CMT	SMTP	Exchange Connector	CMT	SMTP
Test							
	Mail						
	Send / Receive						
	Reply						
	Reply to all						
	Address Resolution						
	Doc Links						
	RTF						
	HTML / Mime						
	Signature Files						
	Attachments						
	SMIME						
	Urls						
	C&S						
	Free Busy lookup						
	Standard Meeting Invite						
	Repeating meetings						
	Tasks						
	Time Zones						
	Rescheduling						
	Accept / Decline						
	Adding invitees						
	Rooms and Resources						
	Directory (Server)						
	Name Resolution / Lookup						
	Type Ahead						
	Directory Lookup						
	Administrative						
	Registering Users						
	Adding / Managing Users (AD Sync)						
	Groups – Managing / Modifying						

Figure 10-1 Test Matrix used to methodically test co-existence results between each system

The document used as the primary test message between systems is shown below in Figure 10-2 on page 313. We believed this to be a representative, richly formatted document, containing specific elements such as rich text, tables, sections, document links and embedded graphics.

Test Message includes richly formatted text, embedded images, doc-links, tables and sections.

Hello Team,

Here is a link to the IBM page which discuss the upcoming release of Notes and Domino 7.02.

You can learn more by following this link, http://www.ibm.com/software/sw-lotus/products/product4.nsf/wdocs/nd702 , or by looking at this document link ( )

Lotus. software

Innovation – enhancing business value

IBM LOTUS NOTES AND DOMINO 7.0.2

- Not merely a maintenance release
- Bonus features included
- Coming second half 2006

Why IBM

Collaboration beyond mail. Platform flexibility. Continued innovation while familiar features remain in place - no disruptive migration.

Enhanced SAP software integration and open standards.

	Featured capabilities	Details
	USB • Are you a nomad? Take your Lotus Notes desktop with you.	Lotus Notes 7.0.2 software will let you copy your Lotus Notes desktop (not just your files) to a Universal Serial Bus (USB) device the size of a pen. Then plug the device into another Microsoft Windows workstation having a USB port and, with a simple click, launch Lotus Notes software. It's that simple!
	Blog template • To blog or not to blog? Lotus Notes software gives you the choice.	True to the Lotus Notes software heritage of out-of-the-box collaboration tools, Lotus Notes 7.0.2 software will include a prepackaged application that lets business users quickly create a Web log (blog). Blogs have become a popular and useful tool for online journals, forums and bulletin boards. What's more, a blog can be an easy way to collaborate with other employees, customers and suppliers about a project, proposal or new products.
	RSS capabilities • Want really simple syndication? Subscribe to Lotus Notes software.	Companies are increasing their use of Really Simple Syndication (RSS) readers and news aggregators to help publish information using the Web. Lotus Notes and Domino 7.0.2 software will allow you to make your Lotus Domino databases accessible through these services. This capability is especially useful for data that is regularly updated. Examples: • Marketing departments feed headlines, full text, or multimedia files to internal or external parties. • Educational facilities relay announcements. • Press and media firms feed press with newly released information. • Government agencies issue alerts and publish new resources and policies.

Featured Capabilities | USB Capabilities | Blog template | RSS Template

	Featured capabilities	Details

This is a section..

Sametime 7.5 Product Overview

Figure 10-2 Richly formatted test message sent between systems

10.2 Executive overview of results

This section provides a high level summary of the results and the team's impressions of the available tools for managing co-existence. While the subsequent sections of this chapter will provide much greater detail into each of the tools, this summarizes our impression.

Overall, we found the CMT (Common Migration Tool) for Exchange and Domino Coexistence from Binary Tree, Inc. (http://www.binarytree.com) to provide the best message fidelity between Notes and Exchange. In particular, the Common Migration tool addresses Notes specific features such as document links and sections embedded within a Notes document.

Next to this solution, we were impressed with fidelity of SMTP routing as a co-existence solution. (Keep in mind that SMTP routing does not require purchasing a specific 3rd party product, so it is also the most cost effective.)

Finally, the team was surprised at the lack of fidelity maintained when using the the Microsoft Exchange Connectors. Basic formatting such as embedded images and tables were modified and we found the overall result to be disappointing.

Attention: When using the Exchange 2003 connectors, we did see significant improvements in the retention of table formatting and embedded graphics. Figure 10-8 on page 323 illustrates the improved rendering when using the 2003 Exchange Connector.

10.2.1 Summary overview of screenshots

- Figure 10-3 on page 315 illustrates how the CMT (Common Migration Tool) for Exchange and Domino Coexistence from Binary Tree, Inc. preserved clickable document links, basic section formatting and finally, all other basic formatting within the document.

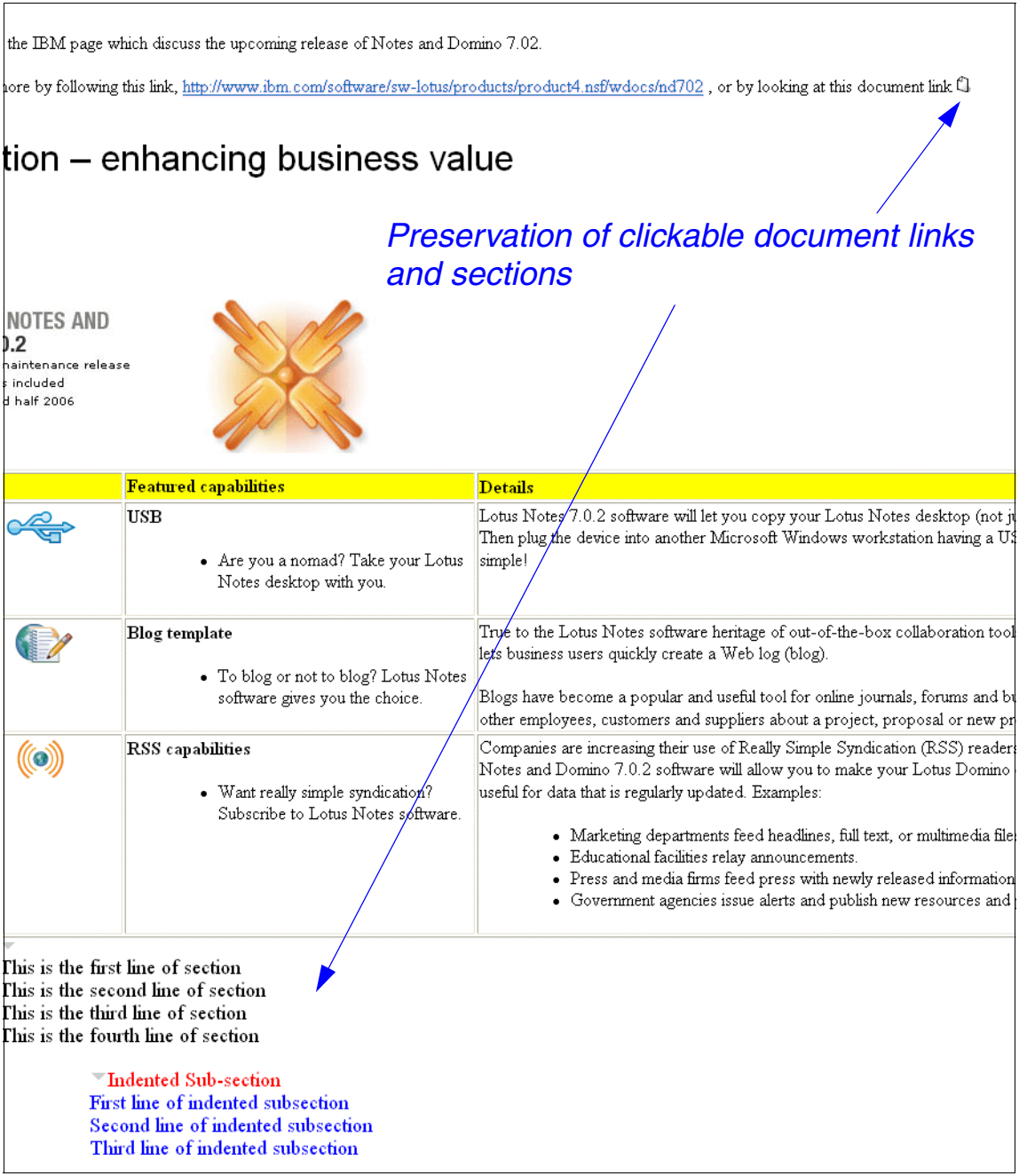


Figure 10-3 Common Migration Tool for co-existence from Binary Tree

- As shown in Figure 10-4 on page 317, we also liked the basic message fidelity retention when using an SMTP routing solution. All basic formatting was retained, including an embedded clickable document link. Section formatting was lost, however.

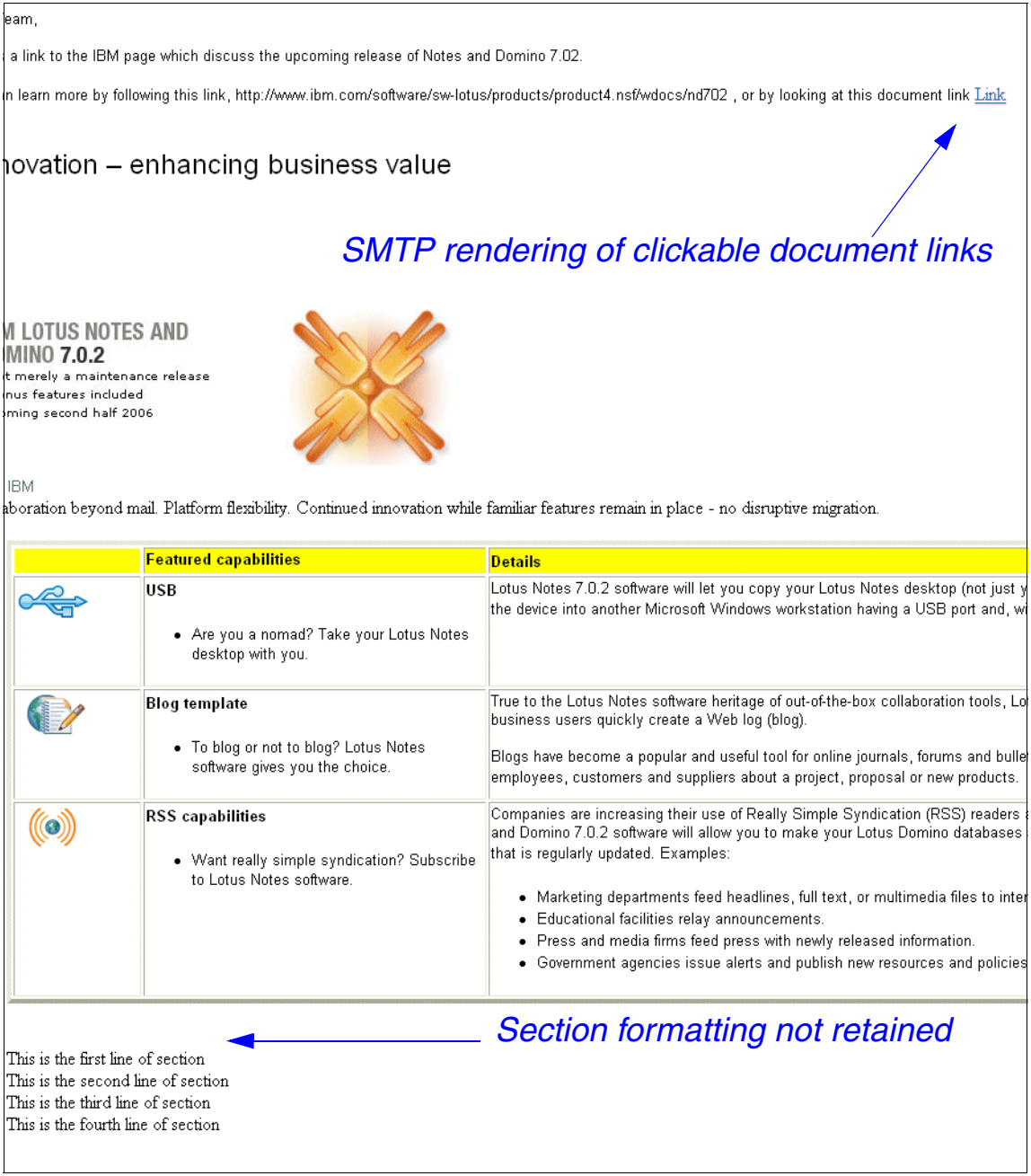


Figure 10-4 SMTP rendering of email between Notes and Exchange

- Finally, Figure 10-5 on page 319 illustrates the basic result when using the Exchange Connector. We were surprised to see that basic formatting such as table formatting or embedded images was not retained.

Attention: When using the Exchange 2003 connectors, we did see significant improvements in the retention of table formatting and embedded graphics. Figure 10-8 on page 323 illustrates the improved rendering when using the 2003 Exchange Connector.

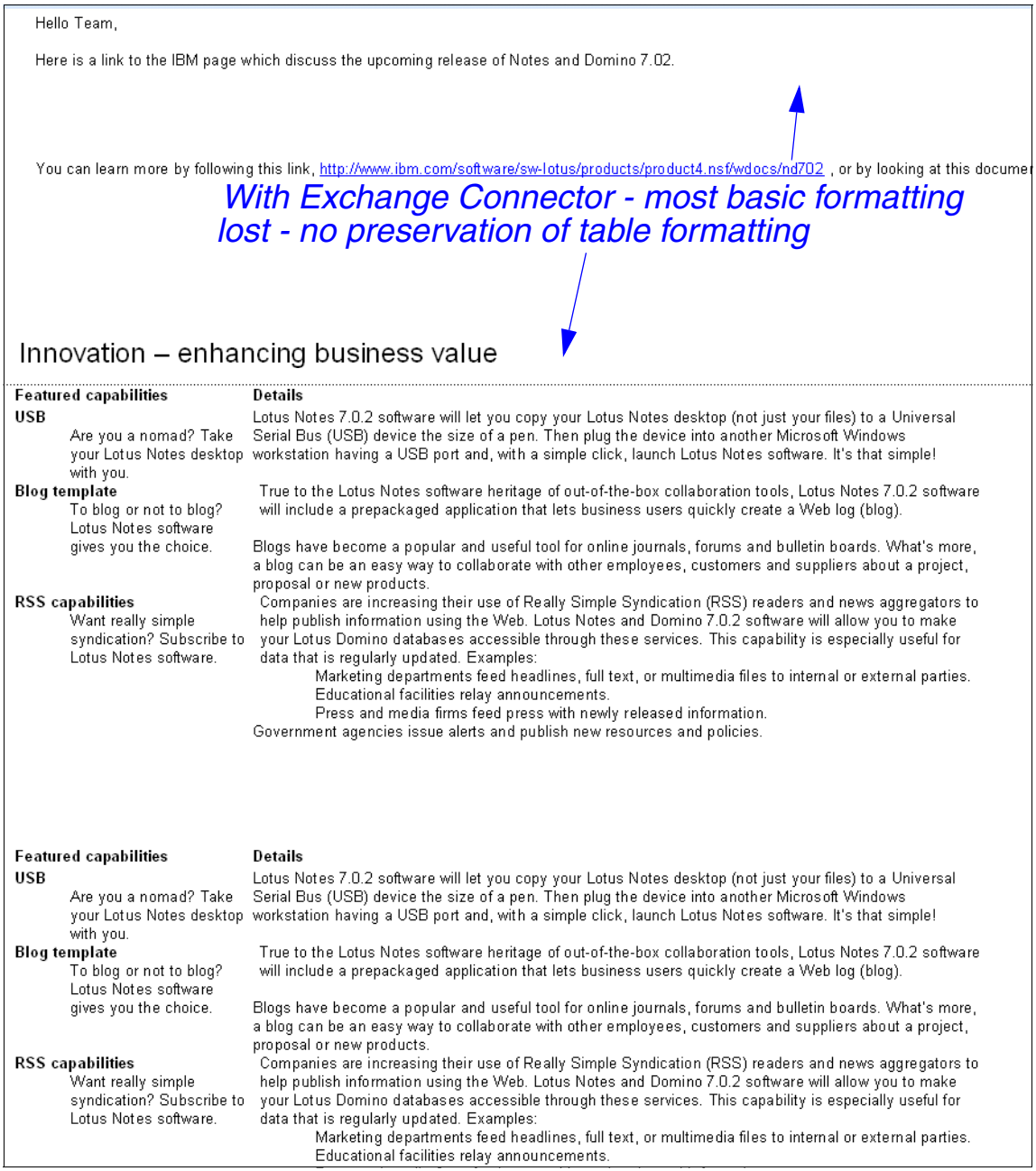


Figure 10-5 Email rendering from Notes to Exchange using MS Exchange Connectors

10.3 Coexistence with MS Exchange Connector

The following section describes the results found when testing message transfers between the Notes and Exchange Domains using the Microsoft Exchange Connector.

10.3.1 Directory Lookups

As an initial step when sending the message, we wanted to verify that DNS Name lookups were working and that we were able to access the Exchange Directory when initially sending from the Domino to the Exchange domains.

From Notes to Exchange

Figure 10-6 illustrate successful DNS Name resolution using the Microsoft Exchange Connector, together with the ability to access the Exchange Directory for name loopkups.

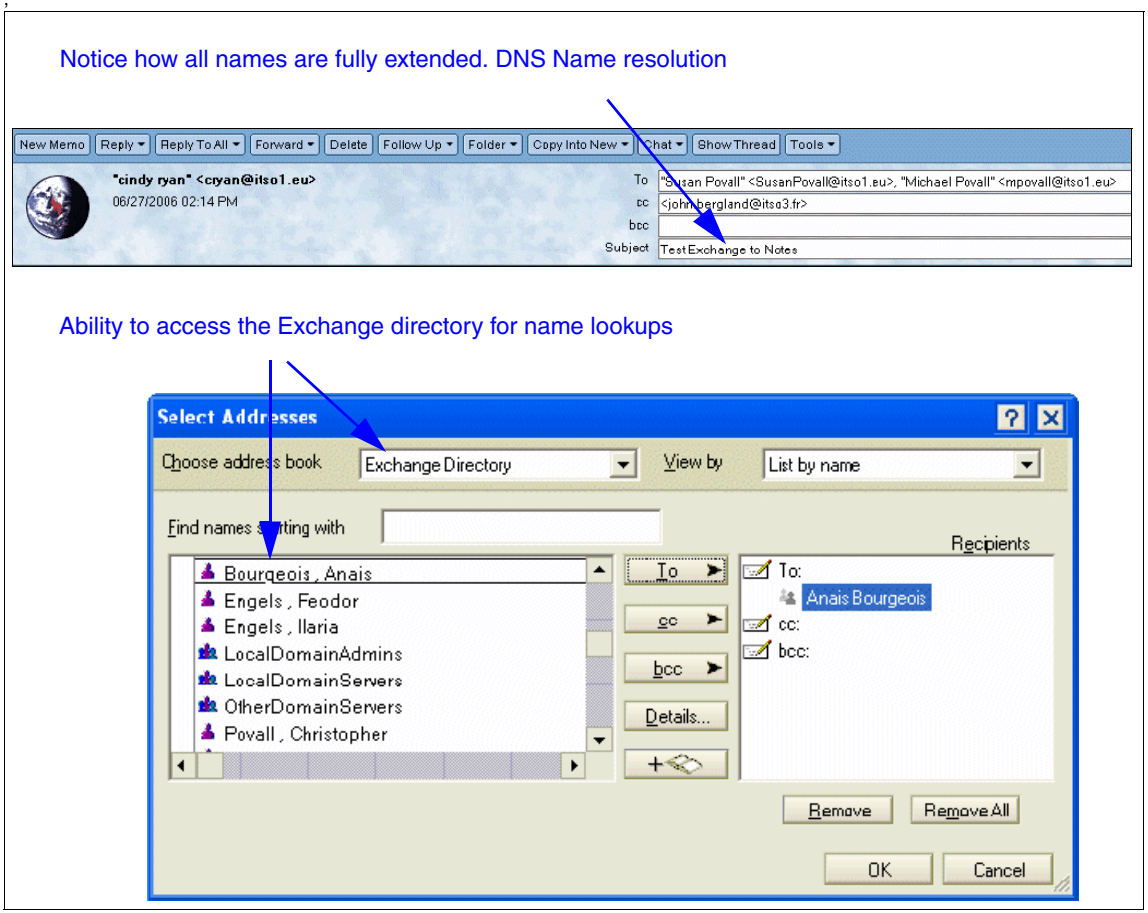
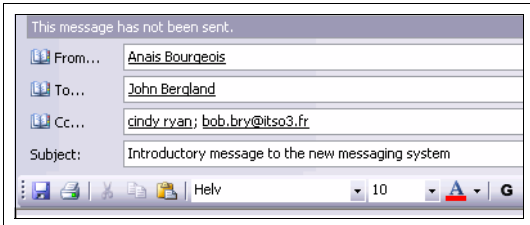


Figure 10-6 DNS Name lookups and accessing the Exchange Directory

From Exchange to Domino - Directory lookups from within Outlook

Figure 10-7 on page 322 illustrates the directory lookup functionality working correctly from within Microsoft Outlook.



Names translating correctly between systems

Names available for lookup from within

the Outlook directory

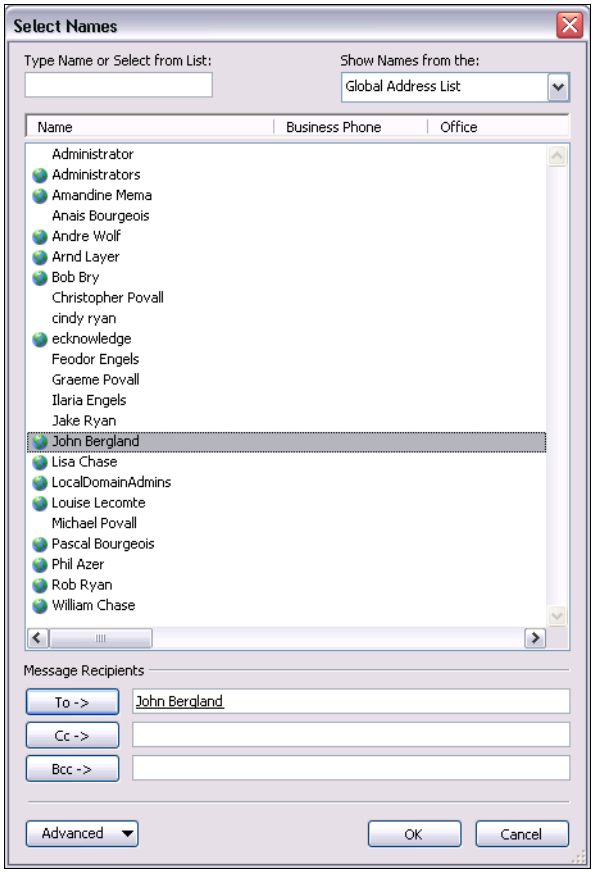


Figure 10-7 Directory lookup functionality between systems

10.3.2 Messaging - Notes to Exchange

When the message was sent via the Exchange 2003 connector, the basic formatting was retained, but Notes specific features such as document links and sections were not translated correctly.

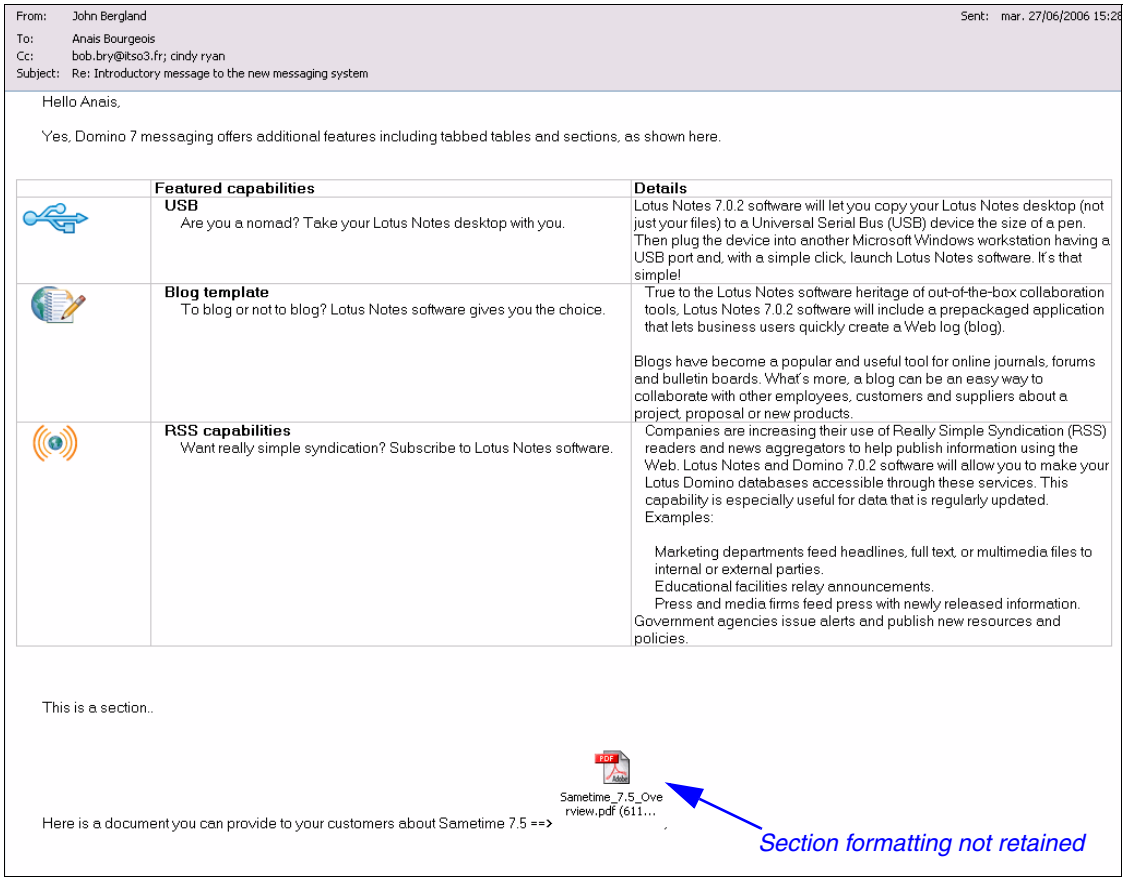


Figure 10-8 Example of how a note is sent from Notes to Exchange

Attention: When using the Exchange 2003 connectors, we did see significant improvements in the retention of table formatting and embedded graphics. Figure 10-8 illustrates the improved rendering when using the 2003 Exchange Connector.

Document Links

The following screenshot illustrates how document links are translated when sent from Domino to Exchange using the Exchange Connectors. Document links are most frequently translated to a Notes specific URL.

Notes://itsocam/8525717E0064D69C/8178B1C14B1E9B6B8525624F0062FE9F/021DBF61EA7788B48525719900608ECC.

Figure 10-9 Document link example

10.3.3 Messaging - Exchange to Notes

Finally, when the original message was sent from Exchange to Notes, the formatting was retained. The result appears to be very similar to the SMTP routing solution.

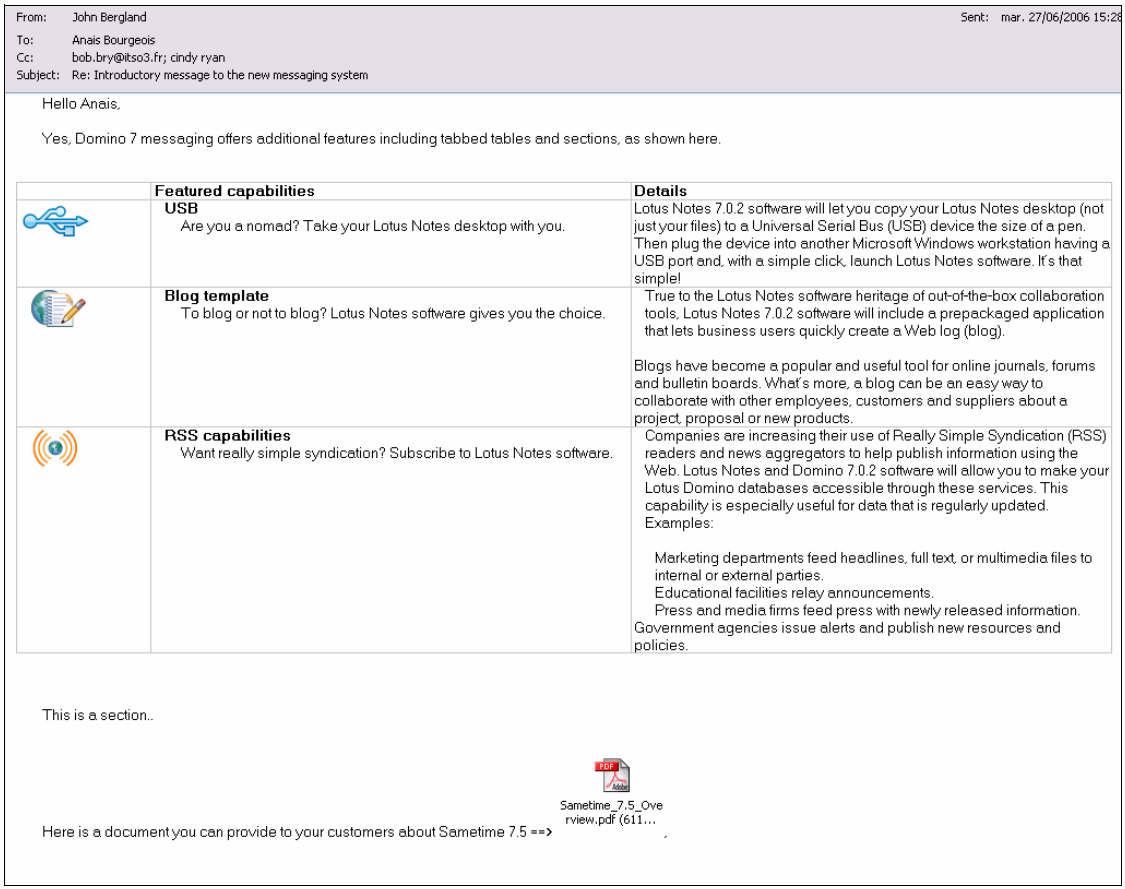


Figure 10-10 Example of how message appeared when sent from Exchange to Notes.

10.4 CMT for Exchange and Domino Coexistence

This section discusses and illustrates the results from our testing using the CMT for Exchange and Domino Co-existence. (See Chapter 8, “Using the CMT for Exchange and Domino Coexistence” on page 251 for information on this product.)

10.4.1 Messaging - Notes to Exchange

BinaryTree’s CMT for Exchange and Domino Coexistence (CMT for Coexistence) relies on SMTP for message transport, but it processes every message originated to exchange prior to releasing it for smtp transfer. It has shown in our testing a high level of message fidelity.

The sender of the mail from notes shows in outlook as an smtp address, so the answering mail will be routed over smtp as well.

Figure 10-11 and Figure 10-12 on page 327 illustrate highlights of this testing.

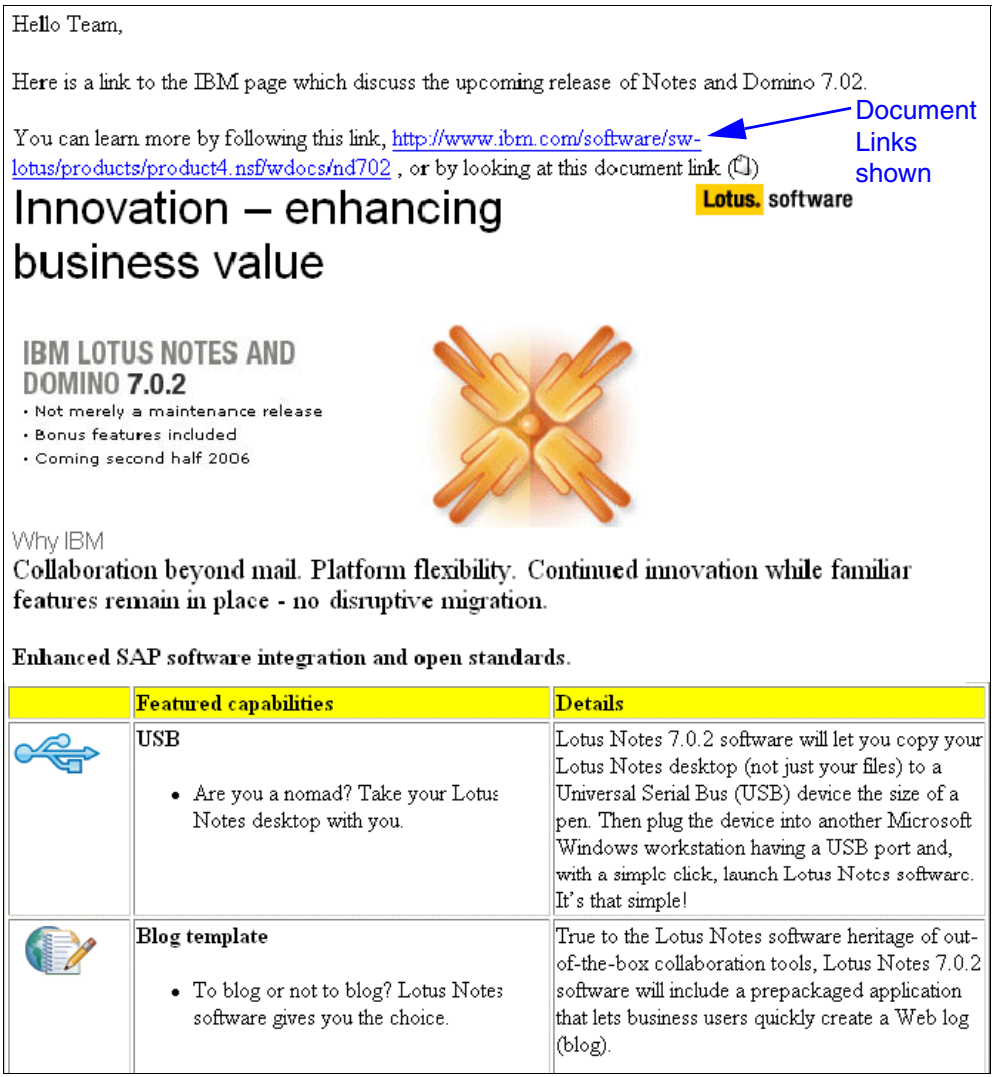


Figure 10-11 Overview of Message transferred using CMT for Exchange and Domino Coexistence Tool

	Featured capabilities	Details
	USB • Are you a nomad? Take your Lotus Notes desktop with you.	Lotus Notes 7.0.2 software will let you copy your Lotus Notes desktop (not just your files) to a Universal Serial Bus (USB) device the size of a pen. Then plug the device into another Microsoft Windows workstation having a USB port and, with a simple click, launch Lotus Notes software. It's that simple!
	Blog template • To blog or not to blog? Lotus Notes software gives you the choice.	True to the Lotus Notes software heritage of out-of-the-box collaboration tools, Lotus Notes 7.0.2 software will include a prepackaged application that lets business users quickly create a Web log (blog). Blogs have become a popular and useful tool for online journals, forums and bulletin boards. What's more, a blog can be an easy way to collaborate with other employees, customers and suppliers about a project, proposal or new products.
	RSS capabilities • Want really simple syndication? Subscribe to Lotus Notes software.	Companies are increasing their use of Really Simple Syndication (RSS) readers and news aggregators to help publish information using the Web. Lotus Notes and Domino 7.0.2 software will allow you to make your Lotus Domino databases accessible through these services. This capability is especially useful for data that is regularly updated. Examples: • Marketing departments feed headlines, full text, or multimedia files to internal or external parties. • Educational facilities relay announcements. • Press and media firms feed press with newly released information. • Government agencies issue alerts and publish new resources and policies.

This is a section..

Section formatting twisty indicates section

▼ Sametime 7.5 Product Overview

Here is a document you can provide to your customers about Sametime 7.5 ==> *(See attached file: Sametime_7.5_Overview.pdf),*

Figure 10-12 Lower-half of message illustrating how sections are handled

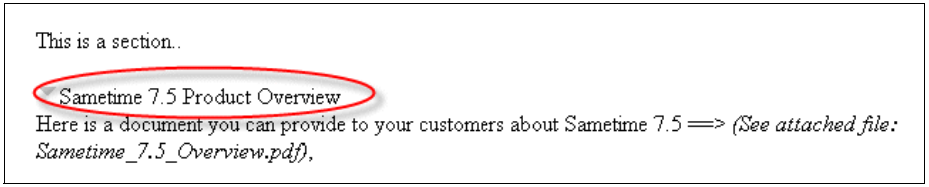


Figure 10-13 CMT Coexistence: Notes Section is converted to a mock up section in html

As you see in Figure 10-13, the Notes Section part of the testmail is shown as a text line with an triangle showing down, mocking an expanded section. Beyond the appearance, visually indicating where a section was placed, there is no Notes-centric section functionality. If you click on the twisty image, nothing happens.

However, the big advantage over other approaches is, that the section heading and overall layout is retained.

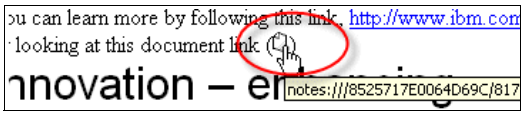


Figure 10-14 CMT Coexistence: Notes Links been showed with an icon in the mail body

The Notes link (document link) has been converted into a notes:/// url, just like in the messaging coexistence option based on pure SMTP routing, but instead of (Link) in the document, an icon been included which resembles the notes mail layout.

10.4.2 Messaging - Exchange to Notes

The result of message sent from exchange to notes are the same, as in the SMTP Routing test, since messages on Exchange side are not being modified by the CMT for Coexistence, rather then being pushed to SMTP routing by switching the primary email address for the imported Notes contacts in Active Directory.

10.5 SMTP Routing

The following section discusses the test results when using the SMTP Routing Co-existence Solution between systems, as described in Chapter 9, “Using SMTP routing for coexistence” on page 267

10.5.1 Directory Lookups

As an initial step when sending the message, we wanted to verify that DNS Name lookups were working and that we were able to access the Exchange Directory when initially sending from the Domino to the Exchange domains.

From Notes to Exchange

Figure 10-6 illustrates the ability to use LDAP to successfully lookup names in the address book.

,

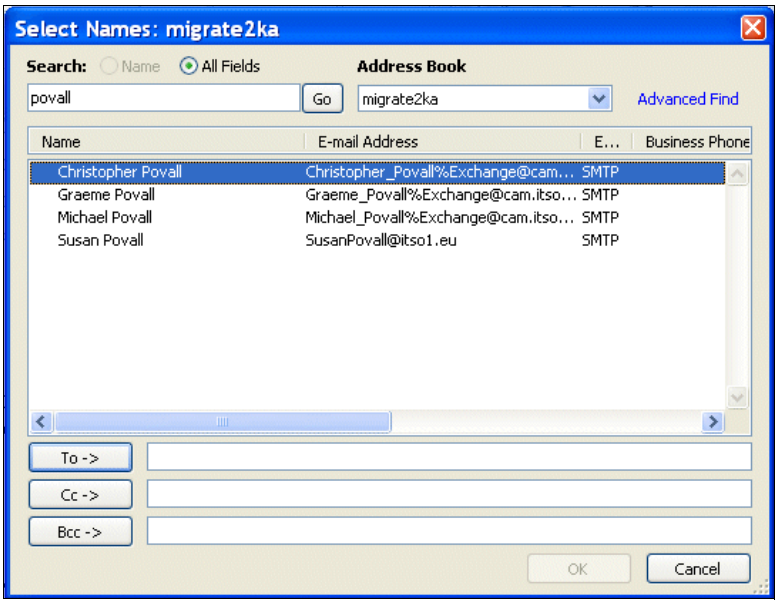


Figure 10-15 LDAP Directory Lookup used for SMTP Routing

10.5.2 Messaging - Notes to Exchange

To test the functionality of the SMTP coexistence we sent a standard email that contained rich text, Attachments, graphics, a table, URL links and some domino doc links. In addition, we sent meeting notices. We sent the same messages from Notes and Outlook, copying additional recipients in the same and other

email systems (Exchange , Domino, Internet) to test recipent and sender address resolution. (See 10.1, “Methodology used for testing” on page 311).

Rich Text fidelity testing

The following screen shots illustrate our results in Outlook.

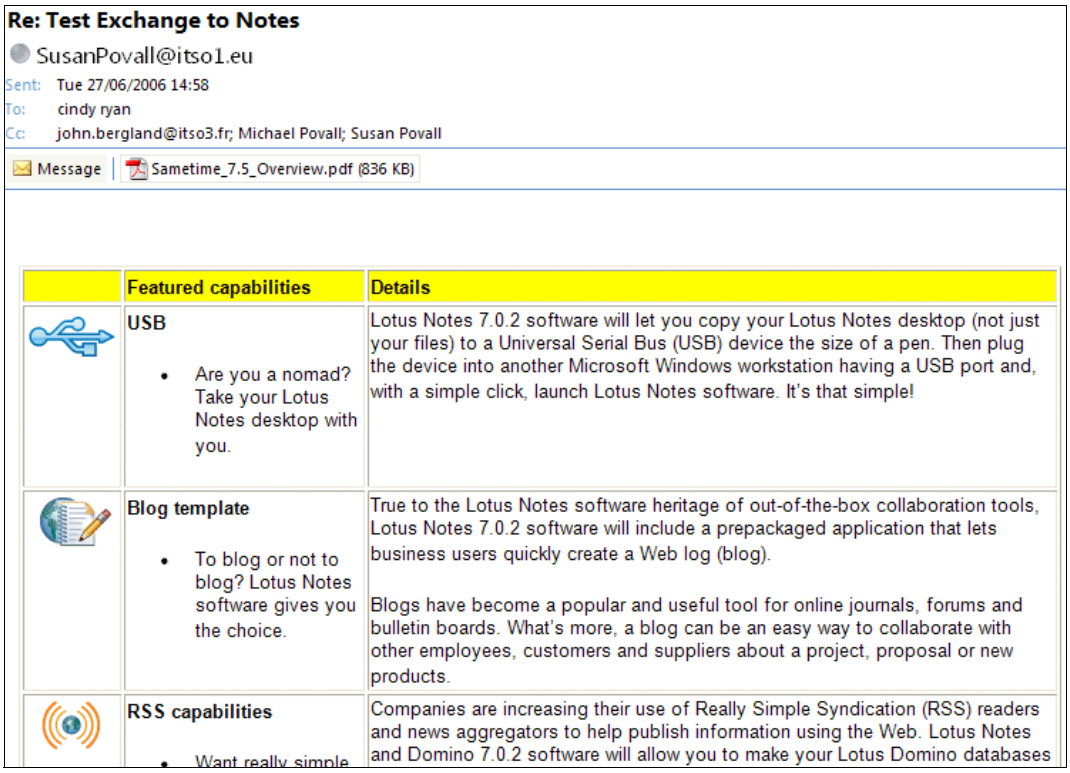


Figure 10-16 Received item in Outlook - Table retained formatting

Our first test was for Rich text fidelity. From Notes to Exchange we did not experience any corruption to the structure of the email.

- URL links where retained and worked OK
- The Table was in tact and when forwarding, editable
- All embedded Graphics where received as sent
- All rich text, colors, fonts, justification was in tact
- Attachment was received as sent

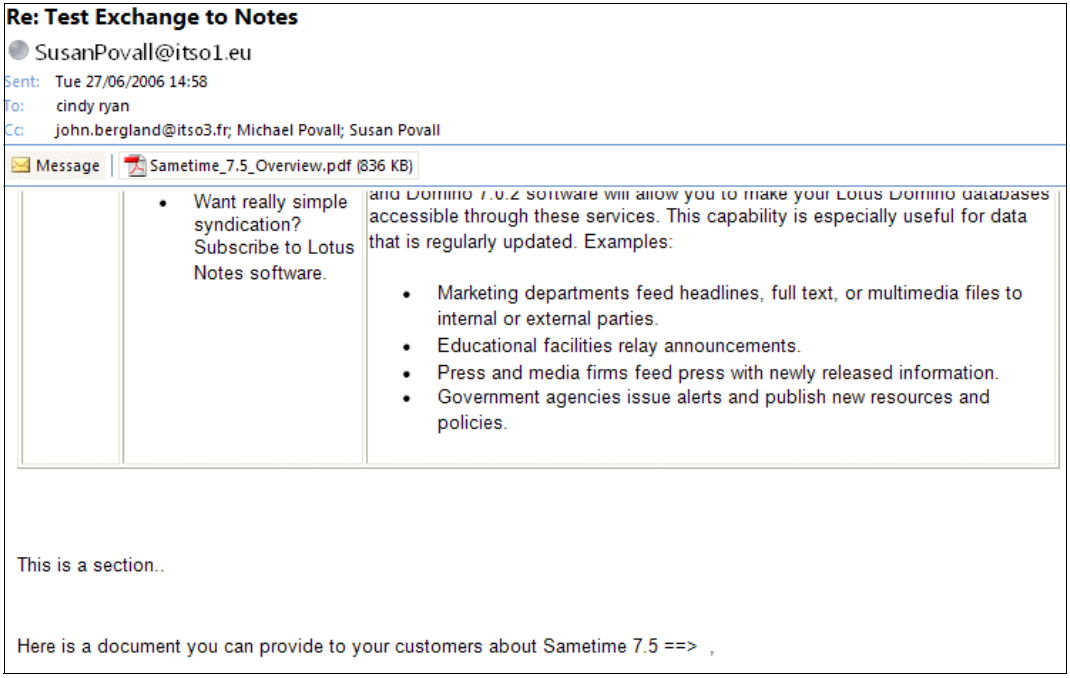


Figure 10-17 Sections received in Outlook

Notes specific items - sections and doclinks

Our next test within the message was to embed a Notes section and send to multiple recipients.

- Although the data was received in tact, the section was flattened.
- All addressees received the message and all reply addresses worked successfully
- The attachment was received successfully by all recipients
- Address resolution worked correctly, i.e. Exchange recipients are resolved into flat exchange addresses whilst all other recipient addresses are retained as SMTP.

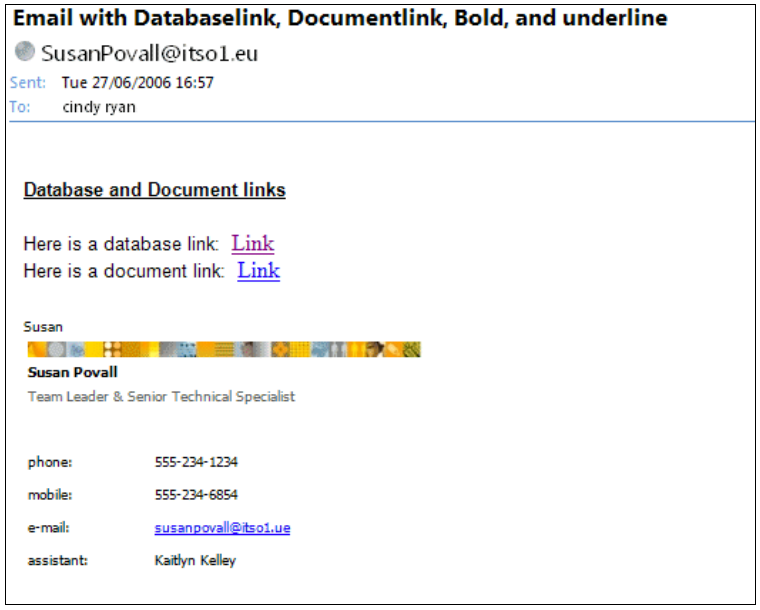


Figure 10-18 Doclinks received

Our third test was to send Doclinks to Exchange. We found that the doclinks where received in tact, However, we where unable to take action with them as we did test delivery to a user that had *not yet installed Lotus Notes*. (This user was running Outlook as their client.) Accordingly, if a user had not yet installed Lotus Notes, when we clicked the doclink the following error (Figure 10-19) was received

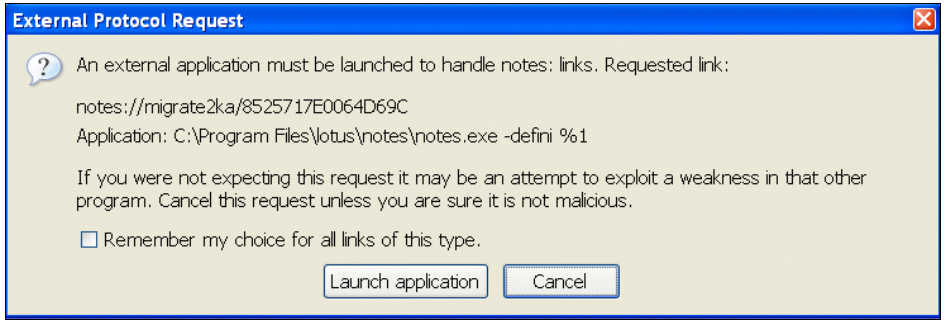


Figure 10-19 Doclink error

Subsequent testing revealed that once Notes was installed, the doclink did launch correctly, and, once the user was migrated all doclinks continued to work successfully.

Embedded HTML

We then sent an embedded HTML message the following was received

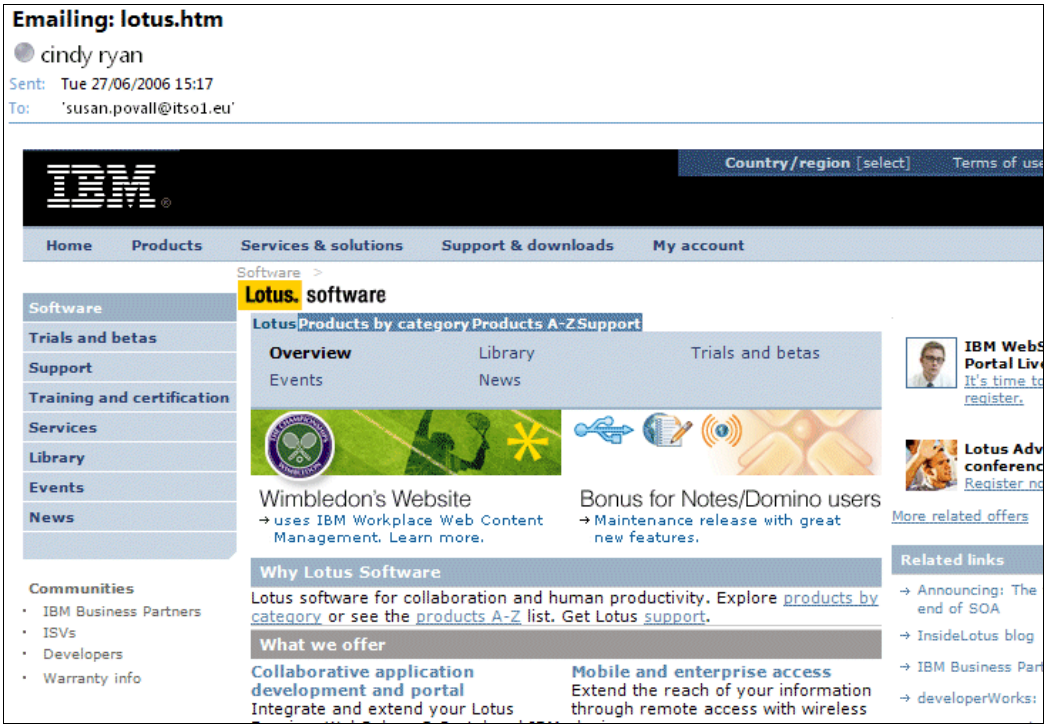


Figure 10-20 Received Embedded HTML

We did not find any anomalies in the received message,.

Calendaring and scheduling testing via SMTP

Finally, satisfied that our mail testing was a success, we moved onto Calendar and scheduling. For this we ran a simple scenario. A meeting invite would be created in the foreign system (Susan on Notes),the recipient (Cindy) would accept the meeting.

The following was the meeting notice received in Outlook.

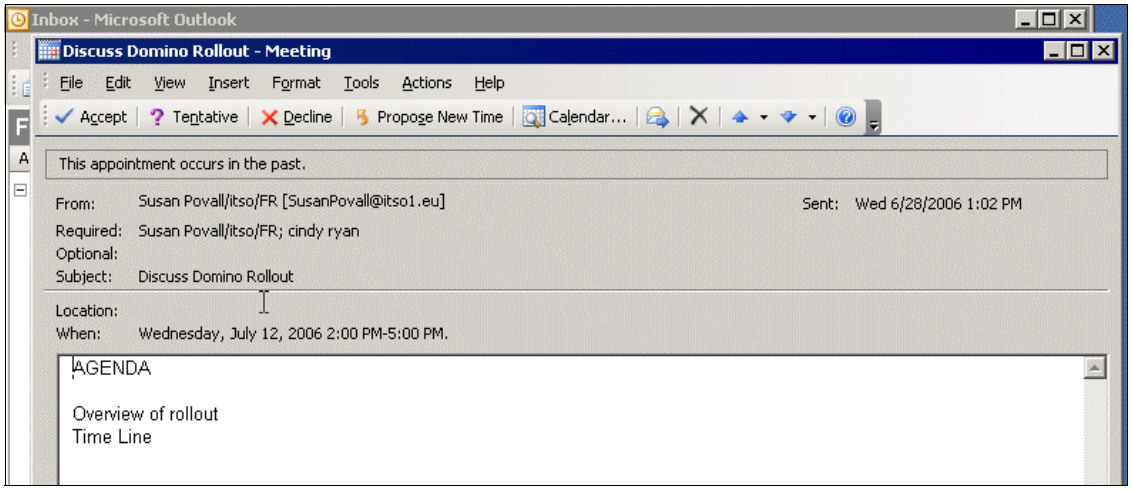


Figure 10-21 Meeting notice

- Meeting notices where received intact in Outlook
- Acceptance, changing, delegation and declination all worked and the chair was notified in both directions.

Note: Subsequent testing with different versions of Outlook produced differing results. Not all versions of Outlook fully support the iCal standard. We recommend ensuring that you have the latest Windows Service pack installed. We also noted that Outlook 2000 not only required the latest Service pack, but also a hotfix only available from Microsoft support.

10.6 Summary

The intent of this chapter has been to demonstrate an approach and methodology to co-existence testing, and to highlight key issues to be aware of based on your co-existence solution. Due to time and scope limitations, it was not possible to cover every possible variation. While we were most impressed with the results of CMT (Common Migration Tool) for Exchange and Domino Coexistence from Binary Tree, Inc. (http://www.binarytree.com) for providing the best message fidelity between Notes and Exchange, we also liked the results from SMTP routing. Finally, while not thrilled with the overall results from the Exchange 2000 connectors, we were at least pleased to see that the Exchange

2003 Connector provided improvements in formatting and retaining message fidelity between Notes and Exchange.

Part 4

Migration Process - tools and procedures

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11

Server level migration Using Domino Upgrade Services

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter offers an overview of Domino Upgrade Services “DUS” and provides step-by-step instructions to use the tool.

This Chapter covers the following topics:

- Overview of Domino Upgrade Services (DUS)
- Preparing for the migration process
- Migrating Exchange users and data to Domino 7
- Converting Exchange addresses to Notes Canonical format

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Note: Domino Upgrade Services (“DUS”) is also commonly referred to in this chapter and in other documentation as the Domino Migration Tool.

11.1 Overview of Domino Upgrade Services (DUS)

Domino Upgrade Services (DUS) in the Domino Administrator client allows you to easily migrate information from your existing Microsoft Exchange messaging and directory system to Domino 7. With DUS, you can import users from the foreign directory, register them as Notes users, and then convert the mail from an Exchange mail system to a Domino mail database. The migration tool lets you migrate all users from the foreign directory or select specific users to migrate.

11.2 Preparing for the migration process

Sizing the migration workstations is a critical component for the overall success of the actual migration. The main factors in determining the size and number of migration workstations are:

- The size of the Exchange Information Stores to be migrated
- The number of users to be migrated
- The amount of time available for the migration

The actual migration process can be accomplished via several workstations at once, each handling a different portion of the user community. If you have a large number of users to migrate, with lots of data and a short timeframe, we suggest using several migration workstations working in tandem. This is illustrated in Figure 11-1 on page 342. You should use workstations that have the following characteristics:

- The fastest CPU
- The most RAM
- 100mb network card
- Windows 2000 or higher

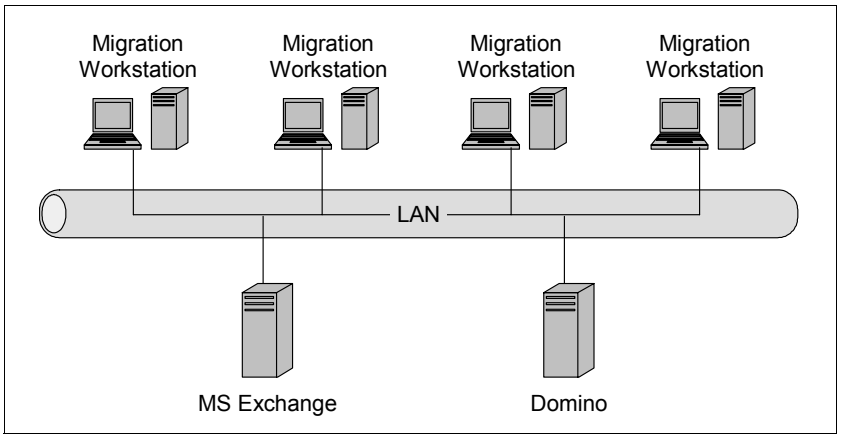

Figure 11-1 Migration with multiple workstations

Please refer to [Chapter 3 - planning for the migration] for instructions on planning for your migration from Exchange to Domino.

11.3 Migrating Exchange users and their data to Domino

In this section we cover prerequisites and steps you need to take in the migration process.

11.3.1 Prerequisites for performing the migration

Prior to beginning the migration, verify that your organization meets the following prerequisites.

- Workstation(s) performing the migration has Domino Administrator Client installed
- Workstations) performing the migration has Outlook Client installed
- Have access to the Administrator ID (admin.id)
- Have access to the Certifier ID (cert.id).
- Must use the extended mail template (mail7ex.ntf) or the Domino Web Access (DWA7.ntf) template for all users migrated to Domino

Once these prerequisites are meet, you will need to complete the following steps:

- Create Administrator profile in Outlook
- Install Exchange as a Foreign Directory Source

- Migrate users
- Convert Exchange Addresses to Notes Canonical form

11.3.2 Creating the Administrator profile in Outlook

To migrate users from Microsoft Exchange, you must connect to the Exchange server storing the mail files you want to migrate. You connect to an Exchange server by selecting the Administrator mail profile for the Exchange server from which you want to migrate users and their associated mail files. The Administrator account, must have Administrator role for the Exchange site and server, which gives you full access to all accounts and all mailboxes in the Exchange server.

To create the Administrator profile, follow these steps:

Note: In our test environment, we used the default Administrator

1. Select the Outlook client icon on the desktop and right-click the mouse to display the menu. Note that for this example we are using the Outlook 2003 client, but the display might vary slightly, depending on the version of Outlook you are using.
2. Select the Properties item, and the Mail General Tab is displayed.
3. Click **Add** and the New Profile dialog is displayed Figure 11-2

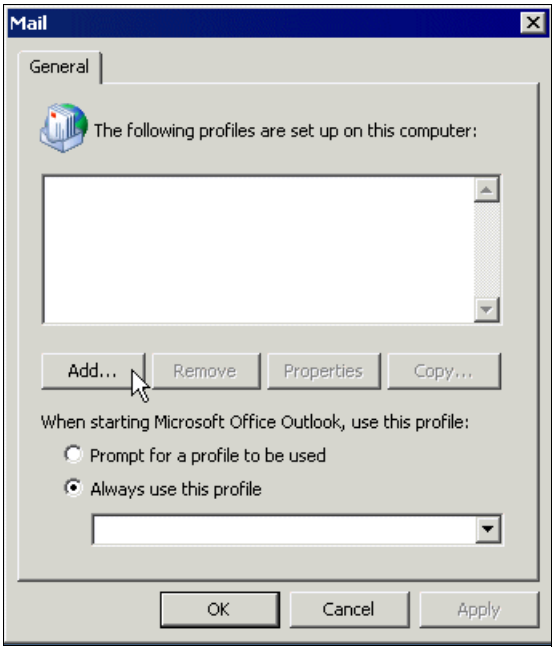

Figure 11-2 Mail General tab

4. In the Profile Name box, type the name of the Administrator profile for the Exchange server from which you are migrating data. For example type Administrator - Exchange Server Figure 11-3.

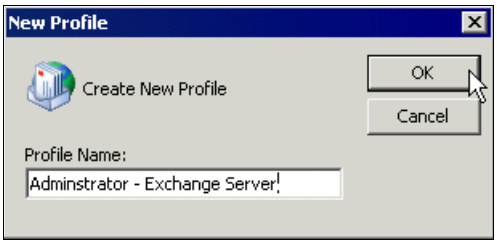

Figure 11-3 Profile name box

5. Click **OK** and the E-mail Accounts dialog is displayed (Figure 11-4). Select **Add a new e-mail account**.

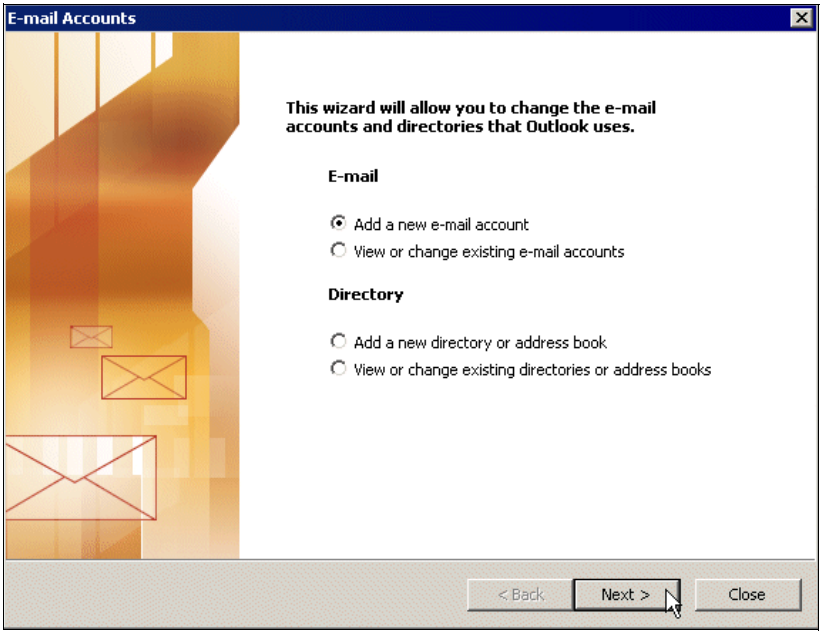

Figure 11-4 Add a new e-mail account

6. Click **Next**, and a dialog displays that allows you to select the server type for the Administrator profile. Select the radio button next to Microsoft Exchange Server Figure 11-5 and click **Next**. The Exchange Server Settings dialog is displayed

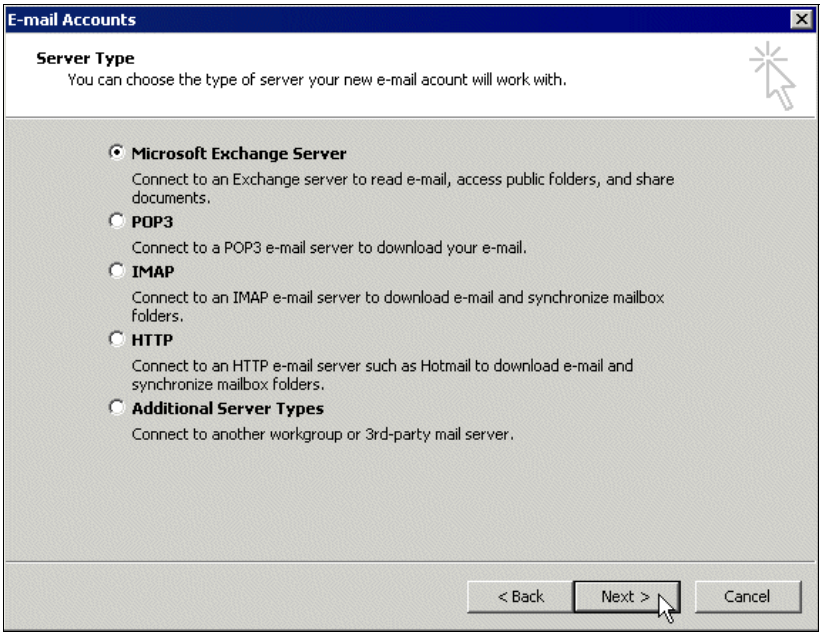

Figure 11-5 Server type for administrator profile

7. In the box next to Microsoft Exchange Server, type the name of the Exchange server from which you are migrating users.
8. In the box next to User Name, type the name of the Exchange Administrator. Click **Check Name**, and a dialog displays requesting the password for the Exchange Administrator.
9. Type the password for the Administrator, and click **OK**. The E-mail accounts dialog displays with the name of the Administrator underlined.

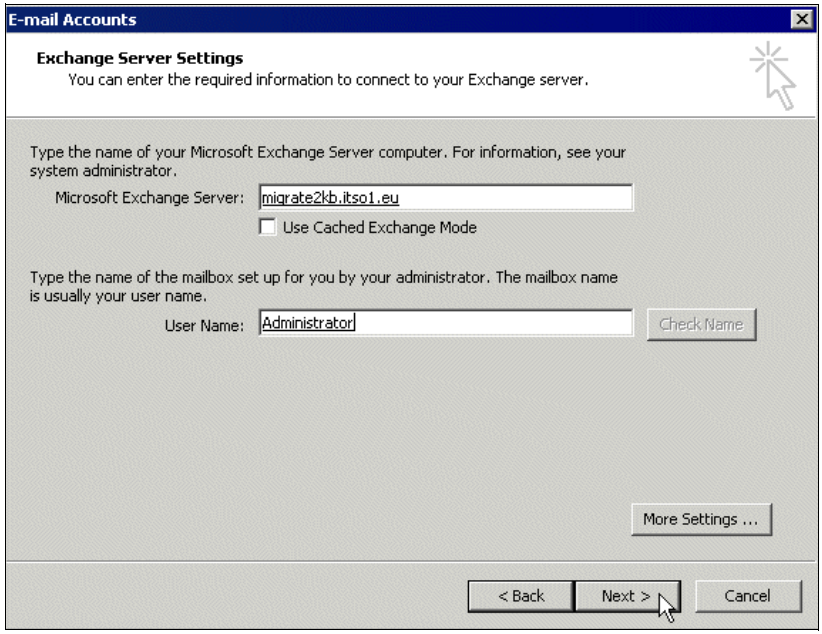

Figure 11-6 Exchange Server Settings

10. Click **Next**. The Congratulation Screen appears Figure 11-7 on page 348

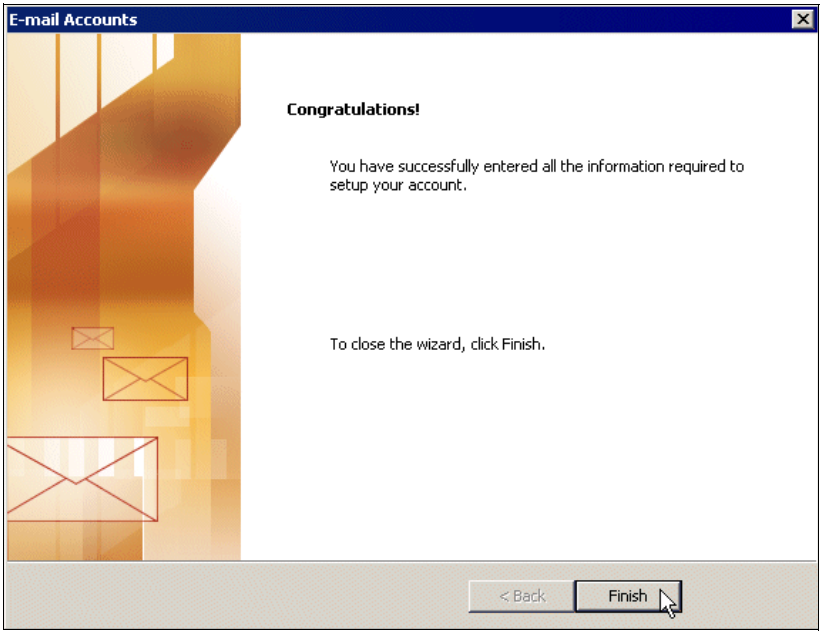

Figure 11-7 Congratulations window

11..Click **Finish** and the Administrator profile is created.

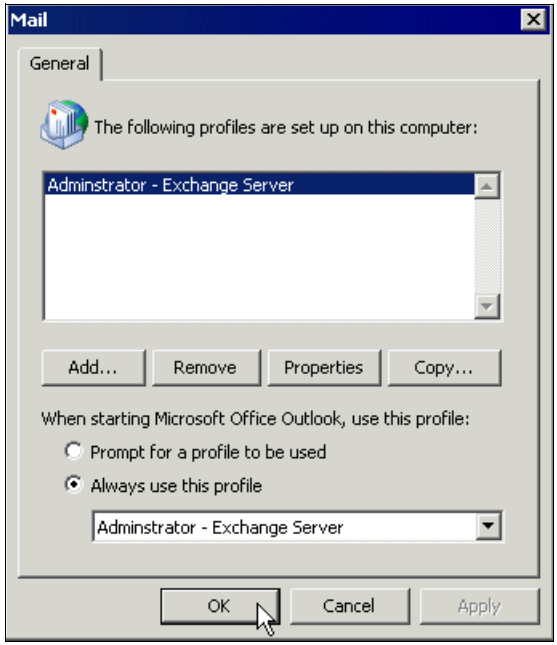

Figure 11-8 Profile created

11.3.3 Installing Exchange as a Foreign Directory Source

Exchange is available to install as a Foreign Directory Source during the Notes client installation. During the setup of the Notes client, expand the Migration Tools option and ensure that the Exchange Migration option is enabled (Figure 11-9).

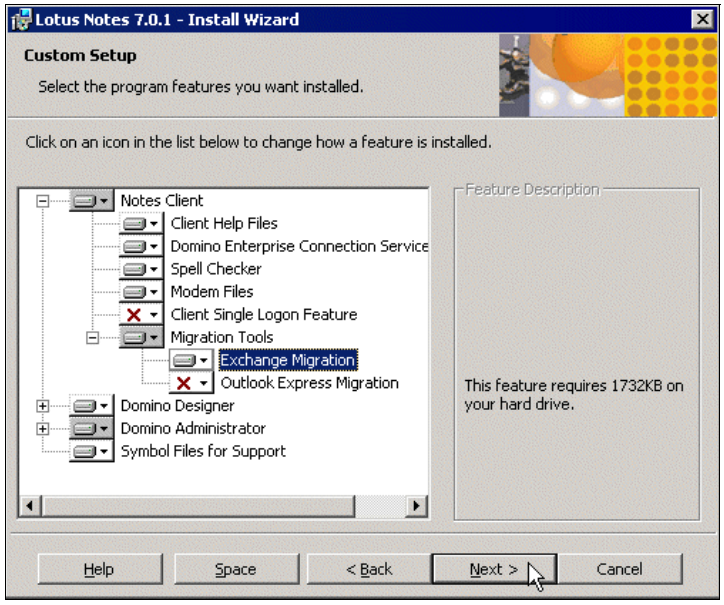

Figure 11-9 Installing Exchange as a foreign directory source for migration

11.3.4 Migrating users from the Exchange server to Domino

After you have satisfied the prerequisites in [Change reference] “Prerequisites for performing the migration” on page 342, follow these steps to migrate users and their associated mail stores from Exchange to Domino.

1. Start the Domino Administrator client and log on using the Domino server Administrator’s user ID.
2. Ensure that you are connected to the correct Domino server. From the Server pane of the Domino Administrator, select your target Domino server by selecting **File** → **Open Server** and choosing the Domino server to which you want to migrate the Microsoft Exchange server users.

3. Click **OK**. Select the People and Groups tab, then select **People** from the right hand menu, and select **Register**
4. Select the Certifier ID, and Click **OK** Figure 11-10

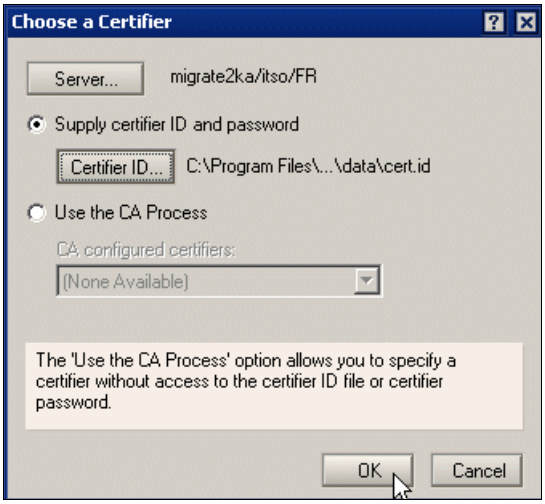

Figure 11-10 Choose a Certifier

5. Enter password of your Certifier ID, and click OK Figure 11-11

Figure 11-11 Password Dialog

Note: If you have not set up a recovery ID process, a message pops up that warns you that the certifier does not contain recovery information. Click OK to continue.

Figure 11-12 Recovery ID Warning message

6. Register Person dialog appears, Click **Migrate People**.

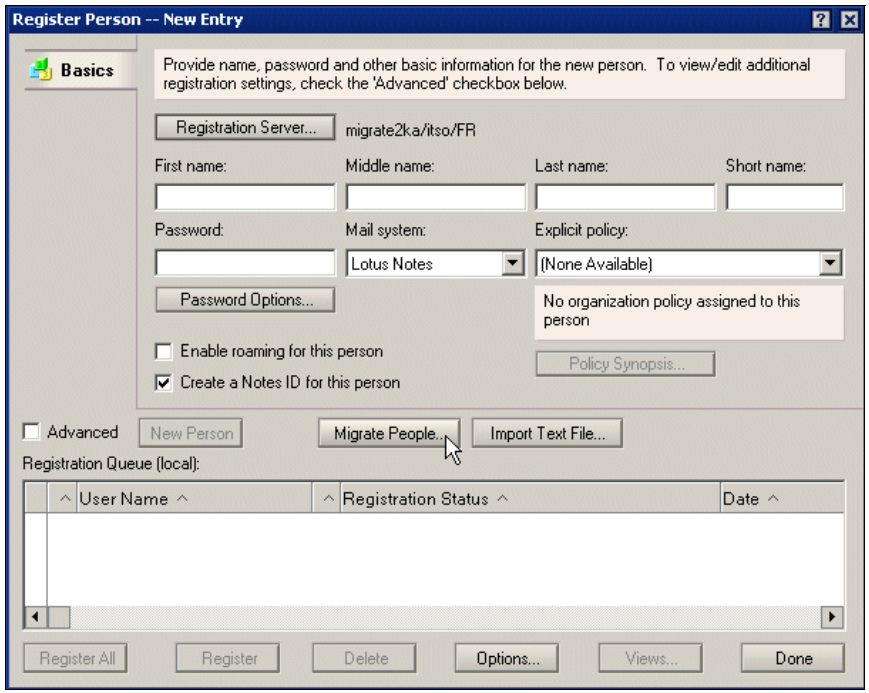

Figure 11-13 Register Person dialog

7. When the Migrate People dialog opens, select **Microsoft Exchange Users** from the Foreign Directory Source. in Figure 11-14 on page 353.

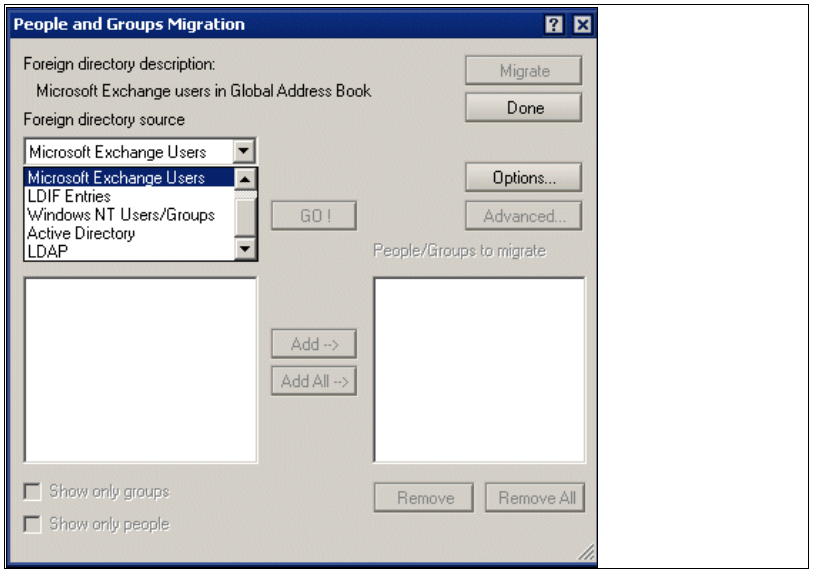

Figure 11-14 Foreign Directory Source

8. When prompted, select the profile of the administrator for the exchange server from which you are migrating, and click OK Figure 11-15

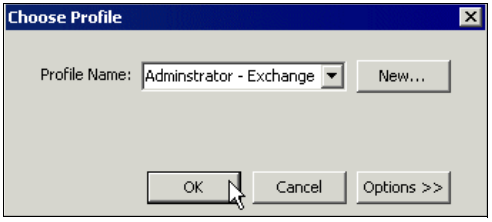

Figure 11-15 Choose Profile

9. In the Filter drop-down list, select All Users and Groups, and Click GO!

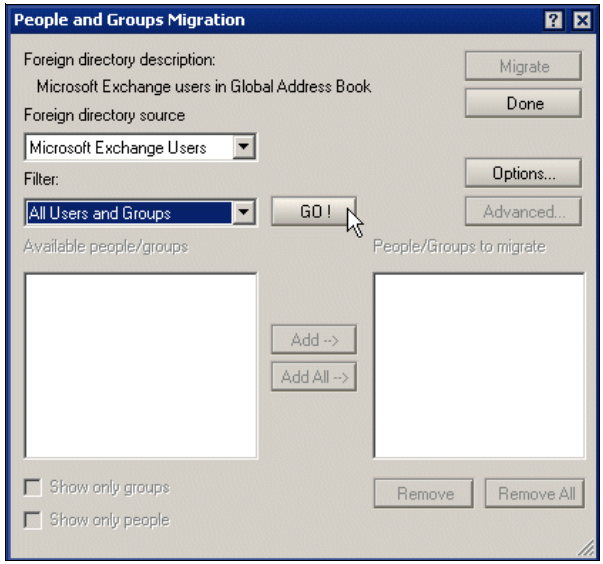

Figure 11-16 Click GO!

10. From the drop-down list of Exchange users, select all users to migrate and add to the People and Groups to Migrate list (Figure 11-17).

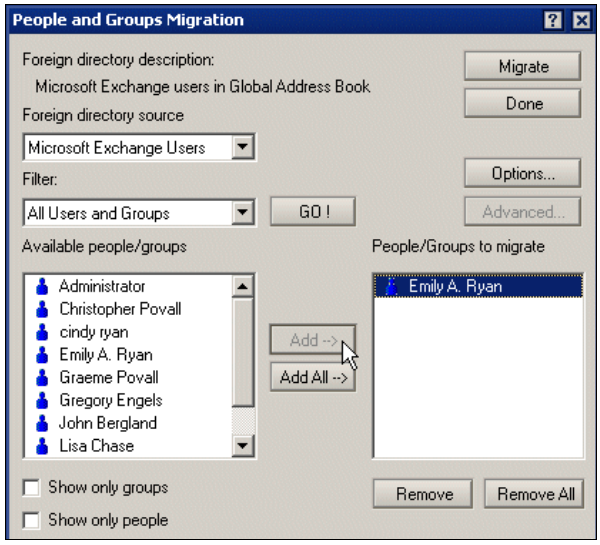

Figure 11-17 Selecting users to migrate

11. Select **Options** to modify the default settings. The options that are most relevant to the migration process are:

   – Generate random passwords for users with no passwords

     This option and the “Overwrite existing passwords with random passwords” option are mutually exclusive. If you select one of the options and then attempt to select the other, an error message appears.

   – Add full name provided to the Notes person document

     The User name field of a Person document lists one or more full names (as opposed to name components) by which a user is known in Domino. For a registered user, the first name listed in this field, the primary Notes name, is a hierarchical name based on the certifier ID used to register the user. This same name is checked when authenticating a user's right to access Domino resources

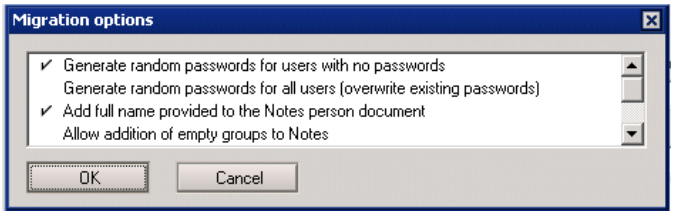

Figure 11-18 Options to modify the default settings

   – Convert mail

     If you choose to convert mail, during the registration process, the Domino Migration Tool creates a new Domino mail file for the user in question, then automatically converts data from the mail file on the Exchange server to the new Domino mail file.

   – Mail files are created on the Domino server that is specified in your registration preferences. If the migration tool cannot create a user's mail file for any reason, such as though the specified mail server lacks sufficient disk space, the user remains unregistered, and an error is logged. Because mail conversion requires mail files to be created immediately, you cannot choose the option on the Mail pane of the Register Person dialog box to create mail files using a background process (adminp). An error message is displayed if you attempt to select this option.

   – Add Administrator to mail file access control list

     When you create a mail file for a user during migration, by default, your Domino Administrator ID is placed temporarily in the ACL of the new mail file and is assigned Manager access. After the migration completes and

the migrated user is successfully registered in Domino, the administrator ID is removed from the ACL and replaced with the name of the mail file owner. At this point, only the mail file owner can open the mail file.

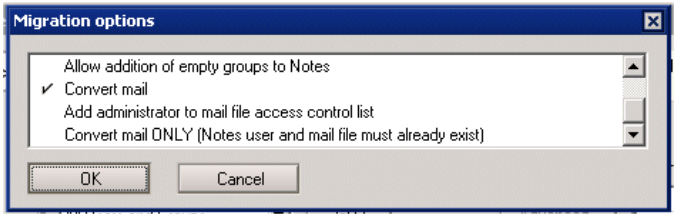

Figure 11-19 Convert mail only - select when a user has already been registered

– Convert mail ONLY

Select this option if a user has already been registered, and a Notes .ID created for the user, on the Domino server. When this option is selected, in contrast to the Convert mail option, no mail file is created for the user in question. However, data from the mail file on the Exchange server is converted to the user's existing Domino mail file.

12. Select **Migrate** Figure 11-20

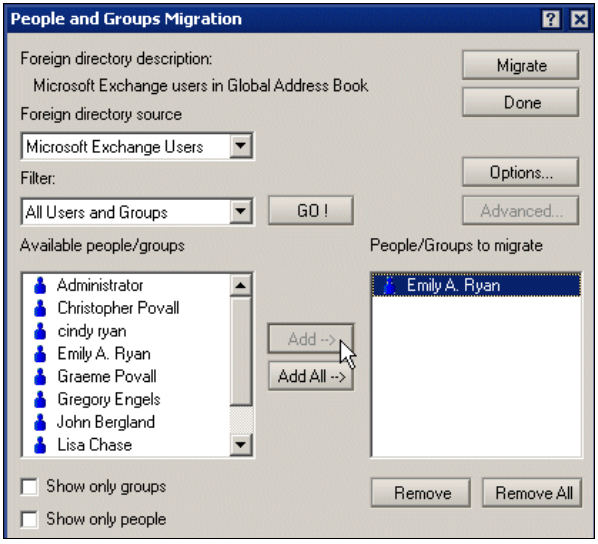

Figure 11-20 Migrate

13. A successfully queued message will appear Figure 11-21, click OK.

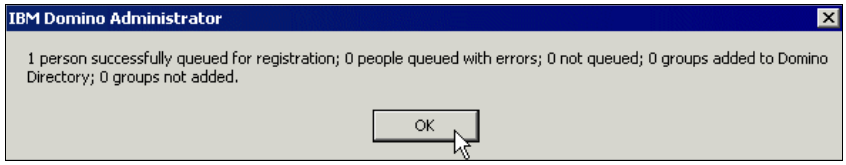

Figure 11-21 Successfully queued

14. Click Done, this will bring you back to the Register Person dialog.
15. In the Register Person dialog, select the Advanced check box, and then click the Password Options button.

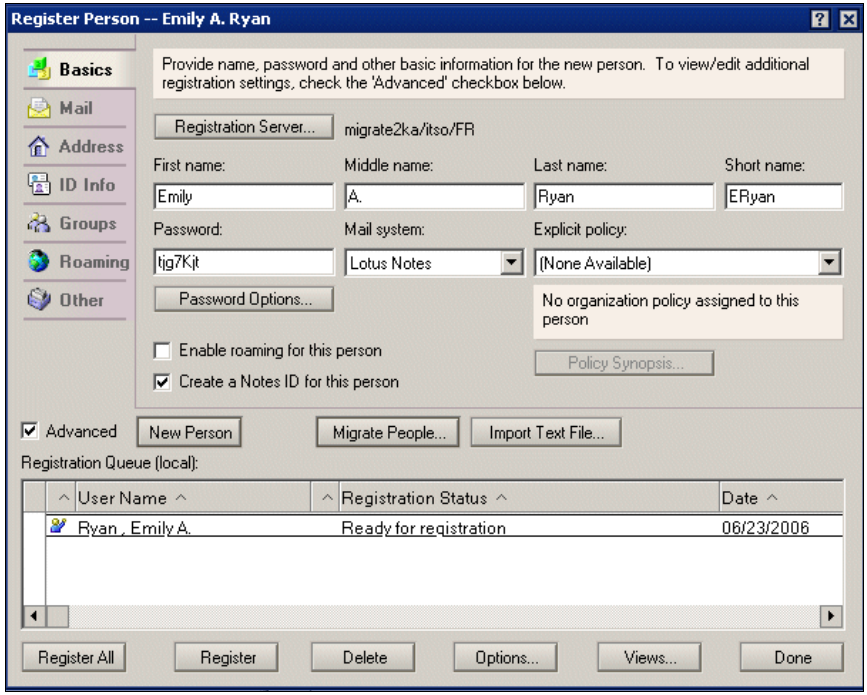

Figure 11-22 Register Person Advanced

16. On the Password Option Dialog, select Set Internet Password Figure 11-23 on page 358 and click **OK**.

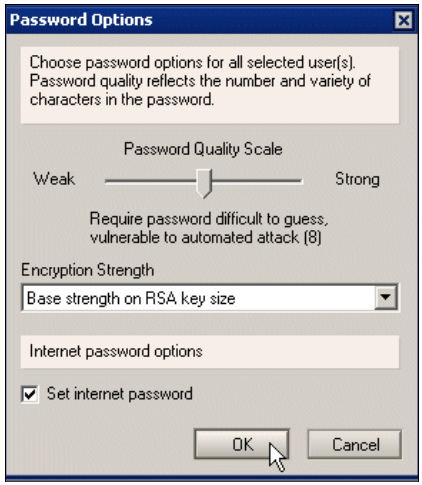

Figure 11-23 Password Options dialog

17. On the Mail tab, in the Mail file template list choose Domino Web Access (7) Figure 11-24

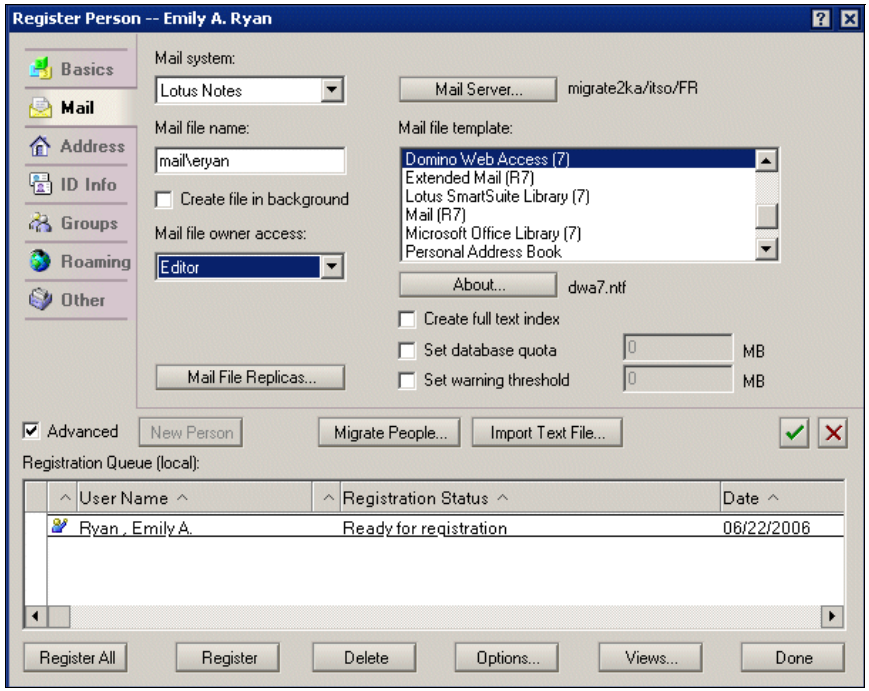

Figure 11-24 Mail File Template

Note: We chose Domino Web Access because it gives you flexibility based on the client you deploy within your organization. The Domino Web Access template give you the ability to roll out a Notes Client, Web Client, or DAMO Client without having to change the mail file template.

18. On the Address tab, you can control the creation of the SMTP address format Figure 11-25.

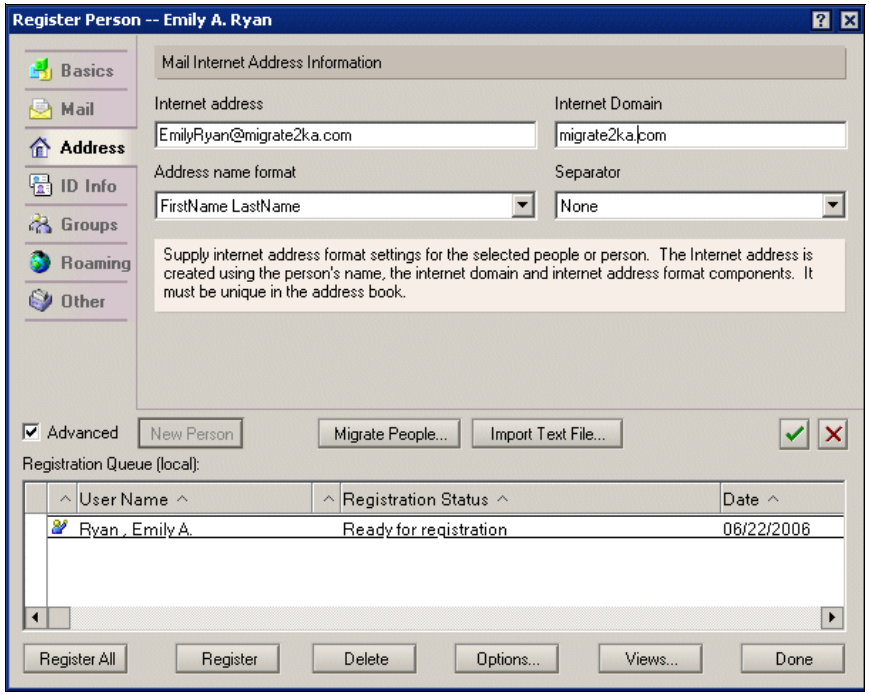

Figure 11-25 Address tab

19. On the ID tab, Make sure that the location for storing the user's ID file is set to in Domino Directory. Also verify the Certifier information to make sure that is is the one you selected earlier, and click the green check mark Figure 11-26 on page 360.

Note: (Optional) You may want to store the user's ID in a file. To do this, select the in file option. Then set the path to where you want the ID file to be stored by clicking the Set ID file button,

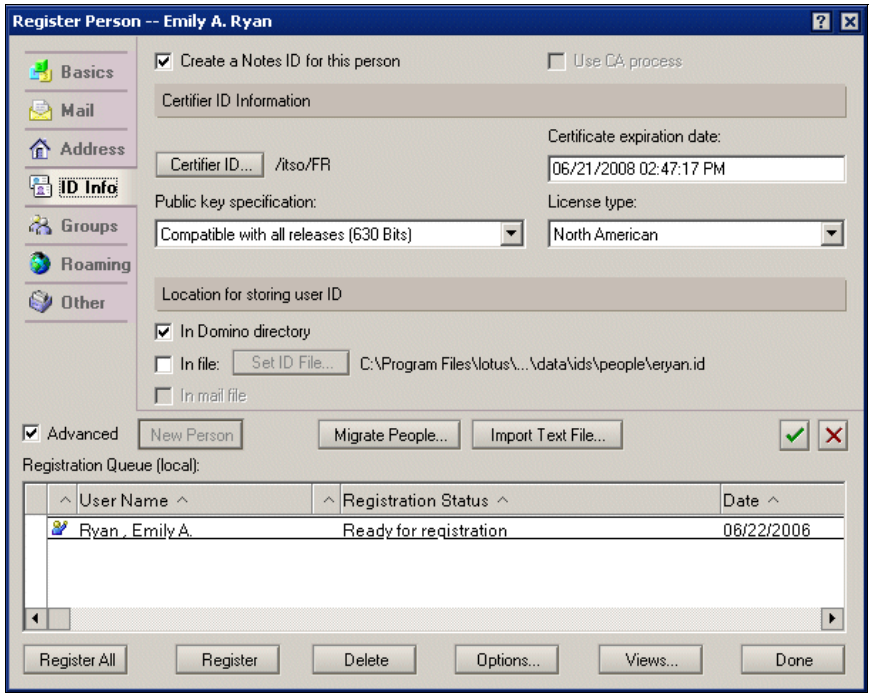

Figure 11-26 ID tab

20. Click the Register button to fish the registration process and complete the migration.

Note: If you have multiple users in the registration queue, you can click the Register All button.

When you click Register the following takes place:

- Person Document is created
- Notes user ID is created
- Domino mail database is created
- Data is migrated from Exchange mailbox to the newly created Domino Mail Database on the Domino Server.

11.3.5 Converting Exchange addresses to Notes Canonical format

The Mail Convert tool converts addresses contained within the migrated Domino mail file from Exchange format to Notes Canonical format, to ensure that

calendar entries and messages migrated to the Domino server are fully functional in the Notes, Inotes or DAMO client. Examples of fields requiring address conversion would be the From or To fields in an e-mail message, or the Chair or Required fields in a meeting entry.

The Mail Convert tool only converts addresses of Microsoft Exchange users who exist in the Domino Directory, so all migrated users must have an entry in the Domino server Name and Address Book. If migration is carried out for smaller groups, the tool should continue to be run each time a group is migrated. Also, in order for the address conversion tool to successfully resolve addresses in the migrated mail file, the migrated users should be registered using the migration tool. If the users are registered individually on the Domino server, then their mail file data migrated from Exchange to Domino, the address conversion tool is only able to resolve the migrated users' addresses successfully if the Domino Administrator elects to update the existing Domino user during the migration process.

The Domino Migration Tool tool resolves the Exchange addresses contained within a user's mail file to Notes Canonical format through two stages. First, during the migration process fields containing Exchange addresses are replaced with an entry containing the user name combined with the string WTD. This string indicates the field needs to be converted to Notes Canonical format. For example, if you view a migrated user's mail file prior to converting the Exchange addresses to Notes Canonical format, the address fields will contain a name followed by the string WTD, as shown in Figure 11-27 on page 362.

Note: WTD stands for Welcome to Domino.

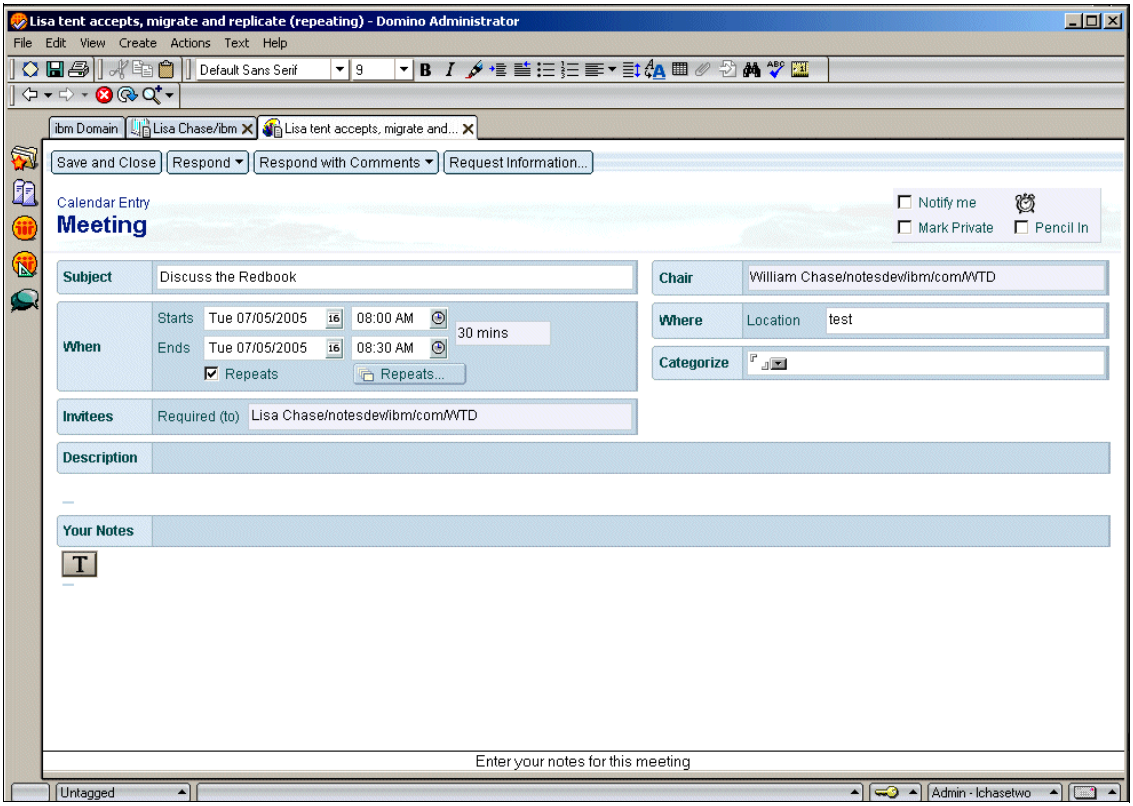

Figure 11-27 Address fields will contain a name followed by the string WTD or WTDIO

If you view the Person Document in the Domino address book for a user who has been migrated from Exchange to Domino, the Primary Name contains an entry appended with the string WTD. As with the address fields contained in the migrated mail file, the WTD string indicates that the user has been migrated from Exchange to Domino and that the Mail Convert tool needs to be run against the user's migrated mail file. An example of the Person Document for a newly migrated user is shown in Figure 11-28 on page 363.

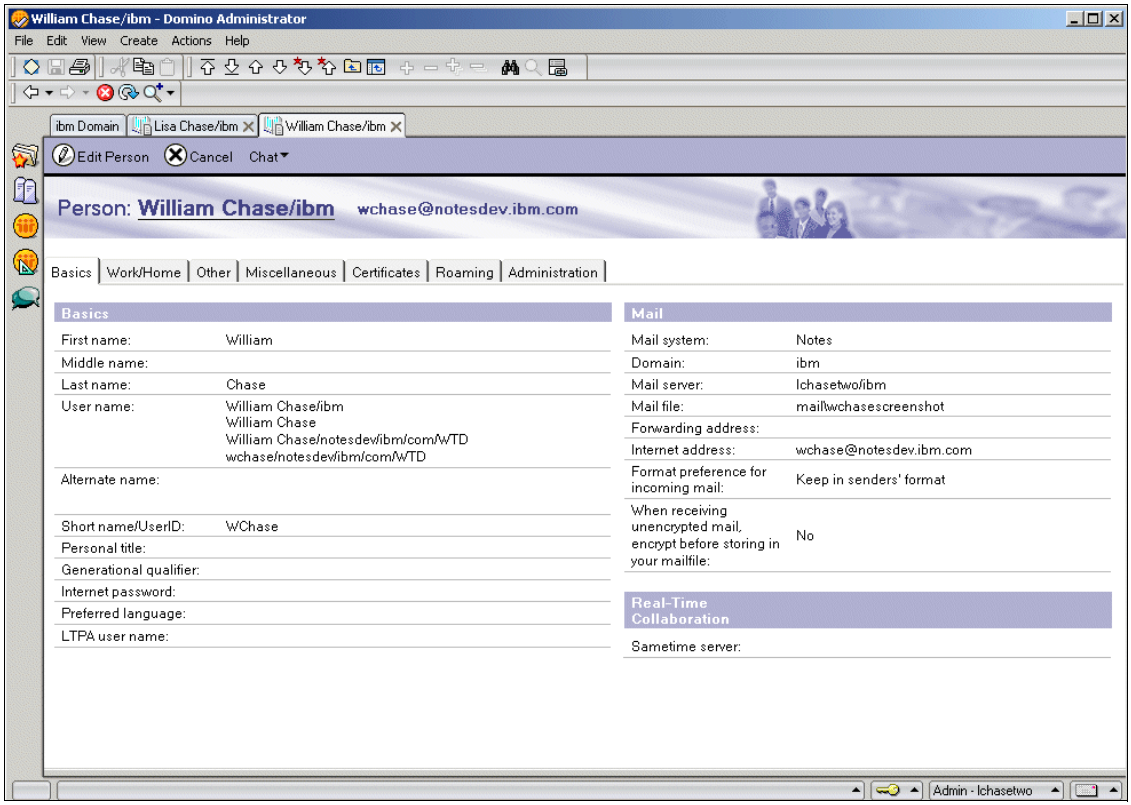

Figure 11-28 Person Document for a newly migrated user

The Mail Convert tool represents the final stage of the address conversion process, in which the address fields in the migrated Domino mail file are replaced with a Notes Canonical address.

When the Mail Convert tool is run against a migrated Domino mail file, the tool uses the entries in the Domino address book to resolve the address fields in the migrated mail file to Notes Canonical format. For example, Lisa Chase's migrated mail file contains entries in the Chair field for another migrated user, William Chase. When the Mail Convert tool is used to convert the address fields in the migrated mail file for Lisa Chase, the tool uses the primary name for William Chase from the Domino address book to resolve the Chair field containing his name in Lisa Chase's migrated mail file. The WTD string is removed from the Chair field and replaced with the appropriate server and domain information, forming a Notes Canonical address.

Figure 11-29 demonstrates the Chair field containing William Chase's name resolved to Notes Canonical format.

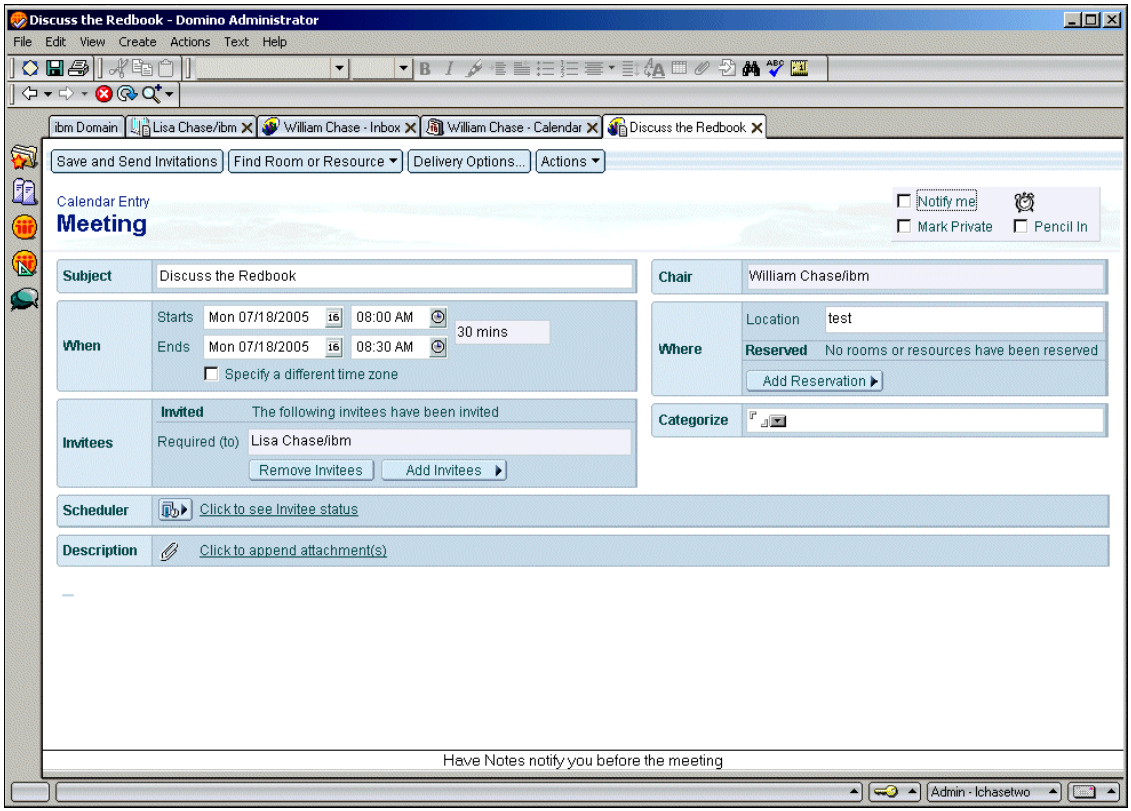

Figure 11-29 Chair field containing William Chase's name resolved to Notes Canonical format

Note: We tested mail routing without running convert. Mail routing worked. The difference is from an end users preceptive. If you do not run convert email addresses in prior emails will have an address such as:

william chase/notesdev/ibm/com/WTD

As compared to when you run convert the address will appear as:

william chase/ibm

The key is that both values are in the person document so name resolution and lookup will work.

Steps to convert addresses to Notes Canonical format

Complete the following steps to convert Microsoft Exchange addresses to valid Notes Canonical addresses in the migrated Domino mail file:

1. For the address conversion process to work correctly, the cache for Name and Address Book (NAB) entries on the Domino Server which is used for Exchange Mail to Domino migration must be current. Perform the following tasks on the Domino Server Console to make sure the cache is updated and current (note that it is not necessary to do perform a **dbcache**, because we're starting and stopping the router):

   ```
   'tell router q''
   'load updall <Domino Address Book>'  (e.g., 'load updall names.nsf')
   'load router'
   ```

2. To perform the address conversion on all migrated mail files on the Domino server (in the mail subdirectory), type the following on the Domino Server Console:

   ```
   load convert -w  mail\*.nsf [-w specifies conversion of Exchange addresses
   only]
   ```

Other available commands include those shown in Table 11-1.

Table 11-1 Additional migration commands

Command	Example
`load convert -w  <specific mail file path>`	Runs the address conversion on a specified migrated mail file: `load convert -w mail\chair.nsf`
`load convert -w  -l <text list file path>`	Generates a text list file with all migrated primary mail file paths on the server, excluding any replica mail databases. You can then run the Address Fix by using the second command below with that text file: `load convert -w -l c:\tmp\mailfilelist.txt`
`load convert -w -f <text list file path>`	Runs the address conversion on all migrated mail files listed in the specified text file: `load convert -w -f c:\tmp\mailfilelist.txt`

Note: After all users have been migrated you would run the convert.

11.3.6 Tip

Once a user has been migrated from Exchange to Domino, this user is most likely now listed in three different address books.

- Domino Directory
- Exchange Directory (The directory you created during your coexistence stage which Directory synchronization populated.)
- Active Directory

We suggest hiding the entry from users in the Active Directory and Exchange Directory. This way, when an end users attempts to address a message to this new Domino User, only their new Domino address will appear as a choice.

12

Migrating local Outlook data using Notes Upgrade Services

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

In Chapter 11, “Server level migration Using Domino Upgrade Services” on page 339, we described the process for migrating or all user mail file data residing on the Exchange server. In this chapter, we examine how to convert data stored in a local Outlook .PST (Personal Message Store) file to a local Notes .NSF file. The following sections outline the process for migrating a local Outlook .PST file using Notes Upgrade Services:

- Overview of the local migration process.
- Automating the local migration process using the Domino Administrator Client

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- Manually invoking Notes Upgrade Services to migrate data.
- Troubleshooting data migration using Notes Upgrade Services

12.1 Data migration using Notes Upgrade Services

The Microsoft Outlook client stores local mail file data, including email messages, contacts, tasks and calendar entries, in PST files. These files may be used in the Outlook client to store messages from mail accounts other than Exchange or Outlook (such as POP3), or for archiving a user's Outlook mail file data. PST files may also be used to distribute local address books within an organization, by copying contacts into a local PST file and distributing among employees. After users are migrated from Exchange to Domino, they need to access local Outlook data, in addition to mail file data residing on the Domino server. This section outlines the use of Notes Upgrade Services to migrate a local PST file, including the prerequisites for using Notes Upgrade Services.

12.1.1 Why local data migration is important

There are a number of common scenarios in which local data migration is necessary in the typical corporate infrastructure:

- Outlook users typical archive mail file data to a local PST file on a regular basis, which they need to continue accessing after they are migrated from Exchange and use a Domino mail client exclusively.
- Exchange data storage is generally limited by the Exchange administrator, so Outlook users commonly have a significant amount of mail file data stored in a local PST file.
- Because of the Exchange data storage limitation, users may not have the option of moving local Outlook data back to the Exchange server prior to migration from Exchange to Domino.
- For security reasons, corporations often require users to maintain access to historical mail file data.

12.1.2 An overview of Notes Upgrade Services

The Domino Upgrade Services/Domino Migration Tool accesses the data store on the Exchange server and creates a corresponding mail file on the Domino server. The Domino Migration Tool is the intended tool of choice for registering Exchange users on the Domino server and migrating their Exchange mail file data for use in the Notes, Domino Web Access (DWA) or Domino Access for Microsoft Outlook (DAMO) clients.

Notes Upgrade Services, also referred to as the Upgrade Wizard, performs much of the same functionality as the Domino Migration Tool, with a few key differences:

- Because Notes Upgrade Services works only with a local PST file and creates a local .NSF file, no servers are accessed, and no updates are made to the server's primary Domino Directory. While Notes Upgrade Services is designed to migrate Microsoft Exchange data residing locally in an Outlook .PST file, Notes Upgrade Services never accesses the Exchange server.
- Unlike the Domino Migration Tool, which updates the Domino server directory and resolves all addresses in the Domino mail file to Notes canonical format, Notes Upgrade Services does no address resolution. Addresses in the .NSF file resulting from the local migration are not resolved to Notes canonical format.
- Messages, tasks and calendar entries in the .NSF file resulting from the Notes Upgrade Services migration are not intended to be fully functional in the Domino mail clients. The .NSF file should be used for reference purposes, and we do not recommend that users replicate the local .NSF file with their Domino server mail file. If users replicate the local .NSF file with their server mail file, they will be unable to reschedule meeting invites or respond to email messages originating in the locally migrated .NSF file.

12.2 Preparing the workstation for local migration

Whether you choose to perform migration with Notes Upgrade Services using the manual method or by automating the process, each client workstation where data will be migrated locally needs to meet the following prerequisites:

- Lotus Notes 6.5.1 or later must be installed with the Exchange Migration component
- The Microsoft Outlook client must be installed on the workstation.
- You must use the Extended Mail Template (Mail7ex.ntf) or iNotes Template (iNotes7.ntf) for all migrated .NSF files
- You must create a Microsoft Outlook profile associated with the local Outlook .PST file

12.2.1 Installing the Exchange Migration Component for Lotus Notes

During the setup of the Notes client, you must install the Exchange Migration component of the Migration Tools. This option installs the Notes Upgrade Services functionality. In the Install Wizard dialogue during the Lotus Notes installation, expand the Migration Tools option and ensure that the Exchange Migration option is enabled, as illustrated in Figure 11-1.

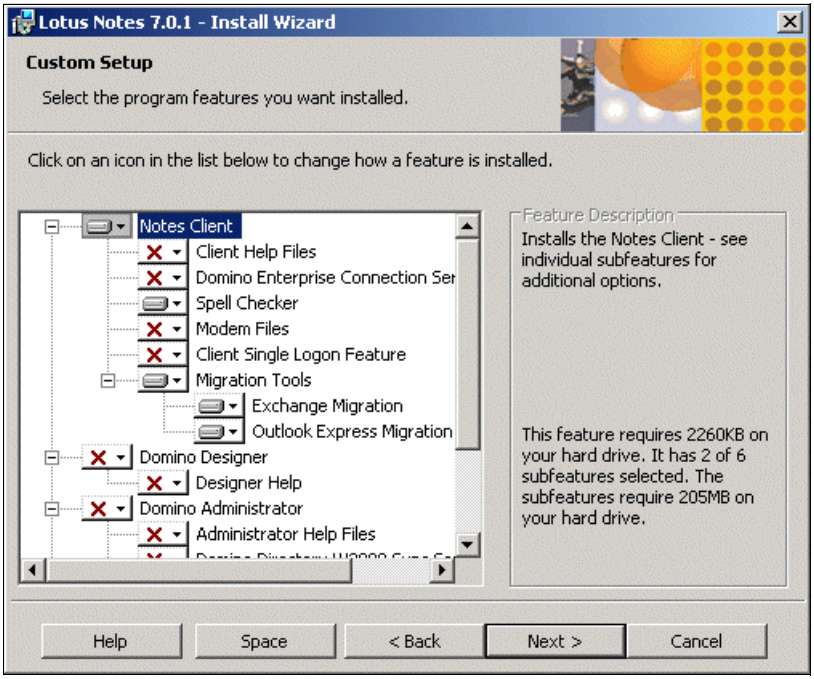

Figure 12-1 Installing Domino Migration Tools

12.2.2 Creating a Microsoft Outlook Profile

Before you can migrate the local Outlook .PST file using Notes Upgrade Services, you must create a Microsoft Outlook profile associated with the local .PST file. Follow these steps to create a new Microsoft Outlook Profile and attach a personal folders file to it:

1. From the **Start** menu on the desktop, select **Settings** → **Control Panel** to display the **Mail** shortcut. Note that for this example we are using the Outlook 2003 client, but the display may vary slightly depending on the version of Outlook you are using.

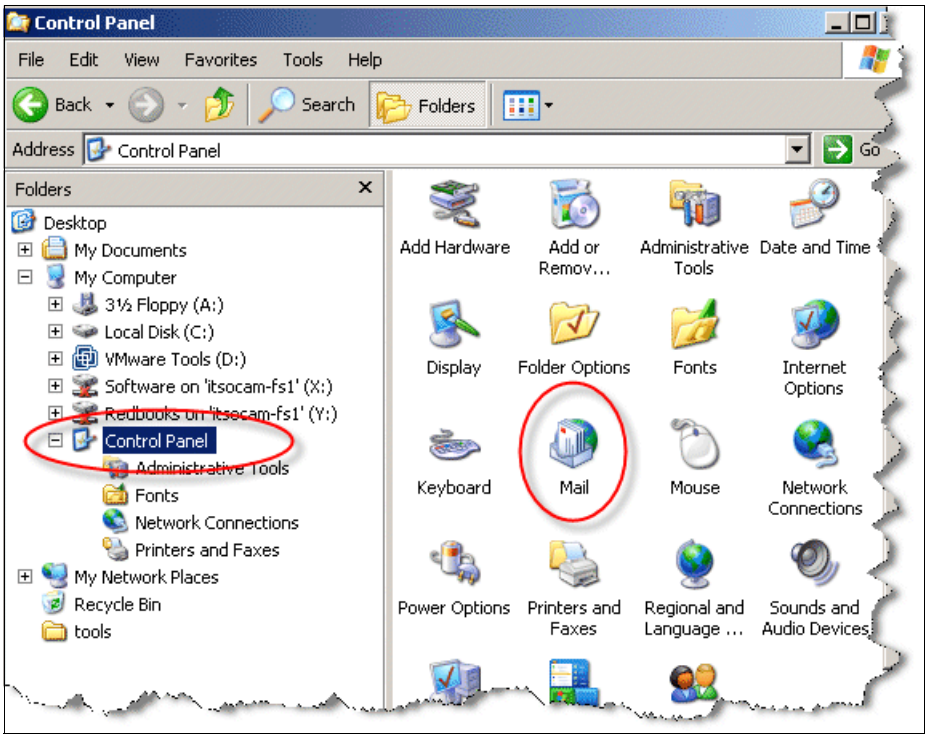

Figure 12-2 Creating a new Outlook profile: Control Panel

1. Open the **Mail** shortcut to display the Mail Setup dialogue, shown in Figure 11-4.

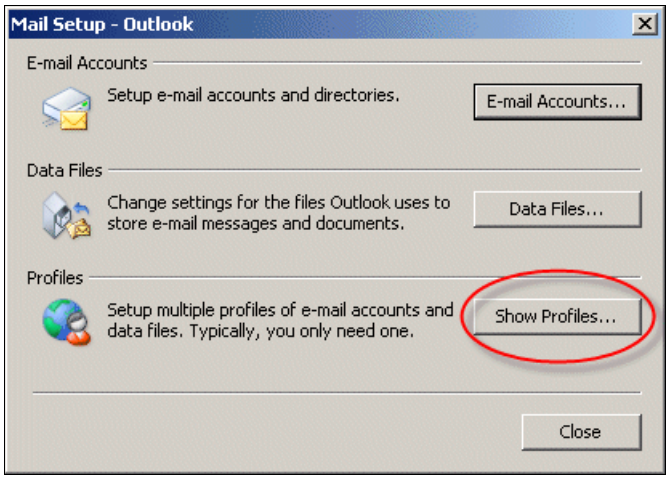

Figure 12-3 Creating a new Outlook profile: Show Profiles

2. Click on the Show Profiles button and the Mail dialogue will be displayed with a list of all the Outlook profiles that exist for the Outlook client.

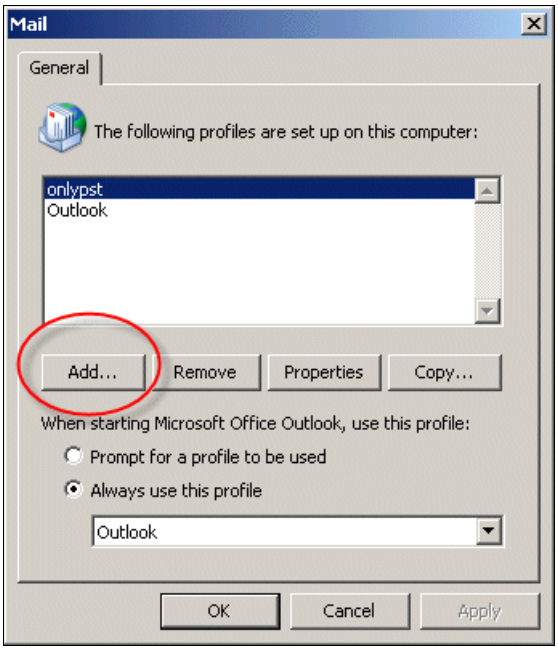

Figure 12-4 Add an Outlook profile

3. Click on the Add button and the New Profile dialogue will display Figure 12-4. In the Profile Name box type a name for the new profile.(Figure 12-5).

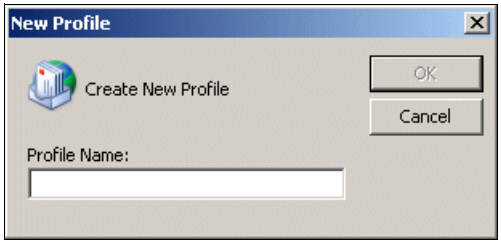

Figure 12-5 Type a name for the new Outlook profile

4. Select the **OK** button to display the Email Accounts dialogue, illustrated in Figure 11-7.

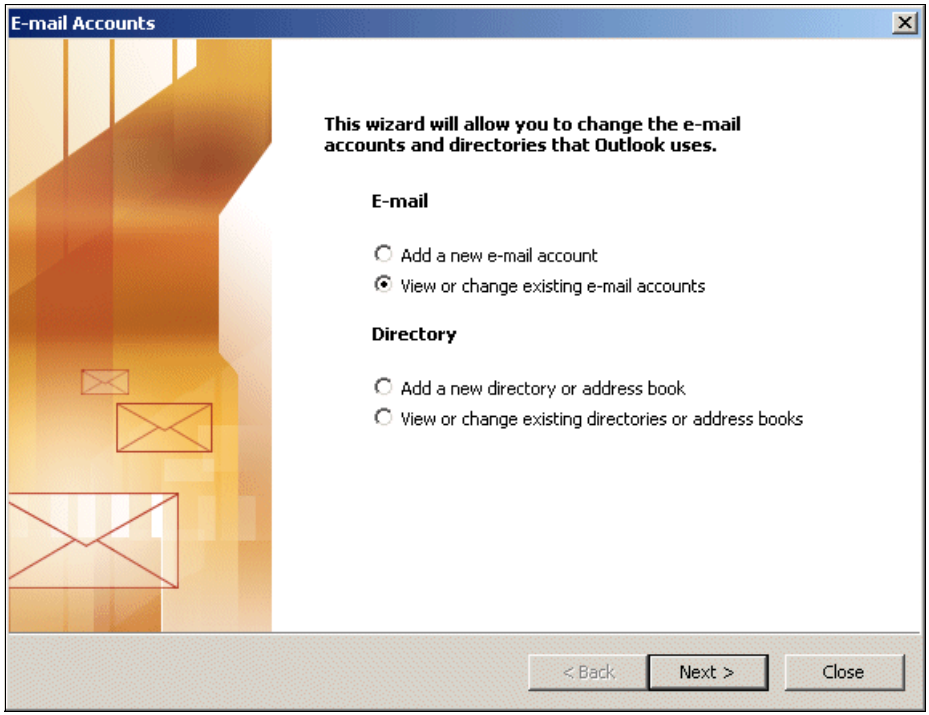

Figure 12-6 Creating a new Outlook profile

5. In the E-mail Accounts dialog select the **View or change existing e-mail accounts** radio button and click **Next >** to display the E-mail Account dialogue, shown in Figure 11-8.

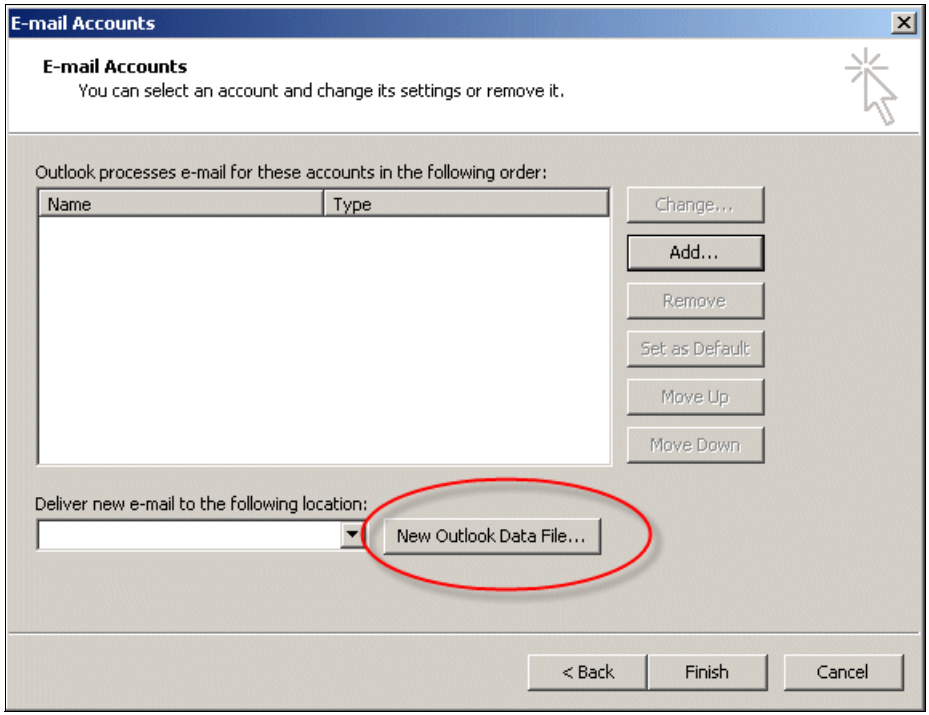

Figure 12-7 Select an Outlook Data File

6. Click the **New Outlook Data File** button and the New Outlook Data File dialogue will display, as illustrated in Figure 11-9.

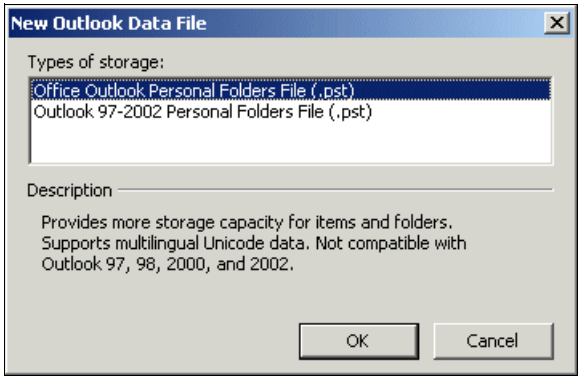

Figure 12-8 Select the type of Outlook .PST file

7. Select the appropriate version for this .PST file and click **OK**. The Create or Open Outlook Data File window shown in Figure 11-10 will display.

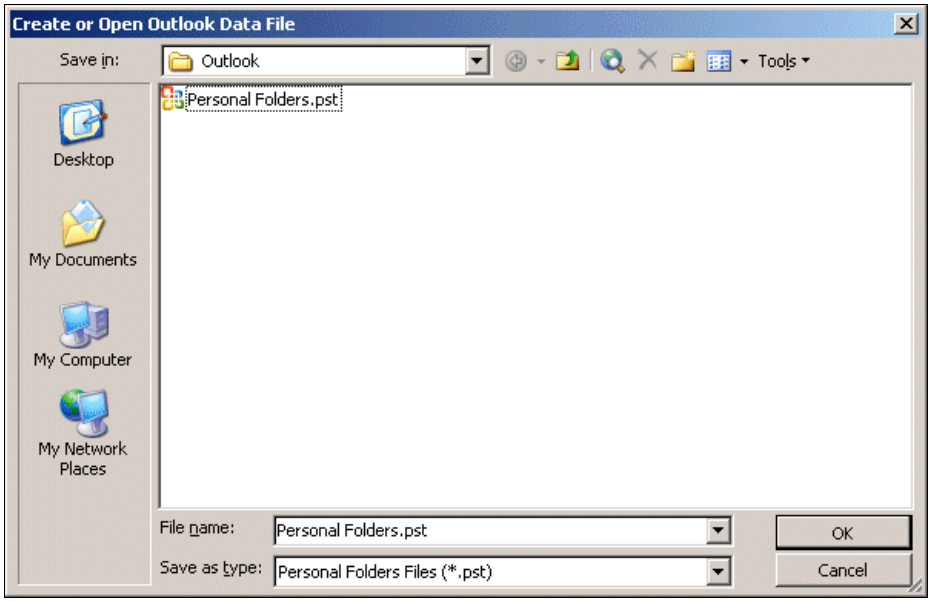

Figure 12-9 Select the Outlook .PST file to migrate

8. Navigate to the .PST file you want to migrate and select **OK** to display the Personal Folders dialogue displayed in Figure 11-11.

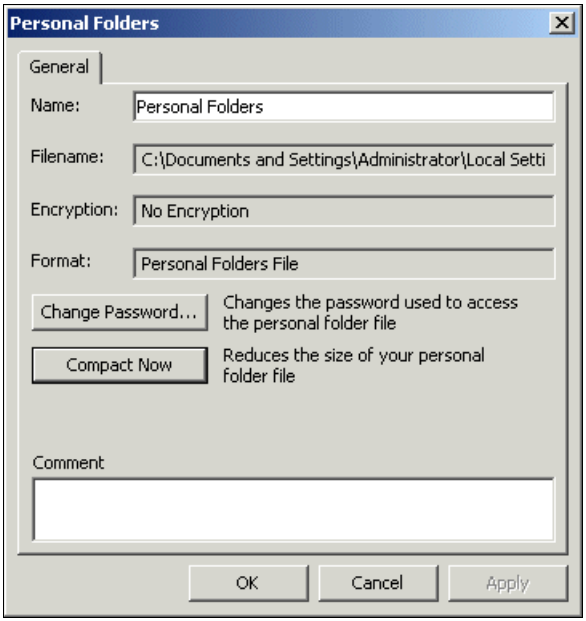

Figure 12-10 Personal Folders dialog

9. Click the **OK** button and the E-mail Accounts dialogue shown in Figure 11-12 will display with the New Outlook Data File field populated with the .PST file selected in Step 8.

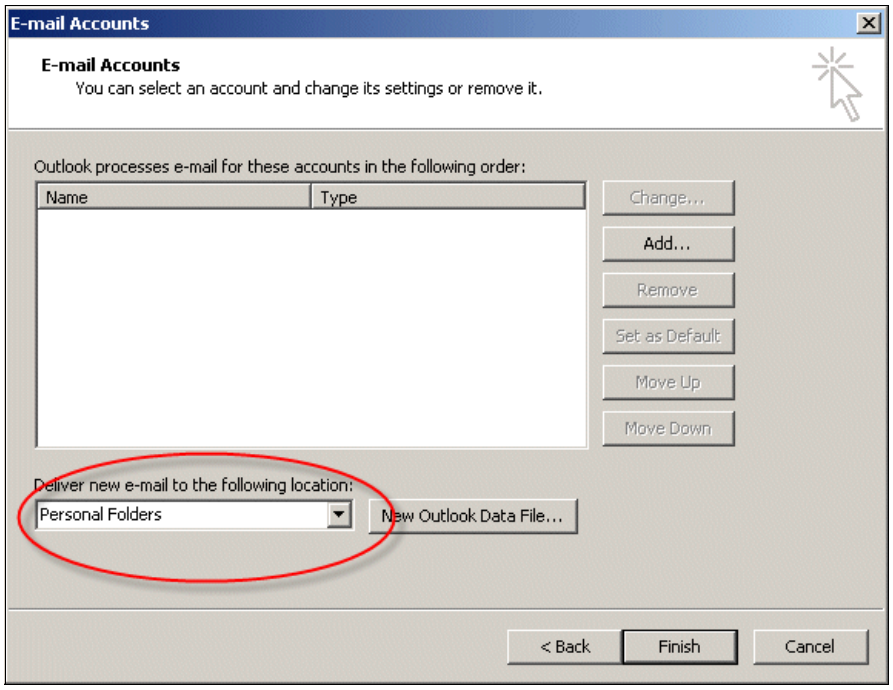

Figure 12-11 E-mail Accounts dialog displaying the .PST file

10. Click **Finish** to display the Microsoft Office Outlook dialogue shown in Figure 11-13.

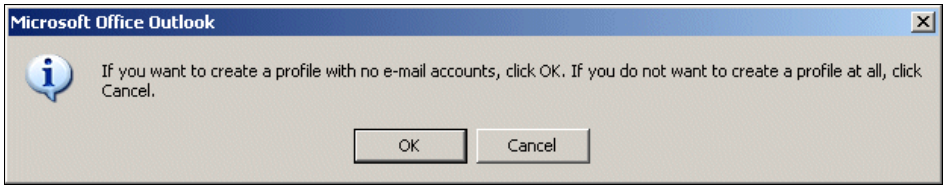

Figure 12-12 Confirm the Outlook profile creation

11. Click **OK** and the Outlook profile will be created with the Outlook .PST file linked to it. The Mail dialogue illustrated in Figure 11-14 will display with the newly created profile in the Profiles list.

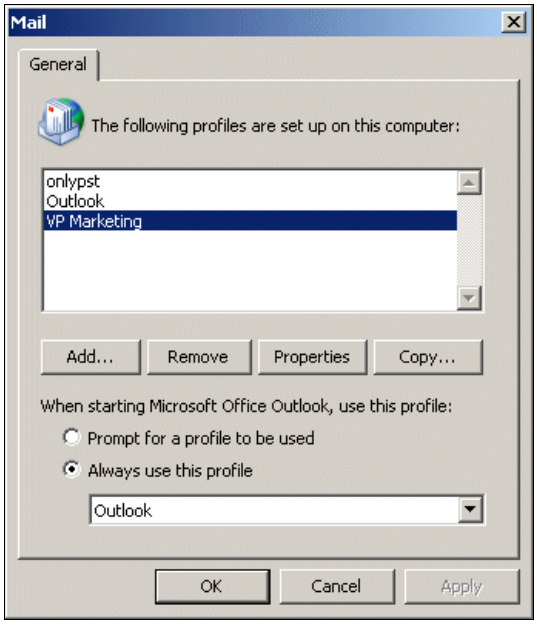

Figure 12-13 Newly created Outlook profile

12.3 Automating Notes Upgrade Services

Notes Upgrade Services is most commonly invoked by an automated process configured by the Domino Administrator. Using the Domino Administrator client, the Domino Administrator sends an automated email message to all users who need to migrate a local Outlook .PST file. This email message contains a button which when clicked by the user starts Notes Upgrade Services on the user's workstation. Before initiating Notes Upgrade Services from the automated email message, the user must meet all of the prerequisites outlined in [Section 11-2].

12.3.1 Automating a message to initiate Notes Upgrade Services

This section outlines the process by which the Domino Administrator can create an automated message delivered to all users who need to migrate a local Outlook .PST file using Notes Upgrade Services. Follow these steps to create a message that will initiate Notes Upgrade Services on the user's workstation, using the Domino Administrator Client:

1. Start the Domino Administrator client and log on using the Domino server Administrator's user ID

2. Ensure that you are connected to the correct Domino server. From the Server pane of the Domino Administrator, select your target Domino server by selecting **File** → **Open Server** and choosing the Domino server on which the users reside who will receive the automated email message.
3. Click OK. Select the People and Groups tab, then select People from the right hand menu, and select Upgrade, as shown in Figure 11-14.

Figure 12-14 Domino Administrator: Upgrade people

4. The Upgrade Notification window will be displayed, as illustrated in Figure 11-15.

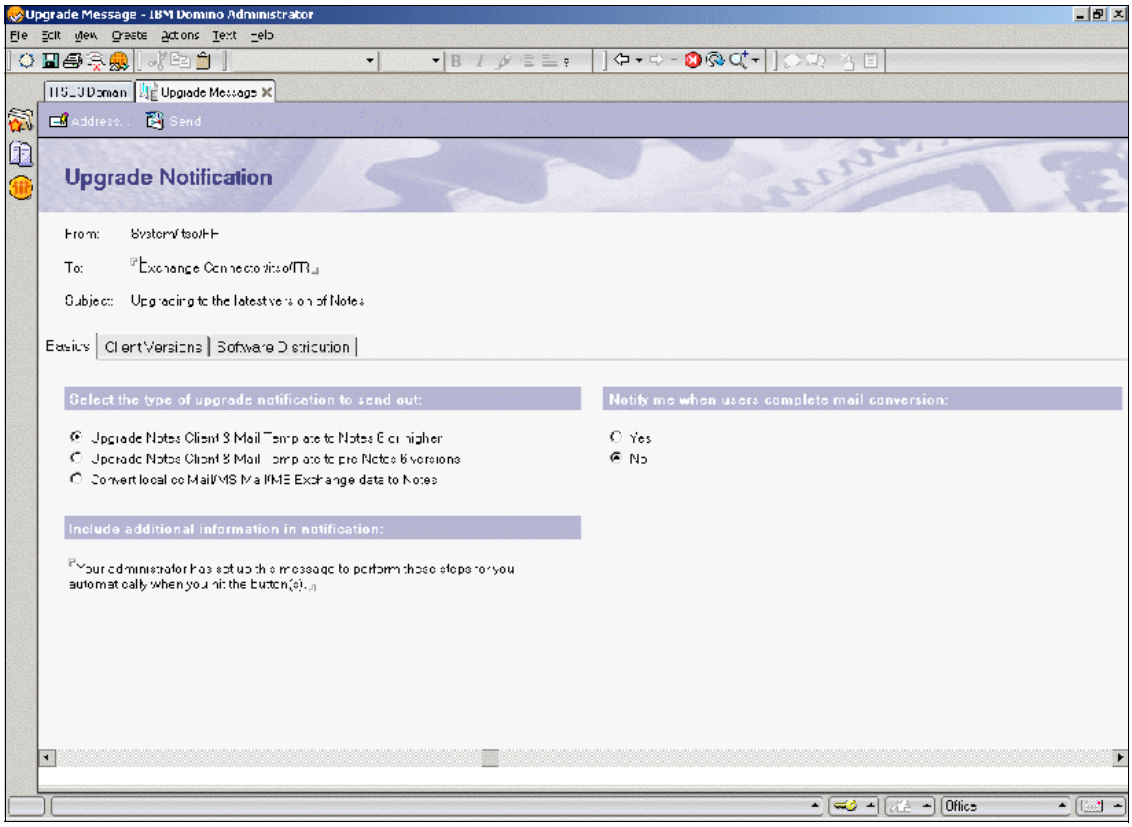

Figure 12-15 Upgrade Notification: Basics tab

5. Select the Basics tab and click the radio button next to **Convert local cc:Mail/MSMail/MSExchange data**. This will display the Software Notification and Mail Conversion tabs, shown in Figure 11-16. If you would like to be notified when each user completes their mail conversion, select the radio button next to **Yes** under this section.

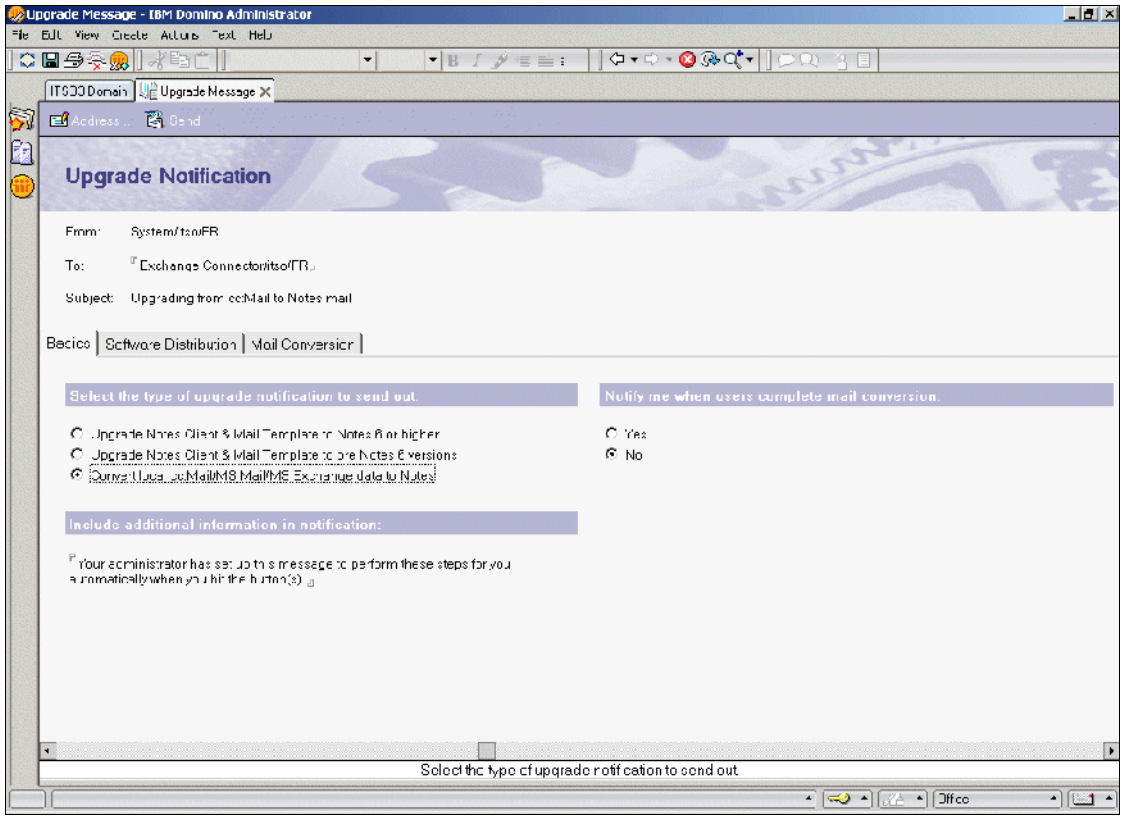

Figure 12-16 Upgrade Notification: Basic, Software Distribution and Mail Conversion tabs

6. To select a user or group to send the upgrade notification, click the **Address** button at the top of the window to display the address book for the Domino server you have selected. Select the user or group to whom you would like to send an upgrade notification. For this example, we have selected a single user, as illustrated in Figure 11-17.

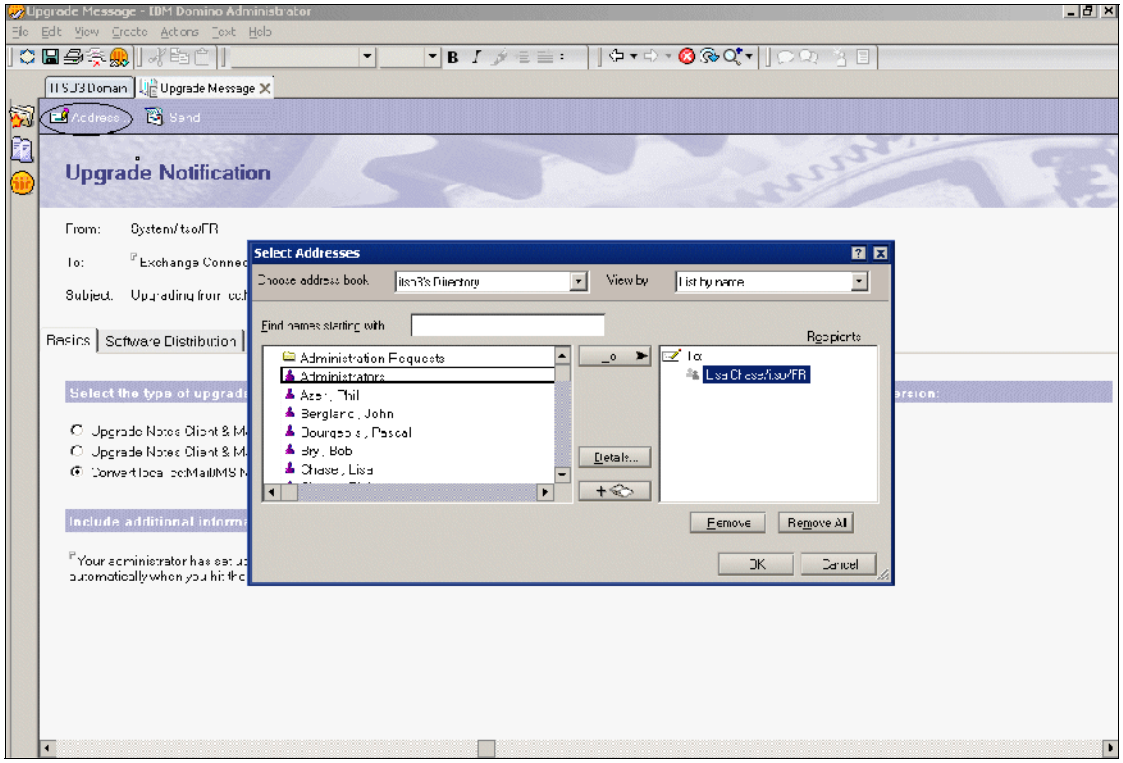

Figure 12-17 Select the user or group who will be sent an upgrade notification

7. Click the **OK** button and the To: field in the Basics table will be populated with the address or group you selected, as shown in Figure 11-18.

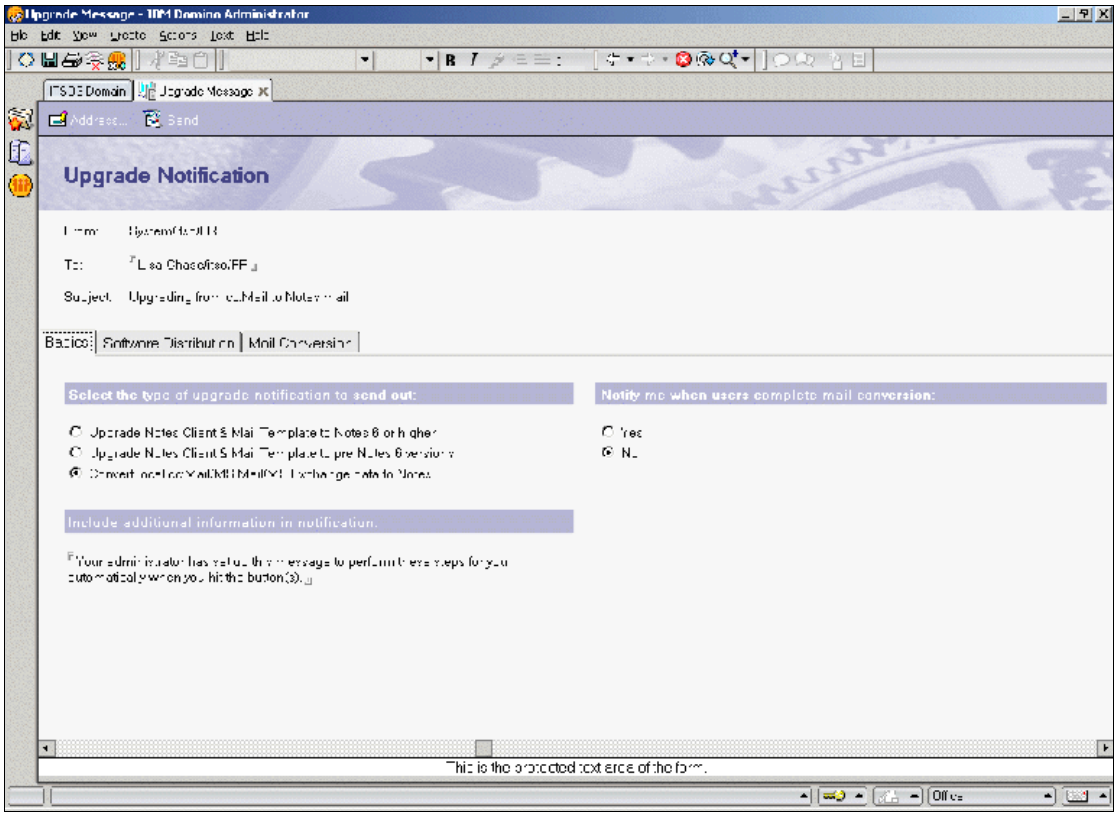

Figure 12-18 Upgrade Notificaton: Basics tab completed

8. Select the Mail Conversion tab. In the list box under the Mail Conversion Options section, you can choose the type of migration to automate by selecting the arrow next to the drop-down list. A list of options will display, as illustrated in Figure 11-19.

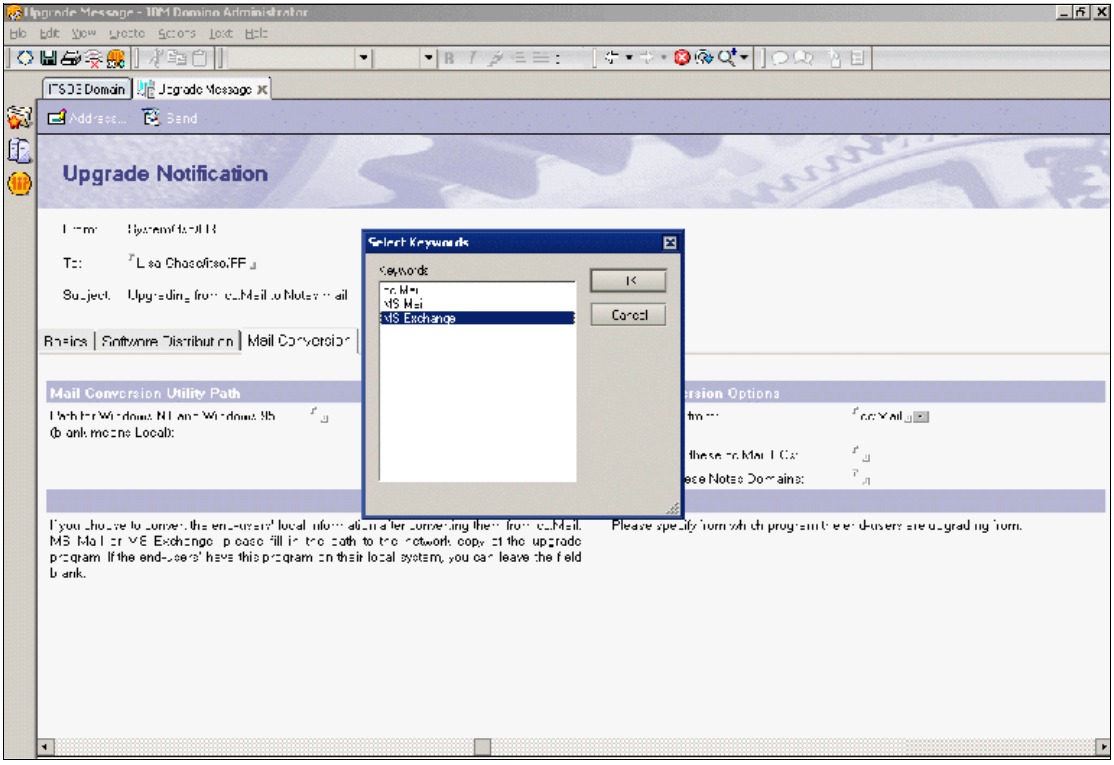

Figure 12-19 Mail Conversion Options tab: select the migration type

9. Since you are sending users an automated message to initiate the Notes Upgrade Services process, select MSExchange from the list box, then click the **OK** button. The 'Convert user from' field will be populated with MSExchange, as shown in Figure 11-20.

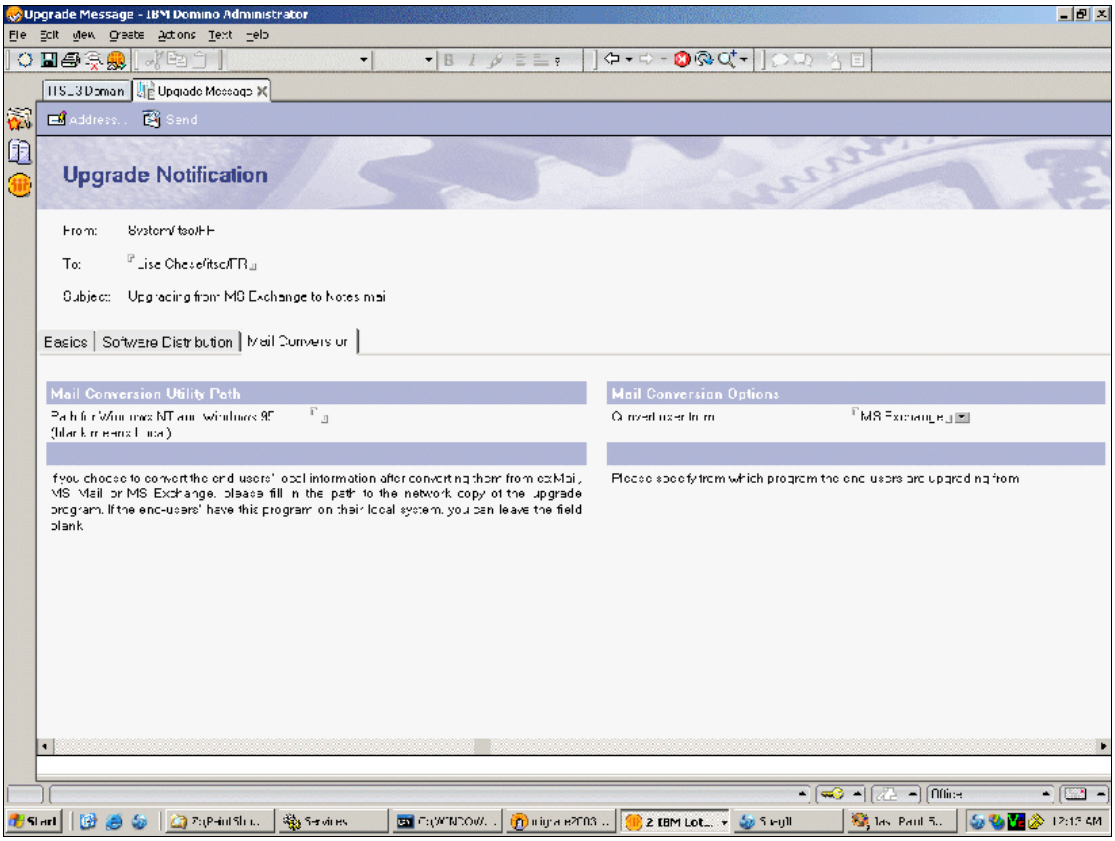

Figure 12-20 Upgrade Notification: Mail Conversion tab completed

10. Once all options have been configured for the upgrade notification, click the **Send** button, as illustrated in Figure 11-21. This will send an email to the user you selected, enabling the user to initiated Notes Upgrade Services to perform local conversion of an Outlook .PST file.

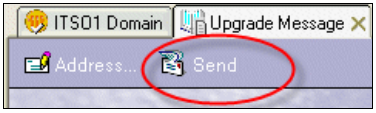

Figure 12-21 Sending the Upgrade Notification

12.3.2 Initiating Notes Upgrade Services from an automated message

To initiate Notes Upgrade Services from the upgrade notification message, the user should follow these steps:

1. Open the Lotus Notes client and display the Email Inbox. The Inbox should contain a message with the subject “Upgrade from MSExchange to Notes mail”, as shown in Figure 11-22.

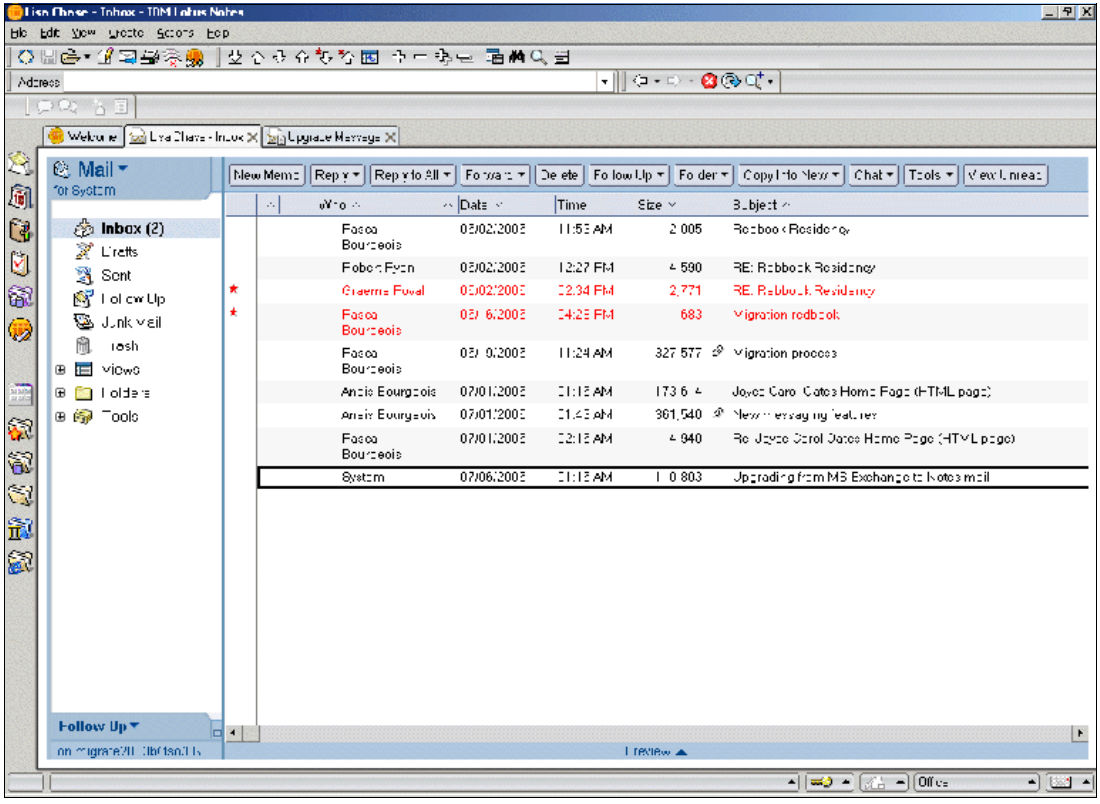

Figure 12-22 Upgrade notification in the user’s inbox

2. Open the message, as illustrated in Figure 11-23, and notice the button titled **Convert My Local Data to Notes**.

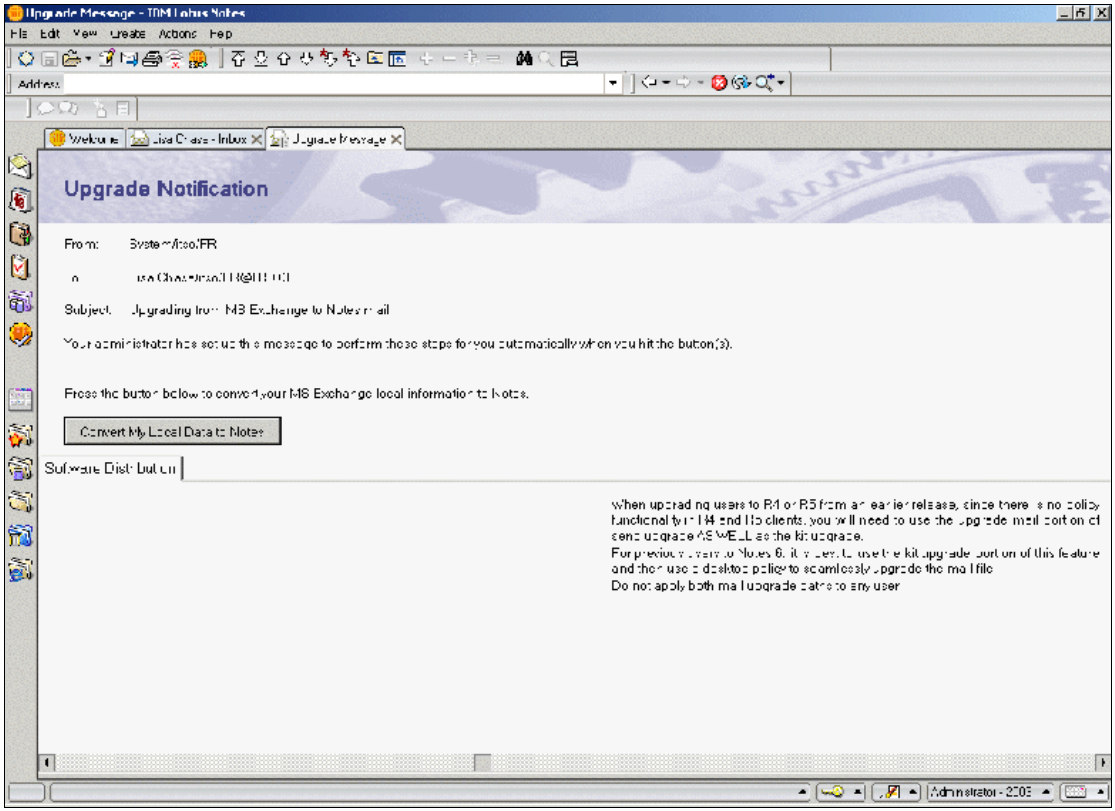

Figure 12-23 Upgrade Notification: Convert My Local Data to Notes

3. To initiate Notes Upgrade Services, click the button titled **Convert My Local Data to Notes**. The window shown in Figure 11-24 will display. Follow the instructions in 12.4.1, “Starting the Migration” on page 390, beginning with Step 4, to migrate your local Outlook .PST file using Notes Upgrade Services.

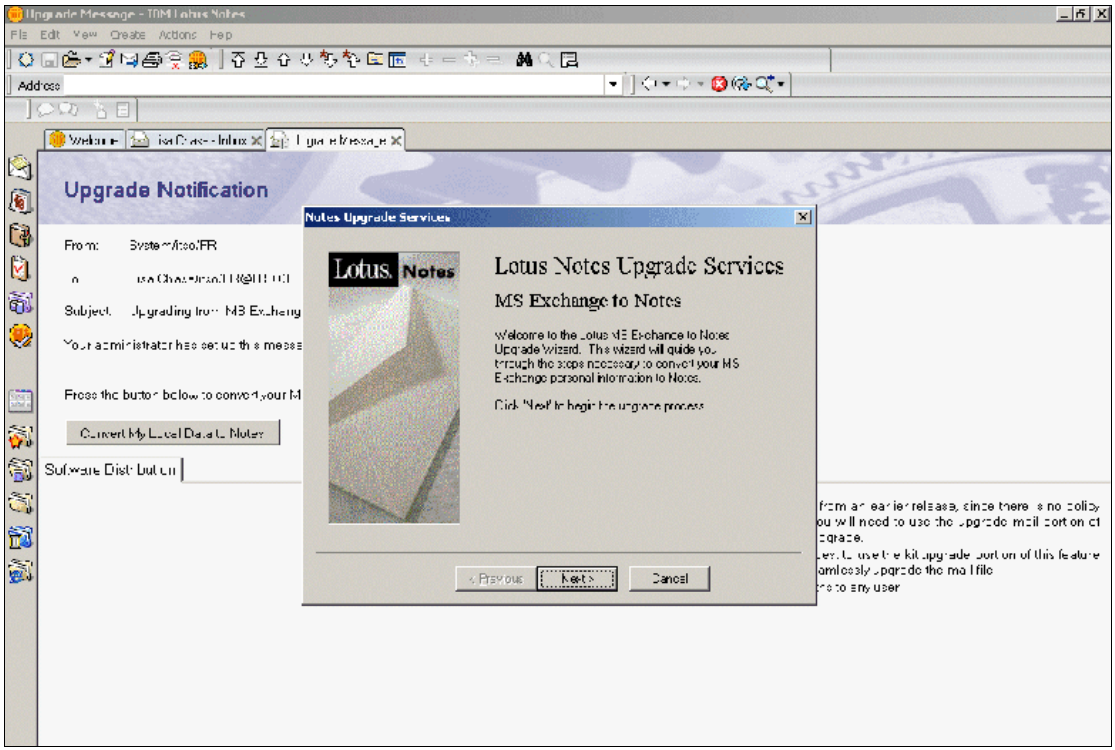

Figure 12-24 Starting Lotus Notes Upgrade Services from the Upgrade Notification

12.4 Manual migration using Notes Upgrade Services

While Notes Upgrade Services is most commonly initiated from an automated email message sent by the Domino Administrator, there are a number of situations in which users may manually perform a local migration using Notes Upgrade Services. Following are some of the scenarios in which it is appropriate to perform a manual migration from an Outlook .PST file to a Notes .NSF file using Notes Upgrade Services:

- After a company acquisition, all users in the newly acquired company are migrated from Exchange to Domino, though their mail and calendar data is not migrated, and no provisions are made for migrating users' data from their local Outlook .PST files. In order to access historical data from the Notes client, individual users must manually migrate their data using Notes Upgrade Services.
- Due to the storage limitations of the Exchange server, users may have a number of local Outlook .PST files containing archived data. After their

Exchange mail file data is migrated to Domino, they still need access to their archived data from the Notes client.

- A user may join a company that operates with a Notes and Domino IT infrastructure, but this user has a local Outlook .PST file that he needs to access from his Notes client. This is a likely scenario in the case of a newly hired executive, who needs to access historical Outlook data, particularly contacts. In this case, the Domino Administrator will not institute an automated Notes Upgrade Services migration for the executive, but rather the executive or an assistance will need to perform the migration manually.

12.4.1 Starting the Migration

Follow these steps to perform a manual migration from an Outlook .PST using Notes Upgrade Services:

1. At a command line prompt, change to the Notes Client program directory, where the executable file for Notes Upgrade Services is located. During the Notes Client installation, this executable file will be installed to “c:\Program Files\Lotus\Notes” by default. The command prompt should appear as follows:

   ```
   c:\Program Files\Lotus\Notes>
   ```

2. To initiate Notes Upgrade Services from the command prompt, type “Nupgrade 3”, as illustrated in the following example:

   ```
   c:\Program Files\Lotus\Notes>Nupgrade 3
   ```

3. Press Enter and the Notes Upgrade Services will display, as shown in Figure 11-23.

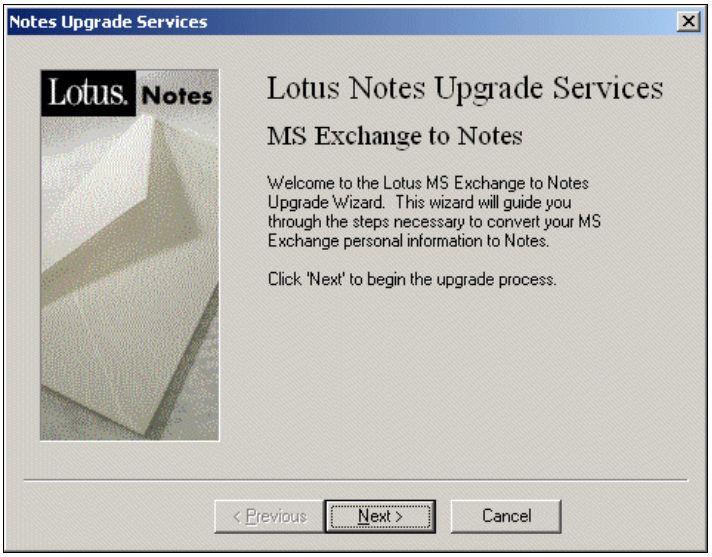

Figure 12-25 Notes Upgrade Services

4. Click the **Next** button and the Notes Upgrade Services dialogue prompting you for an Outlook profile will display, shown in Figure 11-24.

Figure 12-26 Notes Upgrade Services: select an Outlook profile

5. Select the Outlook profile associated with the Outlook .PST file you wish to migrate using Notes Upgrade Services, then click the **Next** button to display the dialogue box illustrated in Figure 11-25.

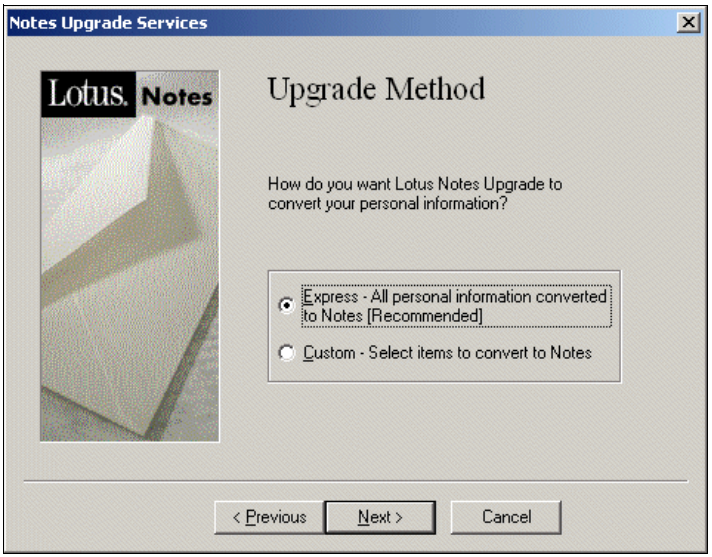

Figure 12-27 Notes Upgrade Services: select the upgrade

6. Select the upgrade method by selecting the appropriate radio button. The Express method will migrate all e-mail, calendar, task and contact elements from the Outlook .PST file to a Notes .NSF file. The Custom method, shown in Figure 11-26, allows you to migrate *either* all elements in the Outlook .PST file, or Personal Folder, or to migrate only contacts

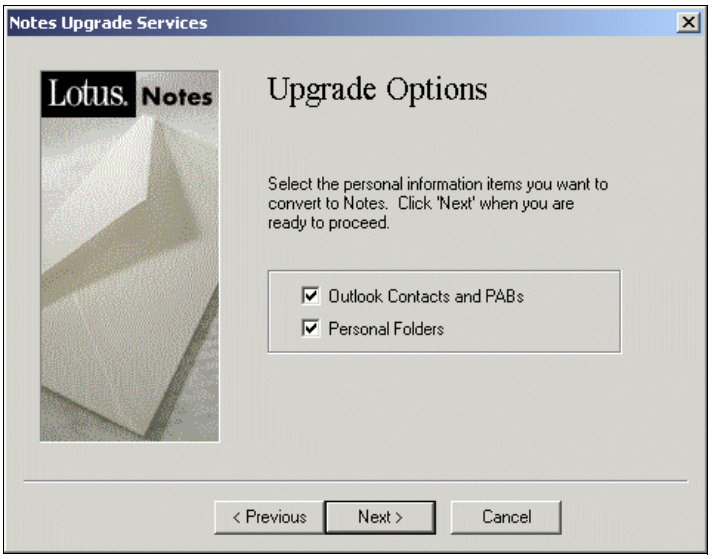

Figure 12-28 Upgrade Options: Custom

7. We recommend choosing the Express method to migrate all data in the Outlook .PST file, as illustrated in Figure 11-25. Click the **Next** button to display the dialogue shown in Figure 11-27, where you will specify the conversion options for Notes Upgrade Services.

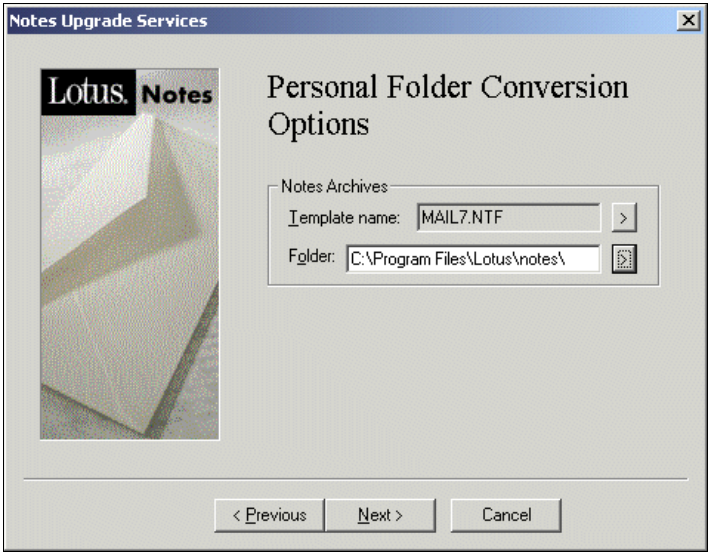

Figure 12-29 Notes Upgrade Services: Conversion Options

8. As outlined in Section 11.2, you must use the Extended Mail Template (Mail7ex.ntf) or iNotes Template (iNotes7.ntf) for all migrated .NSF files. In the Template name field, select one of these templates by clicking the button next to the Template Name field and navigating to the directory where it is located on the local workstation, as shown in Figure 11-28.

Figure 12-30 Select the mail7ex.ntf or iNotes7.ntf template

9. Select the location where you would like to save the Notes .NSF file resulting from the Notes Upgrade Services migration from the local Outlook .PST file. Click the button next to the Folder field and navigate to the directory where you would like to save the migrated filed, as shown in Figure 11-29.

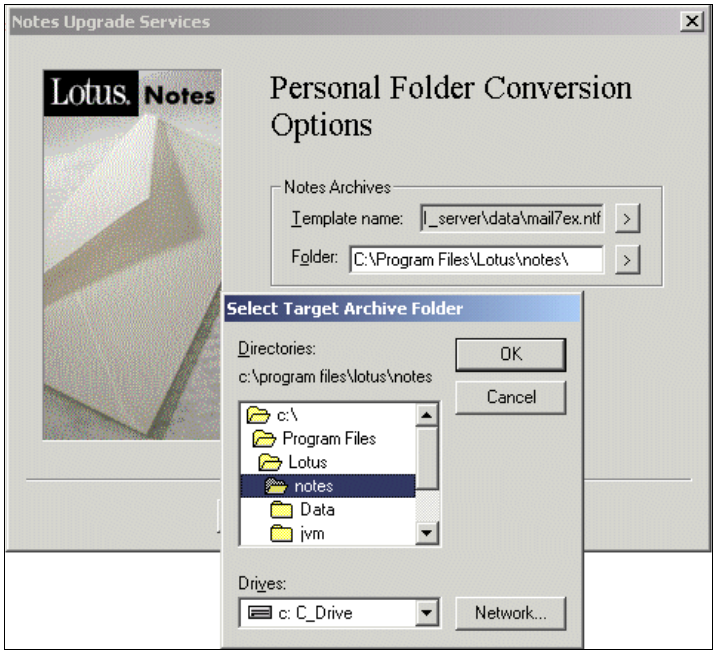

Figure 12-31 Choose a location for the migrated .NSF file

10. The results of the Notes Upgrade Services migration will be written to an .NSF file, *a_PersonalFolders.nsf*, in the location you selected in Figure 11-29. Notes that subsequent local migrations using Notes Upgrade Services will append this file, unless you change the location where the migrated file is be stored. If you are migrating several local Outlook .PST files, it may be useful to allow Notes Upgrade Services to append *a_PersonalFolders.nsf* so that all locally migrated Outlook data is located in the same .NSF file.

    Figure 11-30 displays the Notes Upgrade Services dialogue populated with the template selection and personal folder location.

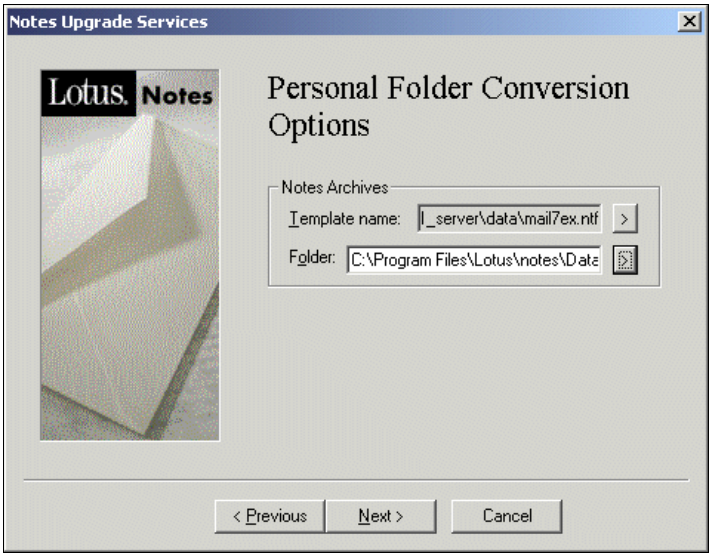

Figure 12-32 The template name and folder have been selected

11. Click the **Next** button and you will be prompted to begin the upgrade process, as illustrated in Figure 11-31. If you would like change your folder conversion options, click the **Previous** button to return to the previous dialogue shown in Figure 11-29.

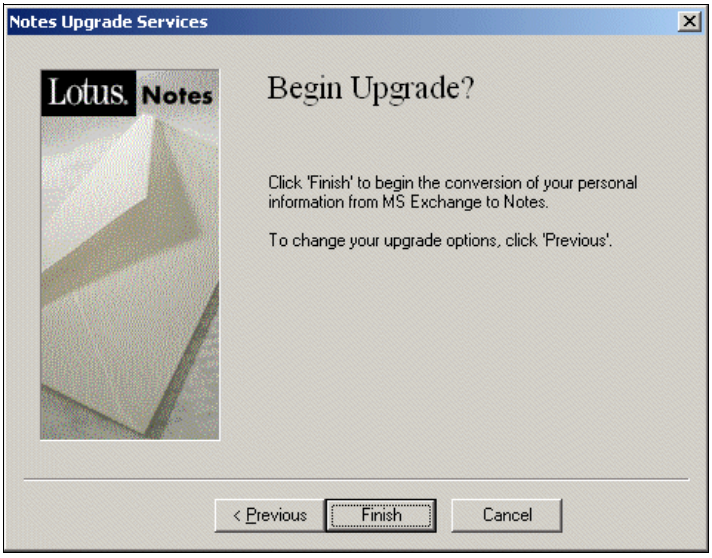

Figure 12-33 Notes Upgrade Services: Ready to begin upgrade

12. Click the **Finish** button to begin the migration using Notes Upgrade Services. The dialogue illustrated in Figure 11-32 will display, indicating the migration process is in progress.

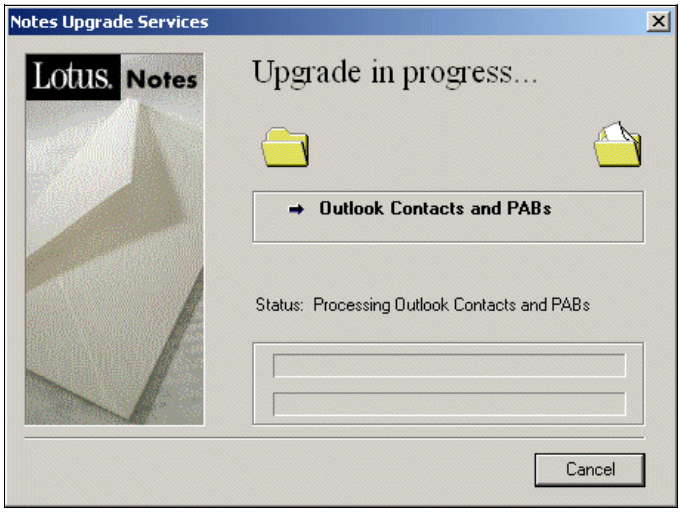

Figure 12-34 Notes Upgrade Services: Upgrade in progress

13. You will be prompted, as illustrated in Figure 11-22, to enter the password associated with your Notes .id. The Domino Administrator should have supplied you with a Notes .id file in preparation for installing the Notes Client. If you do not have a Notes .id file, please see your Domino Administrator.

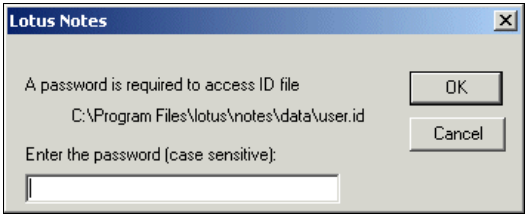

Figure 12-35 Enter the Password for your Notes .id

14. Enter your Notes .id password, then click the **OK** button and the migration process will continue. When the migration is finished, the dialogue illustrated in Figure 11-34 will display.

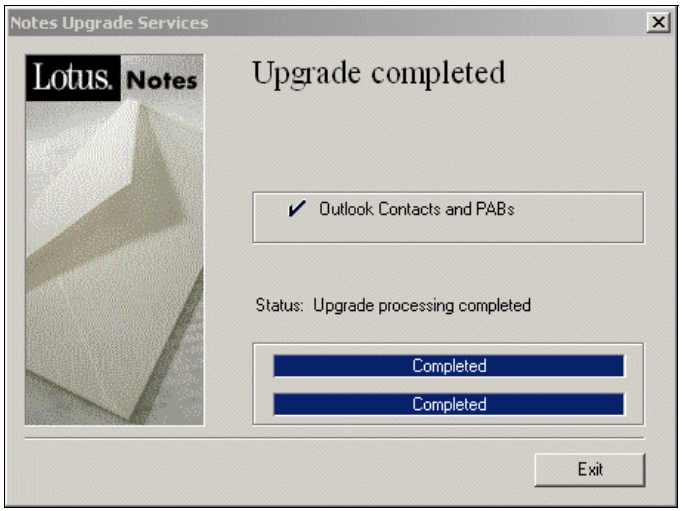

Figure 12-36 Notes Upgrade Services: Upgrade completed

15. You may now open the results of the Notes Upgrade Service migration, located in the file *a_PersonalFolders.nsf*, from the Notes Client.

12.5 Troubleshooting Notes Upgrade Services

In some cases, the local .PST file being migrated may contain problematic data which can't be properly migrated using Notes Upgrade Services. If this occurs, you will be presented with the dialogue displayed in Figure 11-35, informing you that the upgrade process completed with warnings or errors.

Figure 12-37 Notes Upgrade Services - Warning

When warnings or errors are returned by Notes Upgrade Services, they are written to a log file, *log.nsf*, located in the data subdirectory of the Notes Client install directory. A sample *log.nsf* file, shown in Figure 11-38, displays the messages returned by Notes Upgrade Services.

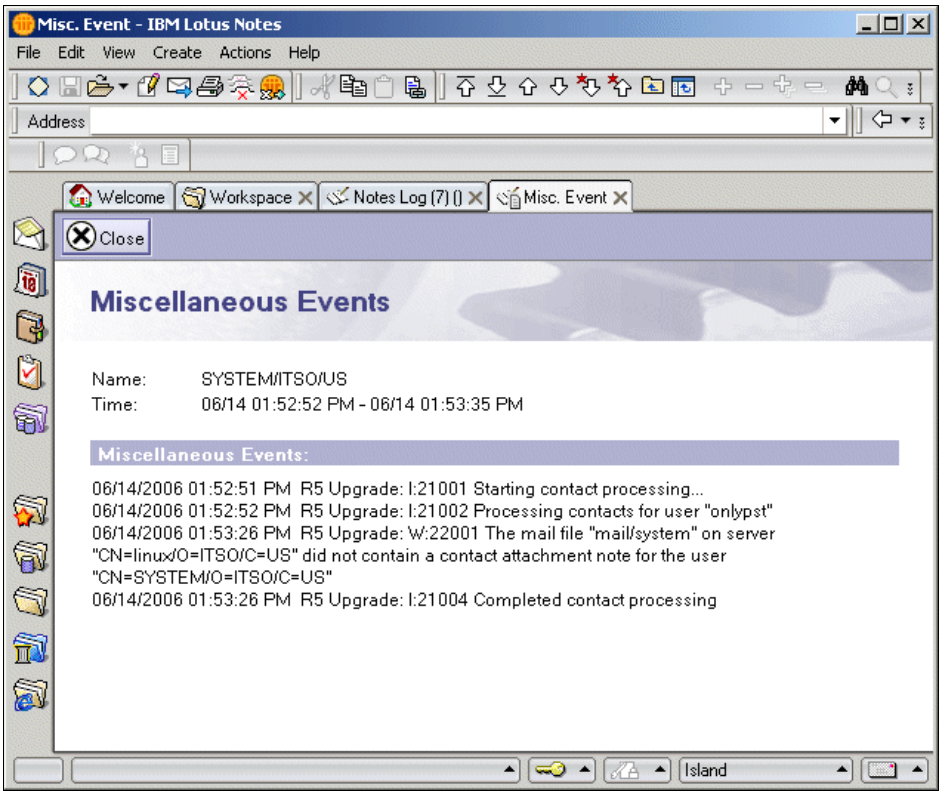

Figure 12-38 Notes Upgrade Services - Log Entry in the log.nsf file

The entries in the Notes Upgrade Services log file provide information about what processes executed during the migration processing, and any failures during the processing. These entries can help you determine whether the Outlook .PST file contains faulty data that can't be accessed during migration processing, and can be particularly useful for the IBM support teams if you report a problem with Notes Upgrade Services.

In general, if Notes Upgrade Services returns a warning but the migrated data contained in the local .NSF file appears correct, there is no need to take action. However, if Notes Upgrade Services returns an error, we recommend the following actions:

- Attempt to repair the Outlook .PST file by using a data repair tool to fix the problems that may exist with the Outlook data.
- If the Outlook data repair is successful, delete any existing .NSF file (*a_PersonalFolders.nsf)* created during the failed Notes Upgrade Services processing. If the Outlook data repair is not successful, contact your system

administrator for assistance with troubleshooting the erroneous Outlook data file.

- Repeat the steps outlined in Appendix 12.4.1, “Starting the Migration” on page 390

13

Server Level Migration process using CMT from Binary Tree

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter provides detailed instructions for setting up the Binary Tree Common Migration Tool (CMT) and using it to migrate users from Microsoft Exchange to Lotus Domino, from server to server. We explain in detail the setup, usage, and on-the-fly configuration, followed by some examples of the expected results obtained when using the tool. The procedure to perform the client migration using the same tool is detailed in Chapter 14, “Local Data Migration using the Binary Tree tools” on page 439.

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Depending on your migration scenario, you may have to combine both procedures and set up the server and client migration parameters simultaneously.

13.1 What is Common Migration Tool

The Binary Tree Common Migration Tool (CMT) migrates data from one e-mail system to another. While the tool can be used to migrate from numerous e-mail systems to Lotus Notes, the focus of this chapter is to describe its capabilities in migrating from Exchange 2000/2003 (and Outlook) to Lotus Notes and Domino 7.

Like Domino Upgrade Services, the CMT has the ability to migrate both server-based data and end user-based data. The results of both server and end user migration are presented in Chapter 15, “Migration Results” on page 467.

During our testing we found that the CMT provides:

- Easy setup
- Good control and selection of data to migrate
- Usable logging of status at each stage of the migration process
- Good failover when encountering errors, including:
  - Usable references to reason of failure
  - Ability to continue with further migration requests
- Ability to trigger and restrict end user migration, that is, where, how. and when
- Ability to migrate public folders (separate migration tool)

13.2 Installation

The CMT tool is physically a Domino database. All administration and configuration tasks are conducted within this database. It is good practice to install the CMT databases into a subdirectory, preferably called CMT, of the Notes data directory of the Domino Server.

Important: For end user migration the CMT database needs to be installed on the Domino server rather than on the client. However, you can replicate it to a local workstation and work from there.

Prerequisites

The following prerequisites should be in place to ensure that the migration process is as smooth as possible:

- A Lotus Domino server 7 or higher
- A workstation with Lotus Notes 7 or higher

- A Notes Client with an ID file that is a member of the administrators group and that has appropriate access to the Domino server.
  - If the ID to be used is not the administrator, grant the ID Editor access to the certification log database.
  - Also ensure the ID has been granted Editor access, along with the group and the roles of GroupCreator, GroupModifier, UserCreator, and UserModifier to the Domino Directory for the organization.
  - Add the ID to the Access Server field in the Domino Directory for all servers to which CMT will be migrating data.
  - The ID should also sign all design elements of the CMT database through the Domino Administrator Client.

For server-to-server migration:

- In the case of already created mail databases, the ID used for migration should have full Manager access to *all* target Lotus Notes mail databases.
- Ensure a version of Outlook is installed, on the workstation running CMT, with a profile that has Administration privileges to the Exchange servers that data will be migrated from.

13.2.1 Set up the licenses

Before you can start to use the migration tool to migrate users, you need to install the license key. The licensing is per user and is not dependent on either the source or target mail system.

1. Open CMT by selecting from the databases folder or use:

   File → Database → Open (or Ctrl+O) and entering the file location (that is, data\CMT\cmt.nsf).

2. Select `License information`. This opens the License Information document.
3. Click Enter License Key and click Yes to accept the CMT agreement terms.

Figure 13-1 License information document of CMT database

4. Enter the license key provided by Binary Tree and click OK (see Figure 13-2).

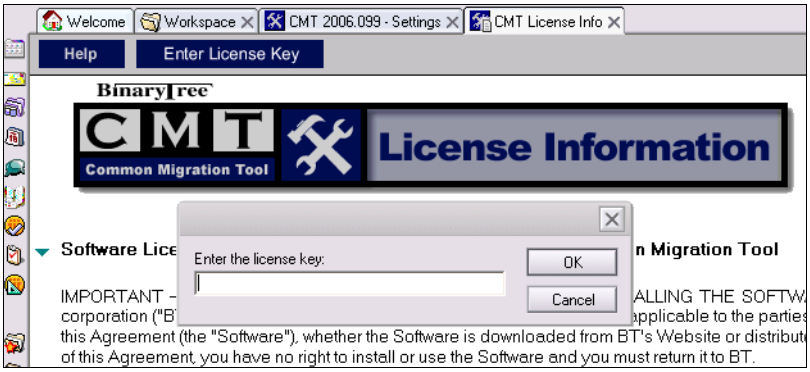


Figure 13-2 Enter license information

5. Close the CMT License Information document.

13.2.2 The five steps to migration with CMT

Binary Tree recommends the following five high-level steps to use the migration tool for setup and migration of users.

1. Configure CMT settings
2. Add users from foreign directory source
3. Select users for migration
4. Migrate server data

5. Migrate local user data (if and when appropriate depending on your messaging client)

In the following sections we describe these steps in detail, except for Step 5 which is covered in Chapter 14, “Local Data Migration using the Binary Tree tools” on page 439. Although manual configuration and migration is possible, for this discussion we have used the CMT wizards in each case. The CMT wizards are useful aids in setting up a migration, particularly for the first time user of the tool, since they help you determine which information is needed based on the type of migration that you intend to do. When you open the database, the following wizard buttons are located at the top of the screen:

- Configure EU Settings
- Add Users
- Server Migration
- End User Migration

Figure 13-3 Binary Tree CMT main window

You can move forward and backward through most of the screens by clicking the Next and Back buttons located at the bottom right-hand corner of the screens. There is also a Cancel button in that corner.

13.3 Set up CMT and migrate users

13.3.1 Configure CMT settings

The first stage of the migration is to configure the CMT tool by providing information on both the target and source mail systems.

1. Open the Database and click Configure EU Settings (Figure 13-3 on page 406). You will be presented with the main source mail system selection screen shown in Figure 13-4. By default, all supported mail systems are selected; you will need to deselect the mail systems not required, leaving you with the mail systems you wish to migrate from.

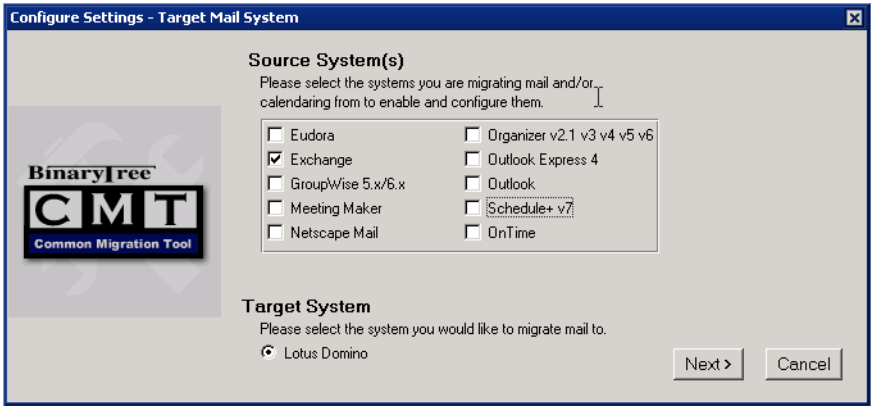


Figure 13-4 Source and target mail system selection

2. When you have only the correct source mail systems selected click Next. Lotus Domino is selected as the target mail system by default.

> **Note:** Although no messaging client is selected in our example, you may decide to select the appropriate messaging clients to migrate from.

3. Now you are required to enter information on the Domino mail system, such as the default directory server (using either the canonical format or the abbreviated hierarchical name), and the Domino directory filename (see Figure 13-5 on page 408). In addition, specify if the mail database is to be migrated in the current mailbox on the server, or locally into a separate mail database with the filename of your choice. Select the appropriate Mail Template Version to be used when creating the new mail boxes. Click Next to proceed.

Note: If you choose to migrate to a new local copy, the local mail database should be created before you start migrating. See Chapter 14, “Local Data Migration using the Binary Tree tools” on page 439.

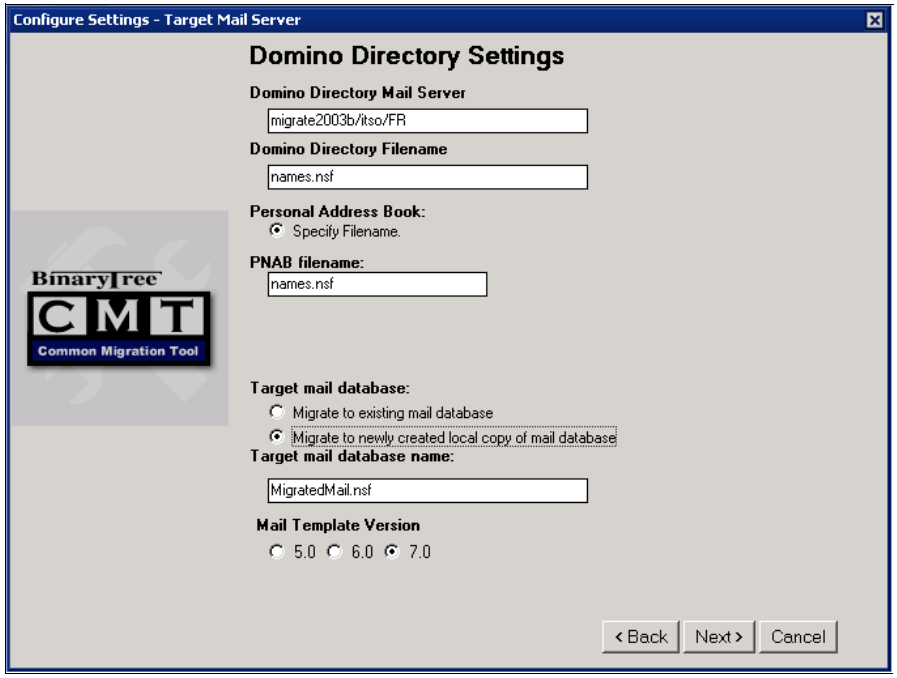


Figure 13-5 Domino Directory settings

4. The Outlook and Exchange settings dialog is where you provide information on the Outlook and Exchange systems, such as default migration contents. The settings dialog provides the following options:

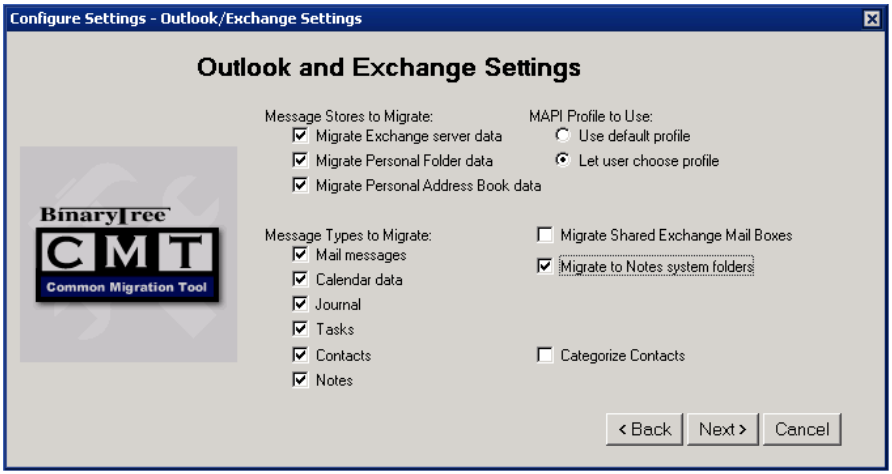


Figure 13-6 Outlook and Exchange settings

– Message types to migrate

  The CMT tool lets you select which message types are migrated. For example, you could choose to migrate mail messages but leave calendar entries untouched. As can be seen in Figure 13-6, we opted to migrate all data. However, you may decide that not all data is relevant for migration, so you can refine the selection.

– Message stores to migrate

  • Migrate Exchange server data

    The user's mailbox and data are on the Exchange server. When you migrate Exchange server data, the user's mail and folder structure saved on the server will be migrated. When you choose to migrate Exchange server data, you also have the option to migrate shared Exchange mailboxes. A shared Exchange mailbox is used by more than one user. To migrate shared Exchange mailboxes, select the Migrate Shared Exchange Mail Boxes check box (see below for further information and advices.)

  • Migrate personal folder data

    The data are local to the users's machine or stored on a network drive. They are in the form of a. PST file. This data is not stored on the server. If there is more than one. PST file, CMT will migrate all of them.

  • Migrate personal address book data

    The data are local to the user's machine or stored on a network drive. They are in the form of a. PAB file.

You may also decide that the only data you want to migrate is calendar, messages, and contacts. Later, during the selection of users for migration step, you have the ability to further refine the data selection by changing from the defaults and adding date ranges, so as not to migrate older data.

– MAPI profile to use

  Unless you have created a single/default MAPI profile with administration access, you should select Let users choose profile to ensure that a profile with sufficient privileges for logging into Exchange can be chosen.

– Migrate shared Exchange mail boxes

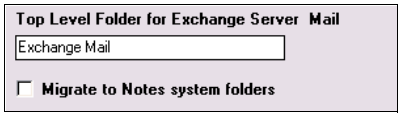
  The option to migrate shared mail boxes should be used with caution since this data is used by more than one user, and is only available if you have chosen to migrate Exchange server data. When this option is selected, the shared data will appear in each user's mailbox. It may be more appropriate to create a mail-in database into which to migrate the shared data, and giving the users that require it access.

– Migrate to Notes systems folder

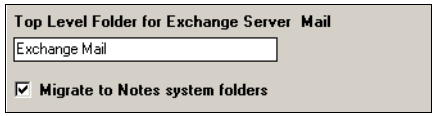
  Data from Exchange, by default, will be migrated by the CMT tool into the *top-level folder* in Notes. The Exchange/Outlook folder structure will be retained. All of the users' Exchange folders will be placed under this top-level folder, and the relevant data/mail messages will be stored within them. Thus within the Notes user's mail database they will have separate folders for their Notes data and old Exchange data.

  By selecting Migrate to Notes system folders, data within the Exchange system folders (Inbox, Sent Items, Drafts, and Deleted Items) will be migrated directly into the equivalent Notes system folders (Inbox, Sent, Drafts, and Trash). All other non-system Exchange folders will be migrated to Notes. In other words, the folders will appear under the Notes root-level folder structure and not under an Exchange top-level folder. See illustrations in Table 13-1 on page 411 for a comparison of the option selection.

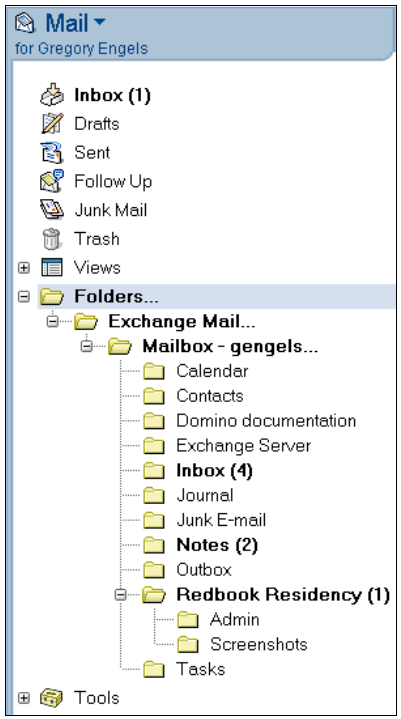
Table 13-1 Comparing the folder migration options

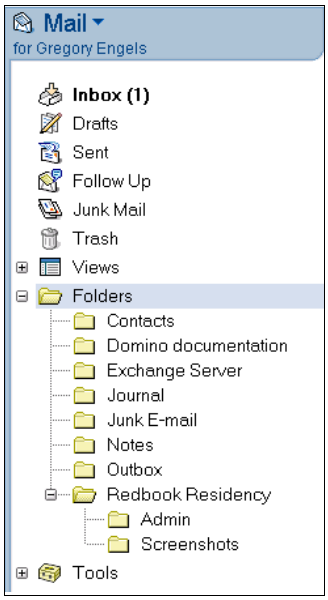


Folders migrated to Exchange Mail folders (default selection from Figure 13-11 on page 415)



Migrate to Notes system folders option selected (from Figure 13-11 on page 415)





Note: The figures above illustrate where the migrated folders and the corresponding content can be found depending whether the Migrate to Notes system folders option is selected. (By default, the top-level folder name is Exchange Mail, but can be changed to suit your requirements as shown in Figure 13-11 on page 415.)

When you have completed your selections, click Next and you will be presented with the next settings screen (Figure 13-7 on page 412).

5. The final settings dialog allows you to provide information on top-level folders in the Exchange mail clients. If you did not select Migrate to Notes system folders (Figure 13-5 on page 408), all data migrated from Exchange will be migrated under the top-level folder named.

   You also have the option to select which message classes to migrate. A message class is how a note is stored in Exchange. To specify which message classes to migrate, type in the message classes separated with a semicolon (;). A semicolon must also follow the last message class entered. To have all message classes and rich text migrated, use an asterisk (*); this will reset message classes to default. The defaults are:

   IPM.Note.RFC822.MIME;IPM.Note.RFC822;

   Click Next and you will be presented with the settings completion screen.

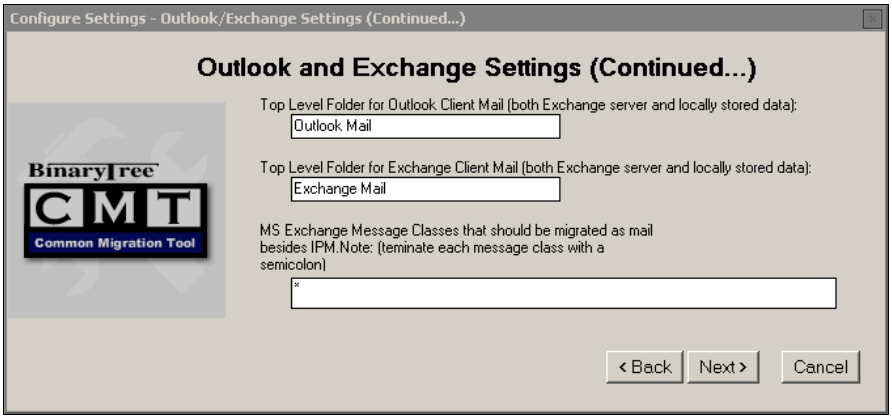


Figure 13-7 Top-level folder settings

6. Click Finish and you will be returned to the CMT Database main view.

13.3.2 Add users from foreign directory source

When you have completed the configuration, you need to add users from the foreign directory into the CMT database before you can register them.

When users are not registered to the Domino directory, you must import them from a non-Domino directory, i.e. a foreign directory. You can import users from a foreign directory for either an end-user or server-to-server migration. The names of the users can be imported from a text file or an Exchange server.

Note: It is possible to select pre-registered users from a Domino database.

1. To add users into the CMT migration database, click the Add Users button and launch the corresponding wizard.

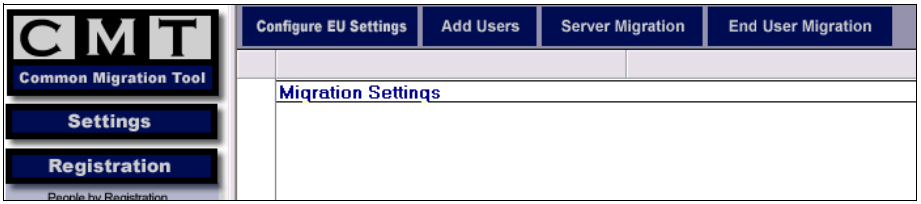


Figure 13-8 Select Add Users button

We opted to select our users for migration from Active Directory since our Exchange users are not registered to the Domino directory. Therefore we selected Import from Foreign Directory Wizard (Figure 13-9);

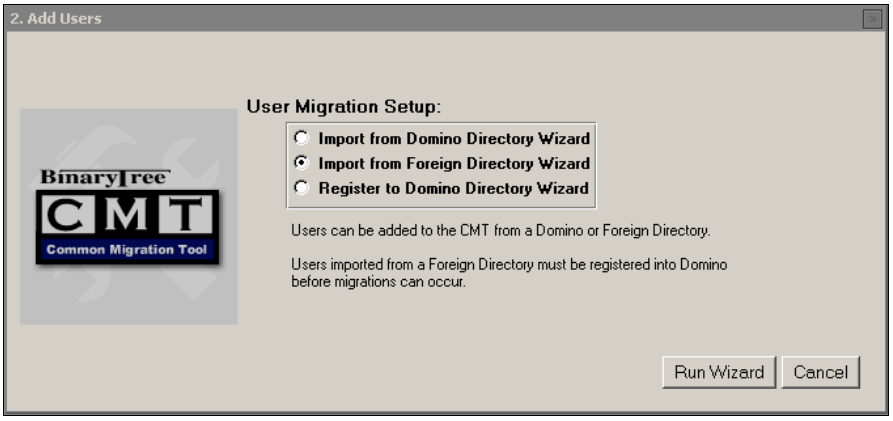


Figure 13-9 Select directory source

2. Click Run Wizard. You will be presented with a screen where you select the source systems to import the users from (Figure 13-10).

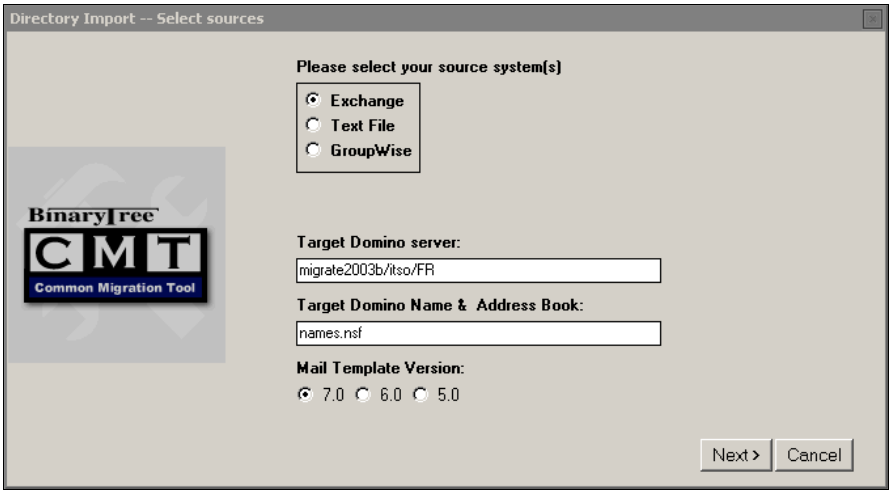


Figure 13-10 Select directory import source

We selected Exchange as the source system for directory information. The target Domino server and directory have been acquired automatically from the configuration information provided earlier. If the intended destination server is different, it is possible to change it now. Select the mail template version 7.0.

3. Click Next. The Exchange input parameters screen will be displayed (Figure 13-11).

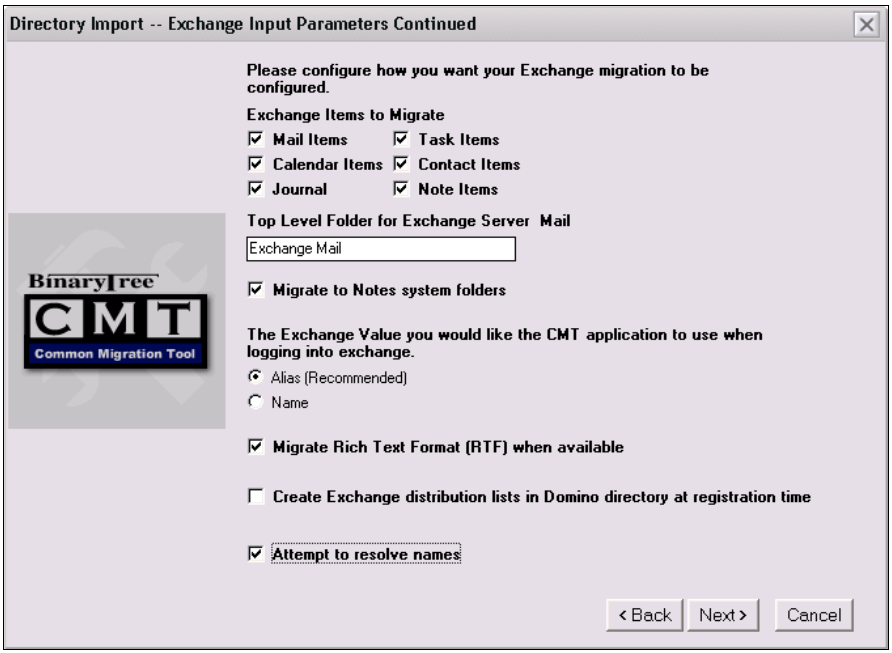


Figure 13-11 Exchange input parameters

Here you have the option to specify the settings for the migration of users from the identified directory source, and override the default parameters set earlier.

– Select the type of data to migrate from the following choices:
  - Mail items: All e-mail messages a user has received.
  - Calendar items: A user's calendar items. When reoccurring appointments in Outlook do not have a reoccurring end date, a reoccurring end date will be created for them that is five years past the current year. For example, an appointment is on August 1, 2002, and reoccurs yearly, but does not have a reoccurring end date. It will migrate to Notes as the same appointment, but with a reoccurring end date of August 1, 2011 (with a migration performed on August 1, 2006).
  - Journal: Journal entries made by a user.
  - Task items: All tasks a user has entered.
  - Contact items: Contacts in the user's address book.
  - Note items: All notes a user has made.
– CMT can migrate the folder structure from the source, as well as the data contained within. If you enter a top-level folder name here, all migrated

data will be located in that folder structure, separate from the standard Notes folders. In our example we used Exchange mail. We would therefore expect that the folder structure and its contents from Outlook will be placed here in the migrated user's mail file, unless we select Migrate to Notes system folders (see "Migrate to Notes systems folder" on page 410 and Table 13-1 on page 411).

– Select to use either the alias or name value when logging into Exchange:
  - If you select `Alias`, CMT will use the unique ID for each user to access each user's mail store. Using the alias is recommended because it is unique to each user.
  - If you choose `Name`, CMT will use the user's last name, first name, and middle initial to access the mail store. This is not recommended because the incorrect mail store could be accessed when users have similar names.
– If you want rich text format (RTF) data to be migrated, click the check box next to Migrate Rich Text Format (RTF) when available.
– If you select Create Exchange distribution lists in Domino Directory at registration time, you are telling CMT that you want it to create the distribution lists in which the individuals being registered by CMT belong. (An additional dialog box appears during this preliminary phase. See Figure 13-28 on page 426.)

Note: The groups will be migrated only when the individuals are registered to the Domino directory with CMT. If individuals are not registered with CMT, the groups to which they belong will not be created.

– If you select `Attempt to resolve names`, CMT will attempt to resolve names in the contacts list and e-mails to the counterparts in the Domino directory.
– As per recommendation, we used the alias profile for logging into Exchange.

4. Click Next. The screen returned gives you the option of further limiting the amount of data that will be migrated by specifying date ranges for several types of data (Figure 13-12 and Figure 13-13 on page 417).
   Also, you may define rules for a finer tuning (Figure 13-14 to Figure 13-20 on page 421).

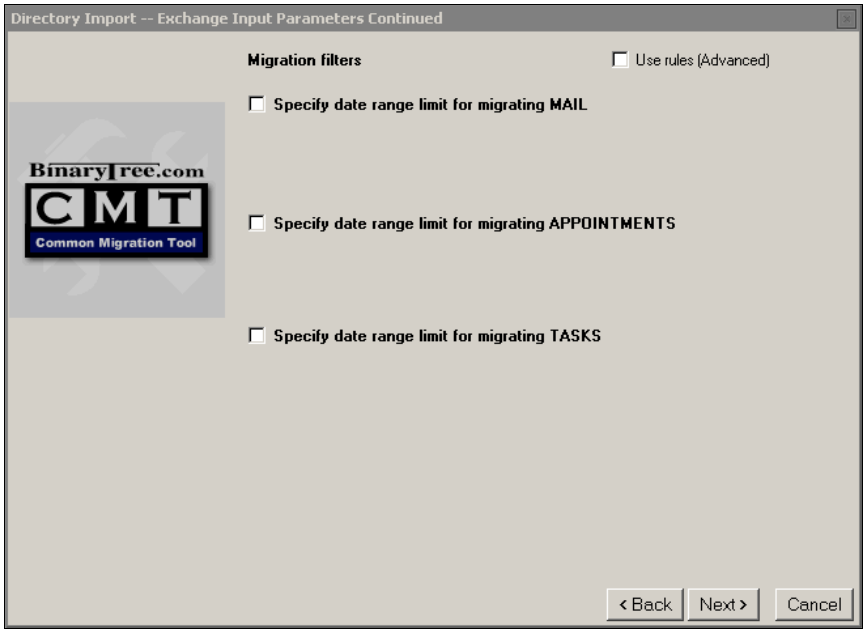


Figure 13-12 Exchange input parameters filter

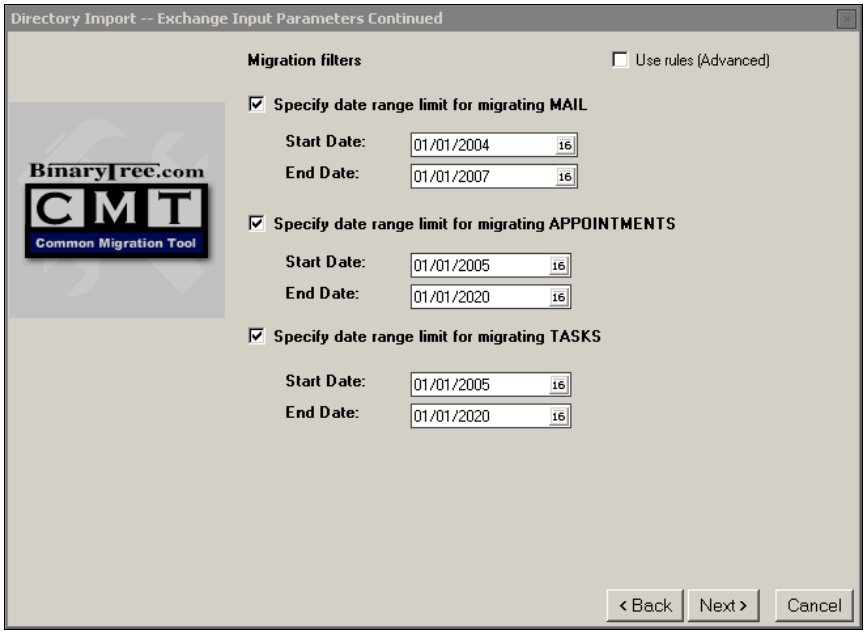


Figure 13-13 Exchange input filter with date range selected

Specify start and end dates. Only the data within the specified range will be migrated to Domino.

5. Make your data selections and click Next.

How to define migration rules

If you select Use rules (Advanced), you are asked to specify a number of additional parameters, as described thereafter (Figure 13-14 onwards).

- Click Edit Rules.

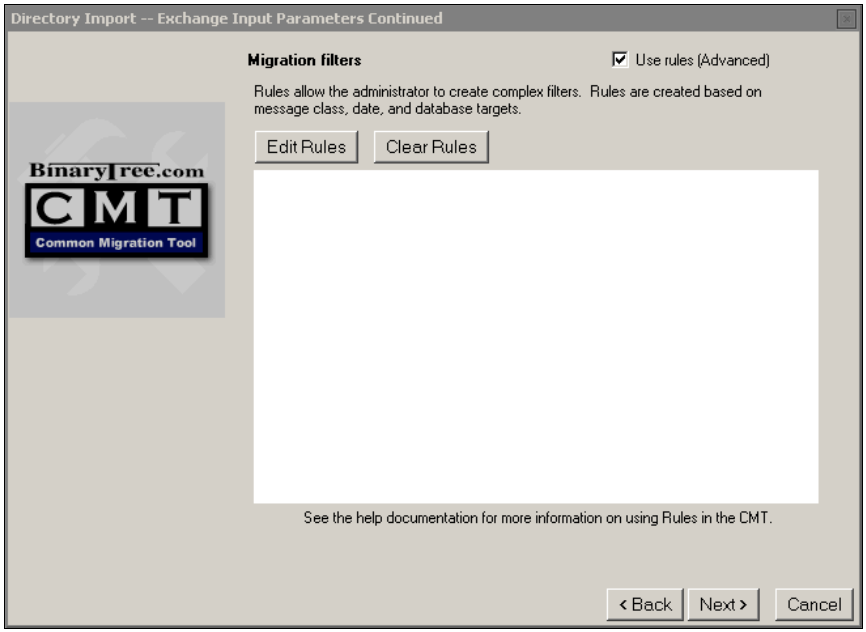


Figure 13-14 Defining migration rules

- Select the appropriate options as required to match your server-to-server migration requirements.

  As an example, you can decide to migrate mails received from January 1, 2000 to December 31, 2005 into an archive, with all mails received from January 1, 2006 moved into the active mail file. Mails received before January 1, 2000 are not migrated. Additionally, all appointments within the same date ranges will be migrated to the same databases accordingly.

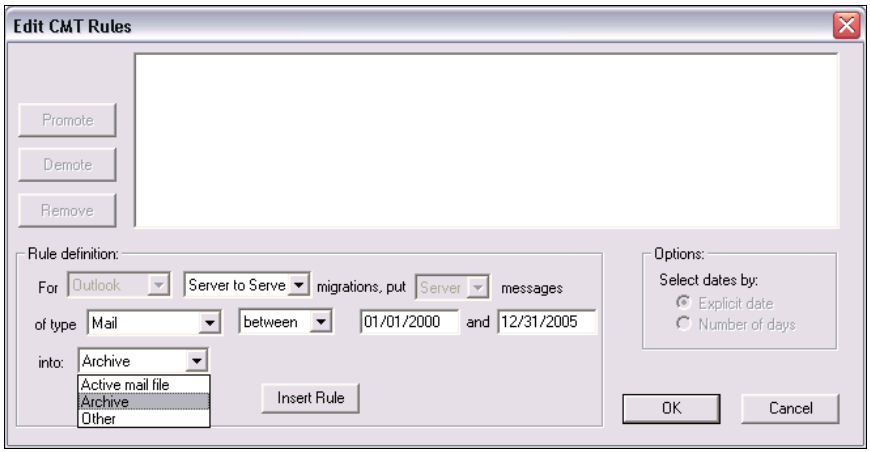


Figure 13-15 Defining a server-to-server migration rule

- Click Insert Rule to validate your rule settings.

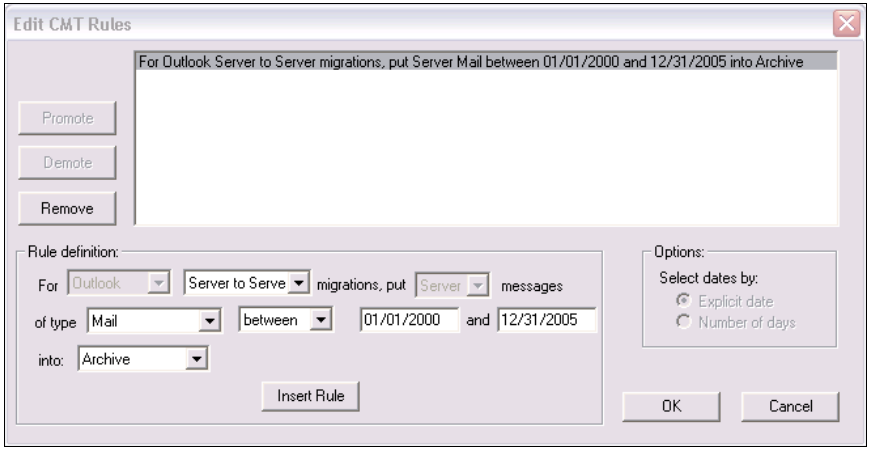


Figure 13-16 Defined server-to-server migration rule

- Select your next set of mail parameters and click Insert Rule.

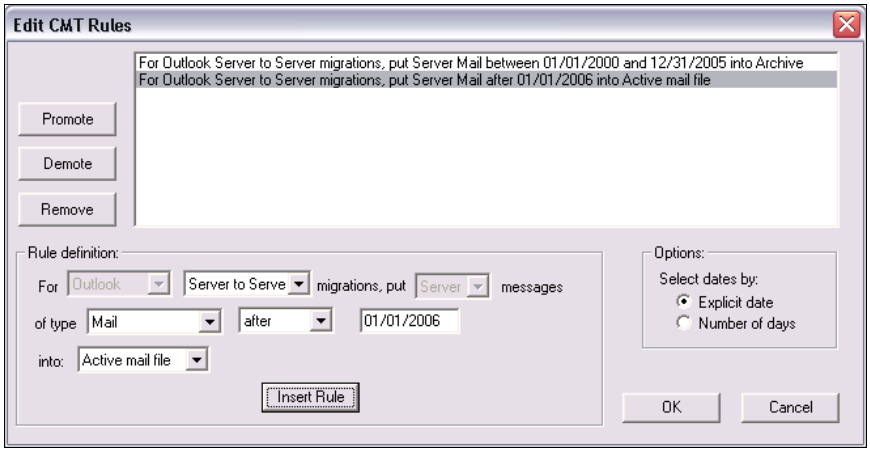


Figure 13-17 Adding an additional server-to-server rule

- Select the appointment migration parameters.

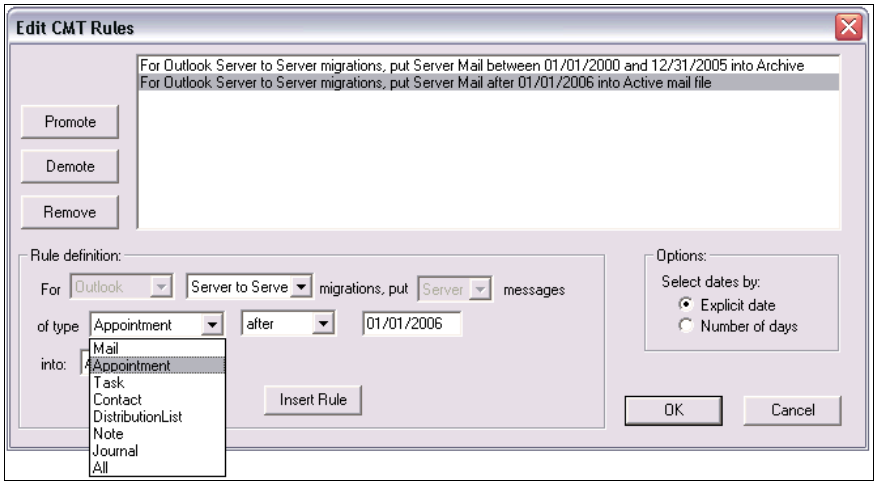


Figure 13-18 Defining Appointment migration rule

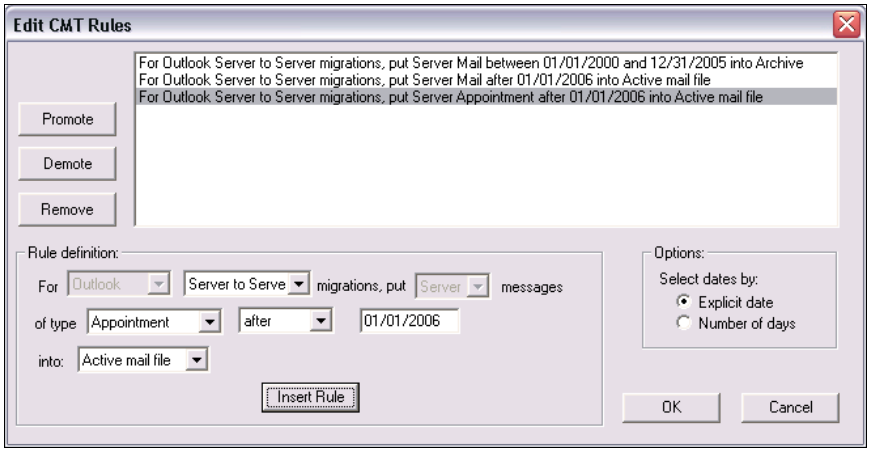


Figure 13-19 Set of migration rules before validation

- Once you are done with your set of rules, click OK.

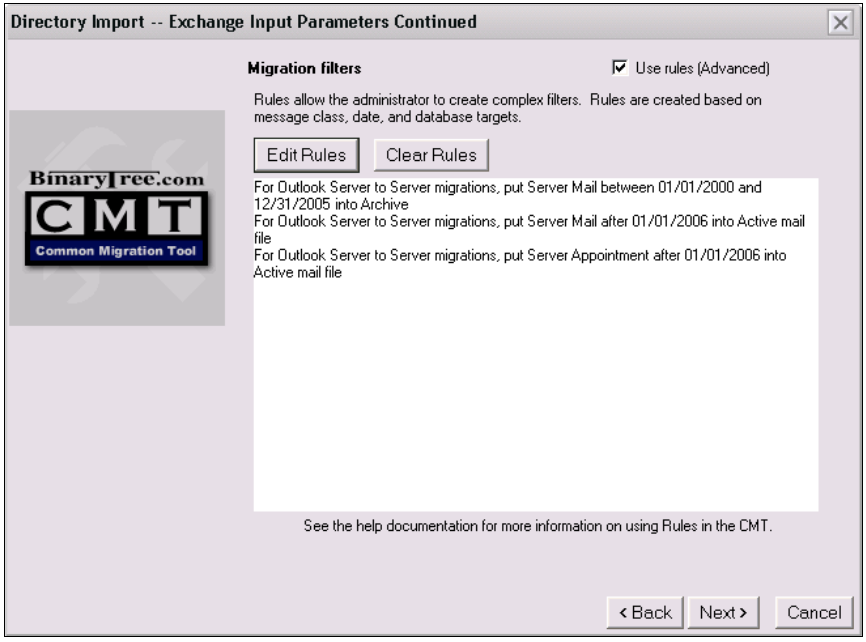


Figure 13-20 Defined set of migration rules

- Click Next to proceed with the Add Users configuration settings.

6. You are presented with the Exchange User Filter screen (Figure 13-21). The options are:
   a. Select all users in GAL
   b. Select GAL users from list
   c. Select only users from one Exchange Home Server

      If you select a particular server you are required to specify the name, and only users from this server will be available for selection.

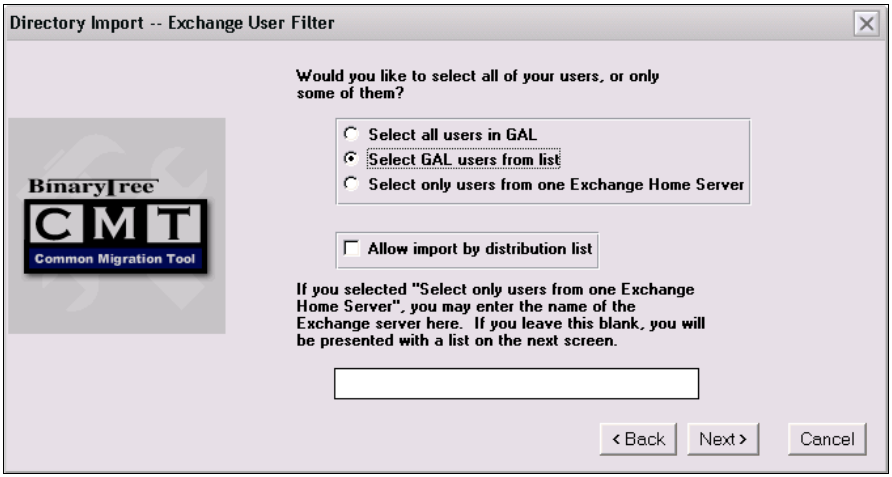


Figure 13-21 User selection options

The other two options are to import the entire GAL or to select from currently imported users. If this is the first time you are doing the migrations, you should opt for Select all users in GAL.

Note: The purpose of Import of users is to create CMT person documents in the cmt database that will be used for registration and migration. This does not add users to the Domino Directory.

Rather than import all the users, and to show additional options, we opted to select users from the GAL.

7. Click Next to proceed.

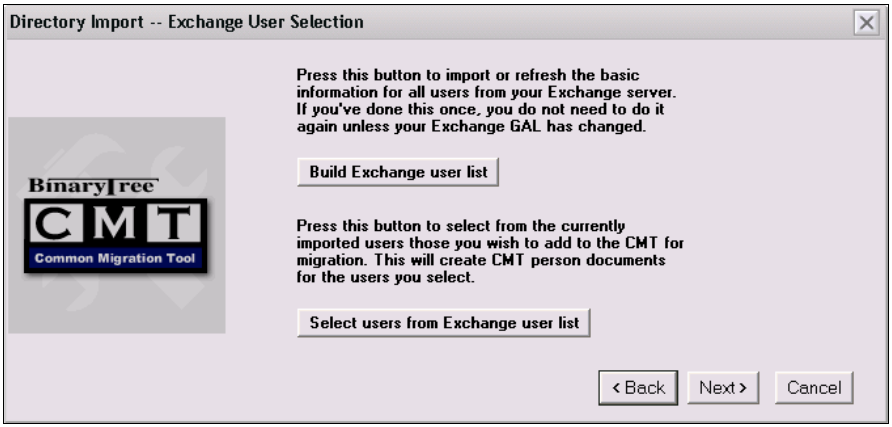


Figure 13-22 Exchange User Selection

Depending on the option taken, you are presented with either the Exchange User Selection screen (Figure 13-22) or the Import Users screen (Figure 13-29 on page 426). If you selected to import all users, go to step 14 on page 426.

8. Select the Build Exchange user list. You are requested to select a MAPI profile (Figure 13-23). Ensure you have set one up as mentioned in the “Prerequisites” on page 403. If not, you will have to cancel, build the profile, and start the Add Users wizard again.

   Ensure the selected profile has administrator privileges. Otherwise, you will not be able to access either the Global address list or, during migration, the user data to migrate.

Figure 13-23 Select MAPI profile

9. Click OK to select the profile. You are prompted for a password. If you are not logged into the NT Domain you are presented with a window asking for the logon credentials for the Domain. Enter the required information and click OK. Importing users batch starts.

   A status screen is displayed while the import is running. An example of this screen is in Figure 13-24.

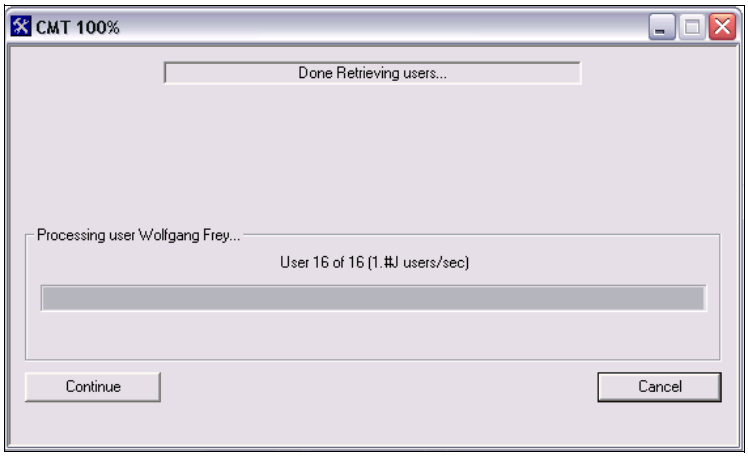


Figure 13-24 User import status window

When the import has completed you are presented with a screen informing you of the number of successfully imported users.

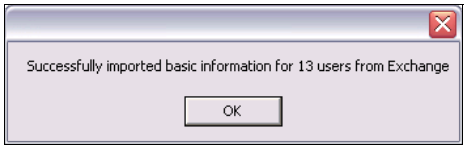


Figure 13-25 User import confirmation

10. Click OK.
11. You will return to the select users screen, similar to the one shown in Figure 13-22 on page 423. This time, click Select users from Exchange user list. You are be presented with a list of users, as illustrated in Figure 13-26.

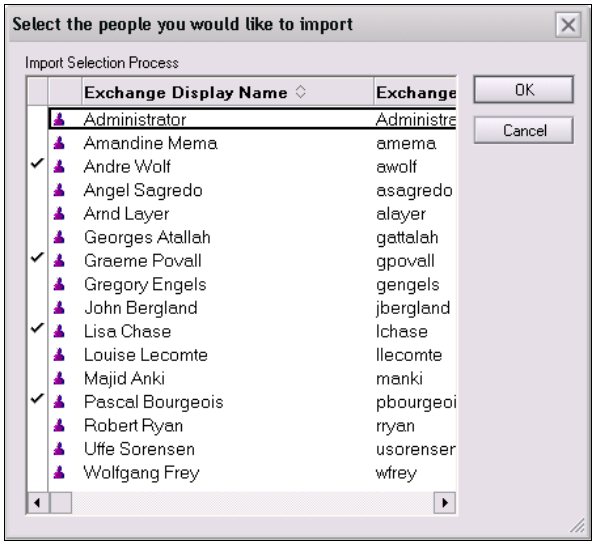


Figure 13-26 Selecting users to import

Note: If you selected to import distribution lists (see Figure 13-21 on page 422), the selection dialog box appears as shown on Figure 13-27.

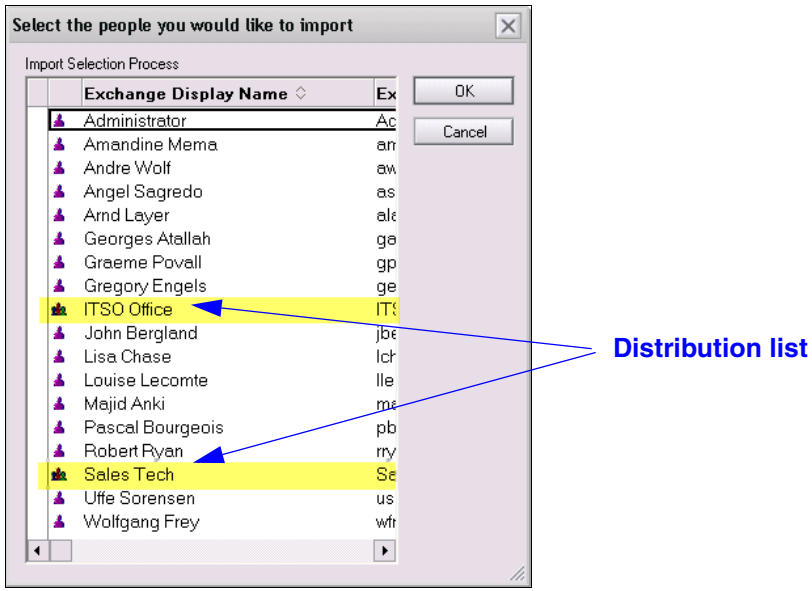


Figure 13-27 Selecting users and distribution lists to import

12. Select the users to import and click OK. The users will be added to the import list.

13. If you selected to import distribution lists (see Figure 13-21 on page 422), the screen shown in Figure 13-28 on page 426 will be displayed. Specify settings related to the importing of the distribution lists and click Next. (In our example we are using the same database where the Exchange users are listed and the group names identified with the EXC prefix.????)

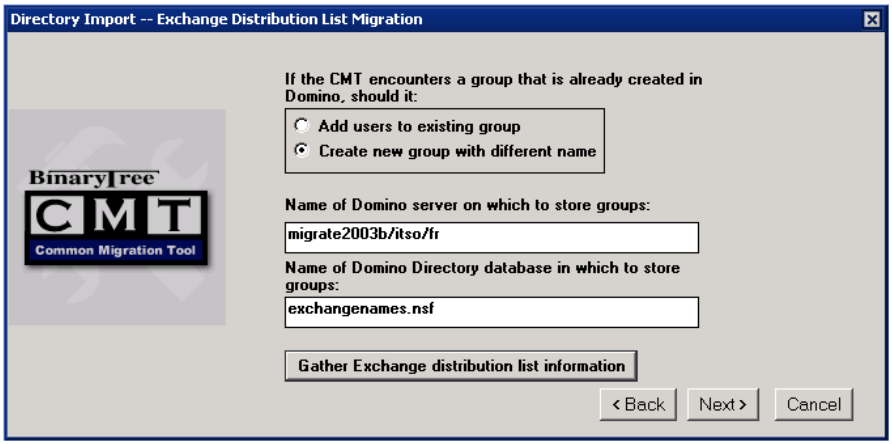


Figure 13-28 Distribution list migration

14. The final step is to import users into the CMT database. Click the Import Users from Exchange button (Figure 13-29).

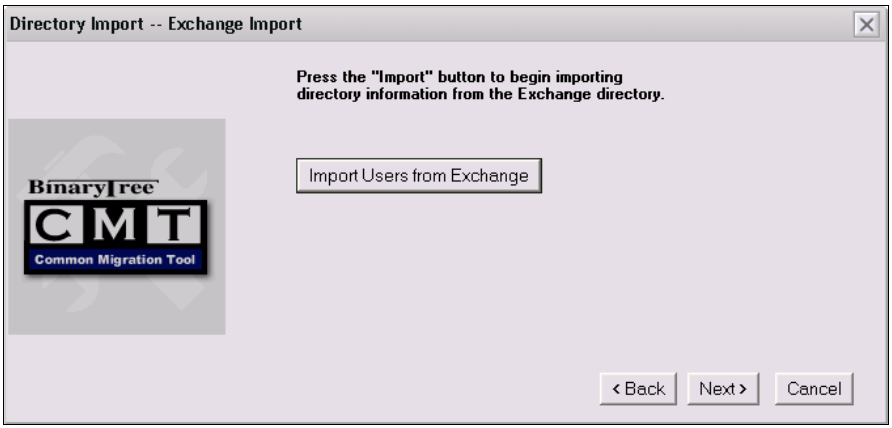


Figure 13-29 Import users

15. When the import is complete you are presented with a message box informing you of how many users have been successfully imported (Figure 13-30).

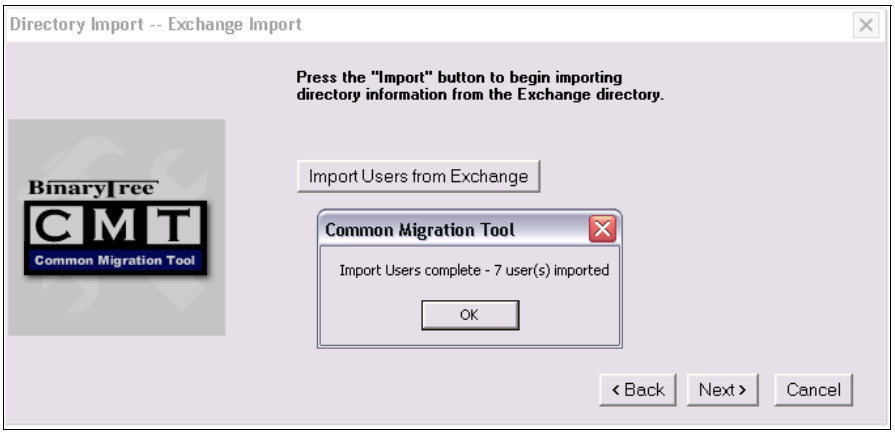


Figure 13-30 Imported users message

16. Click OK.
17. The Import users screen remains on your screen. Click Next.
18. A message appears informing you that you have finished importing users. Click Finish and you are returned to the database main view.

Figure 13-31 Finished Importing users screen

You can verify that the users you have just imported are ready for registration into the Domino directory from the Registration view or the Server Migration view.

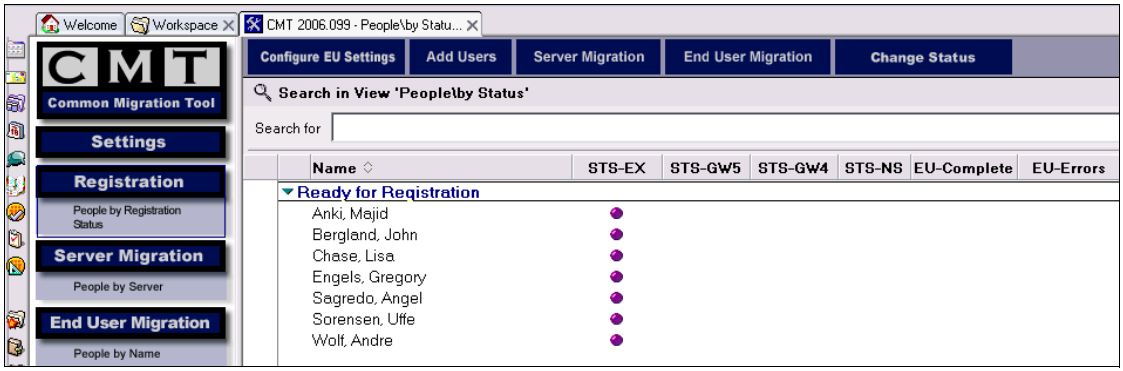


Figure 13-32 Imported users ready for registration

13.3.3 Select users for migration

The next task is to select and register users.

Note: This task is not necessary for any of your users who are already registered in the Domino server.

1. Click Add Users (as in Figure 13-8 on page 413); you are once again presented with the user migration setup screen.
2. This time, select Register to Domino Directory Wizard in the Add Users dialog. Click Run Wizard to start. (Figure 13-33).

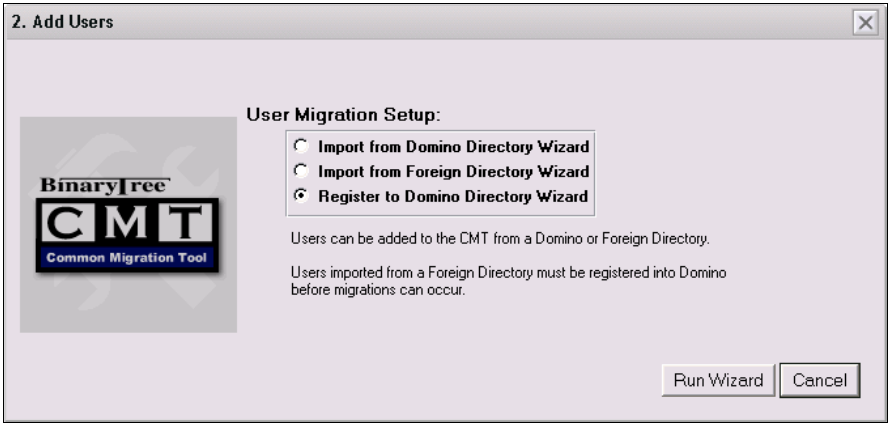


Figure 13-33 Select registration wizard

3. The registration settings screen is presented (Figure 13-34).

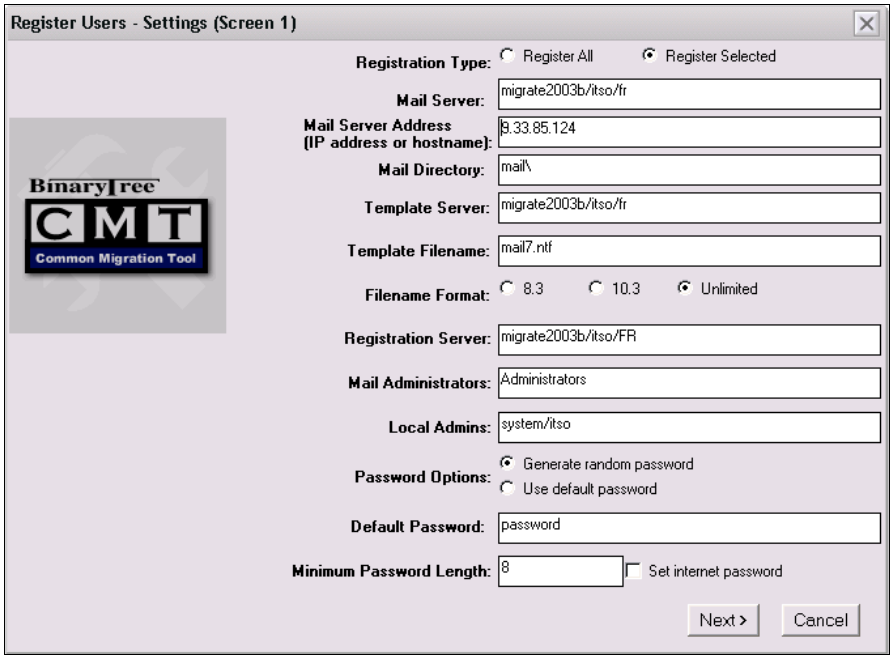


Figure 13-34 Registration settings: Screen 1

4. Complete all the fields, following these guidelines:
   a. It is advisable to enter the server's IP address.
   b. In a single server environment the mail server, template server, and registration server will be the same. This may or may not be the case in a multi-server scenario. Ensure you enter the correct server names in the fields.
   c. The standard mail template file for Domino 7 is Mail7.ntf.
   d. We recommend that you select the unlimited filename format.

   Tip: The filename format setting controls the format of the shortname. Specifying Unlimited will use the shortname (which is unique) as the name of the user's mail file. 8.3 will set a mail file name that is eight characters long; If 10.3 is chosen, then it will be 10 characters long.

   e. If it is required (mostly during the pilot project), add the mail administrators group in the administrators field. This will add the mail administrators group to the ACL of the mail databases. Remember to remove this once you start your full deployment!

f. In the Local Admins field enter the names of the administrators or groups who should have administrator access to users' person documents in the Name and Address Book (NAB) after they are registered. The format should be: administrator's name/mail server. Separate each administrator with a comma (,). The default is the localadmins group.

g. You also have the option to generate a random password or use a default one. If you select default, be sure to enter a password in the default password box.

Attention: Passwords are saved in the CMT person document.

h. Set the complexity of the password that users must use when changing the password. Values range from 0 (weak) to 16 (complex).

i. If you want to create an internet password for the user, select the Set internet password box.

5. Click Next to proceed to the second registration settings screen.

6. Enter the location of the certification ID, the certification log, select the relevant security type, and complete all other fields. You also have the option of adjusting the format of the Internet address to be created and the location to store the created ID file.

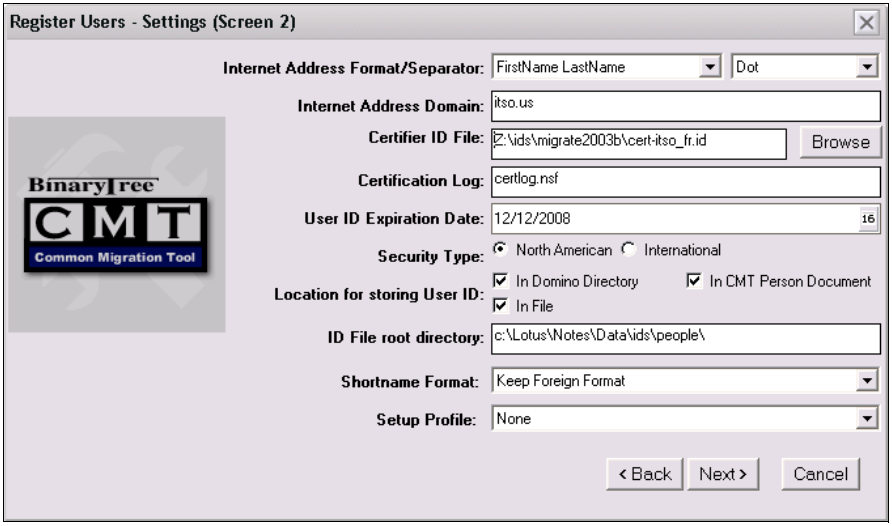


Figure 13-35 Registration settings: Screen 2

7. Click Next, you will be prompted for the certifier ID password.

8. Enter the password and click OK. The Select People screen appears.

9. Click the Select Users button. You are presented with a list of users flagged ready for registration from the CMT database. Select the users you wish to register.

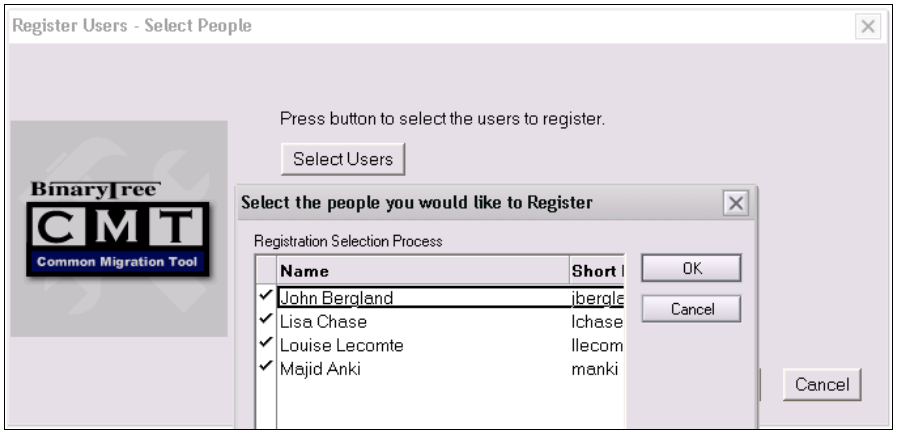


Figure 13-36 Select users for registration

10. When you have selected all the required users, click OK to close the dialog, then click the Register Users button (Figure 13-37). The selected users will now be registered.

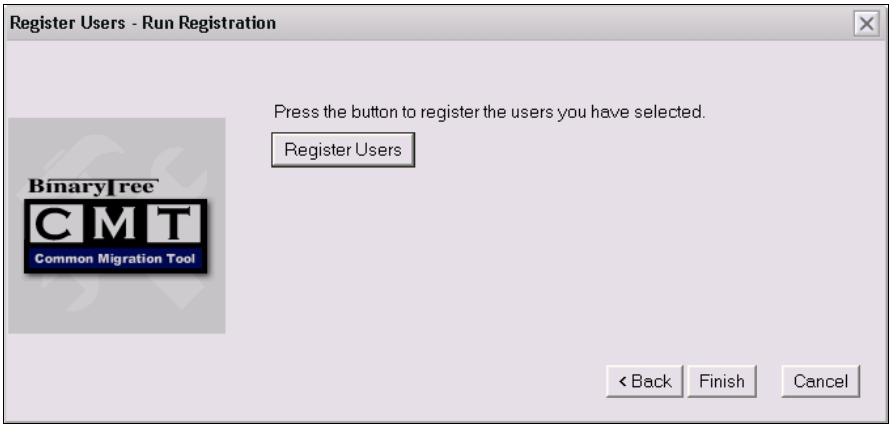


Figure 13-37 Run registration

11. You will be prompted to supply the certifier ID password.

Figure 13-38 Certifier password prompt

A status bar is displayed during registration (Figure 13-39), followed by the completion message (Figure 13-40). Take note of and follow up on any errors. For further assistance in case of errors, refer to “Troubleshooting the migration” on page 436.

Figure 13-39 Registration status

Figure 13-40 Registration complete

13.3.4 Migrate server data

Once you have registered users and selected them for migration, you are in a position to start the migration of the user data from Exchange to Domino. Users are eligible for migration when:

- They have a status of “Registered” and a green (???) or purple icon in the column under the server that will be migrated (in the Registration view).
- They have a status of “Registered” or “Ready for Registration,” the server being migrated is Exchange, and they have a green (???) or purple icon under that server column (in the Server Migration view).

Note: Users with a status of “Ready for Migration” and no yellow light will not be imported during the server-to-server migration. They either will be or have been migrated with an end-user migration.

For a full description of the status categories, see the CMT help accessible via the CMT database.

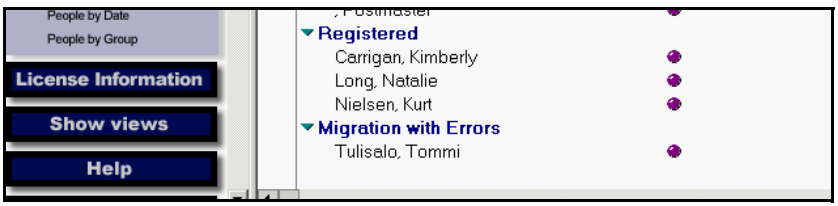


Figure 13-41 People by ready for registration status view

In our example (Figure 13-41) we show four users. Three of them registered and one failed migration, assuming all four users will be available for migration.

Once again CMT provides an easy to use wizard for migration. As with a manual migration, the migration wizard will only allow you to select users from the CMT database that are in the correct status.

1. Click the Server Migration button and launch the corresponding wizard from the main database view (Figure 13-42).

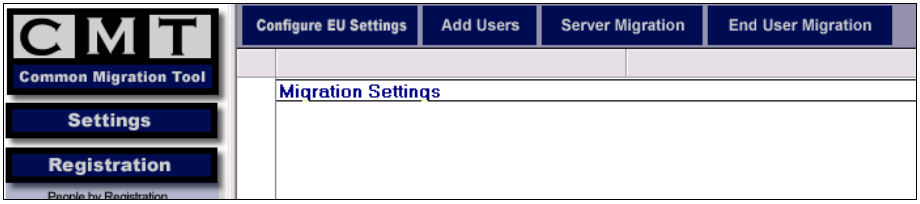


Figure 13-42 Selecting server migration

2. You are presented with the list of users ready for migration. You have the option to migrate all users or select the users for migration. If you select all users, the wizard will attempt to migrate all users that are in the relevant status noted previously, meaning it will not attempt to migrate all the Exchange users in the GAL.

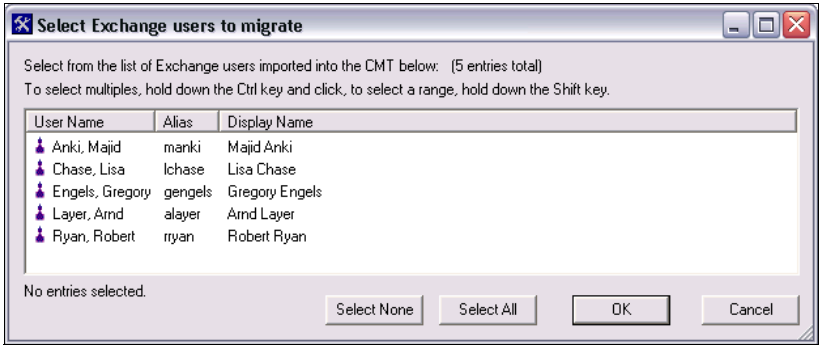


Figure 13-43 List of users ready for migration

3. Select all users listed or some of them only, and click OK.

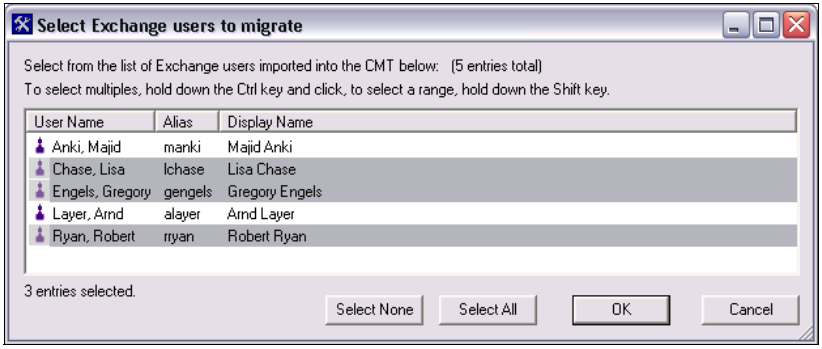


Figure 13-44 User selection

4. You are requested to select a MAPI profile. Be sure you have set one up as mentioned in the “Prerequisites” on page 403. If not, you will have to cancel, build the profile, and start the Add users wizard again.

   The selected profile must have administrator privileges; otherwise, you will not be able to access either the Global Address List or, during migration, the user data to migrate.

   .

Figure 13-45 Select MAPI profile

5. Click OK. The migration begins and a status screen displays its progress (Figure 13-46). Depending on the amount of data and speed/bandwidth of the network, the migration might take a fair amount of time.

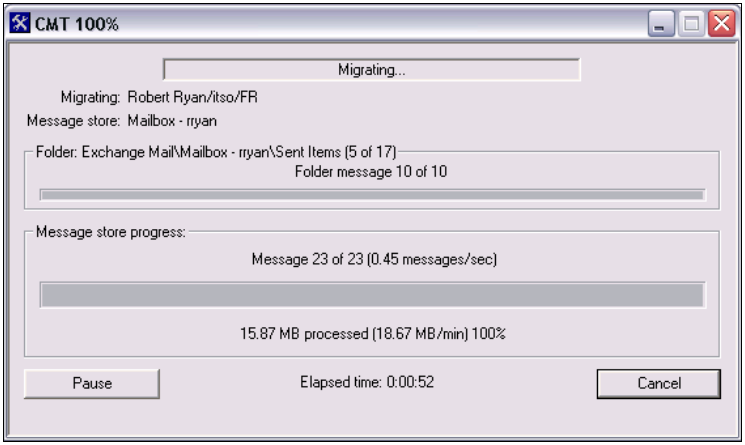


Figure 13-46 Migration status window

During the migration process, you have the option to suspend, and resume, the migration. This is a useful option that in our testing did not result in either a failed migration or migration with errors. The option is useful if you need to suspend the process due to resource constraints. The option to cancel is also available.

A completion notice is displayed when the migration is finished (Figure 13-47). Take note of and follow up on any errors. For further assistance in case of errors, refer to “Troubleshooting the migration” on page 436.

Figure 13-47 Migration completion screen

13.4 Troubleshooting the migration

In the event that a registration fails, you are presented with the status screen. It lets you know the number of successful and the number of failed registrations. In the event of a failure, further investigation will be required. Most causes of failure are simple and easily rectified. To find out the cause of the failure, open the CMT database and click Registration. A list of users and their status is displayed (Figure 13-48).

Select and open the failed user's document, which will be in the Failed registration category.

A migration information section is at the bottom of the document. The cause of the error is displayed in this section (Figure 13-49).

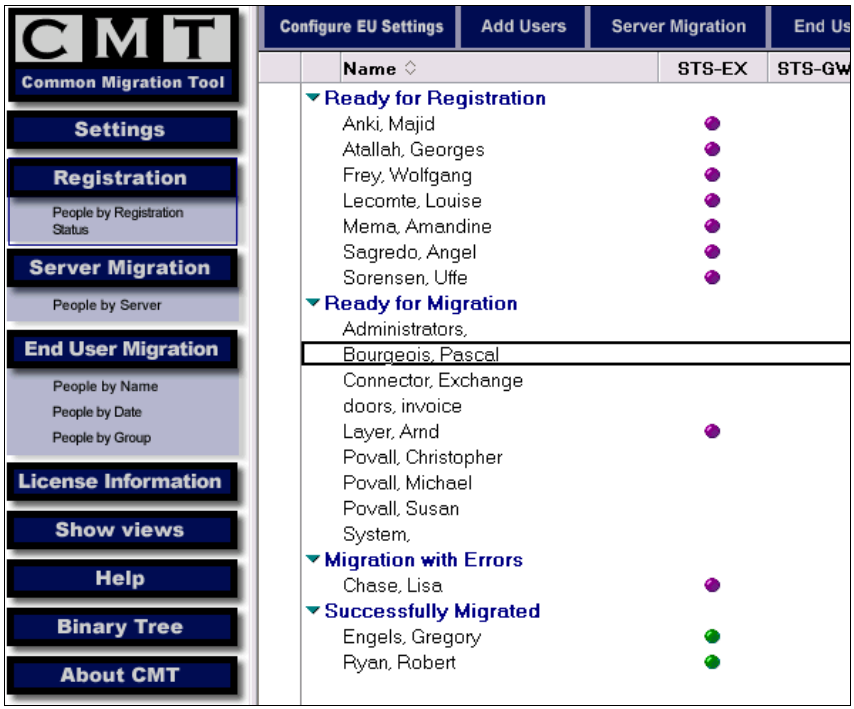


Figure 13-48 Troubleshooting: CMT registration view

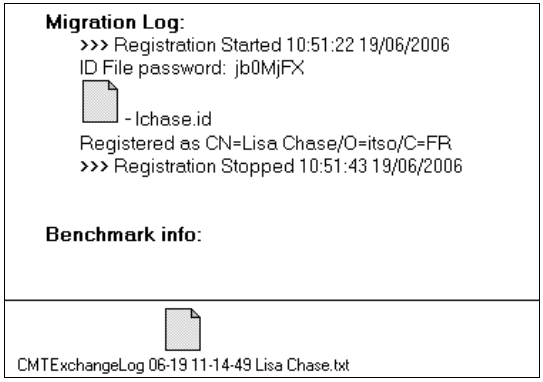


Figure 13-49 Troubleshooting status of migration

14

Local Data Migration using the Binary Tree tools

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter provides the details for a client side migration using the Binary tree Common Migration Tool. The following instructions should be used in conjunction with the latest release memos from Binary Tree.

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14.1 End user migration overview

Once you have migrated a users account from Exchange to Domino the end user may have some data (mail, contacts, calendar entries etc.) stored locally in one or more Personal folders files (.pst) If they are using Lotus notes they may want to migrate this data into the Lotus Domino system whether this be for archiving or personal reference. (migrating data into Domino if using Outlook is covered in another Chapter)

Once the data is in Domino there are a number of options for the storage and access of the data. for example server side archiving

14.2 Configuring the Binary tree tool for Outlook migration

Instructions for configuration of the Common Migration tool have been covered in Chapter 13, “Server Level Migration process using CMT from Binary Tree” on page 401.

However a quick overview follows as it may be the case that all data to be migrated is end users data and the migration requirements area that only end user data is migrated (i.e. all data is local). In all cases end users migration will only take place once the users has a registered account and mailbox in domino

Note: If you have already installed, configured and run the CMT for server side migration and started or completed the migration of users from exchange go to Chapter 14.3, “Migrate local user data” on page 446

14.2.1 Installing the CMT

14.2.2 Configuring CMT and import users for migration

With the Binary Tree CMT The system administrator can configure the choice of users that will be migrated, and in addition how users will initiate said migration, The configuration is undertaken through the Wizards to set up CMT for end user migration the administrator needs to configure end user settings

1. Open the CMT

You will be presented with the following screen

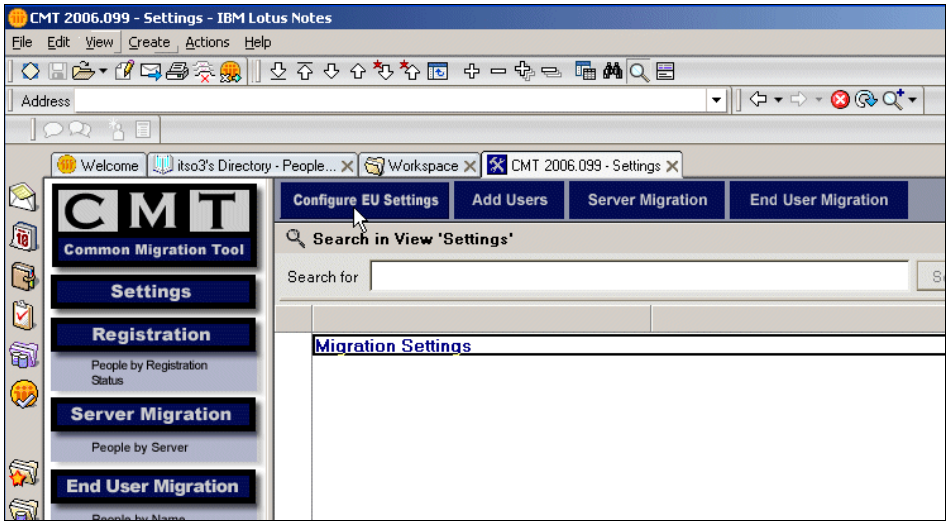

Figure 14-1 CMT Configure settings

2. Click > Configure End User settings (EU settings)

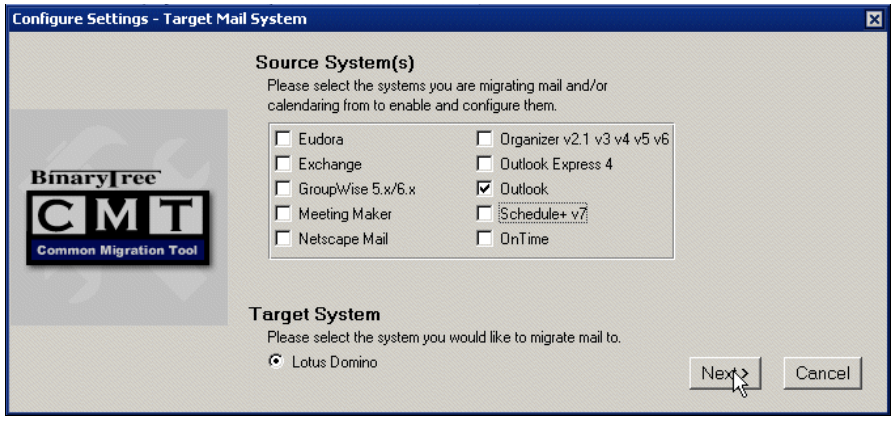

Figure 14-2 Selecting migration source

3. Select Outlook

   You have the option to select multiple mail sources, In most migrations during configuration you most likely would have selected the server based migration as well.

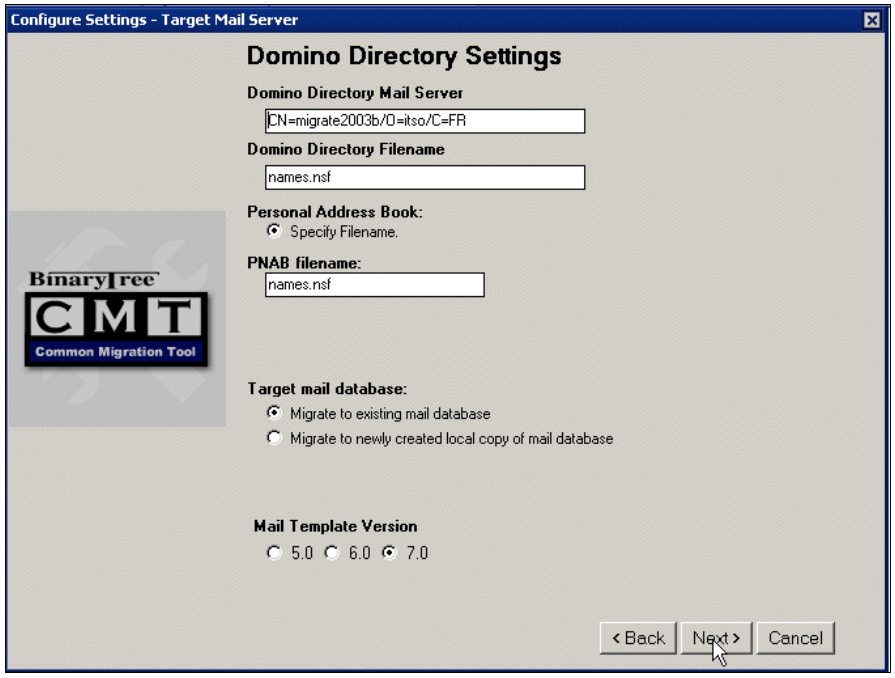

Figure 14-3 Configure Domino server

4. Enter the information for the destination mail system.
   a. Domino directory mail server.

      This is the name of your primary domino server

   b. Domino Directory Filename

      In all cases this will be **names.nsf**

   c. Personal address Book

      In most cases a personal address book will also be called names.nsf. this database is the local contacts directory

   d. Target mail database

      You have the option to import your data into either the current mail database in which case the imported data will be replicated back to the domino server. Or a separate local database., If you select local database you will be prompted for the name of the database, ensure that you have already created the database.

TIP: to create a mail database for migration

file -> database -> new

server > local

title > my exchange mail (nb this can be anything)

filename > myexchangemail.nsf (again any unique name)

select the extended mail template mail7ex.ntf

-> OK

e. mail template version

For migration to domino 7 always use the 7.0 template

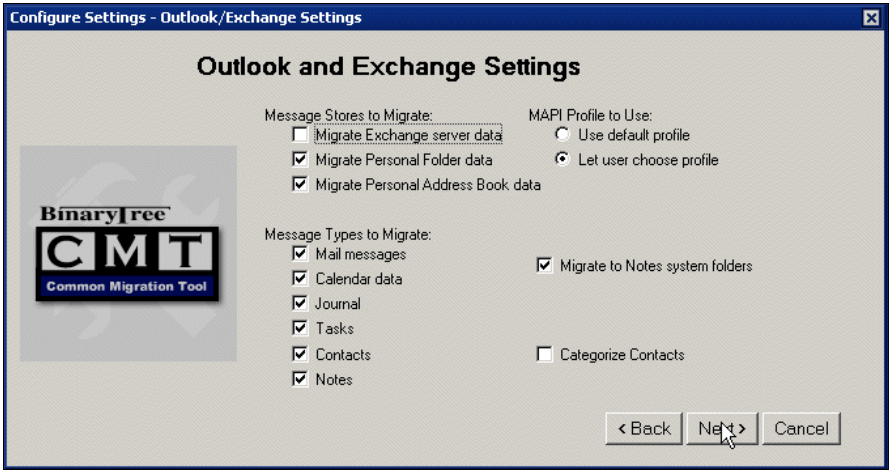

Figure 14-4 Selecting data to migrate

5. Select the data to migrate

The common Migration tool gives you the option to be granular on the information that will be migrated from the local PST file into your domino mail file. In our example we migrated all the data.

– Message types to migrate

The CMT tool lets you select which message types are migrated. For example, you could choose to migrate mail messages but leave calendar entries untouched. As can be seen in Figure 14-4, we opted to migrate all

data. However, you may decide that not all data is relevant for migration, so you can refine the selection.

– Message stores to migrate

  • Migrate Exchange server data

    The user's mailbox and data are on the Exchange server. When you migrate Exchange server data, the user's mail and folder structure saved on the server will be migrated. When you choose to migrate Exchange server data, you also have the option to migrate shared Exchange mailboxes. A shared Exchange mailbox is used by more than one user. To migrate shared Exchange mailboxes, select the Migrate Shared Exchange Mail Boxes check box.

  • Migrate personal folder data

    The data are local to the users's machine or stored on a network drive. They are in the form of a .PST file. This data is not stored on the server. If there is more than one .PST file, CMT will migrate all of them.

  • Migrate personal address book data

    The data are local to the user's machine or stored on a network drive. They are in the form of a .PAB file.

    You may also decide that the only data you want to migrate is calendar, messages, and contacts. Later, during the selection of users for migration step, you have the ability to further refine the data selection by changing from the defaults and adding date ranges, so as not to migrate older data.

– MAPI profile to use

  Unless you have created a single/default MAPI profile with administration access, you should select Let users choose profile to ensure that a profile with sufficient privileges for logging into Exchange can be chosen.

– Migrate shared Exchange mail boxes

  The option to migrate shared mail boxes should be used with caution since this data is used by more than one user, and is only available if you have chosen to migrate Exchange server data. When this option is selected, the shared data will appear in each user's mailbox. It may be more appropriate to create a mail in database into which to migrate the shared data, and giving the users that require it access.

– Migrate to Notes systems folder

  Data from Exchange, by default, will be migrated by the CMT into the *top-level folder* in Notes. The Exchange/Outlook folder structure will be retained. All of the users' Exchange folders will be placed under this top-level folder, and the relevant data/mail messages will be stored within

them. Thus within the Notes user's mail database they will have separate folders for their Notes data and old Exchange data.

By selecting Migrate to Notes system folders, data within the Exchange system folders (Inbox, Sent Items, Drafts, and Deleted Items) will be migrated directly into the equivalent Notes system folders (Inbox, Sent, Drafts, and Trash). All other non-system Exchange folders will be migrated to Notes. In other words, the folders will appear under the Notes root-level folder structure and not under an Exchange top-level folder.

When you have completed your selections, click Next and you will be presented with the fourth settings screen

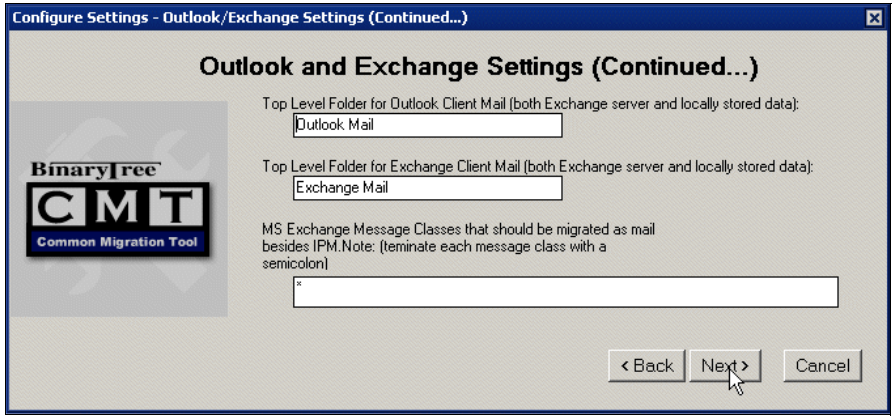

Figure 14-5 Configure data location

6. Enter Details on messages to migrate and location in Domino mail File

   In the previous configuration step you had the option to select wether or not migrated messages will be stored in the notes system folders. If you did not select this then These settings allow you to provide information on top-level folder name that all data migrated from Exchange will be migrated under to.

   You also have the option to select which message classes to migrate. A message class is how a note is stored in Exchange default is * , all messages,

   Tip: we recommend that the message class setting remains as default

   To specify which message classes to migrate, type in the message classes separated with a semicolon (;). A semicolon must also follow the last message class entered.

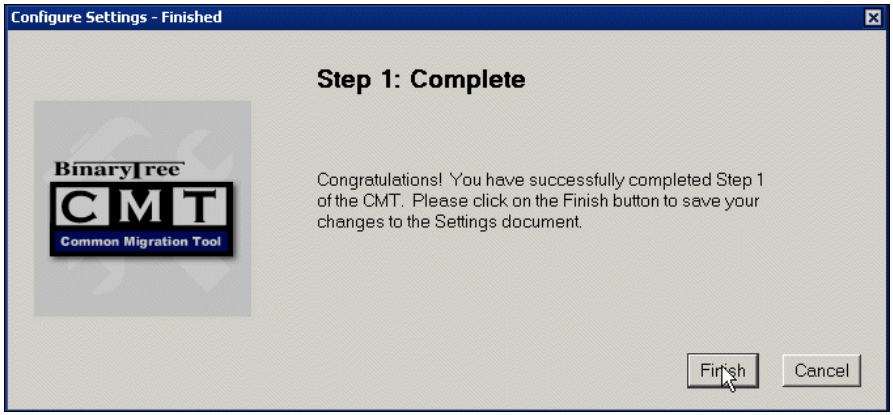

Figure 14-6 Finished configuration

You have now finished the configuration of the end user migration.

14.3 Migrate local user data

Once you have the users registered in the CMT you need to run the end user migration wizard to configure how the end user migration will be initiated. There are a number of options within this wizard that we will review in this section

- Configure Trigger wizard:

  There are various options for how an end users migration is started (triggered), either automated on open mailbox or by a migration start button. This wizard allows the administrator to define in which way this will happen

Configuring the trigger

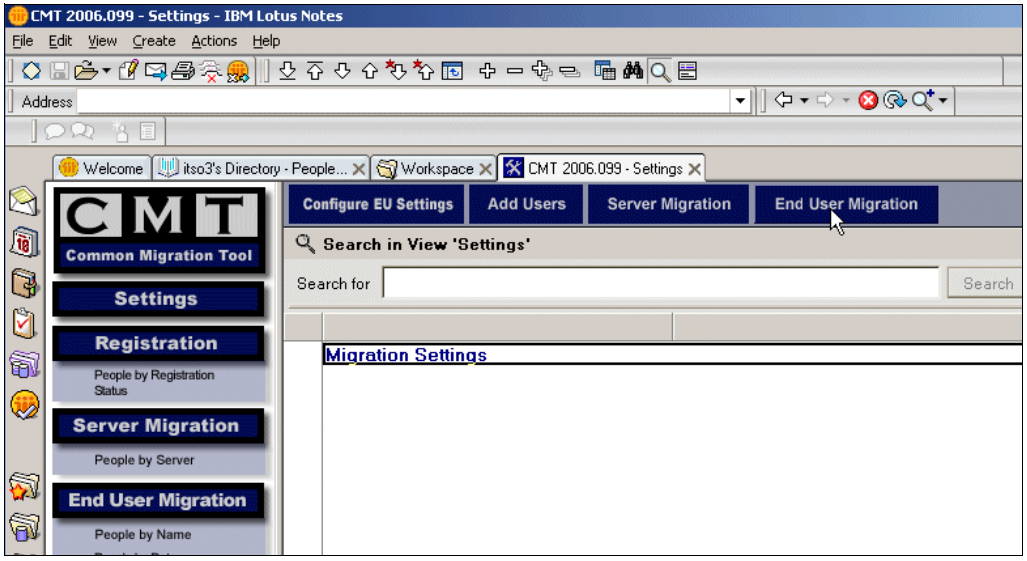

Figure 14-7 Selecting Configure Trigger wizard

7. You are presented with the trigger type selection screen. Select your trigger method, either via an e-mail message or automatically on mail database open (Figure 14-8).

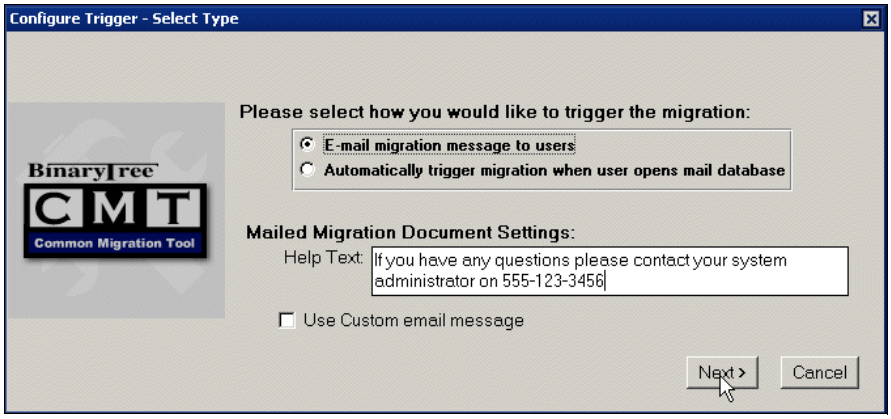

Figure 14-8 Trigger type selection

– The 2 options will give you additional configuration options.

  • If you select Automatically trigger migration on database open this will launch a wizard that will generate Lotuscript code that need sot be

added to migrated users mailbox. The script will check for local data and automatically add the data to the users mail database

- If you select to email the migration button, you can use the standard email or select to create a customized email. In both cases the users are sent a button that will launch the local migration wizard.

14.3.1 Using the Automated Migration

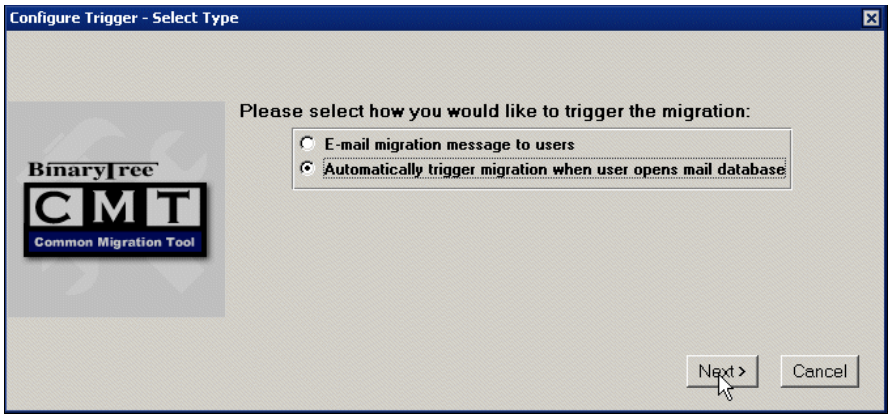

Figure 14-9 Select automatic trigger

– Selecting automatic trigger will present you with ECL to allow the binary tree program to execute some programs. select start trusting BT

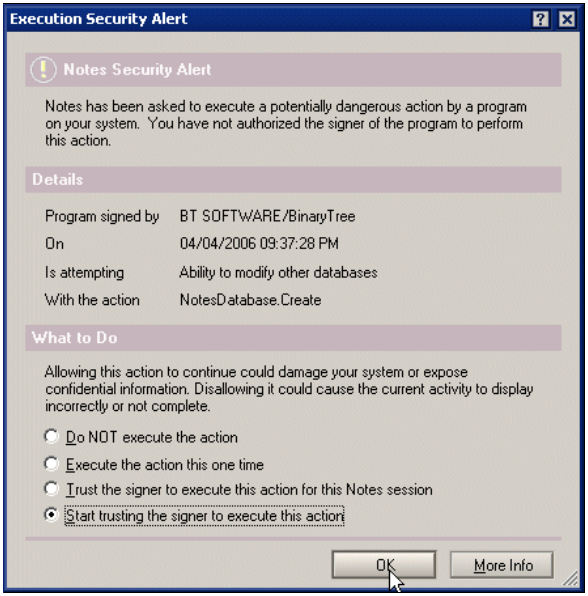

Figure 14-10 ECL warning window

– You will be presented with a wizard
– Click next

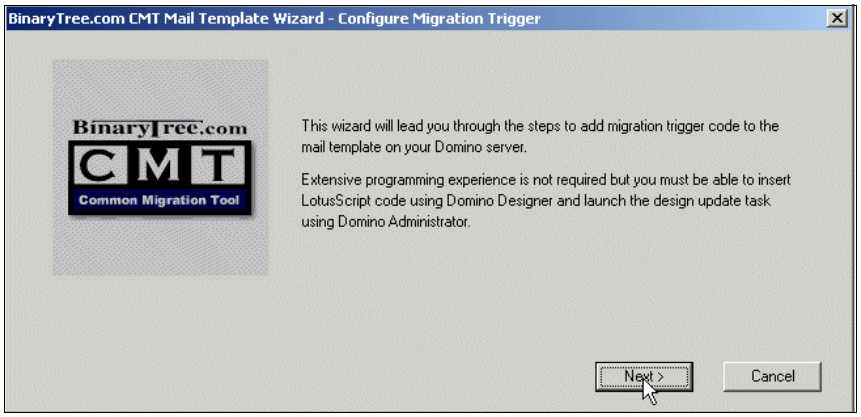

Figure 14-11 Mail customization Wizard start page

– The Wizard will launch.
– Select Next

– You will be presented with a prompt screen to store the Created instructions and DLL file

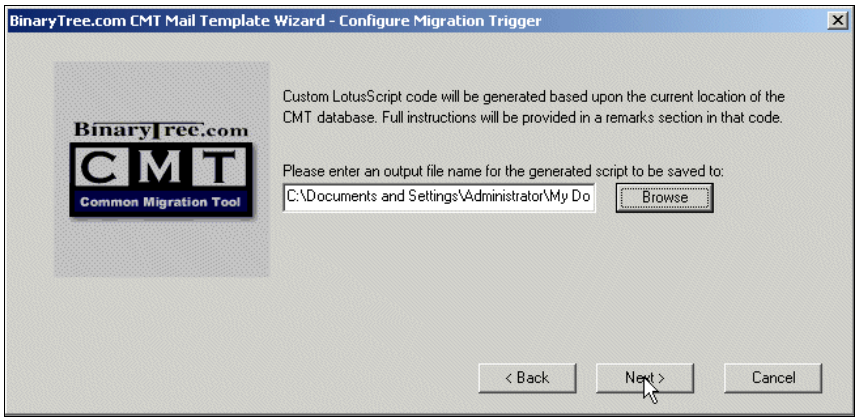

Figure 14-12

- To change the location, enter or browse for the location and filename for the generated script by clicking on Browse.

– Click Next

– A screen with the instructions and the code to enter into the Mail database template will be presented as shown in Table 14-13 on page 450

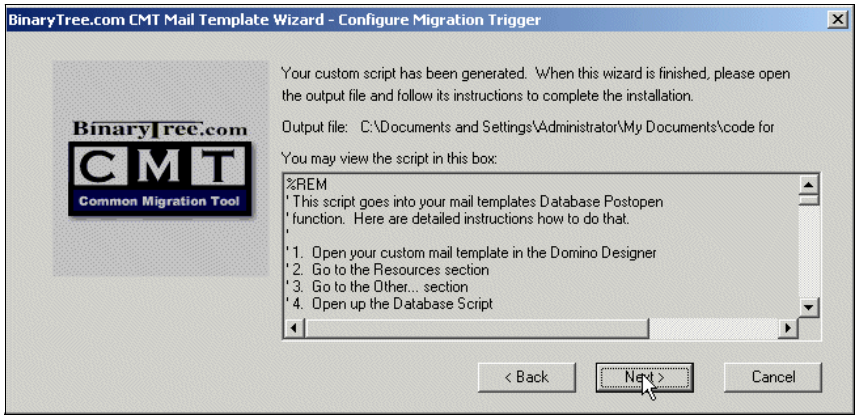

Figure 14-13 Mail database window

– This piece of generated LotusScript you must insert this script into the mail template. By default, the code will be generated in the Windows temp directory.

- The custom code will be written to file and displayed in the wizard screen.
- Click Next.
- Click Finish

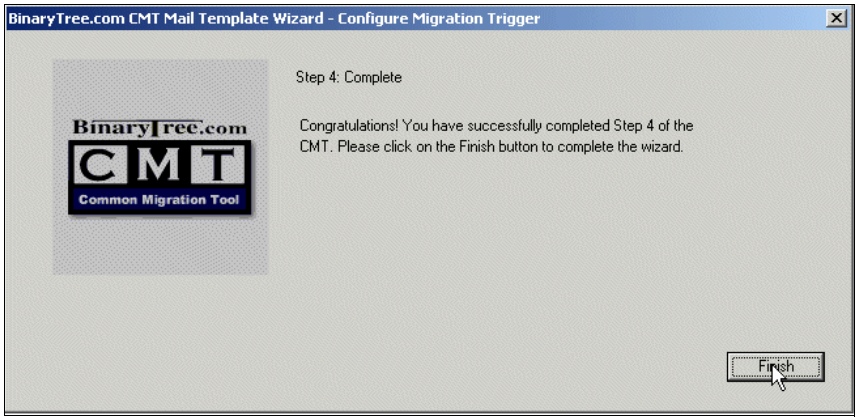

Figure 14-14 CMT complete

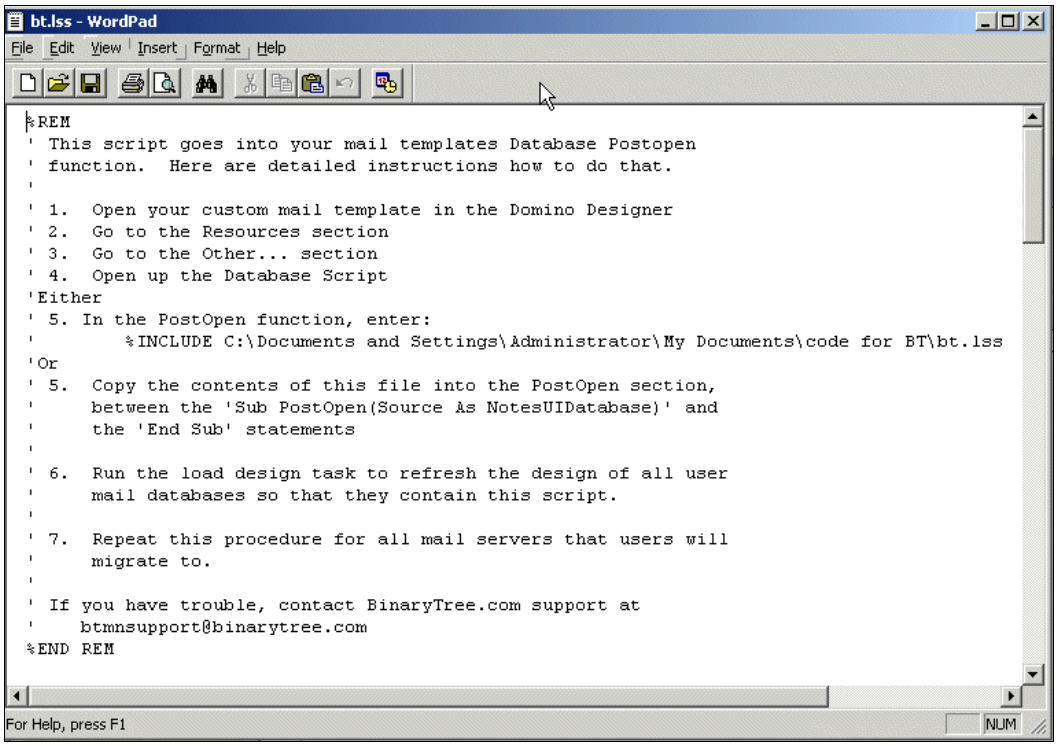

Figure 14-15 The created file

After the custom script has been generated, you need to start Lotus Notes Designer and Open the mail file template.

Next open the output file created by the CMT and follow the instructions to complete the mail template customization. (The instructions are included in a comment section of the generated LotusScript code, with the user specific %INCLUDE .)

Run the load design task to refresh the design of all user mail databases so that they contain this script.

When a user now opens

14.3.2 Using the send email Button

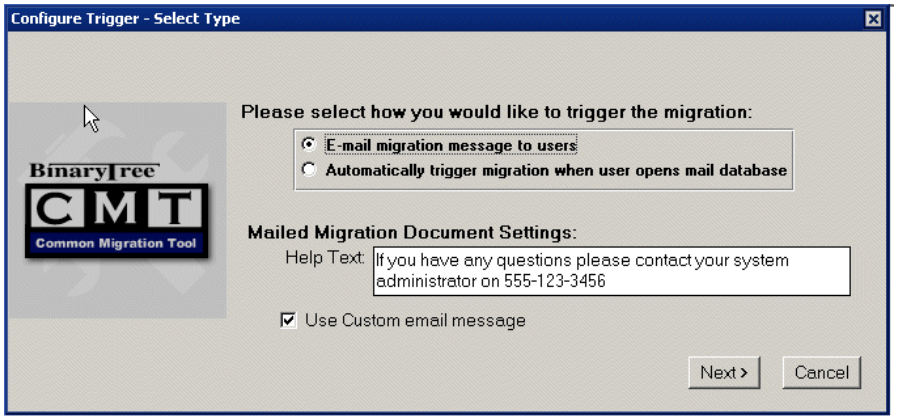

Figure 14-16 Selecting an email trigger with customized mail message

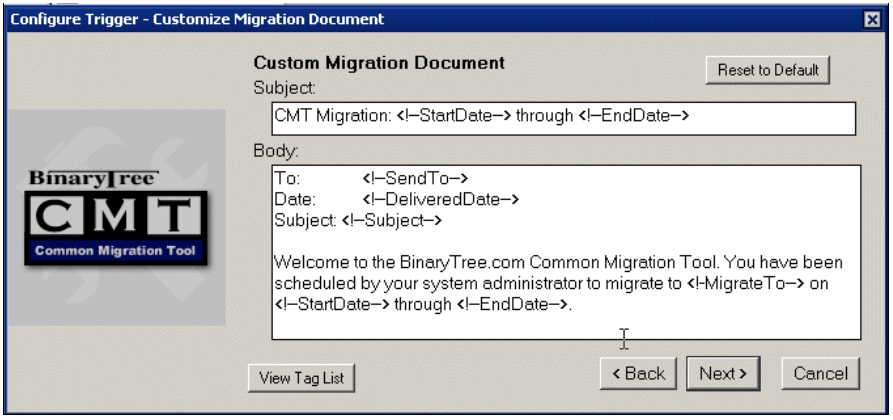

Figure 14-17 Customized mail message

– If you select customize mail message you have the opportunity to create an interactive message, by the sue of the tags you can enter information from the CMT person form, as a detailed description of each of the tags is given in Table a on page 455

Figure 14-18 Field tags option selection box

- A selection box can be bought up by clicking view tag list as shown in Table 14-18 on page 454
- You can now create your email message that users will receive when you schedule them for end user migration.

Tag	Description	Remarks
<!-Subject->	Subject of the message	
<!-SendTo->	Who to send the migration message to	The full name stored in the user's person document
<!-MigrateTo->	Migration Platform to migrate to	Target mail system, located on the General Settings tab of the Settings document
<!-DeliveredDate->	Date the migration message was sent to the user	The date the mail message was sent
<!-StartDate->	Start Date for the user to begin their migration (also the date range the 'Start Migration' button to trigger migration is valid)	Defined on the CMT person document under the End User Migration info section
<!-EndDate->	End Date for the user to finish their migration by (also the date range the 'Start Migration' button to trigger migration is valid)	Defined on the CMT person document under the End User Migration info section
<!-AllowedProducts->	The products the users is allowed to migrate	AllowedProducts corresponds to the Allowed Products on the User's person document

Tag	Description	Remarks
<!-HelpContact->	Person to contact if the migration encounters a problem	Corresponds to the custom help text used in the standard migration document[a]

a. Table of email tags

- When you have completed your message Click Next
- Click Finish

14.4 Adding Users

Once you have configured the CMT for end user migration you need to add users to the Tools database for migration selection.

If you have already migrated from exchange the users that have domino mailboxes will be ready for selection

The following steps assumes you are doing end user migration only.

Note: You can only migrate end users data to users that have Lotus Notes and a domino mailbox

- If not already done so open the CMT
- select from the top bar ADD USERS as shown in Appendix 14-19, “Select add users” on page 456

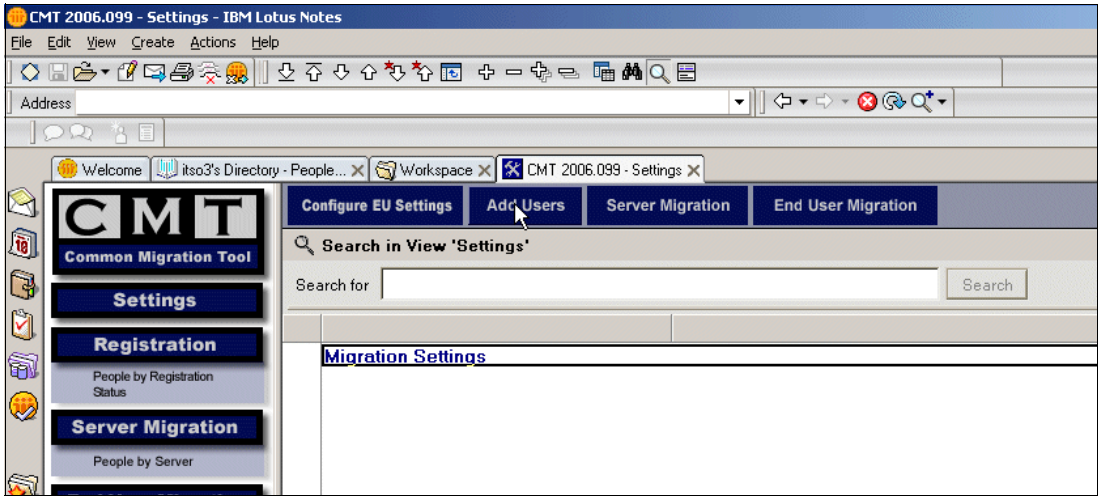

Figure 14-19 Select add users

- You will be presented with a screen for the users source directory. as shown in Appendix 14-20, “Select add users source” on page 456

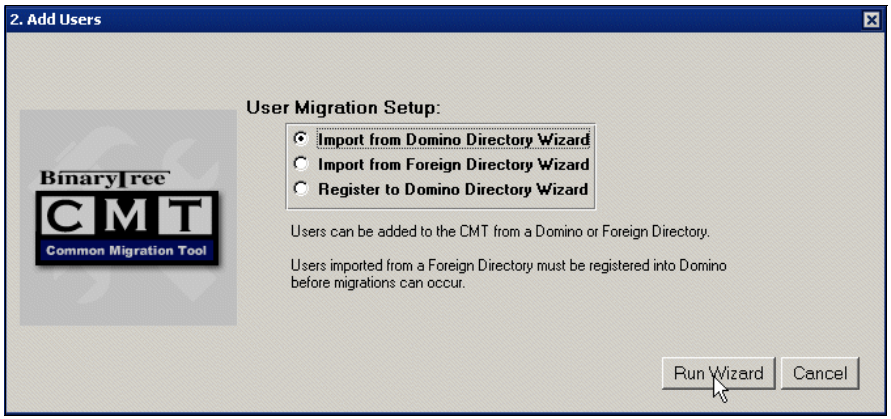

Figure 14-20 Select add users source

- As we want to migrate users local data from Outlook PST to Domino NSF then the users should already be in Domino, wether this be by migration or default registration. Therefore the directory source will be **Domino Directory**
- select domino directory and Click Run Wizard the following screen will be displayed

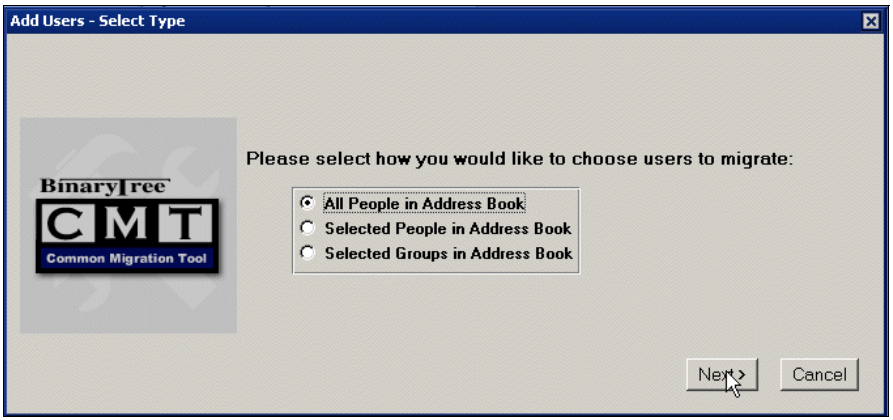

Figure 14-21 Select users

- Select All people in Address Book
- Click next

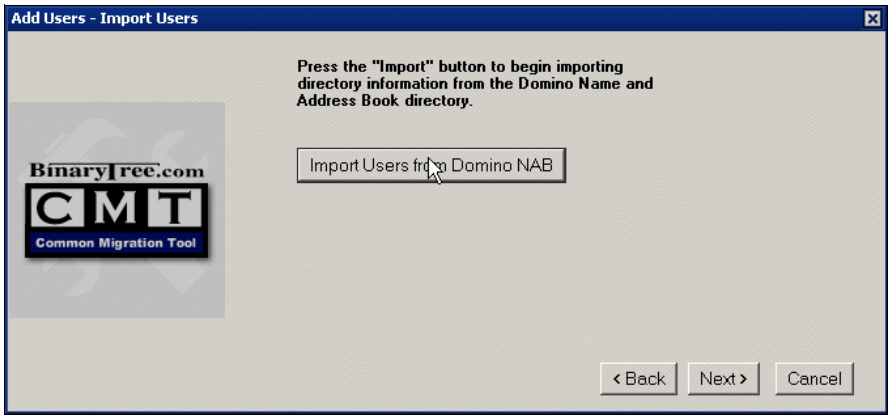

Figure 14-22 Import users button

- Click Import User from Domino NAB.

> **Note: The** size of your domino directory will determine the length of time this will take. In our lab exercises we maintained a small directory, and the process finished very quickly. Unfortunately you do not get a finished indicator and have to wait for the cursor to be released

- Click Next and the results screen is displayed

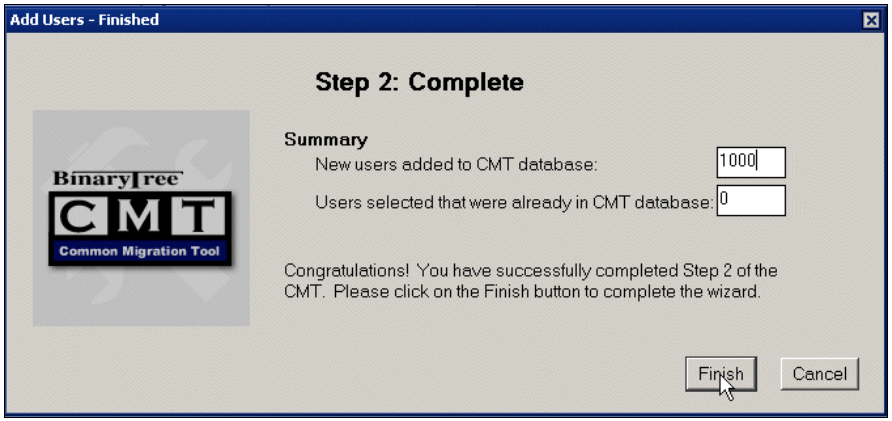

Figure 14-23 Import users results

You are now ready to schedule end user migrations with the send button email

14.5 Sending the migration e-mail

This step is only necessary if you opted to trigger end user migration by sending a button to the user. If you opted to customize the mail template then the migration will be done automatically when a user opens there mailbox for the first time.

1. To send the migration e-mail, open the CMT database.
2. Select the End user Migration in the left hand bar as shown in Appendix 14-24, “Selecting end user migration” on page 459

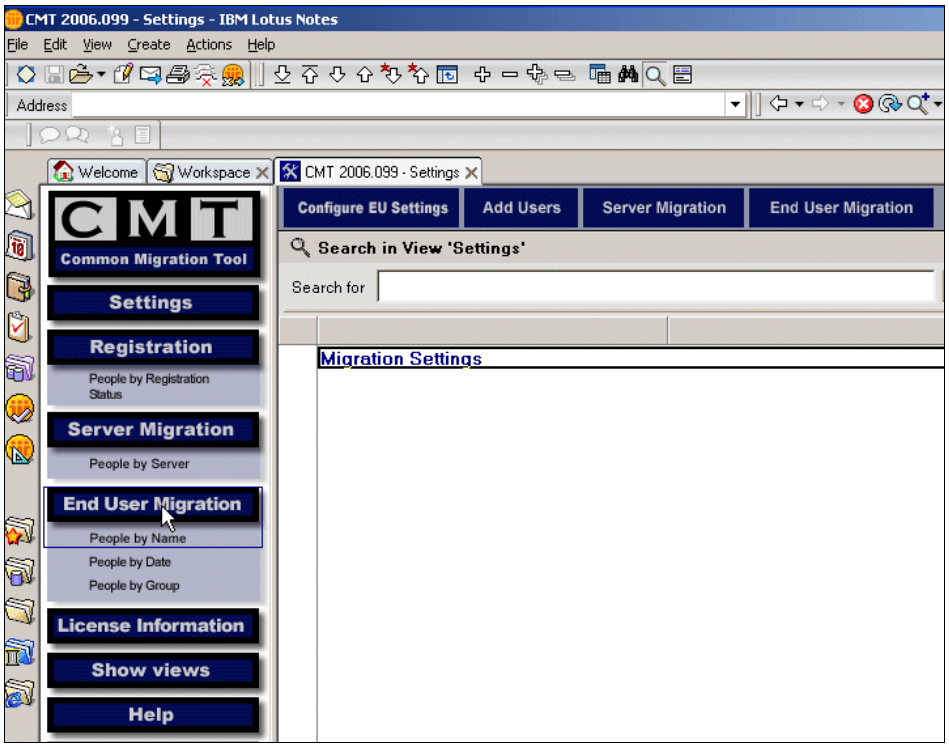

Figure 14-24 Selecting end user migration

3. When you click End User migration you will be presented with a list of users that are registered in domino and have domino mailboxes.

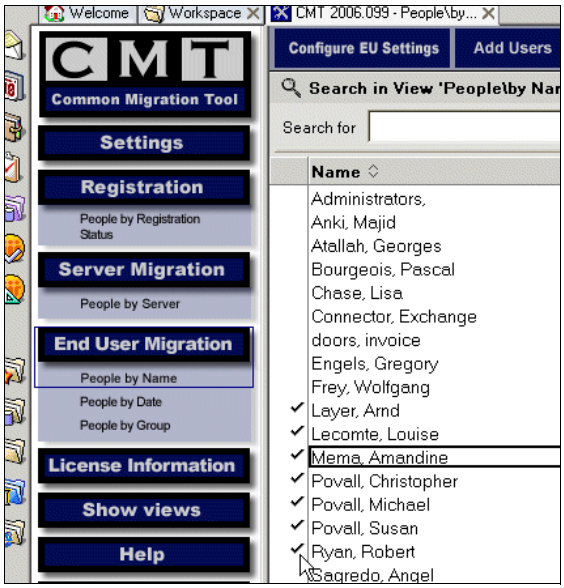

Figure 14-25 Select users for migration

4. Multiple users can be selected by clicking next to the names. selected users are represented by a tick.

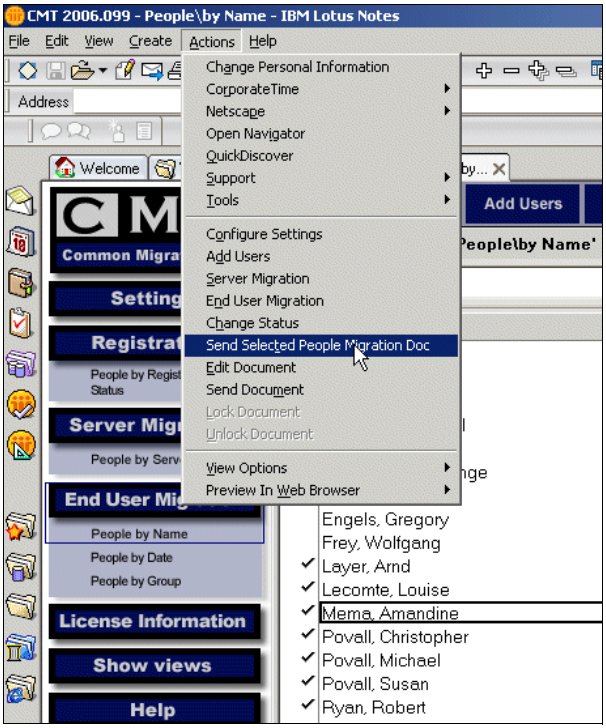

Figure 14-26 Send migration message

5. Click Actions
6. Scroll down and Select -> Send selected people migration doc

   email messages will be sent to the users containing the migration button.

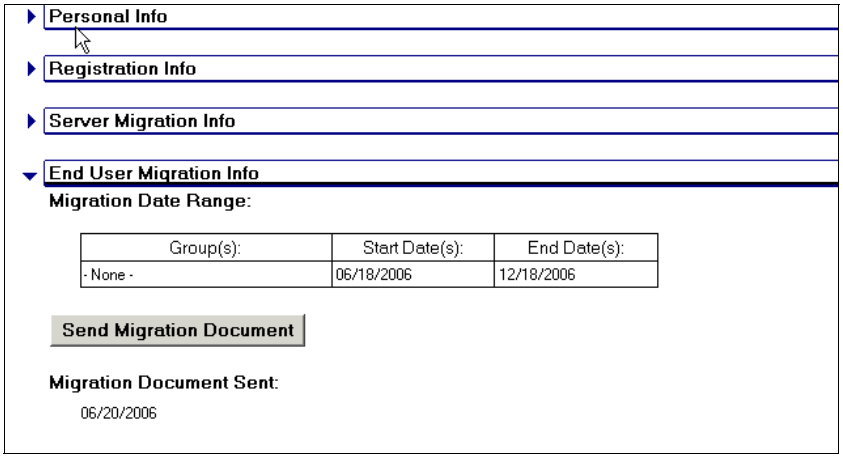

Figure 14-27 reviewing the document

7. By opening the person document (as shown above in Figure 14-27) in CMT you can review when the end users was sent the message this can also be used as an Alternative method to send the migration message or even resend.
8. The user will receive a message like the one shown in Figure 14-28 on page 462 in their Notes inbox.

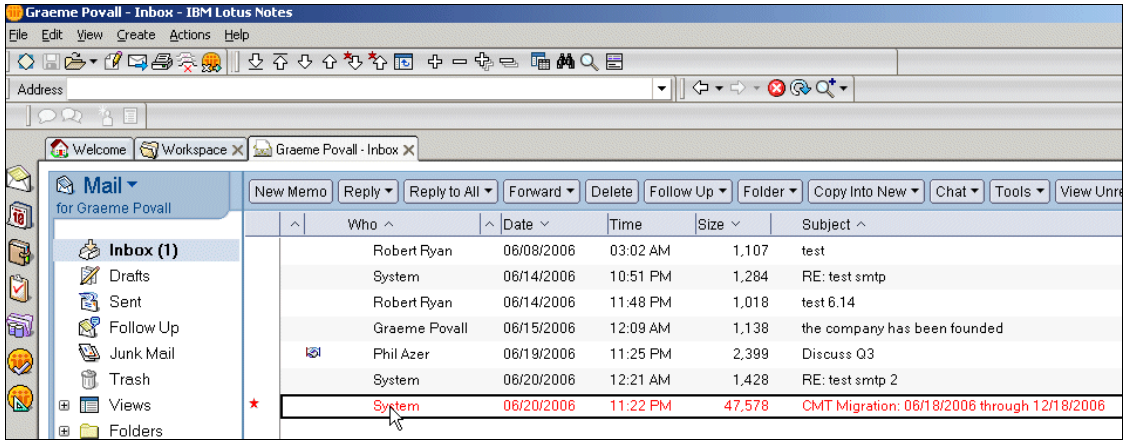

Figure 14-28 Migration mail message in the inbox

9. The user needs to click the Start Migration button. The migration will begin and the user will be given status messages as the migration progresses. An example is shown in Figure 14-29 on page 463.

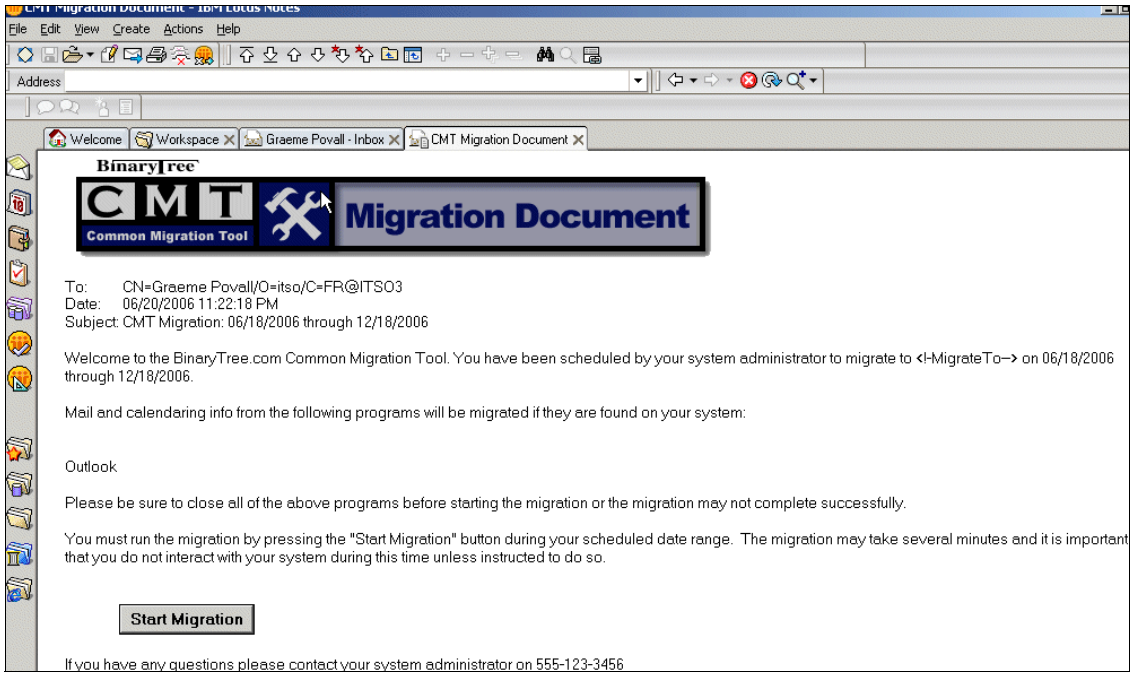

Figure 14-29 Migration message and Button

10. When the migration is complete, the user is presented with the migration complete message shown in Figure 14-30.

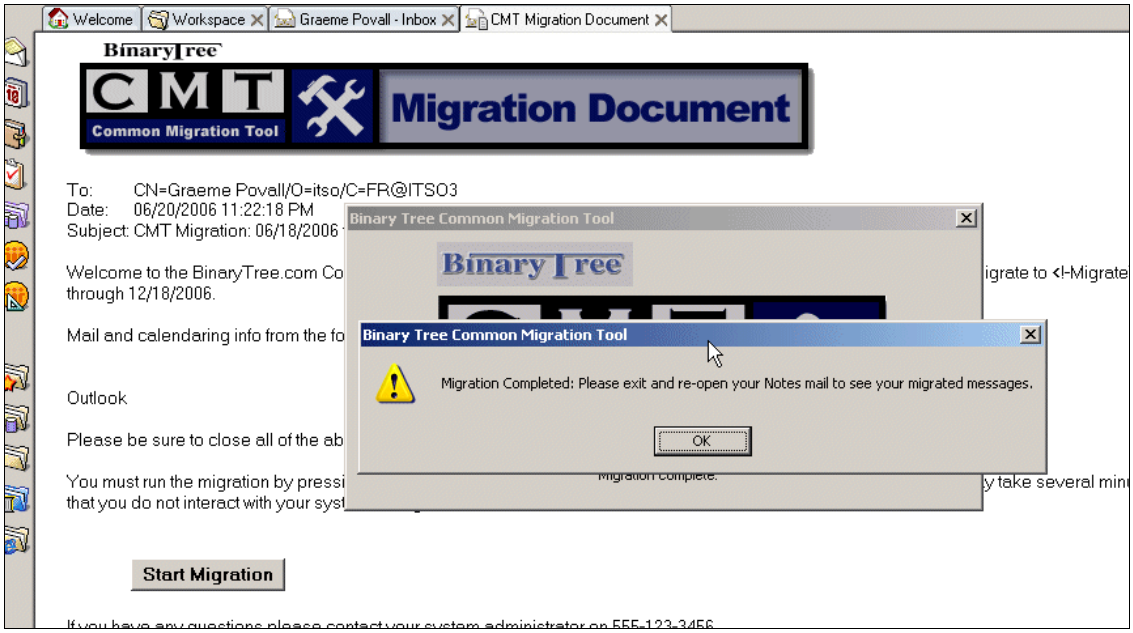

Figure 14-30 Migration completed

11. Click OK.

End user migration is now complete.

Migration document

The user's migration document is updated in the CMT directory, and the administrator can check the status. A sample is shown in Figure 14-31.

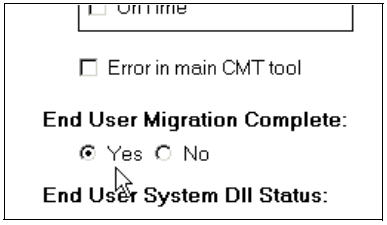

Figure 14-31 Extract if status in CMT person document

Various details about the end user migration have been recorded and can be very useful for both troubleshooting and planning of further deployments.

Tip: We noticed during our testing, that if selected in the EU setting of the configuration, the end user migration will migrate both local and server data if the server migration has not already completed. This function of the CMT tool can be useful in distributing the responsibility of the data migration to the end user and restricting the window of opportunity for the period available to the user for migration, thus helping to plan the migration load.

15

Migration Results

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter provides a review of the migration results of a user’s data. The goal is to provide an understanding of how a representative set of data will

The format for the comparison is that the ‘pre-migrated” image comes first, the DUS migrated image second, and the CMT image is displayed third. The migration tools have been configured and run with the suggested defaults to give the reader and understanding of the “out of the box” capabilities of these tools.

This chapter deals with the migration results obtained with the Domino Upgrade Services (DUS) and CMT tools from Binary Tree for the following items:

- Inbox folder migration
- Mail message conversions
- Calendar entries

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- Contacts
- Tasks/To Do

15.1 Mail Migration Results

This section show the results of migration various mail items using both the DUS and CMT tools.

Note: The format for the comparison is that the ‘pre-migrated” image comes first, the DUS migrated image second, and the CMT image is displayed third.

15.1.1 Inbox

Figure 15-1 illustrates a message in the Outlook client, pre-migration from Exchange. The user is able to scroll messages and preview a message in the preview pane in the Outlook client.

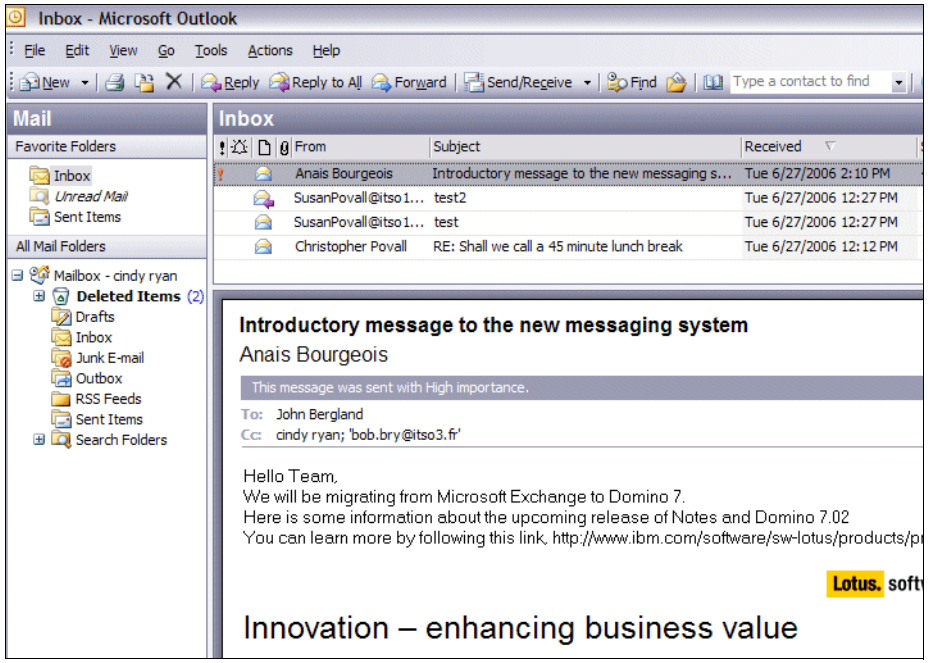

Figure 15-1 Outlook Inbox view

As shown in Figure 15-2 on page 470, and Figure 15-3 on page 471, both DUS and CMT convert the inbox and its contents. The user has access to functionality similar to that available in the Notes client.

Figure 15-2 on page 470 illustrates the Inbox view using the DUS migration tool. Similar to the Outlook feature, the user can preview the body and contents of the message.

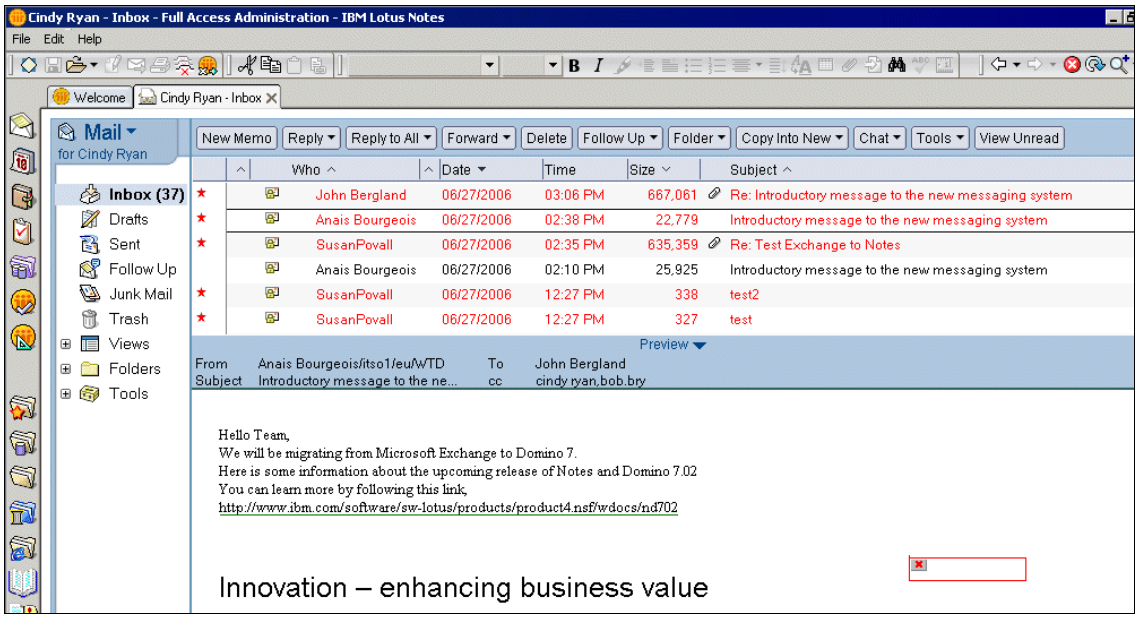

Figure 15-2 Notes 7 Inbox view: DUS migration

Figure 15-3 on page 471 illustrates the Inbox view using the using the CMT migration tool.

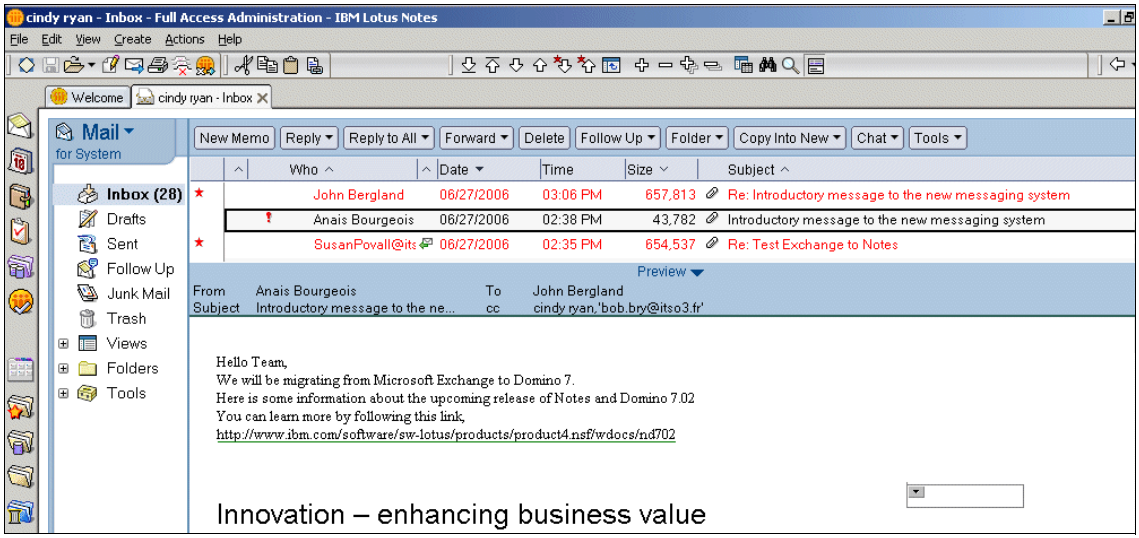

Figure 15-3 Notes 7 Inbox view: CMT migration

15.1.2 Mail message migration results

In this section, we show migration results of individual mail messages with various elements in them.

HTML messages

The first object is an HTML message. It is quite likely that Outlook users have sent URLs, to guide other users to Web pages. Alternatively, the messages sent may exist as HTML content, or typically, newsletters for your company go out to your users as HTML pages.

Figure 15-4 on page 472 illustrates a message in HTML format, beginning with how it appears in Outlook, pre-migration.

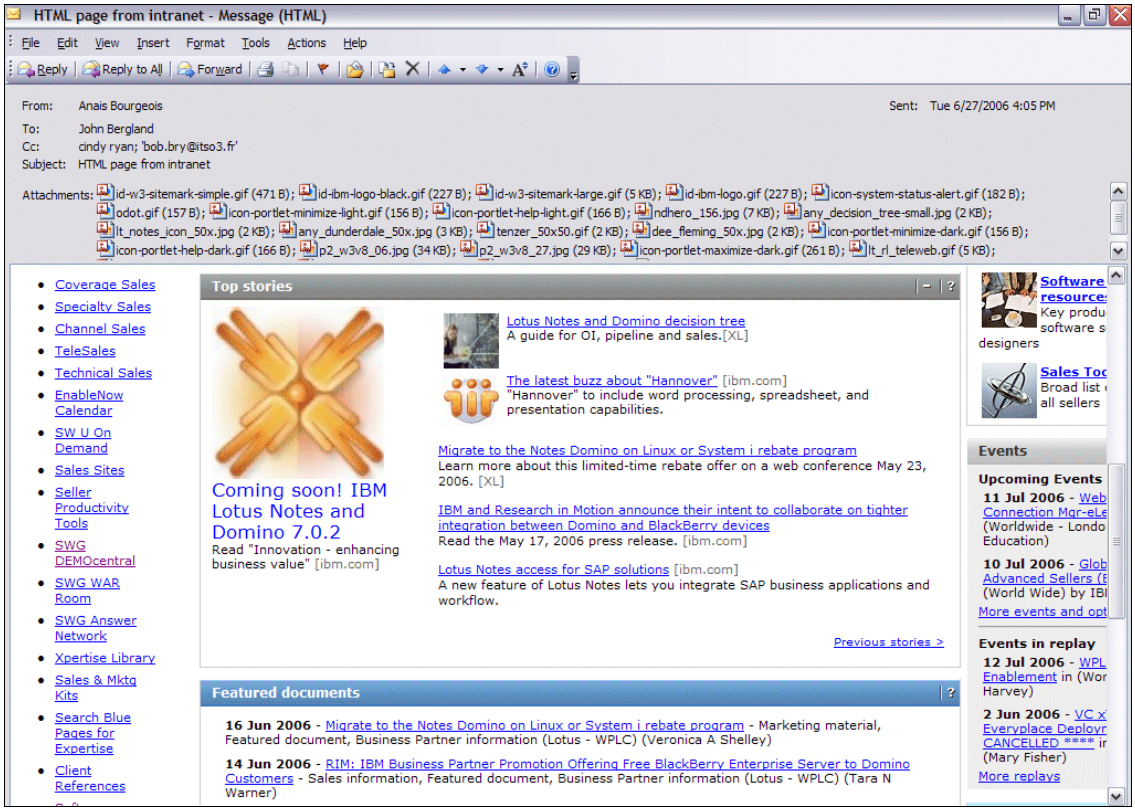

Figure 15-4 Outlook HTML message

Both tools (namely DUS and CMT) convert the HTML message fairly well and very similarly. The message retains its functionality; however, some of the formatting is lost during the migration.

Figure 15-5 on page 473 illustrates the migrated message containing HTML content, using the DUS migration tool.

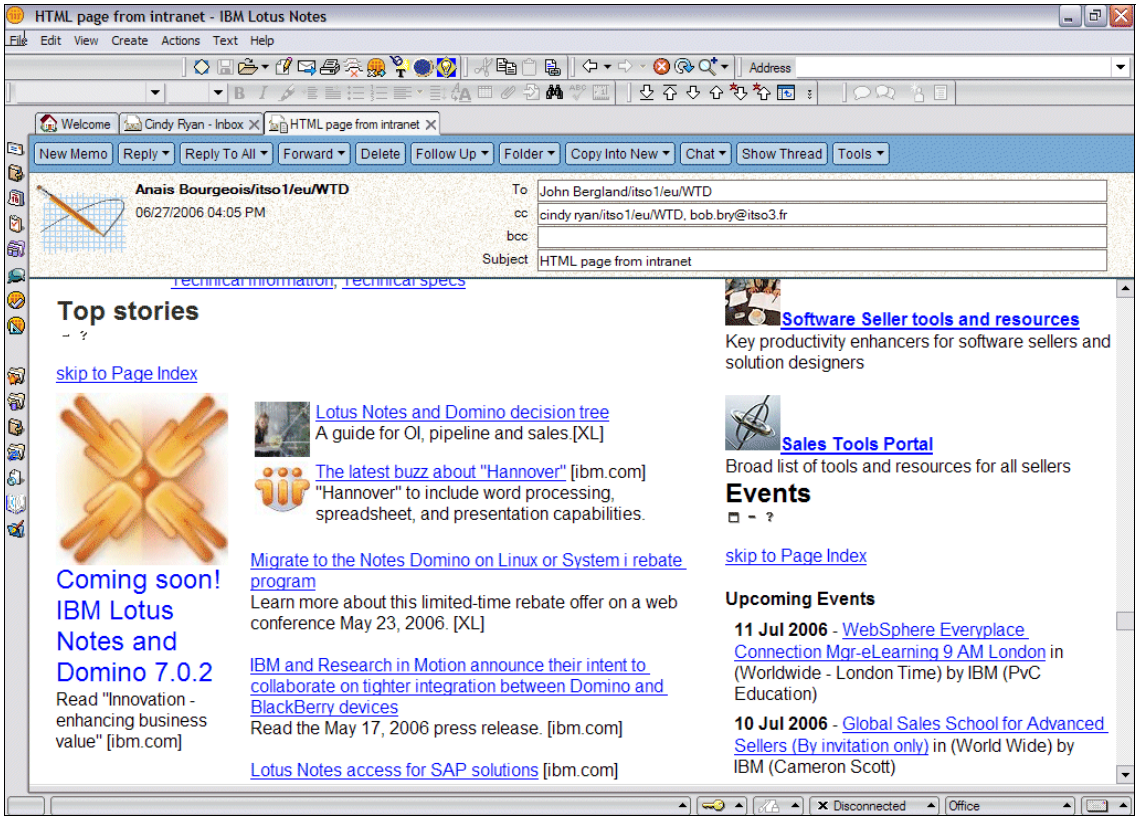

Figure 15-5 Notes 7 HTML message conversion: DUS

Figure 15-6 on page 474 illustrates the same message, after it has been migrated using the CMT migration tool.

Note: You may also wish to refer to the test results discussed in Chapter 10, “Co-existence test results - what to expect” on page 309 to see the results of embedded HTML messages sent between the two environments.

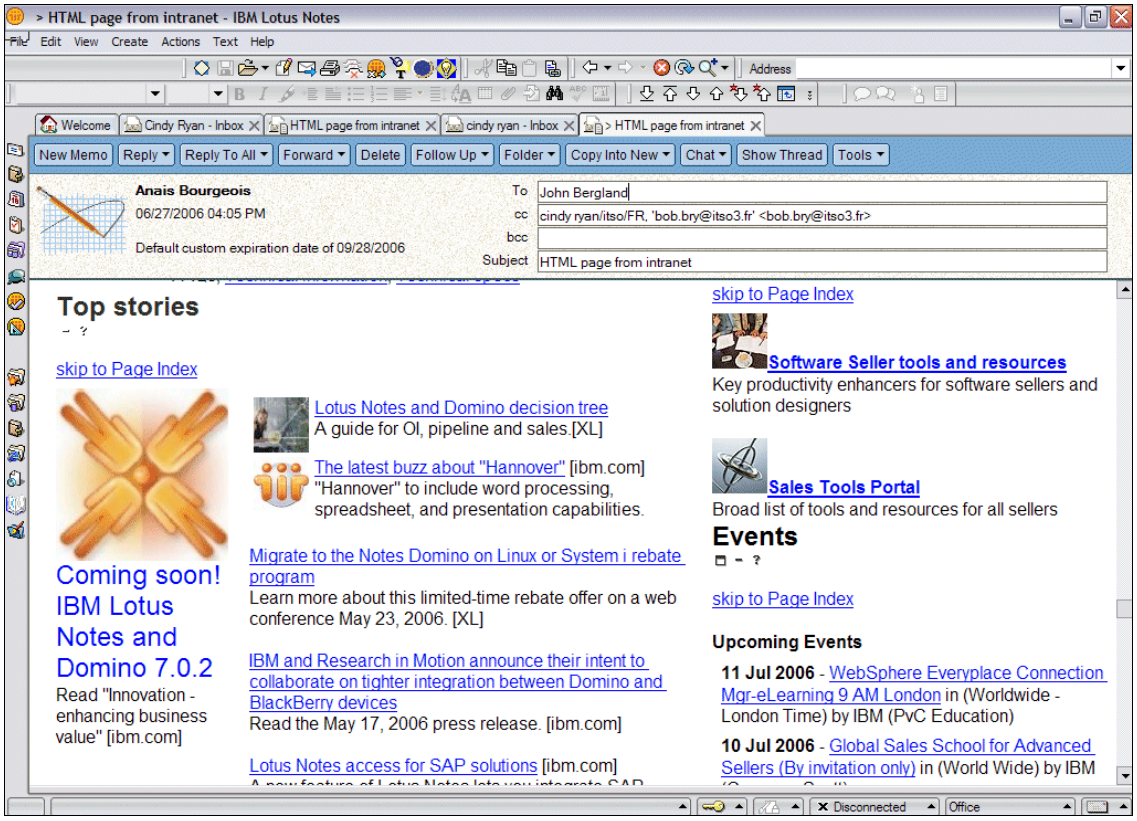

Figure 15-6 Notes 7 HTML message conversion: CMT

Messages with Embedded Objects

Mail messages in Outlook may contain embedded objects. Most often these are objects created with one of the MS Office applications, such as Excel® or Word.

Document with an embedded Excel graph

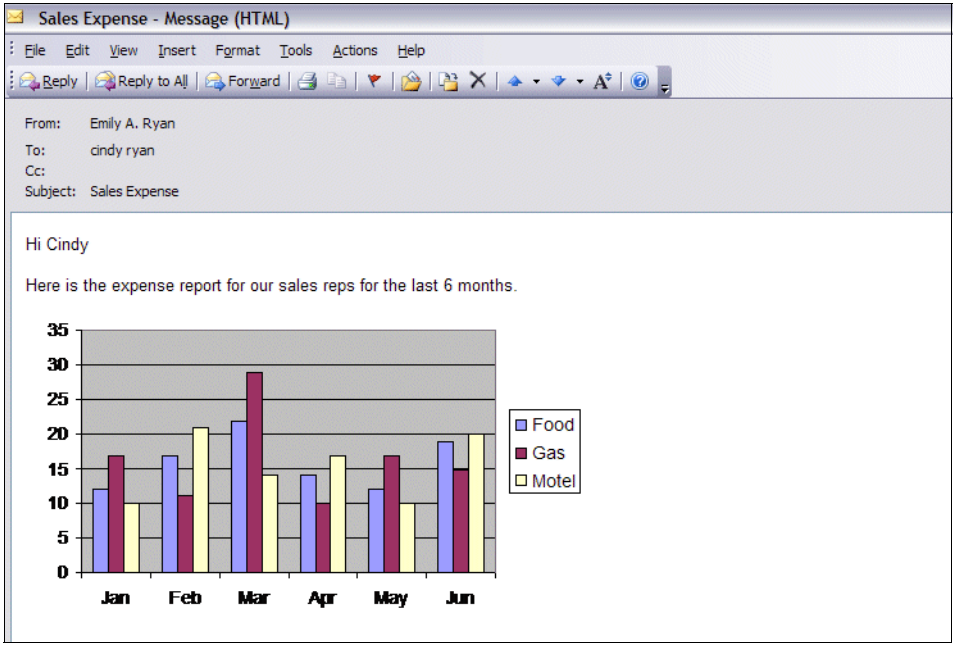

Figure 15-7 Outlook embedded Excel graph

DUS does not convert the embedded object at all, as shown in Figure 15-8 on page 476.

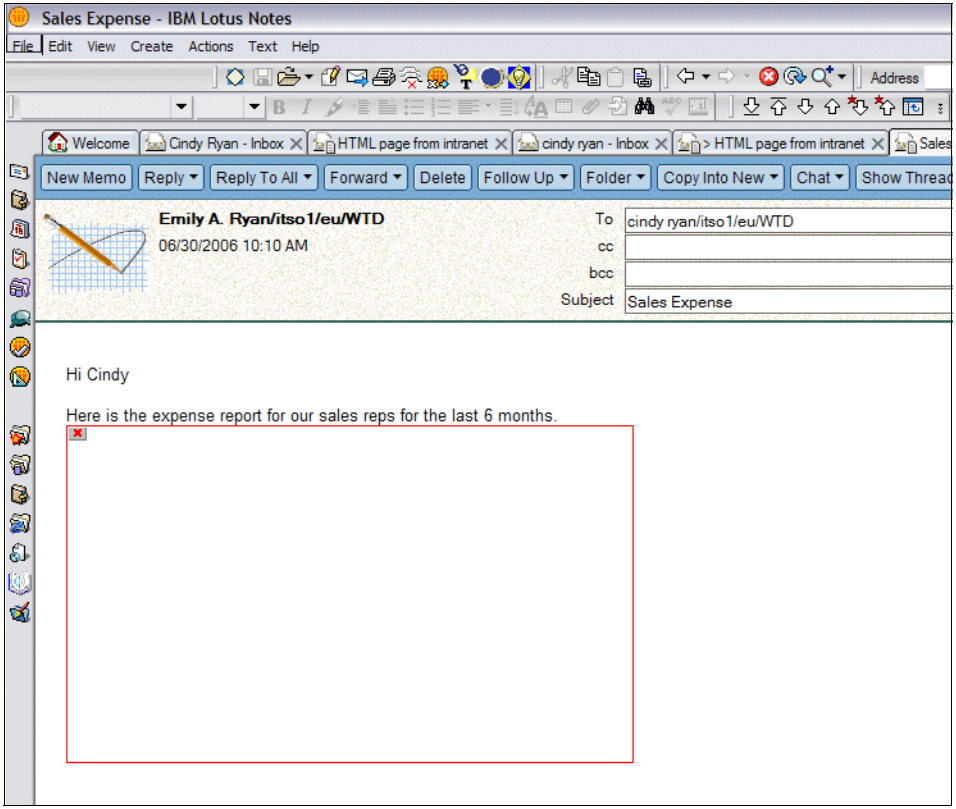

Figure 15-8 Notes 7 embedded Excel graph: DUS

CMT tools convert embedded objects into images in attachments and includes them as attachments to the message. After the migration, the Excel graph is not editable in Notes; however, you are able to *view* it in Notes. The results can be seen in Figure 15-9 on page 477.

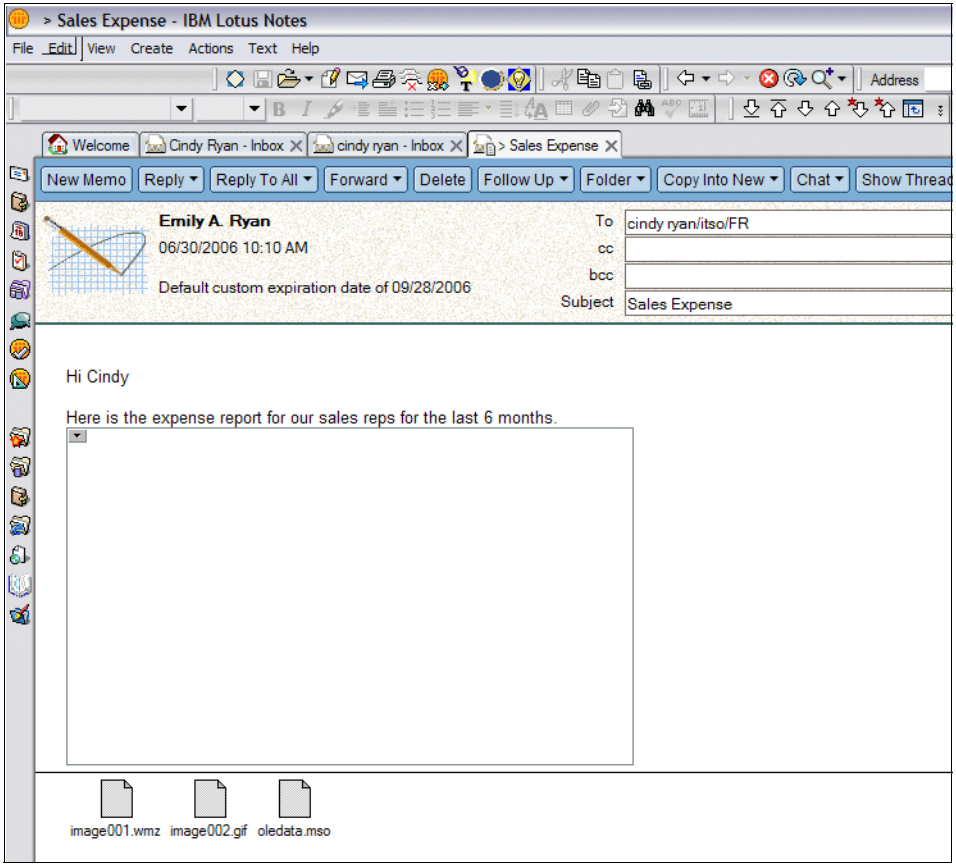

Figure 15-9 Notes 7 embedded Excel graph: CMT

If your users have created embedded objects and you need to bring them / maintain them in a fully functional state from Outlook to Notes, you may need to look into other solutions. (See Appendix A, “Other migration tools” on page 727) for possible other solutions.)

Alternatively, one technical solution would be to convert the objects into attachments before migration. This could be automated programmatically, for example, by writing a VBScript to iterate through mail messages, creating attachments. There might also be third party applications that will do this.

Message with embedded Excel worksheet

Figure 15-10 on page 478 illustrates the next message, this time with an embedded spreadsheet shown in the Outlook client.

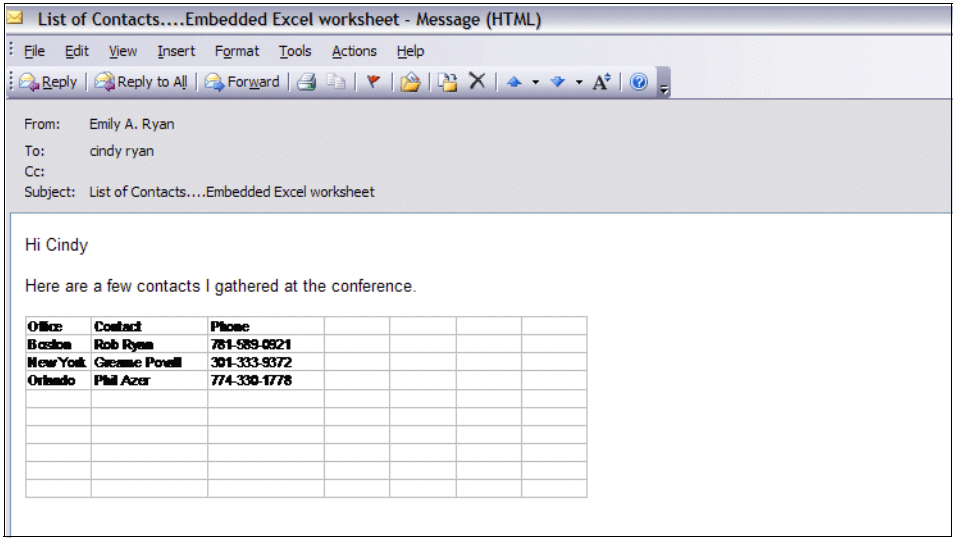

Figure 15-10 Outlook embedded Excel worksheet

Again, similar to the results with the embedded graph discussed in the previous section, DUS does not convert the embedded object at all. The results can be seen in Figure 15-11 on page 479.

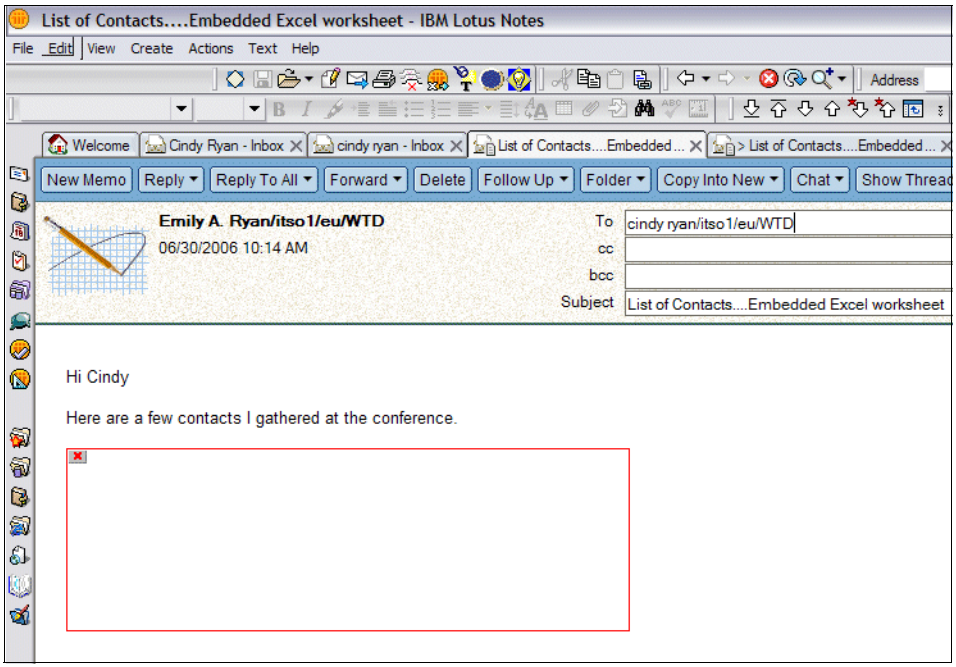

Figure 15-11 Notes 7 embedded Excel worksheet: DUS

CMT tools convert embedded objects into images in attachments and includes them as attachments to the message. (Figure 15-12 on page 480) After the migration, the Excel worksheet is not editable in Notes; however, you are able to *view* it in Notes.

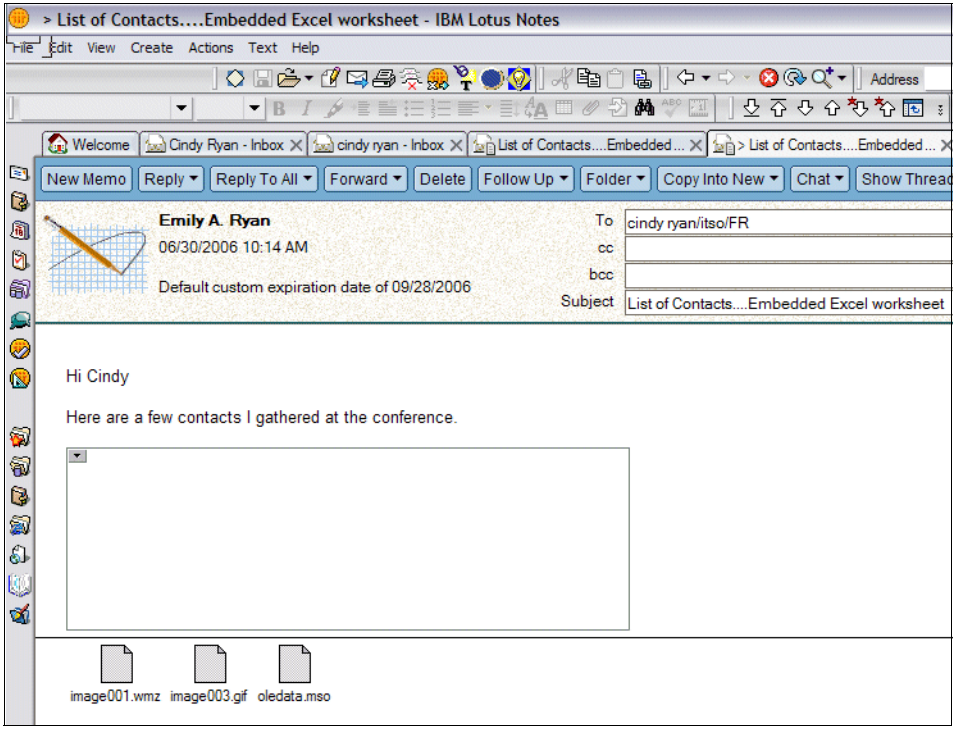

Figure 15-12 Notes 7 embedded Excel worksheet: CMT

Message with embedded table

Figure 15-13 shows a message where we created a table with some cells and sample text using the Outlook editor.

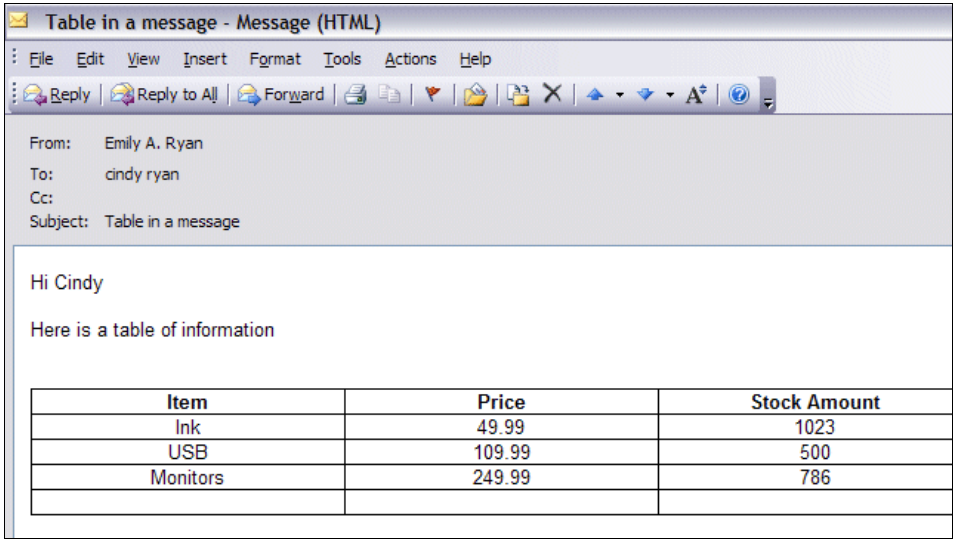

Figure 15-13 Outlook embedded table

Both DUS and CMT converts the table correctly, maintaining the text inside the table, as well as the formatting of the table.

Figure 15-14 on page 482 illustrates how the table was translates using the DUS Migration tool.

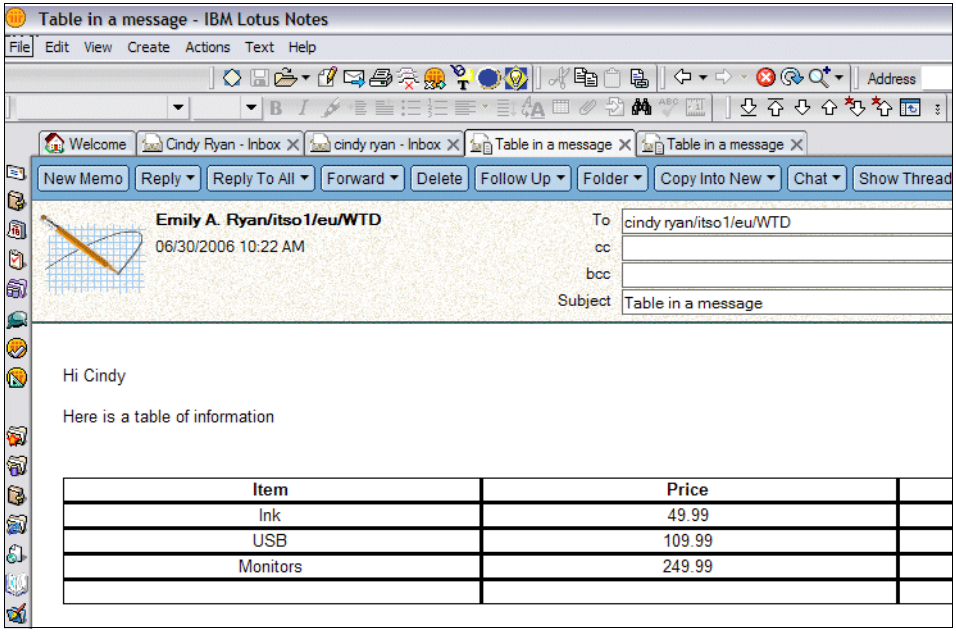

Figure 15-14 Notes 7 embedded table: DUS

Figure 15-15 on page 483 illustrates how the table was translated using the CMT Migration tool.

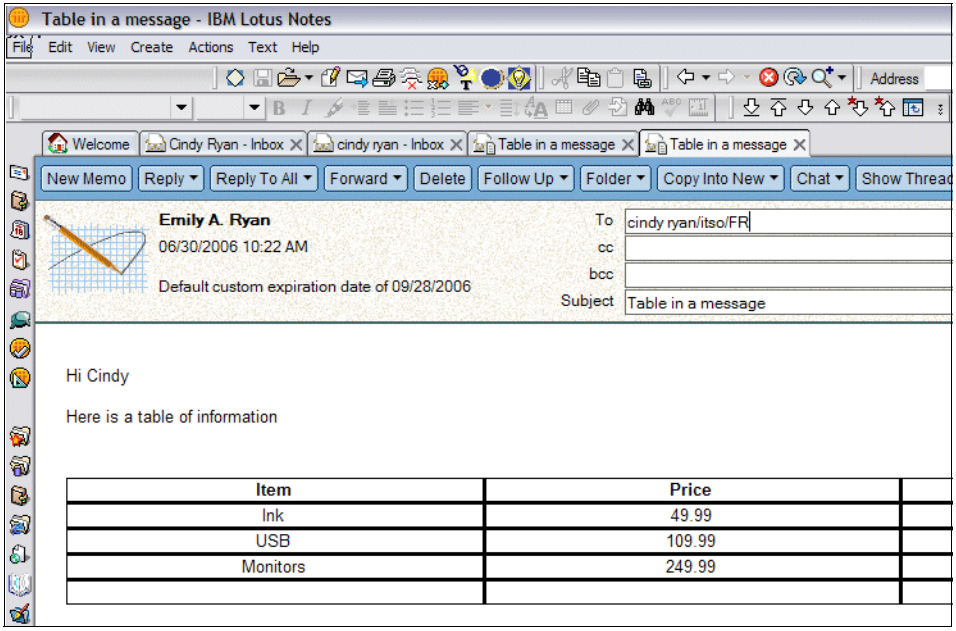

Figure 15-15 Notes 7 embedded table: CMT

Message with a URL, attachment and signature in the message body

Figure 15-16 on page 484 illustrates the next text message (shown first in Outlook), containing a URL, an attachment, and a signature in the body message.

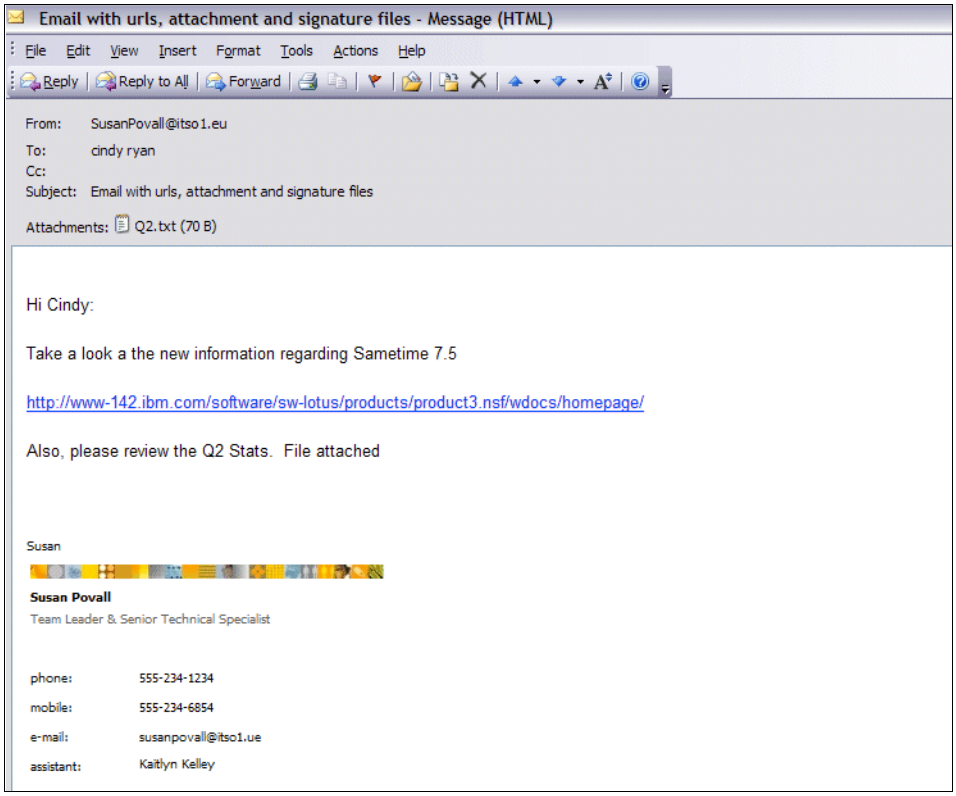

Figure 15-16 Outlook URL, attachment, and signature in message body

Both DUS and CMT tools converted the URL properly and placed the attachment at the bottom of the message.

DUS loses the graphic from the signature. The results can be seen in Figure 15-17 on page 485

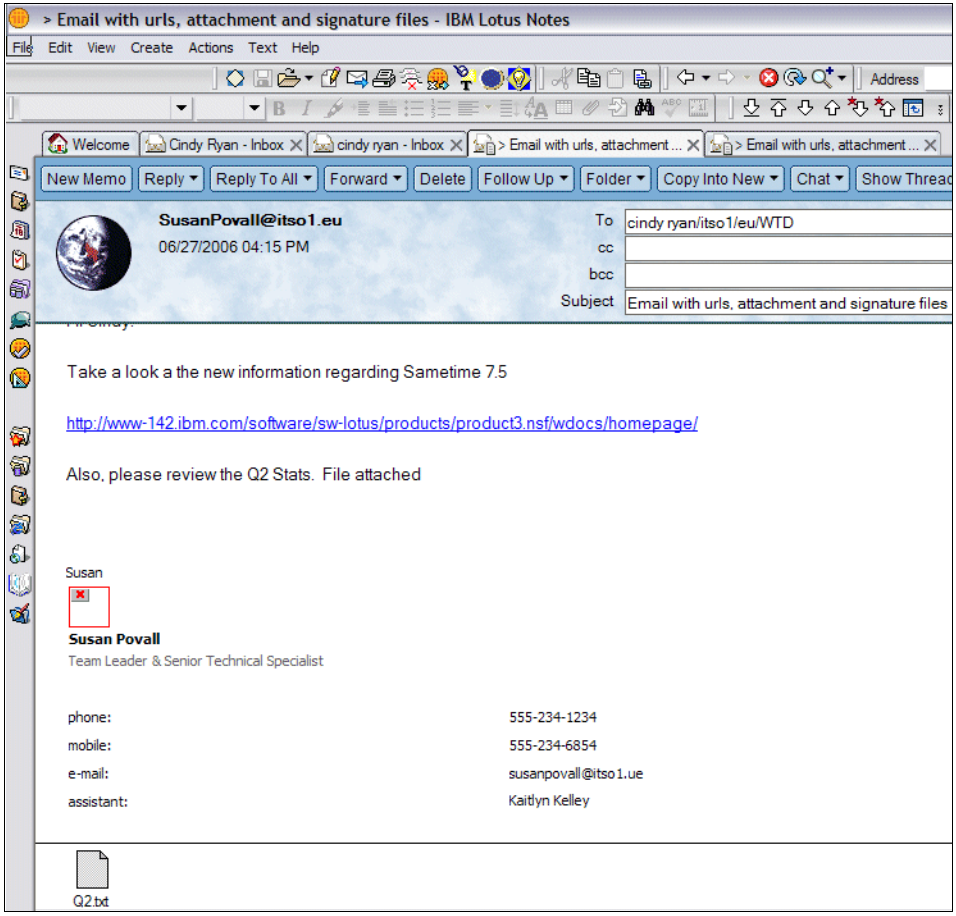

Figure 15-17 Notes 7 URL, attachment, and signature support: DUS

CMT places the graphic from the signature as an attachment at the bottom of the message. The results can be seen in Figure 15-18 on page 486.

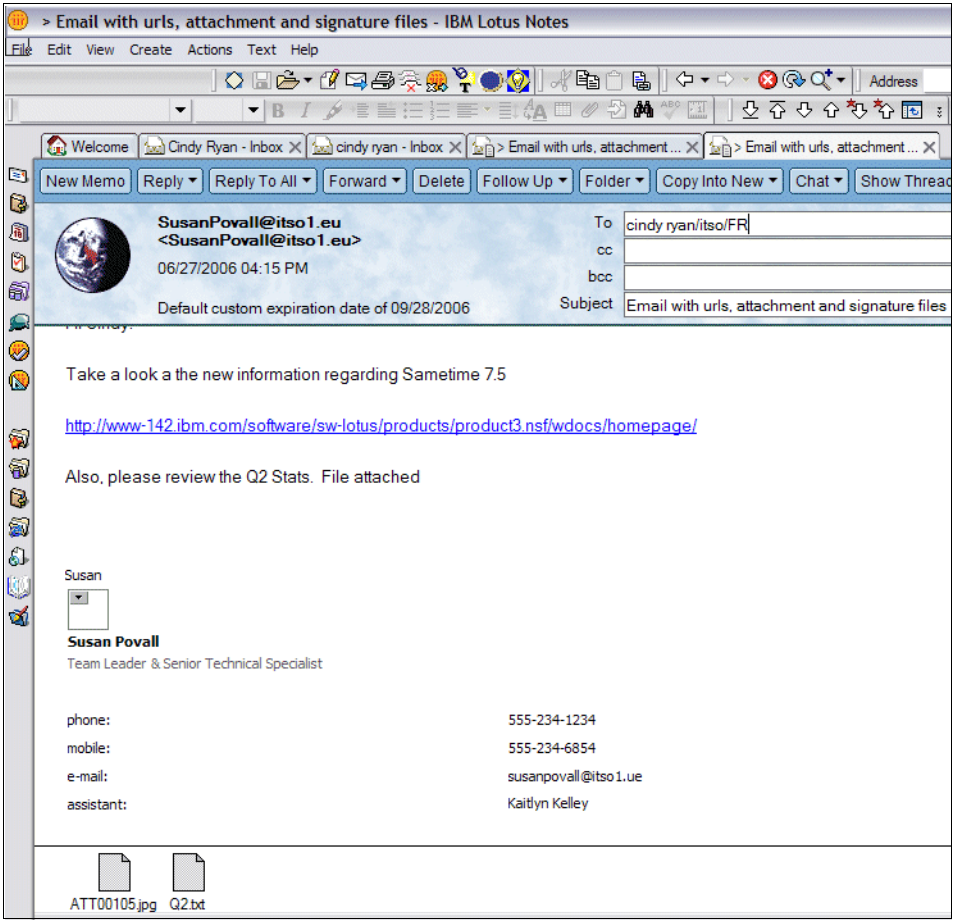

Figure 15-18 Notes 7 URL, attachment, and signature support: CMT

15.2 Calendar migration results

Calendar migrations were performed against an Outlook client connected to our Exchange server. We performed migrations with the Lotus DUS tool and Binary Tree's CMT tool. This section shows the results of our calendar migration activities.

Overall calendar view in Outlook client

This first section illustrates the Calendar Overview, using each of the clients and the respective migration tools.

Figure 15-19 illustrates the Outlook calendar view from within the Outlook client. In this example, there is one meeting scheduled.

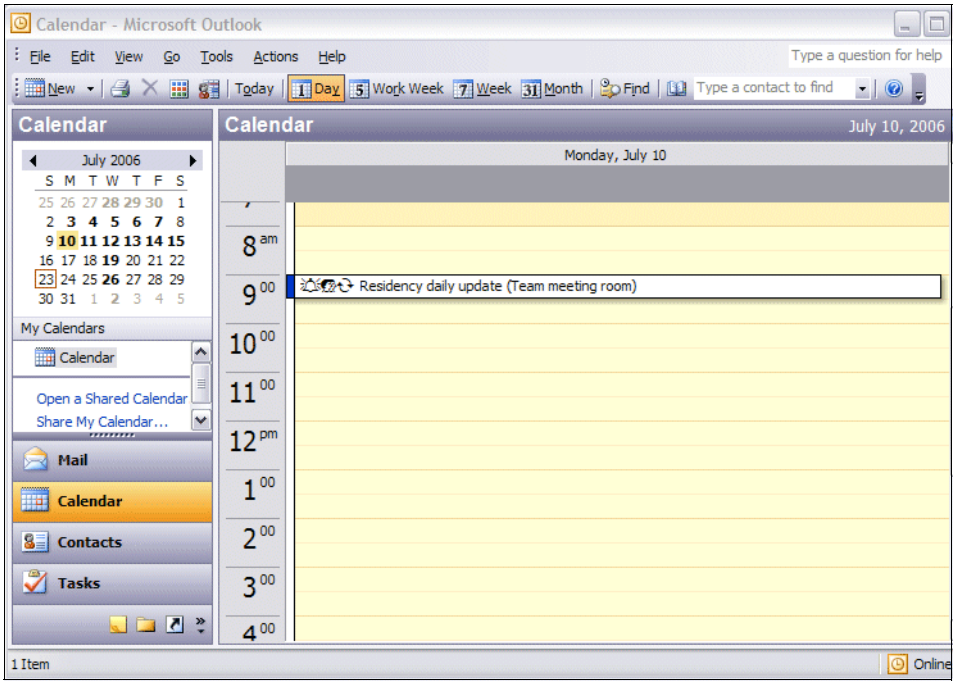

Figure 15-19 Outlook calendar view

Figure 15-20 on page 488 illustrates that the meeting was migrated successfully using the DUS tool.

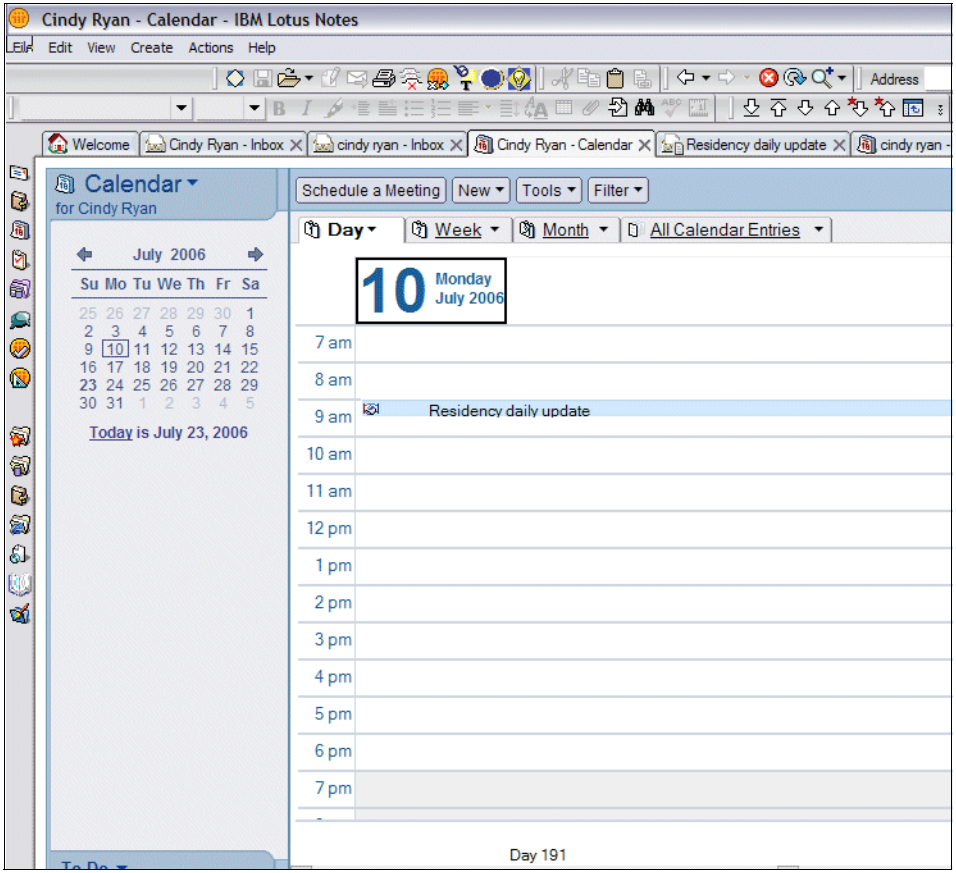

Figure 15-20 Notes 7 calendar view: DUS

Figure 15-21 on page 489 illustrates that the established meeting was also migrated successfully using the CMT migration tool.

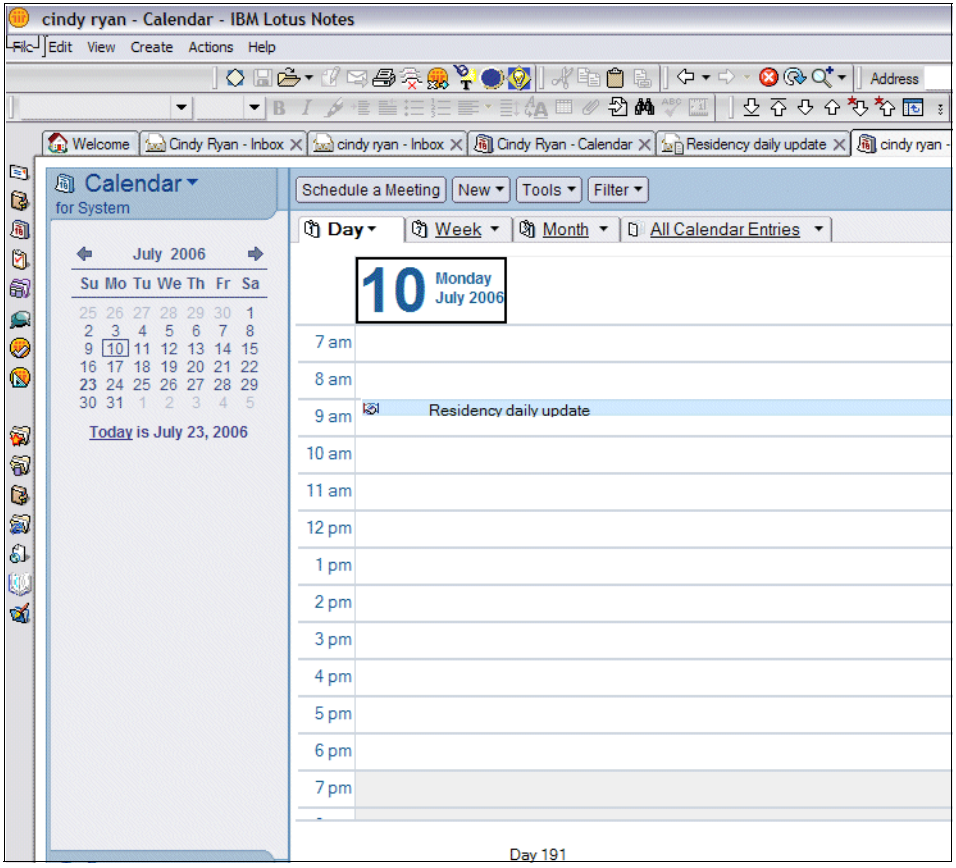

Figure 15-21 Notes 7 calendar view: CMT

Calendar Entry

This section illustrates, in slightly greater detail, how a specfic Calendar entry appears once migrated.

Figure 15-22 on page 490 illustrates the Outlook calendar entry, pre-migration.

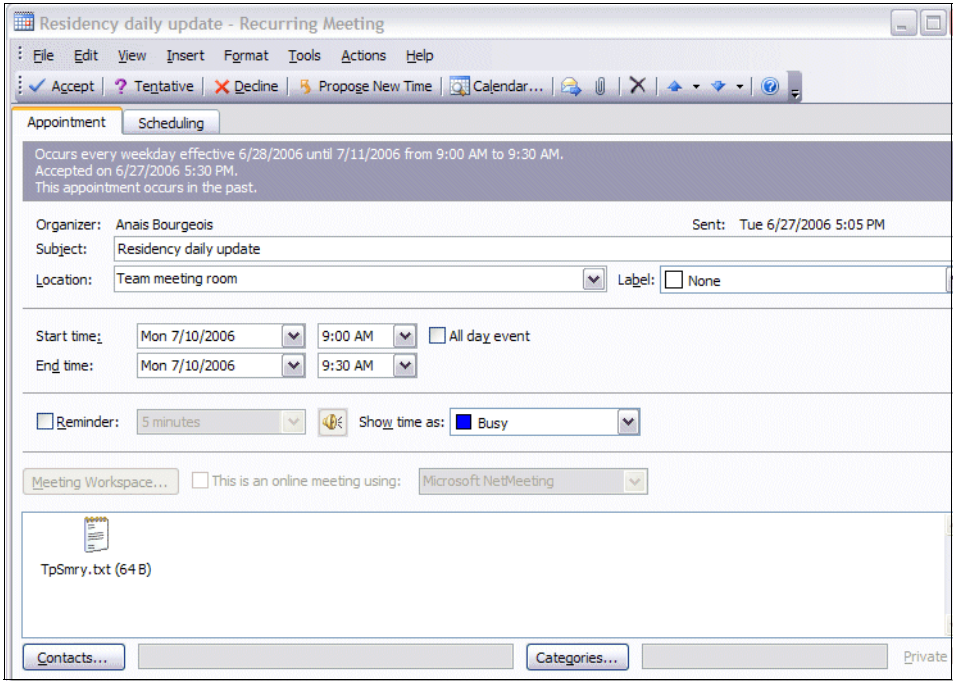

Figure 15-22 Outlook calendar entry

Figure 15-23 on page 491 illustrates that the Calendar Entry was migrated successfully using the DUS tool. All data was maintained.

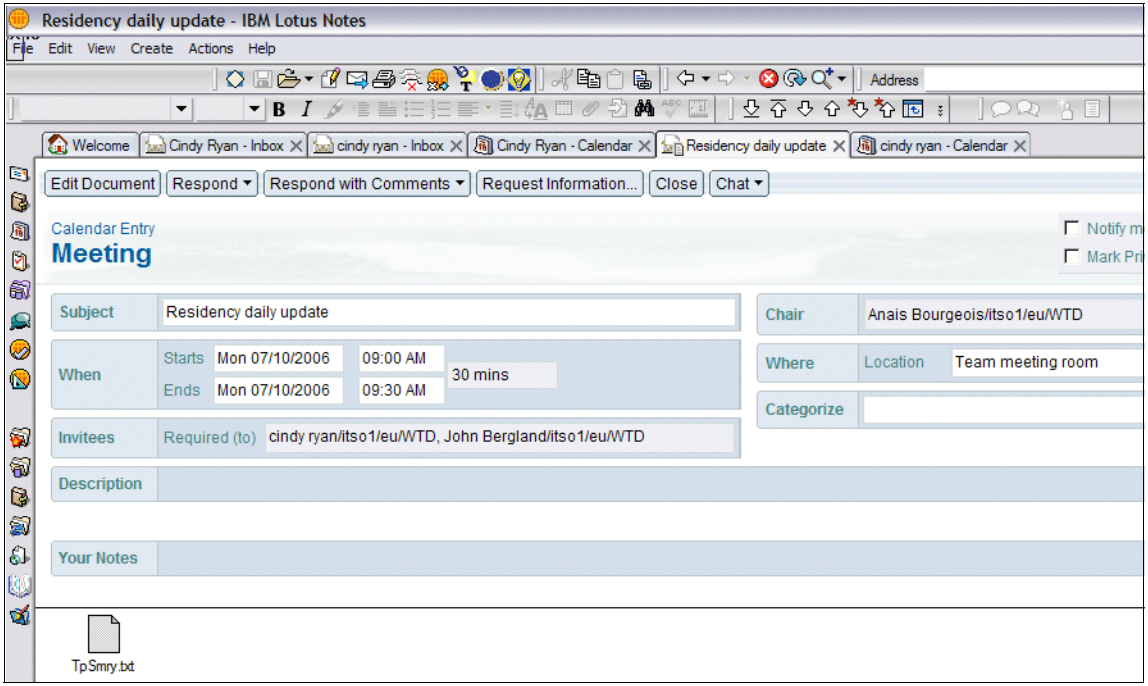

Figure 15-23 Notes 7 calendar entry: DUSt

Finally, Figure 15-24 on page 492 illustrates how the Calendar Entry appears in Notes when migrated using the CMT tool from Binary Tree. As with the DUS tool, all data was maintained.

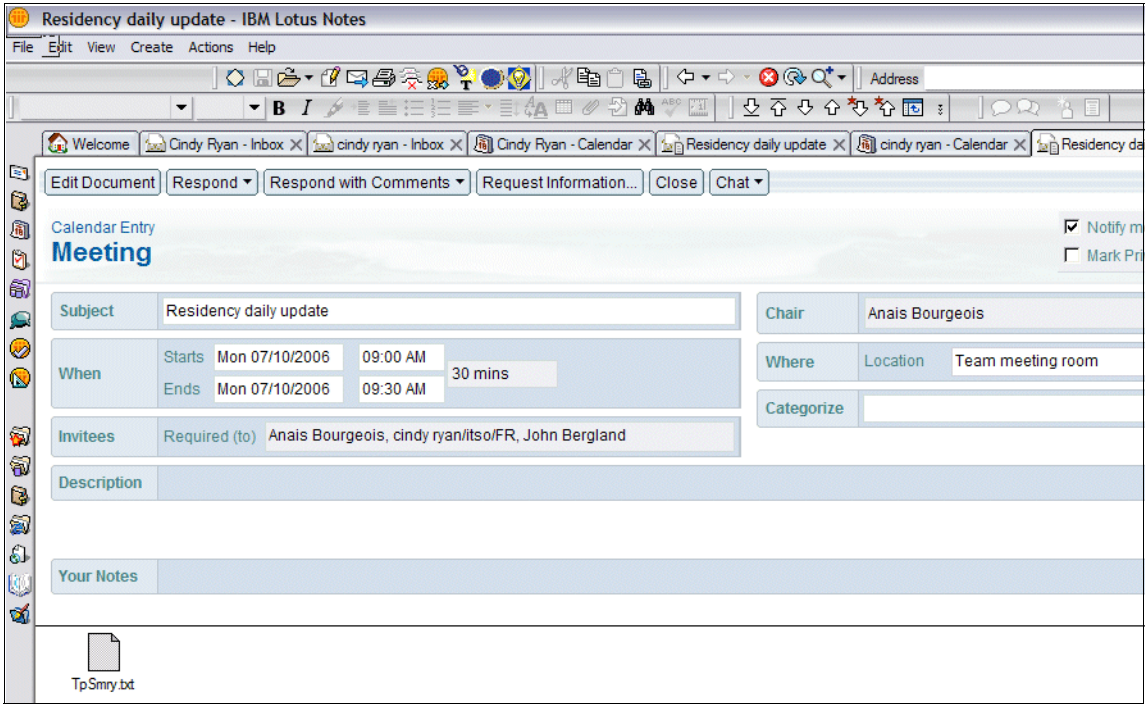

Figure 15-24 Notes 7 calendar entry: CMT

15.3 Contacts

This section shows the results of the migration of contact information from Outlook to Notes using both DUS and CMT tools. Although the contacts and the contacts view look a bit different in Notes than in Outlook, *the data has been converted correctly* and similar functionality is available for users in Notes.

Figure 15-25 on page 493 illustrates the view of Contacts from within the Outlook client.

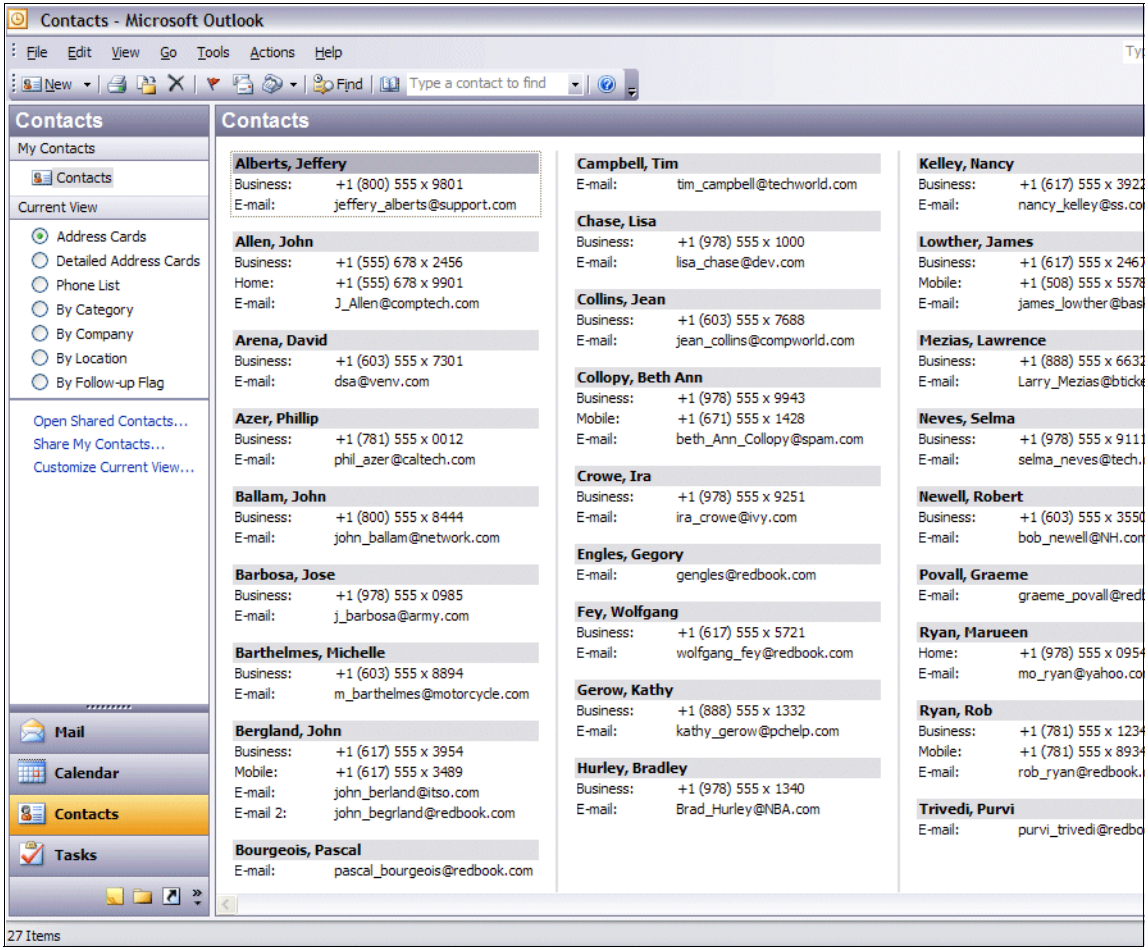

Figure 15-25 Outlook contact view

For the DUS migration option, DUS migrates contacts as part of the user's mail file into the ($users) view. To add the contacts to the local `names.nsf`, the end user would select **Actions** → **Synchronize Address Book** from the menu bar.

The results of the Contacts view using DUS *(($Users) View: DUS)* is shown in Figure 15-26 on page 494. This is the first step.

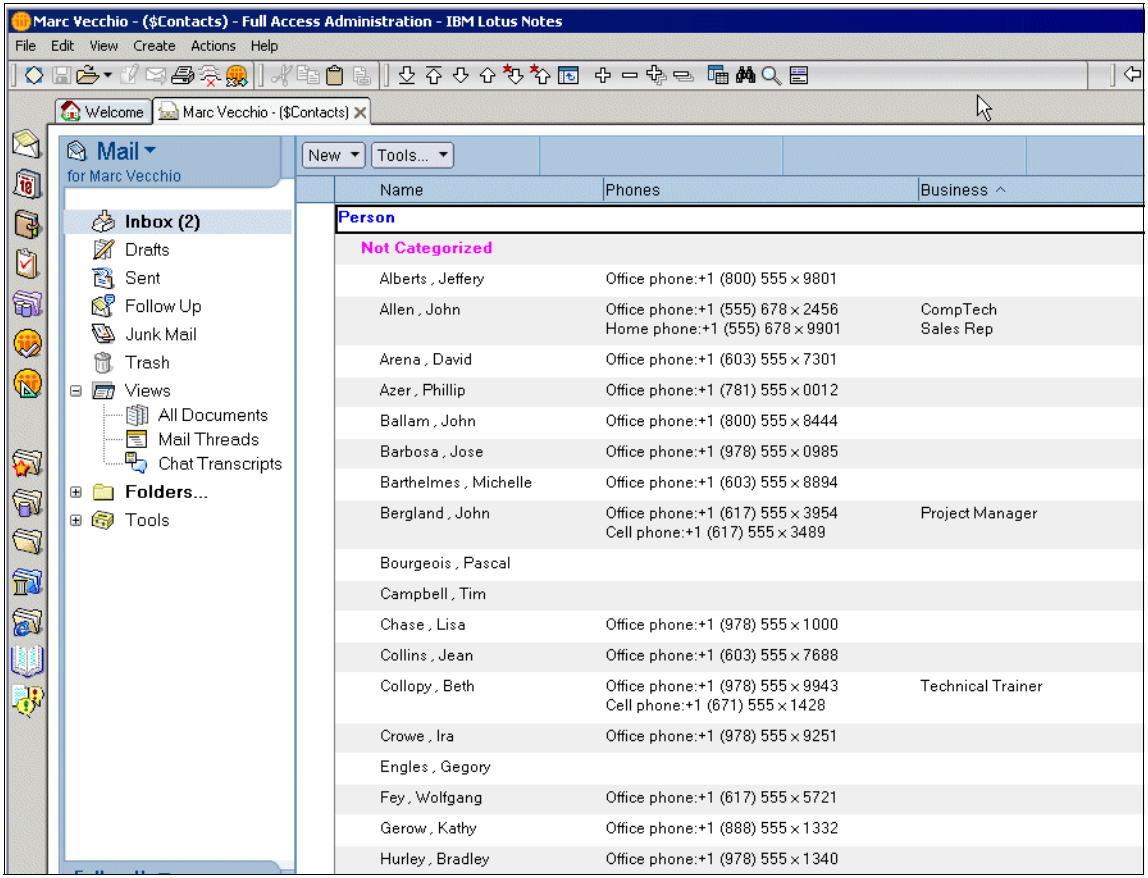

Figure 15-26 ($Users) View: DUS

Once the user then performs the action to add the contacts to the local `names.nsf`, (namely the end user would select **Actions** → **Synchronize Address Book** from the menu bar), the results will appear similar to those shown in Figure 15-27 on page 495.

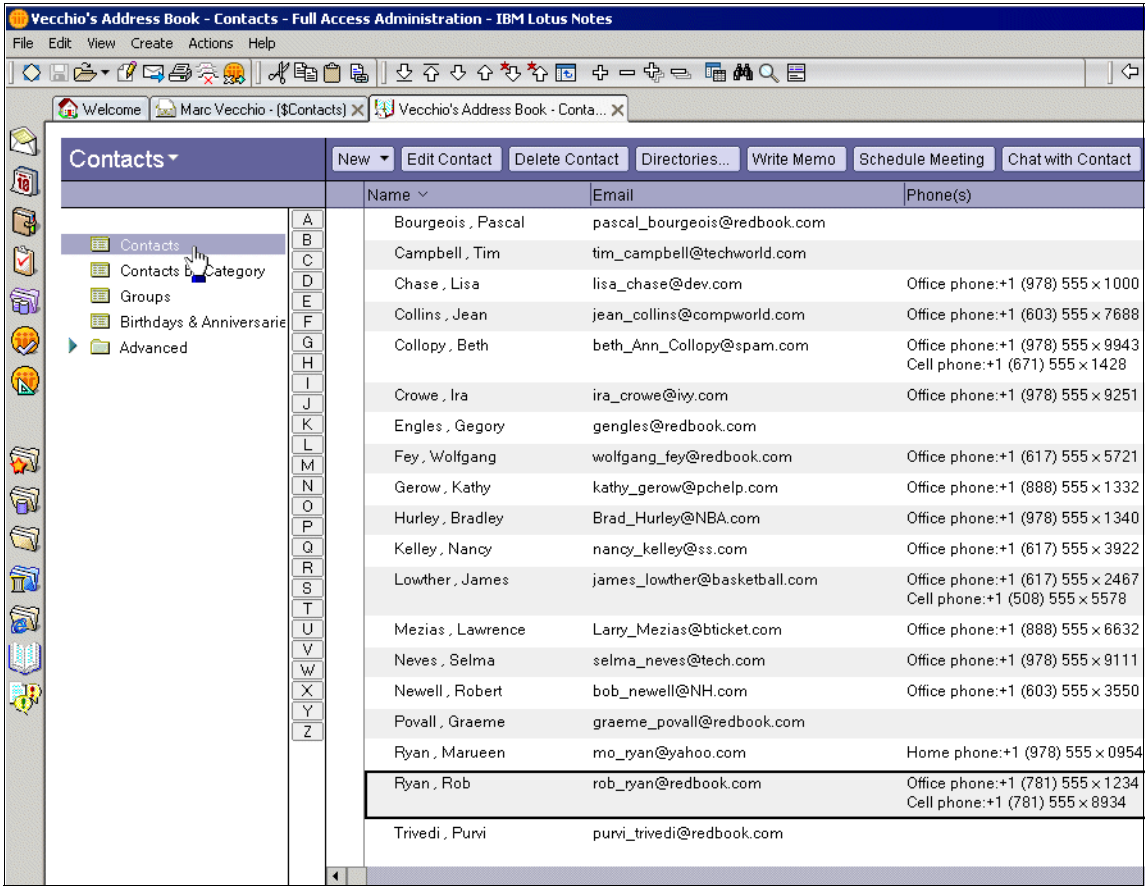

Figure 15-27 Contacts Personal Address Book: DUS

CMT migrates contacts as a separate .ns4 file. The end user who has been migrated will receive an email with the subject **Contacts from Exchange**. This email contains the `.ns4` file and a button titled **Insert Contacts**. To add contacts to local names.nsf end user would click the button.

Figure 15-28 on page 496 illustrates an email containing the .ns4 file and the **Insert Contacts** button**.**

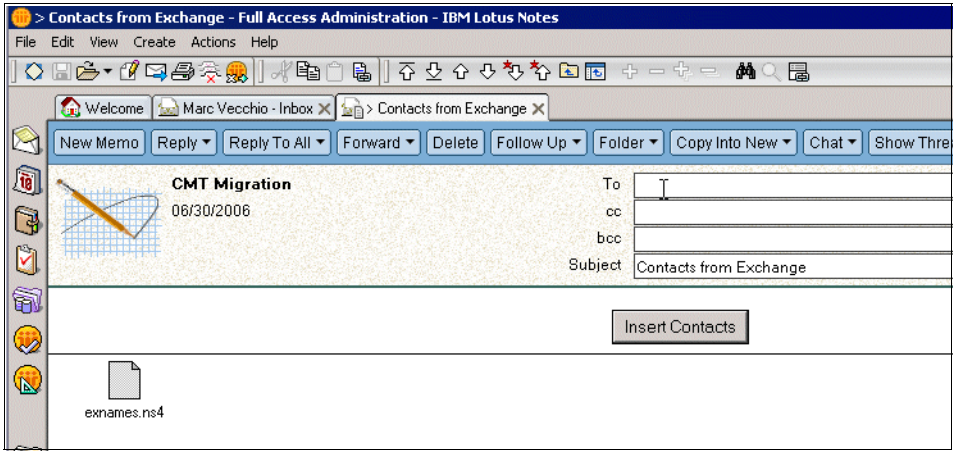

Figure 15-28 Email with contacts: CMT

Once the user clicks the button, the local name and address book in Notes will be populated, similar to the results shown in Figure 15-29 on page 497.

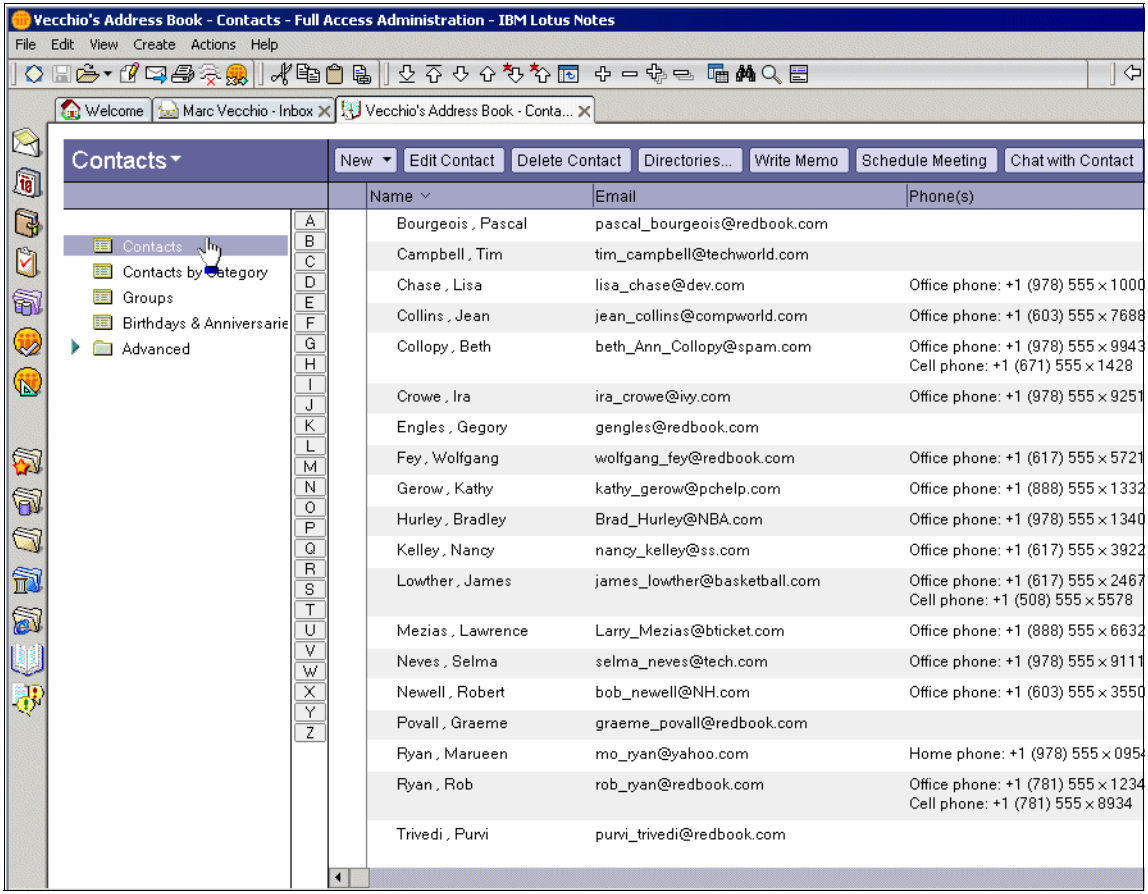

Figure 15-29 Contacts Personal Address Book: Using CMT

15.4 Tasks/To Do entries

This section shows how the tasks in Outlook are migrated to Notes. Tasks are called To Dos in Notes. Again, the tasks list looks different in Outlook than the To Do list in Notes, *but the data has been correctly migrated and similar functionality is available for users in Notes*.

Figure 15-30 on page 498 illustrates the tasks view in the Outlook client, pre-migration.

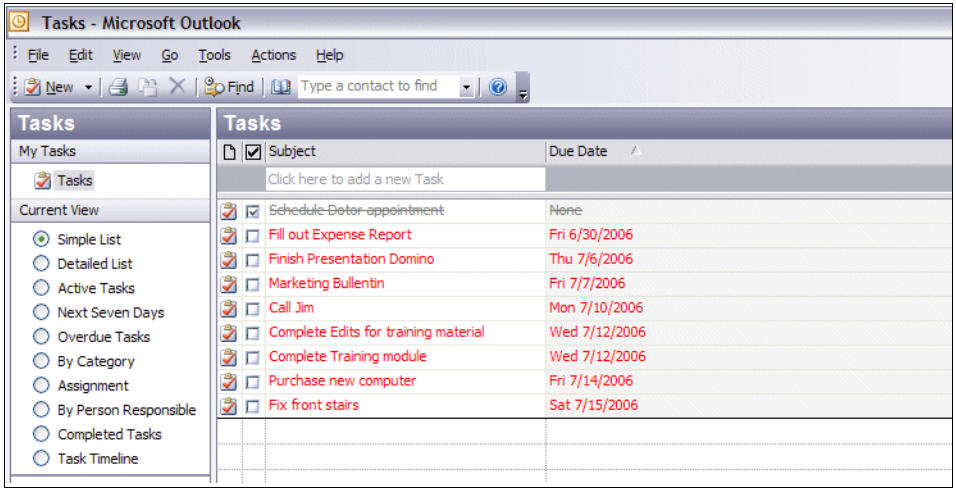

Figure 15-30 Outlook tasks view

Figure 15-31 shows the same set of tasks, now referred to as “To-Dos” in Notes, once they have been migrated using the DUS tool.

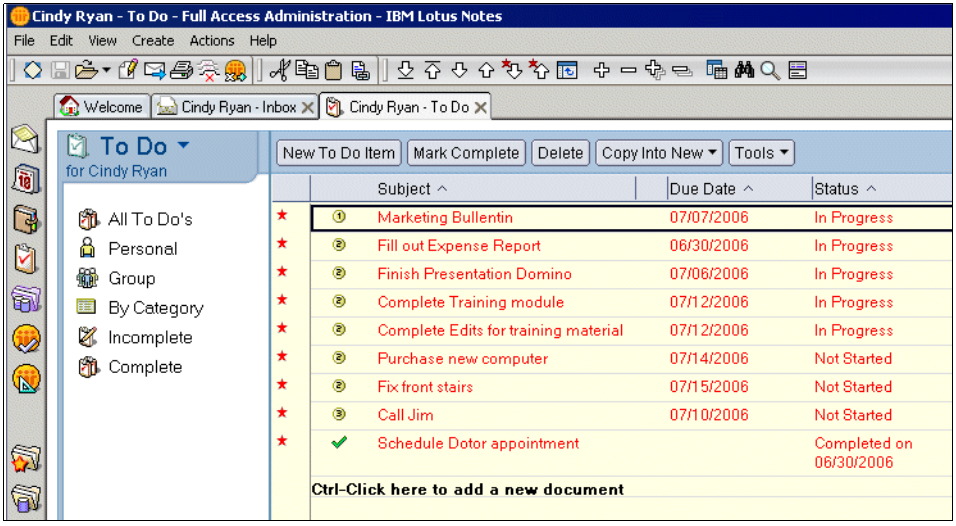

Figure 15-31 DUS To Do view

Finally, Figure 15-32 on page 499 illustrates the results of the migration of tasks, this time using the CMT tools from Binary Tree. The tasks were brought over successfully into Notes and can now be viewed / manipulated through the “To-Do” list.

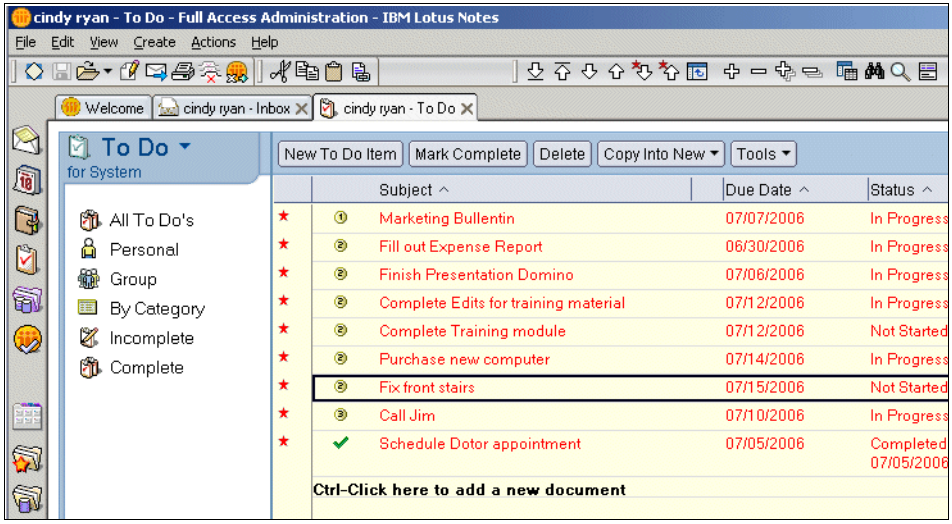

Figure 15-32 CMT To Do view

15.4.1 Summary

In this chapter we have shown the results of Exchange-to-Domino migration. Migration of mail messages, calendar entries, contact information, and tasks were detailed. The migration was done using both the Lotus Domino Upgrade Services tools and BinaryTree's Common Migration Tool.

Although the data is successfully migrated, some items are converted differently, as the creators of the migration tools had a different design point. Compare the migration results to the way your users use these items to determine what tool to use for the migration, as well as to set the expectations of the end users, whose data is being converted.

Part 5

Directory Considerations

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16

Directory Coexistence Using LDAP

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

Organizations with multiple messaging systems have a requirement for directory lookups and application authentication. The synchronization of the directories is a viable option and is discussed in other chapters, however it may not be practical or desirable to deploy and manage *multiple directories, multiple times*. In addition Authentication for non-migrated users may be required. LDAP can be used to authenticate against Active Directory for user access to both migrated or newly deployed applications.

LDAP is a viable solution and relatively simple to setup, thus in this chapter we discuss how LDAP (Lightweight Directory Access Protocol) enablement and Directory Assistance can meet both the need for directory lookups and user authentication.

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16.1 LDAP Directory Configuration

This section discusses the implications of configuring an LDAP-enabled Domino directory and the requirements for using a common, application-independent directory during coexistence.

16.1.1 Common directory requirements for coexistence

Exchange and Domino utilize unique and incompatible directory architectures. Each directory is application-specific, storing only the information needed by the applications accessing the Exchange or Domino server, but not accessible to other applications. In a coexistence scenario this presents a particular obstacle, because users still residing on the Exchange server and users who have been registered on or migrated to the Domino server need to communicate with one another. For example, a user who is still using the Outlook client over an Exchange server needs to send mail to co-workers who have already been migrated to the Domino server. Ideally, the Outlook client user should be able to use the same address book, or directory, when addressing mail, regardless of whether the recipients reside on the Domino or Exchange server. Likewise, a user who has been migrated to the Domino server from Exchange needs to send mail messages to co-workers who are still residing on the Exchange server. LDAP provides a common, application-independent directory solution for users during the period of coexistence.

Scenarios requiring a common directory solution

There are several possible scenarios requiring a central directory solution, all of which can be effectively managed using LDAP

These scenarios are examined in greater detail in Chapter 17, “Active Directory Integration” on page 527 where we will discuss the use of ADSync to manage the domino users and groups from Active directory® administration tools

1. **User and data migration coexistence**

   All users and their mail file data are progressively migrated from Exchange to Domino over a period of weeks or months. There is a period of coexistence, during which some users remain on the Exchange server using the Outlook client, while others have been migrated to the Domino server

2. **User migration coexistence**

   Users are migrated from Exchange to Domino, but their mail file data remains on the Exchange server. There may be a period of coexistence during which some users are using a Domino mail client on the Domino server, while other users remain on the Exchange server using the Outlook client.

3. **Non-migration coexistence**

   Exchange users are registered on the Domino server, but neither the users or their data are migrated from Exchange to Domino.

In order for users in these three scenarios to 'find' each other from their respective Domino or Exchange environments, the following components must be completed:

- The Exchange server directory must be LDAP enabled.
- The LDAP service must be enabled and configured on the Domino server directory. This section deals only with this second component, and the considerations for implementing an LDAP-enabled Domino directory.
- An LDAP account needs to be created in the users address book
- An additional address book needs to be added to the outlook profile

16.1.2 LDAP architecture overview

Lightweight Directory Access Protocol (LDAP) is a fast growing technology for accessing common directory information. As an open, vendor-neutral standard, LDAP provides an extendable architecture for centralized storage and management of information.

LDAP defines the content of messages exchanged between an LDAP client and an LDAP server. The messages specify the operations requested by the client (that is, search, modify, and delete), the responses from the server, and the format of data carried in the messages. LDAP messages are carried over TCP/IP, a connection-oriented protocol, so there are also operations to establish and disconnect a session between the client and server.

The LDAP directory stores and organizes data structures known as entries. A directory entry usually describes an object such as a person, device, a location, and so on. Each entry has a name called a distinguished name (DN) that uniquely identifies it. The DN consists of a sequence of parts called relative distinguished names (RDNs), much like a file name consists of a path of directory names in many operating systems such as UNIX and Windows. The entries can be arranged into a hierarchical tree-like structure based on their distinguished names. This tree of directory entries is called the Directory Information Tree (DIT).

Each entry contains one or more attributes that describe the entry. Each attribute has a type and a value. For example, the directory entry for a person might have an attribute called officePhoneNumber. The syntax of the telephoneNumber attribute would specify that a telephone number must be a string of numbers that

can contain spaces and hyphens. The value of the attribute would be the person's telephone number, such as 512-555-1212.

A directory entry describes some object. An object class is a general description, sometimes called a template, of an object, as opposed to the description of a particular object. For instance, the object class person has a surname attribute, whereas the object describing John Smith has a surname attribute with the value Smith. The object classes that a directory server can store and the attributes they contain are described by schema. Schema define what object classes are allowed where in the directory, what attributes they must contain, what attributes are optional, and the syntax of each attribute. For example, a schema could define a person object class. The person schema might require that a person have a surname attribute that is a character string, specify that a person entry can optionally have a officePhoneNumber attribute that is a string of numbers with spaces and hyphens, and so on.

16.1.3 Interaction between the LDAP enabled server and client

An LDAP client is any client accessing the LDAP directory, while the LDAP-enabled server would be either the Exchange or Domino server.The general interaction between an LDAP client and an LDAP-enabled server takes the following form:

1. The client establishes a session with an LDAP server. This is known as binding to the server. The client specifies the host name or IP address and TCP/IP port number where the LDAP server is listening.
2. The client can provide a user name and a password to properly authenticate with the server, or the client can establish an anonymous session with default access rights. The client and server can also establish a session that uses stronger security methods such as encryption of data.
3. The client then performs operations on directory data. LDAP offers both read and update capabilities. This allows directory information to be managed as well as queried. LDAP also supports searching the directory for data meeting arbitrary user-specified criteria. Searching is a very common operation in LDAP. A user can specify what part of the directory to search and what information to return. A search filter that uses Boolean conditions specifies what directory data matches the search.
4. When the client is finished making requests, it closes the session with the server. This is also known as unbinding.

LDAP defines operations for accessing and modifying directory entries such as:

- Binding and unbinding
- Searching for entries meeting user-specified criteria

- Adding an entry
- Deleting an entry
- Modifying an entry
- Modifying the distinguished name or relative distinguished name of an entry (move)
- Comparing an entry

16.2 LDAP implementation in Domino and Exchange

Microsoft Exchange 2000 and 2003 install with default LDAP enablement, and the Exchange administrator does not have the option to enable or disable the LDAP configuration.

The Domino server installation offers the server administrator the option to install the Domino server with LDAP enablement, allowing the Domino administrator the flexibility of optimizing performance when LDAP enablement is not needed. While installing the Domino server with LDAP enablement does not increase the size of the Domino installation, server performance may be impacted when LDAP is enabled. This depends on various factors, including the number of directory lookups or authentication requests initiated on the server, but server performance will be optimal when LDAP is not enabled. Domino allows the administrator to enable or disable the LDAP service depending on the needs of the IT infrastructure.

16.2.1 Enabling LDAP during Domino server installation

Follow these steps to enable the LDAP service during the Domino server installation:

1. Initiate the Domino server installation by running the server *setup.exe* and follow the instructions in Appendix F, “Installing Domino” on page 823 to complete the Domino server installation.
2. After you have completed the installation of all Domino server files, you need to complete the server setup. Start the Domino server by using the icon located on your desktop, or from the Start menu. The Lotus Domino Server dialogue show in Figure 16-1 will appear, allowing you to choose whether to start Domino as a Windows application or a regular application.

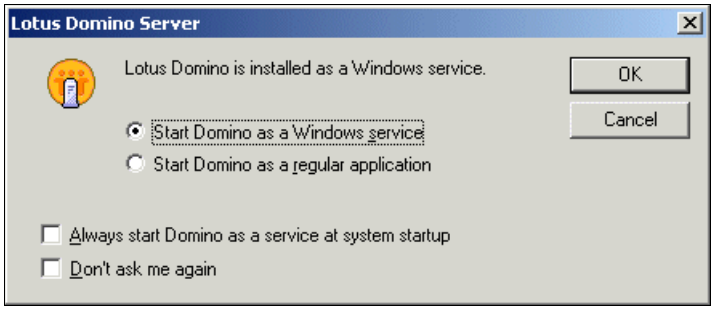

Figure 16-1

If you choose to start Domino as a Windows service, the LDAP service will be enabled by default. If you choose to start Domino as a regular application, you will need to explicitly enable LDAP during the Domino setup process.

3. Proceed with the Domino setup, configuring your server settings as outlined in [Chapter...setting up the Domino server], until you are presented with the Server setup dialogue prompting you to select the internet services for your Domino server. As mentioned in the previous step, if you elected to start Domino as a Windows service, LDAP will be enabled by default; if not, select the checkbox to enable LDAP.

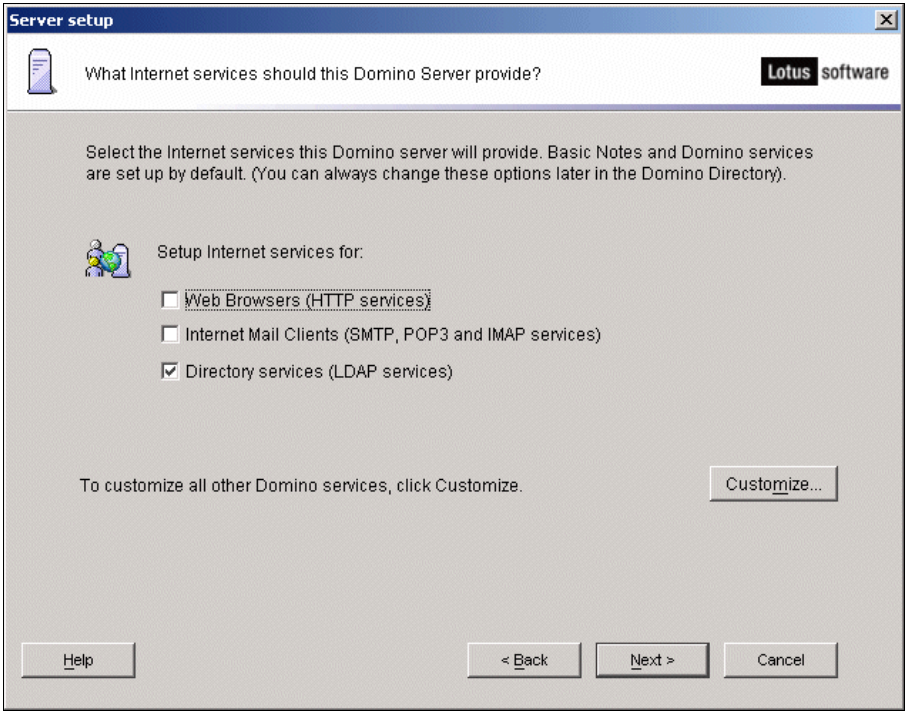

Figure 16-2 Enable LDAP on the Domino server

4. Finish the server installation, and the Domino server will be configured for LDAP directory enablement.

Enabling LDAP from the server console

If you choose not to enable the LDAP service during the Domino server installation, you can later enable LDAP manually from the server console. You will need to enable LDAP each time you start the Domino server. To start the LDAP service, execute this command at the server console:

```
> Load LDAP
```

Enabling LDAP by editing the server NOTES.INI file

You may also enable the LDAP service by editing the ServerTasks setting in the NOTES.INI file, located in the Domino installation directory. There are three ways to edit the NOTES.INI file, so you may follow one of these sequences to edit the NOTES.INI in the Domino server directory:

- Open the NOTES.INI file and edit it. The procedure for doing this depends on your client's or server's operating system and the text editor you use. Edit the

ServerTasks line in the NOTES.INI file by adding the LDAP parameter (notated here in bold letters), then save the file:

```
ServerTasks=Update,Replica,Router,AMgr,AdminP,CalConn,Sched,LDAP,
RnRMgr
```

- Edit the Configuration Settings document on the server, the method we recommend for editing the server NOTES.INI file. Follow these steps to edit the server NOTES.INI file using the Configuration Settings document:

  a. From the Domino Administrator, open the Domino Directory and click the Configuration tab.

  b. To edit an existing Configuration Settings document, highlight it and then click Edit Configuration.

  c. To modify NOTES.INI settings on the server, click the NOTES.INI Settings tab. This tab lists a number of current settings in the server's NOTES.INI file.

  d. To add or change a setting, click Set/Modify Parameters to display all settings that you can set in the Configuration Settings document. Select the setting(s) you want to add/modify.

  e. Save and close the document.

  f. Use the Set Configuration server command.

Disabling LDAP from the server console

In the same manner that you can enable the LDAP service manually from the server console, you can disable LDAP from the serve console as well. If you disable LDAP, it will reload on server startup if you have configured the LDAP service during server setup, or by enabling LDAP through the NOTES.INI file. To disable or stop the LDAP service, execute this command at the server console:

```
> Tell LDAP Quit
```

You can also stop and restart he LDAP service in the same manner, by executing the following command at the server console:

```
> Restart Task LDAP
```

16.3 Enabling Directory Assistance for LDAP authentication

By enabling Directory Assistance, Domino Authentication to migrated public folders and applications can be passed for non-migrated users via LDAP to the

active directory. The following instructions will enable you to set up Directory Assistance

1. From the domino administrator connect to the primary Directory server.
   - File -> Database -> New

     This will open the new Database dialogue Box
     - Enter the server name ..... in our case this was migrate2ka/itso
     - Enter a name for the database ..... we used Directory Assistance
     - Enter a file name .... we used DA.nsf.
     - in the template enter DA50.ntf ... you can click on show advanced templates and select directory assistance template also)
   - Click OK
   - If you have multiple domino servers ensure this file is replicated to all domino servers in the domain.
2. Next we need to set up Domino to use the Directory assistance. To do this the server configuration document needs to be updated as follows.

   a. From the domino administrator connect to the primary Directory server
   - Click Configuration Tab
   - Click Server and select the primary domino server (migrate 2ka)

   b. From the Domino Administrator, click the Configuration tab.
      i. Next to "Use Directory on," select the administration server for the Domino Directory.
      ii. In the left pane, expand Server - All Server Documents.
      iii. Select the Server documents for all servers that use the same file name for the directory assistance database. A check mark appears next to each document.
      iv. Choose Actions - Set Directory Assistance Information.
      v. Enter the file name that you gave to the directory assistance database on these servers -- for example, DA.NSF. If the directory assistance database is in a subdirectory under the data directory, include the path relative to the data directory -- for example, DIRECTORIES\DA.NSF.
      vi. Click OK.
      vii. When you see the dialog box stating "Request has been submitted," click OK again.
      viii. Use the command **`tell adminp process interval`** to force processing of the Set Directory Assistance Field request, or wait until the

Administration Process processes the request when it next processes interval requests.

ix. Replicate the modified Domino Directory to the servers that will use the directory assistance database.

x. Restart the servers so they detect the directory assistance database file names in their Server documents.

16.3.1 Entering the directory assistance database file name to a Server document manually

Follow these steps to enter the directory assistance database file name to a Server document manually:

1. Make sure that you:
   a. Created and replicated the directory assistance database.
   b. Have either Author access and the ServerModifier role, or Editor access in the ACL of the Domino Directory to which you will add the file names.
2. From the Domino Administrator, click the Configuration tab.
3. Next to "Use Directory on," select the server whose Domino Directory you want to modify.
4. In the left pane, choose Server - All Server Document.
5. Select a specific Server document, and then click Edit Server.
6. In the "Directory Assistance database name" field in the "Directory Info" section on the Basics tab, enter the file name that you gave to the replica of the directory assistance database on this server -- for example, DA.NSF. If the directory assistance database is in a subdirectory under the data directory, include the path relative to the data directory -- for example, DIRECTORIES\DA.NSF.
7. Click Save & Close.
8. If the Domino Directory you changed is not the replica of the server whose directory assistance database file name you specified, (8)replicate the updated Domino Directory to the server.
9. Restart the server so it detects the directory assistance database file name now in its Server document.

16.4 Enabling Client LDAP lookups

The following section describes how to setup the Outlook and Notes clients to lookup LDAP entries. It is possible to automate the process using Policies in both systems, however this is beyond the scope of this Redbook. Furthermore, instructions on deploying desktop and profile changes can be found from both Microsoft and IBM websites

16.4.1 Creating LDAP address book in Outlook

To enable Outlook to lookup addresses in Domino, an LDAP address book needs to be added to the profile.Tthe following steps discuss how this is done.

1. First, Open an outlook and select a profile

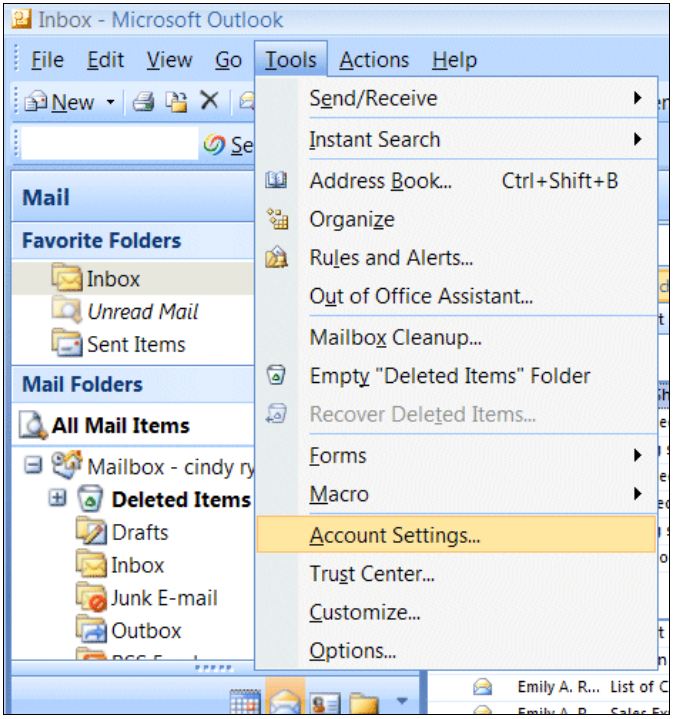

Figure 16-3 Selecting account settings

2. Click Tools -> Account settings as shown above in Figure 16-3,

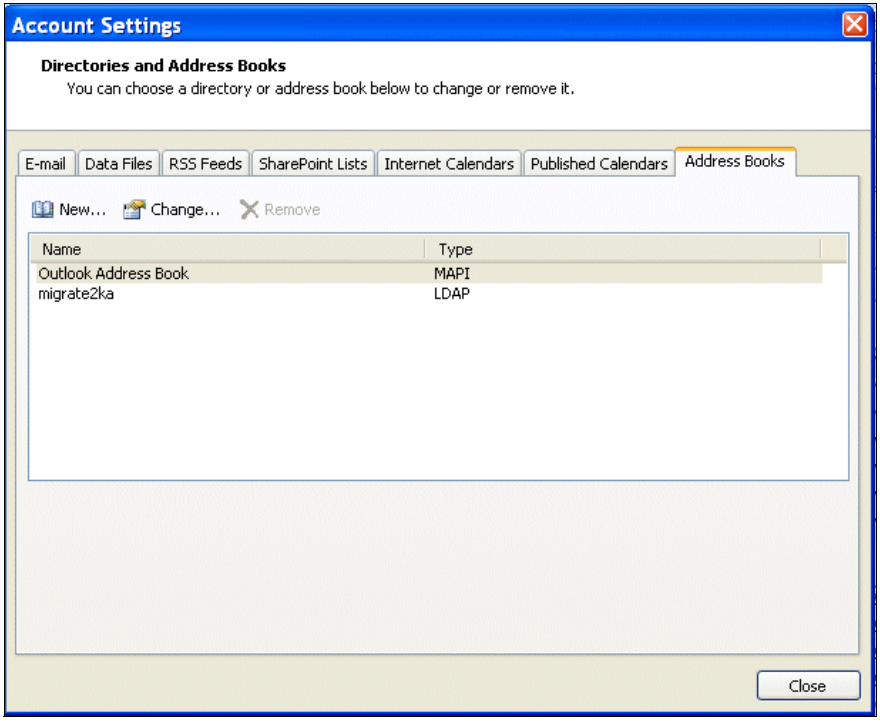

Figure 16-4 Add a new account

3. Select **address books**
4. Select **New**

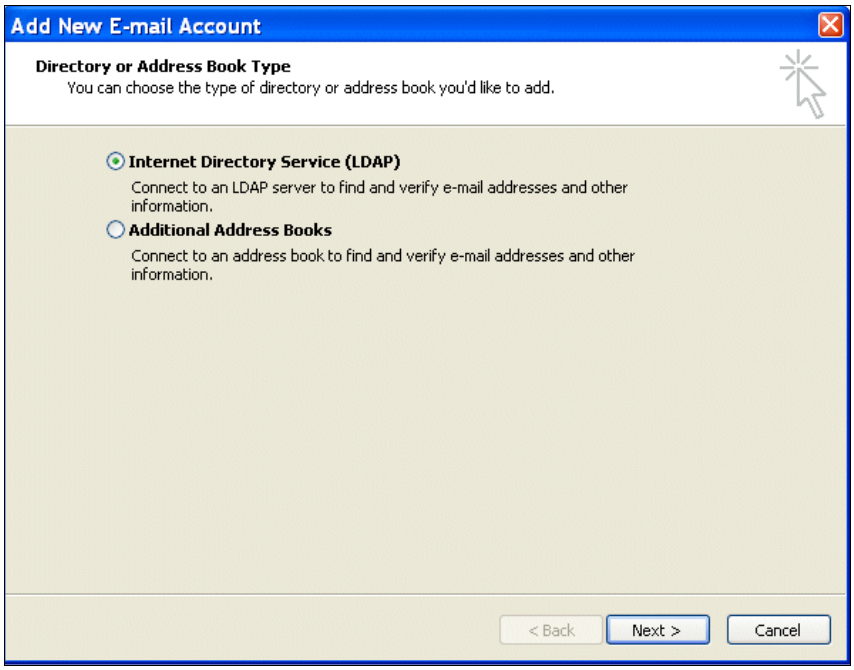

Figure 16-5 New address book options

5. Select the default Internet Directory Service (LDAP)
6. click Next

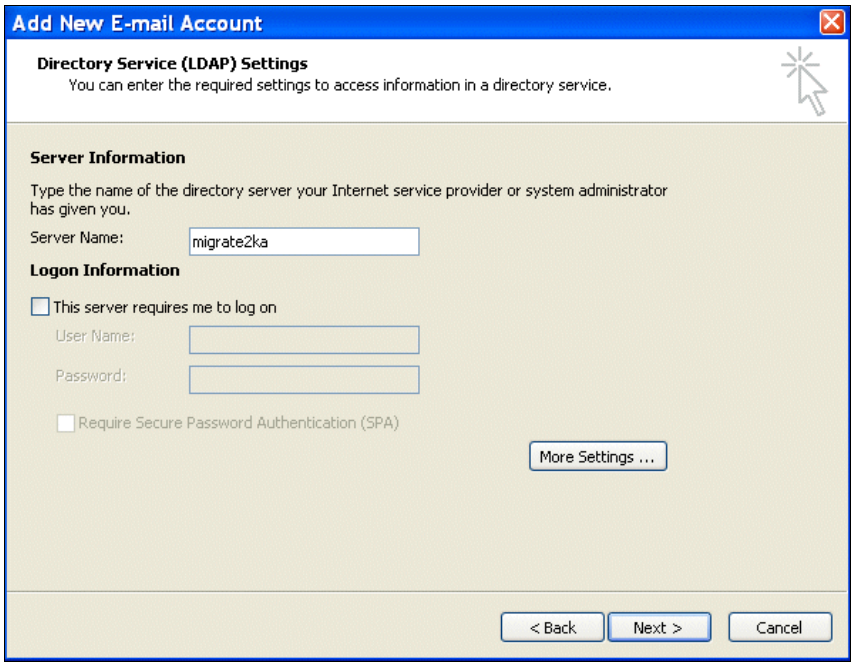

Figure 16-6 LDAP server information window

7. Enter the server name this can either the hostname or FQDN of the domino server.
8. Click **More Settings**

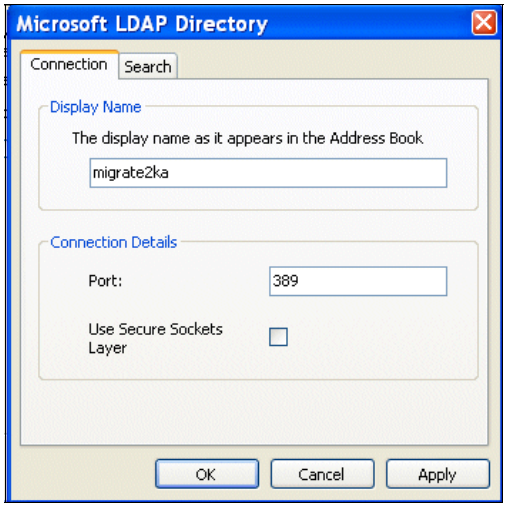

Figure 16-7 Advances settings tab one

9. Enter a display name for the address book, e.g.. Notes users. We left ours as the server name

Note: By default, the port should be 389 unless you have changed this in domino do not change

10. Click the search tab

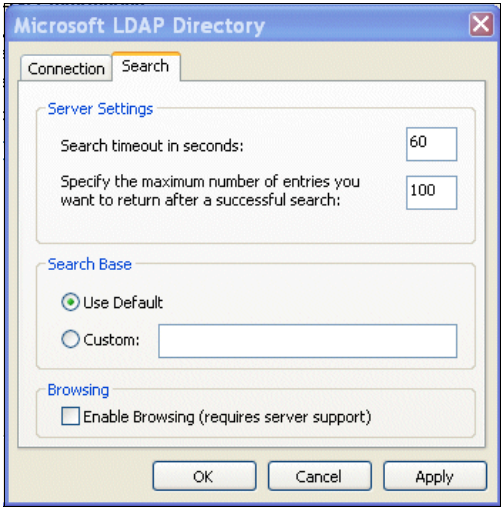

Figure 16-8 Search settings tab

As displayed in Figure 16-8 on page 517, you have the option to specify a search string. Domino has a default base so there is no requirement for you to enter the Organization as a search base.

11. Click OK

12. The ldap address book has now been added to the Outlook profile and the Domino database is now searchable from Outlook. An example follows in Figure 16-8.

.

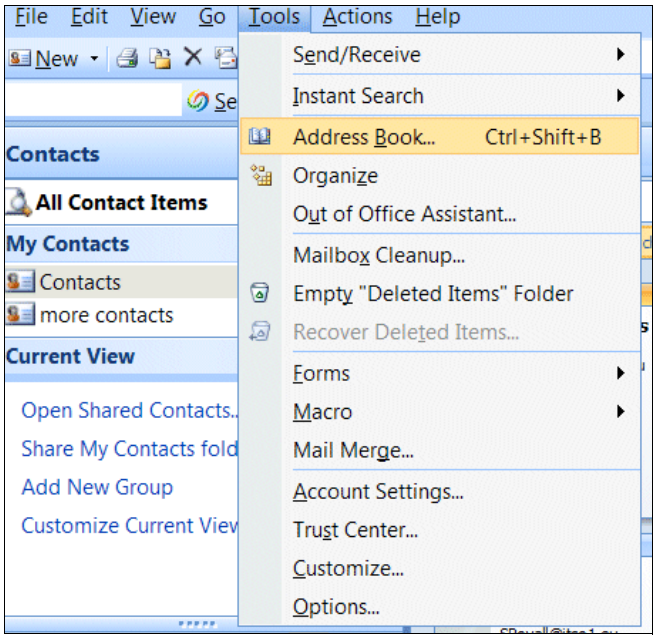

Figure 16-9 Select address book

16.4.2 Finding an address in the Domino Directory from Outlook

To find an address in the Domino directory from Outlook, you can do this in two different ways:

Approach 1 -

1. First, inside a new memo, click the **To:** button. This will bring up an address dialog similar to the one shown in Figure 16-10 on page 519 .

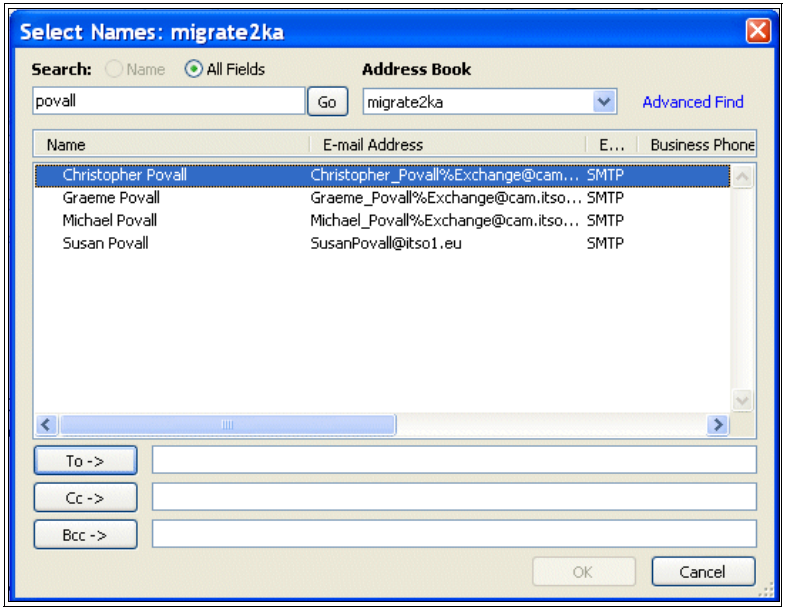

Figure 16-10 Selecting names from an address book in either

Approach 2

1. Similar to the approach shown in Figure 16-9 on page 518,
2. Select Tools
3. Select Address Book

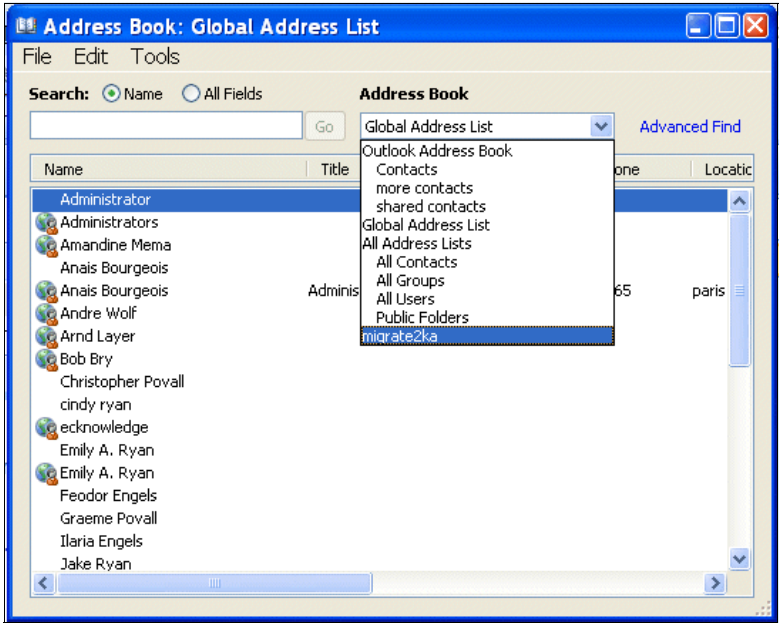

Figure 16-11 Select an address book

4. Click the twisty in the address book tab
5. Select the newly created address book

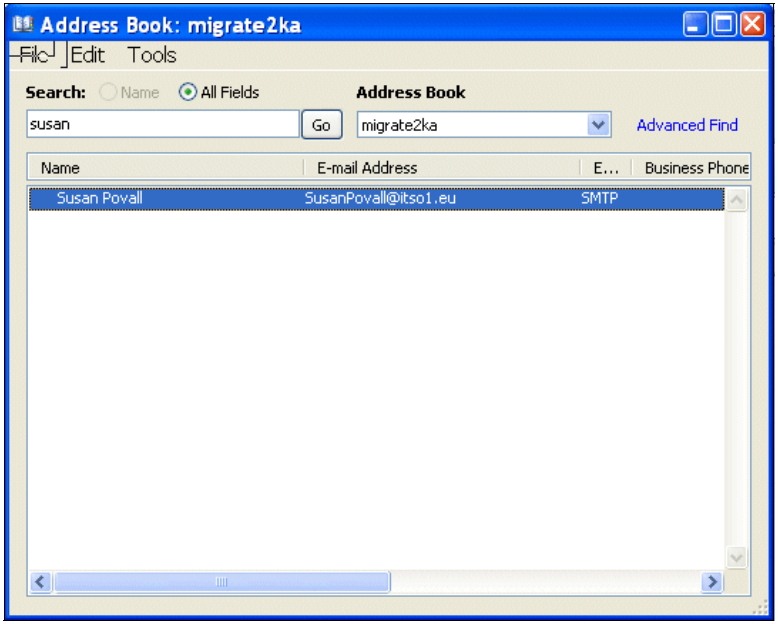

Figure 16-12 Search for account in directory

You will be presented with a screen similar to Figure 16-12. You can enter any of the attributes for the person to be found. In our case, we used the firstname and returned one value. In the event of multiple attributes, all accounts with the value you typed in any field will be displayed.

16.4.3 Creating and LDAP account in Notes

To enable Lotus Notes to lookup addresses in Active Directory you need to create and account in the Local Address Book for the LDAP server. The following instructions should assist you in doing this

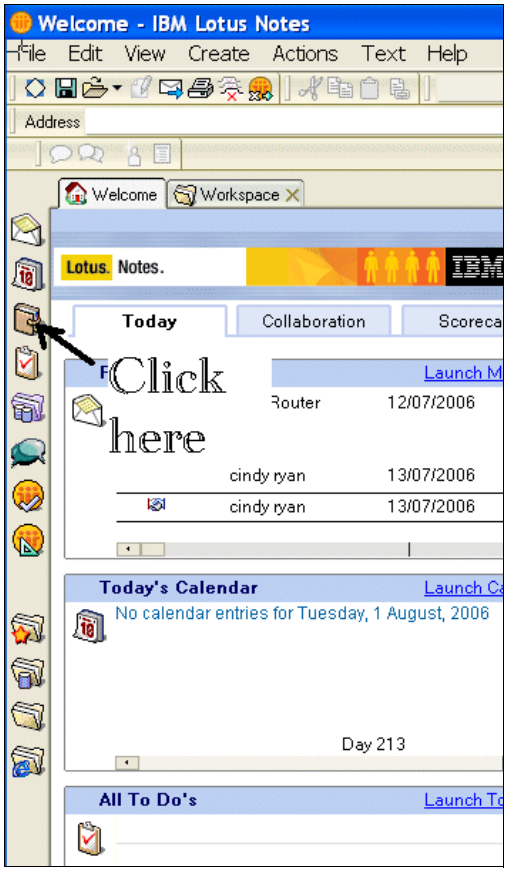

Figure 16-13 Select the address book icon

1. Open the address book by selecting the address book icon as shown in Figure 16-13 above, or -> File -> Database -> Open. Select local for server and in database field enter names.nsf.

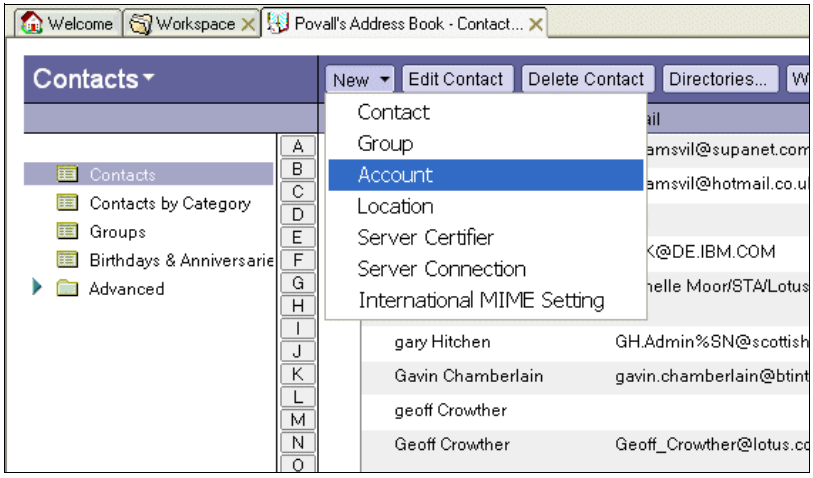

Figure 16-14 Create a new account

2. Select New
3. Select Account from the drop down list

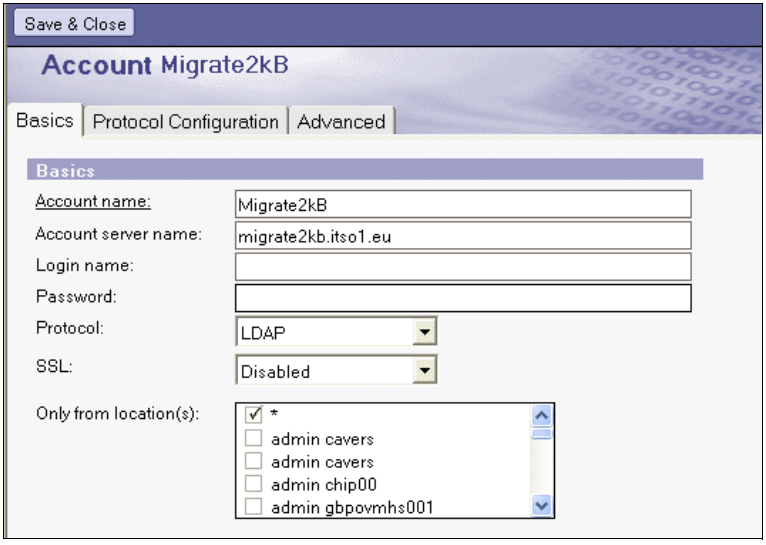

Figure 16-15 Basics tab

a. On the basics tab

   i. Enter a descriptive name for the account, e.g. exchange or the server name

ii. Enter the FQDN of the Active Directory Global domain controller in our lab this was the same as the exchange server

iii. If needed enter a userid and password for the bind, by default this should not be required

iv. All other fields should be left as default

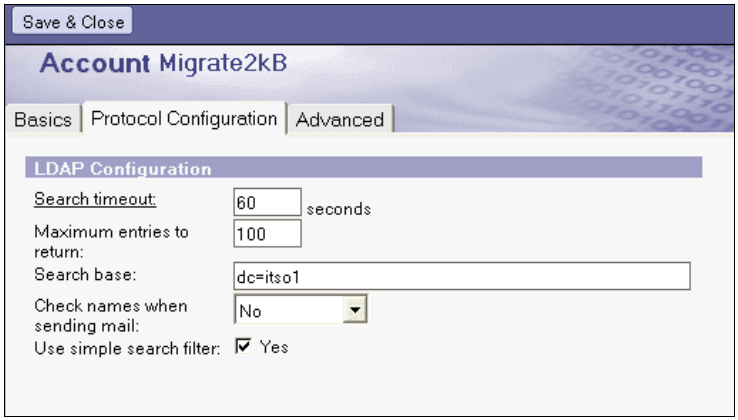

Figure 16-16 LDAP Protocol Configuration

b. Enter the search base, In our example the Active Directory Organization Forest for the exchange users was ITSO1 all the attributes of

– we entered DC=itso1

– All other fields can remain as is.

c. Click Advanced tab

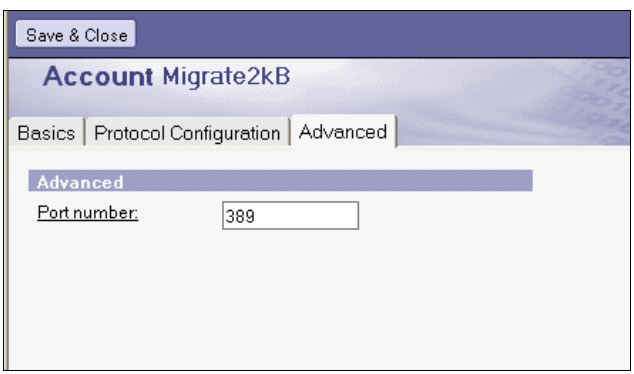

Figure 16-17 LDAP port configuration

On the advances tab you can specify the port. In most organization the LDAP port (non SSL) is set at 389

d. Click Save and Close

Figure 16-18 Selecting directories

4. To test the configuration as with Outlook, we can open another directory from the address book.

   a. Click Directories on the top selection bar

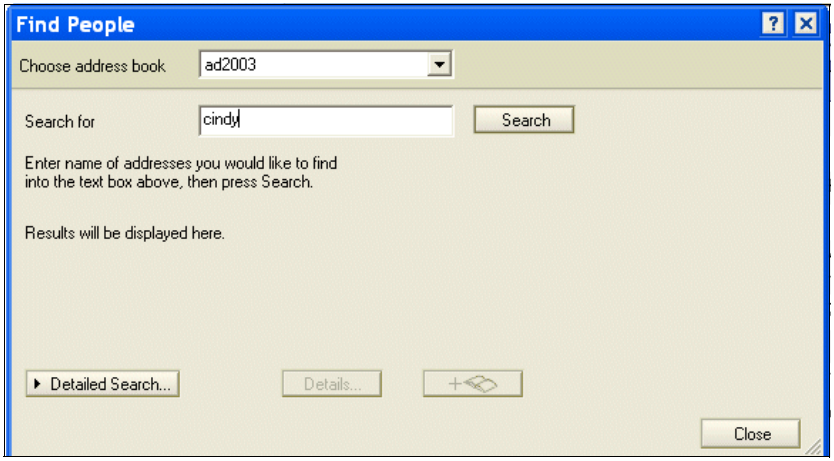

Figure 16-19 Selecting search criteria

   b. Select the recently created directory

   c. Enter a search term, as before, we entered a first name

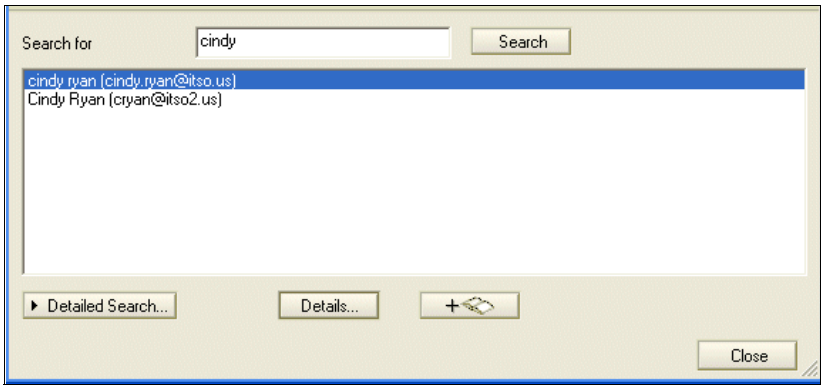

Figure 16-20 LDAP search results from Active Directory

The results will be returned as in Figure 16-20 Additional details about the returned entry can be obtained by clicking Details. Finally, Address book lookups are also possible when sending email by clicking the **To**: button in the new memo.

17

Active Directory Integration

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

Since Active Directory is a requirement for deploying Microsoft Exchange 2000 and 2003, IT organizations which maintain an Exchange environment rely exclusively on Active Directory deployment within their infrastructure. Domino, however, maintains its directory configuration and group and user authentication entirely within the Domino environment. While Exchange and Domino utilize unique and incompatible directory architectures, administration of both servers in a coexistence scenario requires a central, application-independent directory for managing both Exchange and Domino users. Without central management of all users, the server administrator would be required to register, delete and rename users separately on their respective servers.

Recognizing that an organization’s server or messaging implementation should not dictate directory usage, Domino supports Active Directory for both authentication and for group and user management. The Active Directory

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Synchronization tool, or ADSync, allows Active Directory administrators to manage users and groups in both Active Directory and the Domino Directory as a unified operation from the Active Directory Users and Computers Console.

Attention: To learn more about how Domino supports Active directory for authenitcation using LDAP, see Chapter 16, “Directory Coexistence Using LDAP” on page 503.

This chapter discusses how Active Directory synchronization meets both user authentication and management needs. The following sections outline the considerations for implementing Active Directory synchronization for a coexistence scenario:

- The role of Active Directory
- Using Active Directory synchhronization to manage users in Active Directory and the Domino directory
- Lotus ADSync during coexistence and beyond

17.1 Understanding the role of Active Directory

This section illustrates the role of Active Directory in a corporate infrastructure, as well as the role of Active Directory during a coexistence scenario. Active Directory used in concert with ADSync offers you the convenience of using Active Directory for your corporate directory, while managing both your LDAP-enabled Domino server directory and Active Directory from one location.

17.1.1 Active directory remains the corporate directory

In an environment where Active Directory has been used as the corporate directory in conjunction with Exchange and other Microsoft business applications, after deploying Domino and removing Exchange from the IT infrastructure, it is preferable to continue using Active Directory as the corporate directory. Active Directory is the underlying infrastructure used to deploy Microsoft business software and is necessary to manage authentication of those applications. The following are a few examples:

- Active Directory is used to manage the existing corporate directory, with implications beyond Outlook messaging users.
- Active Directory is used for authentication of Windows domain file and print services
- Active Directory is used for authentication of applications outside of the E-mail messaging space, such as Sharepoint.

During the coexistence of Domino and Exchange, with Active Directory as part of the IT infrastructure, without ADSync the IT Administrator would be required to maintain two separate directories. Figure 17-1 on page 530 offers an illustration of the early coexistence scenario before the implementation of ADSync. Without ADSync to manage users in both the Domino directory and Active Directory, users on the respective directories must be managed separately.

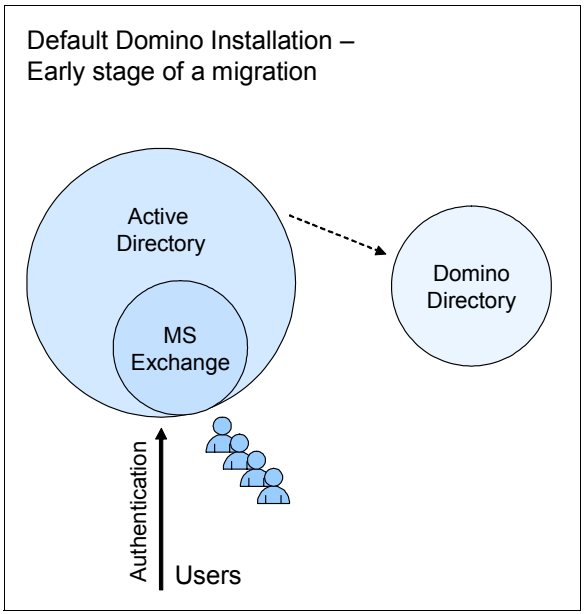


Figure 17-1 Initial Domino deployment with two independent directories

With the introduction of ADSync into the infrastructure, users and groups in the Domino directory and Active Directory are administrated centrally in Active Directory. Figure 17-2 on page 531 illustrates the role ADSync plays in allowing central management of users in the Domino directory and Active Directory. In this illustration, the blue shaded area represents directory management where users exist in both Active Directory and the Domino directory, with all changes being made in Active Directory and replicated automatically to Domino.

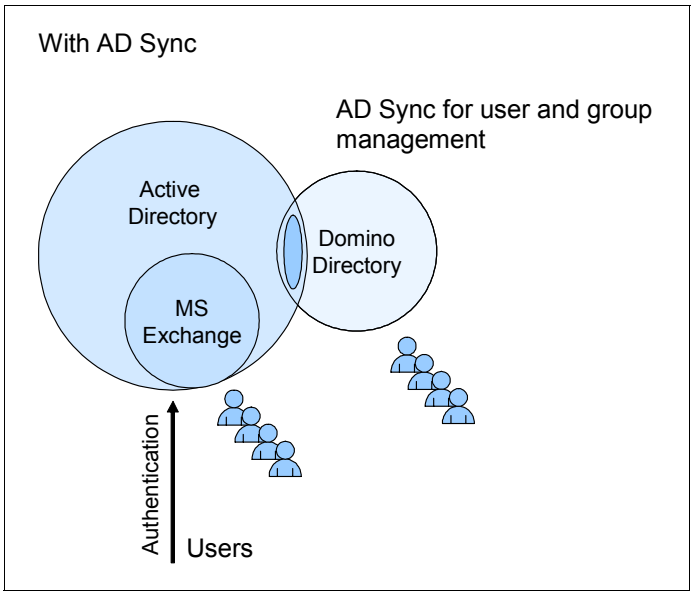


Figure 17-2 ADSync is used to manage users and groups in Active Directory and the Domino directory

Note: ADSync is included in the Domino installation, and the Microsoft Windows operation system is not a prerequisite for the domino server

The following sections outline likely coexistence scenarios and illustrate how ADSync in conjunction with LDAP enablement can be used to manage users in both the Domino directory and Active Directory

17.1.2 User and data migration coexistence

All users and their mail file data are progressively migrated from Exchange to Domino over a period of weeks or months. During the period of coexistence, some users are still residing on the Exchange server using the Outlook client, while others have been migrated to the Domino server. Because the users' mail file data is migrated to Domino, a seamless directory solution is crucial. For example, the creator of a meeting who still resides on the Exchange server must be able to add invitees to the meeting who have been migrated to Domino, or send updates to users who were migrated to the Domino server after the meeting was created. ADSync allows the IT administrator to manage users who still reside in Exchange as well as users who have migrated to Domino, from one central location.

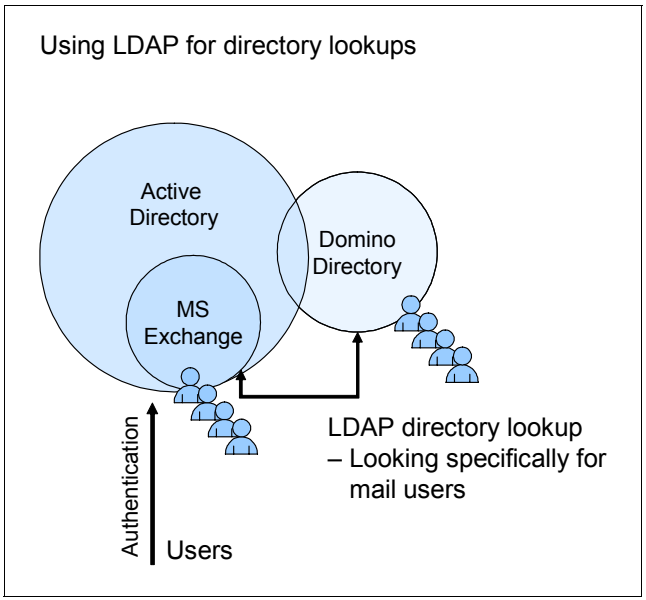


Figure 17-3 Domino and Exchange coexistence, using LDAP for directory lookup

17.1.3 User migration coexistence

Users are migrated from Exchange to Domino, but their mail file data remains on the Exchange server. In this scenario, users do not have a need to preserve their historical data, and will begin working with a new mail file in Domino to create mail messages and calendar entries. Because no mail file data is migrated, calendar entries and updates are not a consideration. However, there may a period of coexistence during which some users reside on the Domino server using a Domino mail client, while others remain on the Exchange server using the Outlook client. In this case, ADSync allows the IT administrator to manage from one central location those users still residing in Exchange as well as those users who have migrated to Domino.

Since mail file data is not migrated from Exchange to Domino, it is important that you plan for the end of Outlook usage, after which users will be required to use a Domino client exclusively. This is particularly relevant in the case of meetings and other calendar entries (such as tasks, appointments, etc.), where all attendees to a meeting will be migrated to Domino, but their mail files containing the meeting information will not. We suggest that you establish a date after which Outlook users will stop sending meeting invites and scheduling calendar entries, prior to the date when they will reside on Domino and use a Domino mail client exclusively.

17.1.4 Non-migration coexistence

In this coexistence scenario, Exchange users are registered on the Domino server, but neither the users or their data are migrated from Exchange to Domino. Users begin using the Notes, DWA or DAMO client over the Domino server, but maintain their historical data on the Exchange server for reference. As with the user migration coexistence scenario, we suggest that you establish a date after which Outlook users will stop sending meeting invites and scheduling calendar entries, prior to the date when they will reside on Domino and use a Domino mail client exclusively. After the users are registered on the Domino server and using a Domino mail client, they should only be accessing their data on the Exchange server for reference, and should be instructed not to use Outlook and the Exchange server for sending mail messages or meeting invitations.

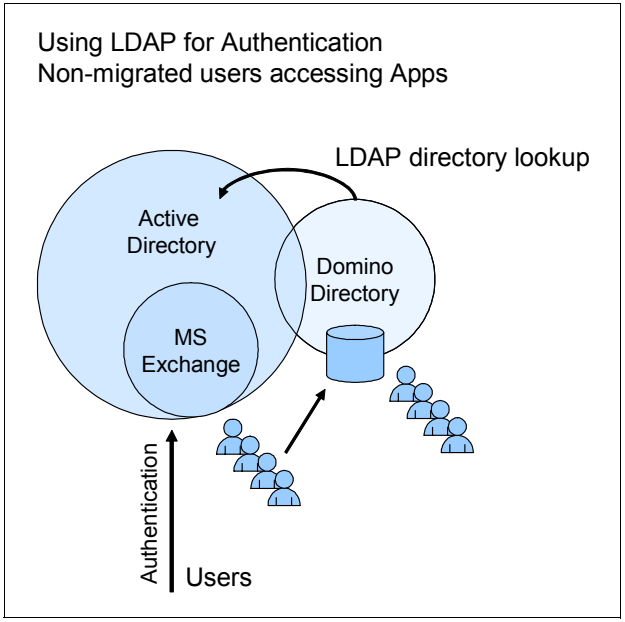


Figure 17-4 Application authentication through LDAP lookups - for users in Active Directory, but not in Domino Directory

17.1.5 Using Lotus ADSync for long term user management

After Exchange has been removed from the IT infrastructure and all users reside on Domino, Active Directory will still likely be used for managing the existing corporate directory and authenticating Microsoft applications. In this environment, Lotus ADSync continues to play a crucial role in managing users and groups in both the Domino directory and Active Directory. Figure 17-5 on page 534 illustrates how Lotus ADSync fits into the IT infrastructure containing

the Domino server, Domino directory and Active Directory, with LDAP used for Domino application authentication.

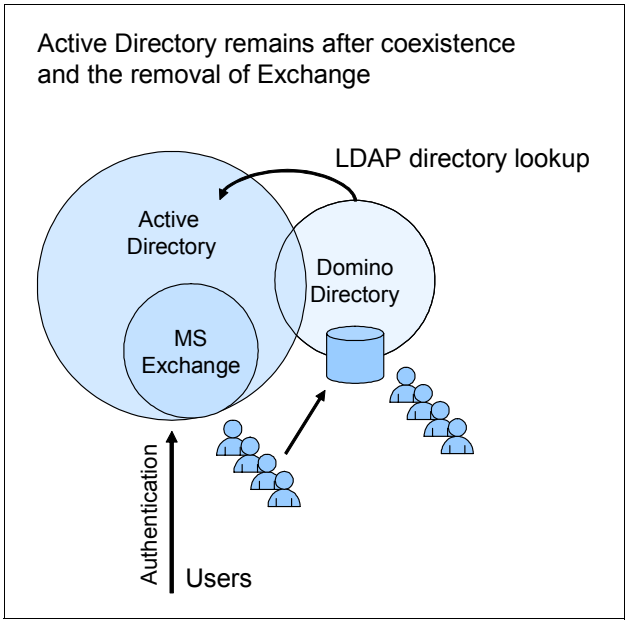


Figure 17-5 Active Directory remains after Exchange is removed

17.2 Installing Lotus ADSync

In order to use the ADSync tool, you must enable Domino Directory W2000 Sync Services during the installation of the Domino Administration client. This option is available under the Domino Administrator list of options. Enable Domino Directory W2000 Sync as shown in Figure 17-6 on page 535.

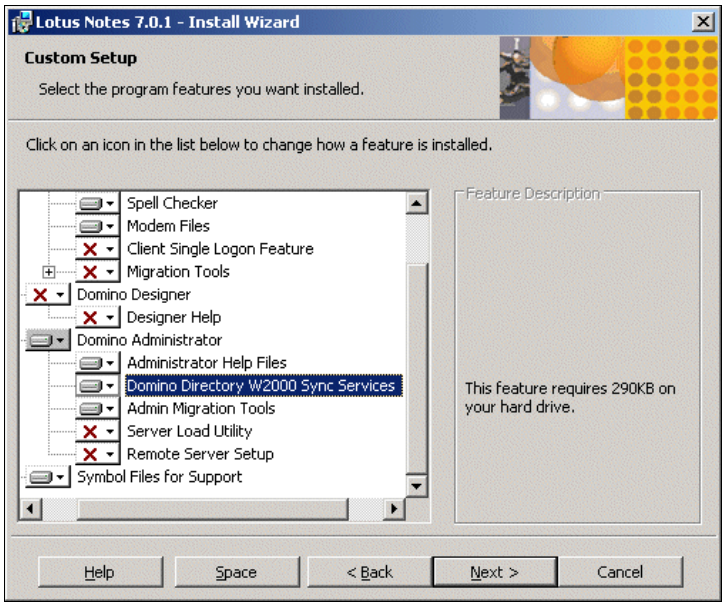


Figure 17-6 Enable Domino Directory W2000 Sync Services

After installing the Domino Administration client, start a DOS command prompt window, and navigate to the directory where you installed the client. Type the following command and press Enter:

```
$c:\Program Files\Lotus\Notes> regsvr32 nadsync.dll
```

The command adds a container entry for Lotus Domino Options to the Active Directory Users and Computers management screen and returns the confirmation shown in Figure 17-7. You are now enabled to administer groups and users in Active Directory.

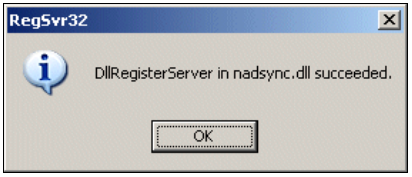


Figure 17-7 Lotus ADSync successfully installed

17.2.1 Synchronizing with the Domino Directory

Before you can start registering and managing users and groups from Active Directory, you must enable the Lotus Domino Options using the following steps.

1. From the Active Directory Container shown in Figure 17-8, double-click the Lotus Domino Options entry.

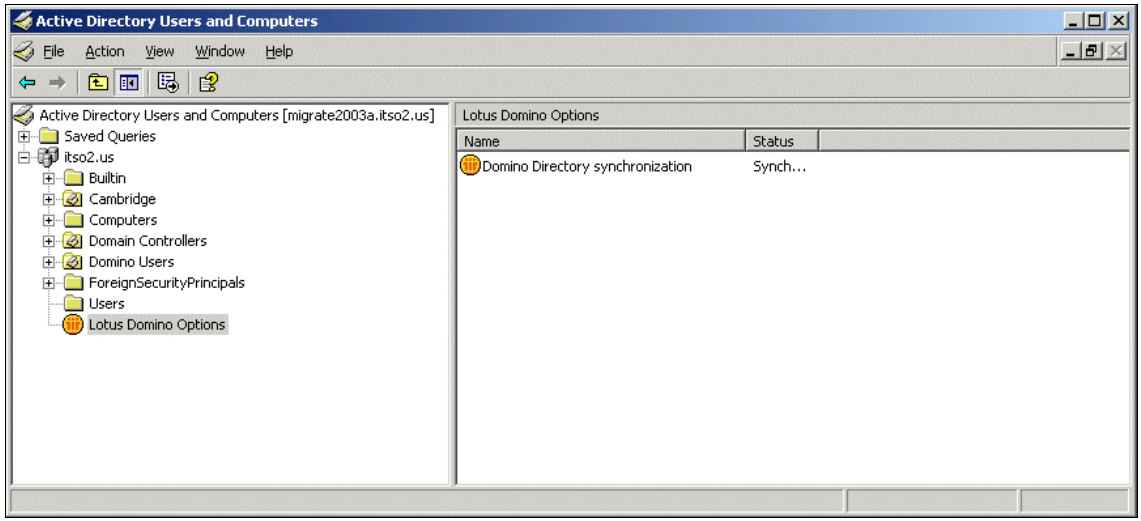


Figure 17-8 Active Directory Users and Computers: Lotus Domino Options

2. Double-click the entry for Domino Directory synchronization in the results pane to initialize the Lotus ADSync tool and synchronize Active Directory with the Domino Directory. You will be prompted to enter the Domino Administrator .id and the Domino administrator .id password for the Domino server to synchronize with Active Directory, as illustrated in Figure 17-9.

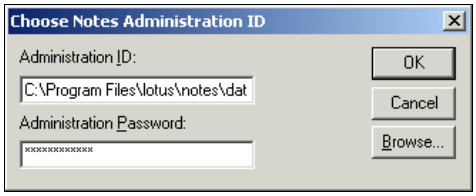


Figure 17-9 Enter the Administrator ID and password

3. You will next be prompted to select a Domino server for all Active Directory/Notes user synchronizations, as shown in Figure 17-10 on page 537. Select the appropriate Domino server from the drop-down selection box.

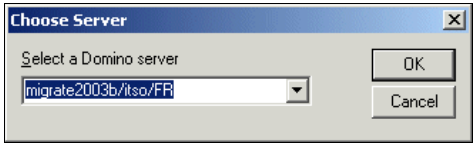


Figure 17-10

4. Click the **OK** button. If the synchronization is successful, the success dialogue shown in Figure 17-11 will display.

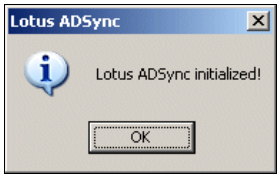


Figure 17-11

5. Double-click the Domino Directory synchronization entry to display the Lotus ADSync Options window, shown in Figure 17-12 on page 538.

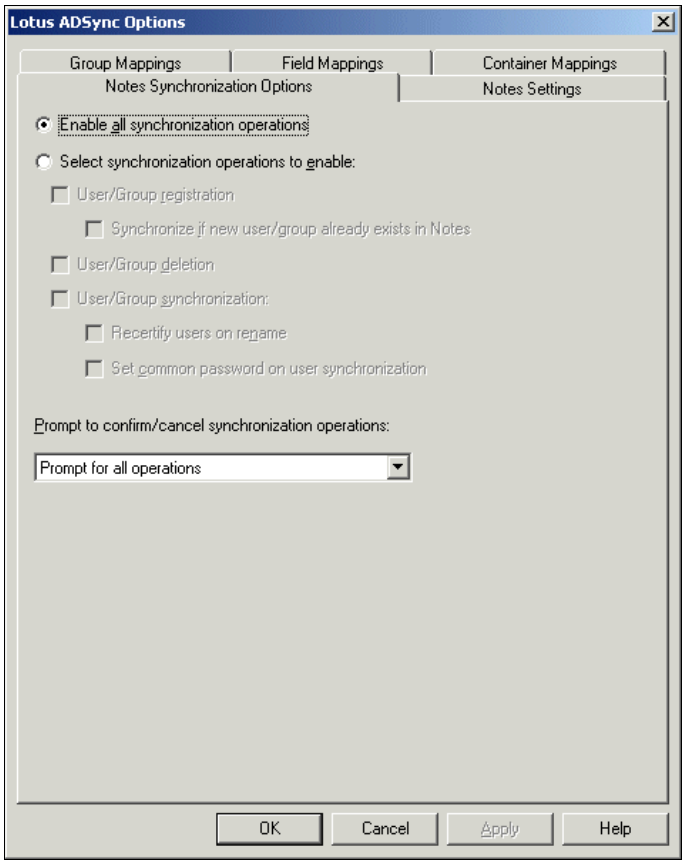


Figure 17-12 Lotus ADSync Options window

From the Lotus ADSync options tab you can make the following selections:

- Enable or disable all synchronization operations
- Customize synchronization options with "Select synchronization operations to enable."
- Configure prompting options from the drop-down selection box
- Choose to use the CA process for user registration

6. Select the Notes Settings tab to display the Notes Settings for Lotus ADSync, as shown in Figure 17-13 on page 539.

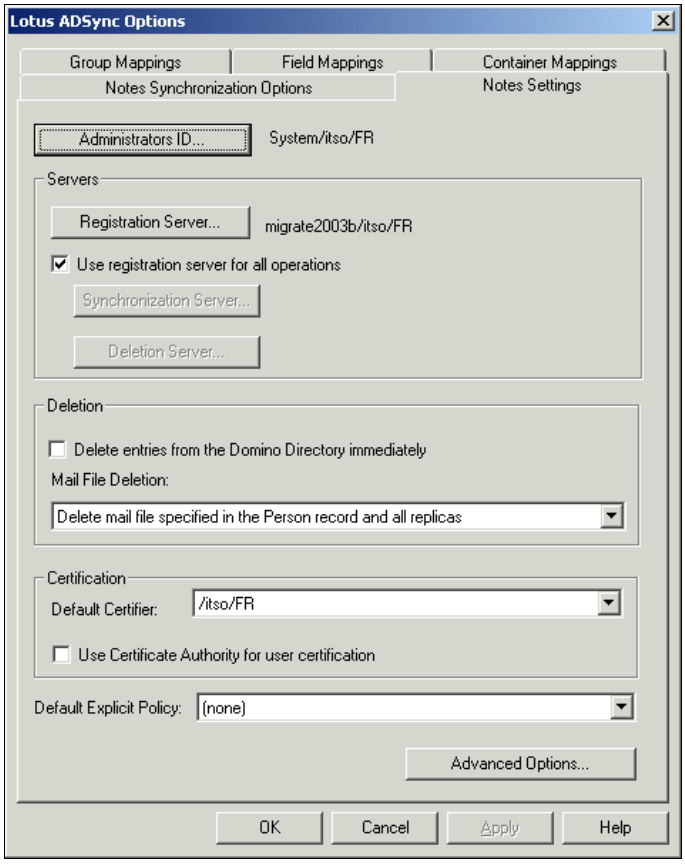


Figure 17-13 Lotus ADSync: Notes Settings

On the Notes Settings tab you can specify:

- Registration server (which Domino server will be used for registration)
- Administration ID (which user ID will have administrative privileges)
- User deletion options. From the drop-down selection box, you may choose which actions should take place when a user is deleted.
- Default certifier and policy
- Group type mappings

7. Select the Field Mappings tab (shown in Figure 17-14 on page 540) to specify which Active Directory fields to map to Domino Directory fields. During ADSync tool initialization, the schemas from Active Directory and Domino are mapped based on default settings. If additional field mappings are needed,

left-click in the right column under "In Domino Directory" and a drop-down selection box with Domino directory fields will display.

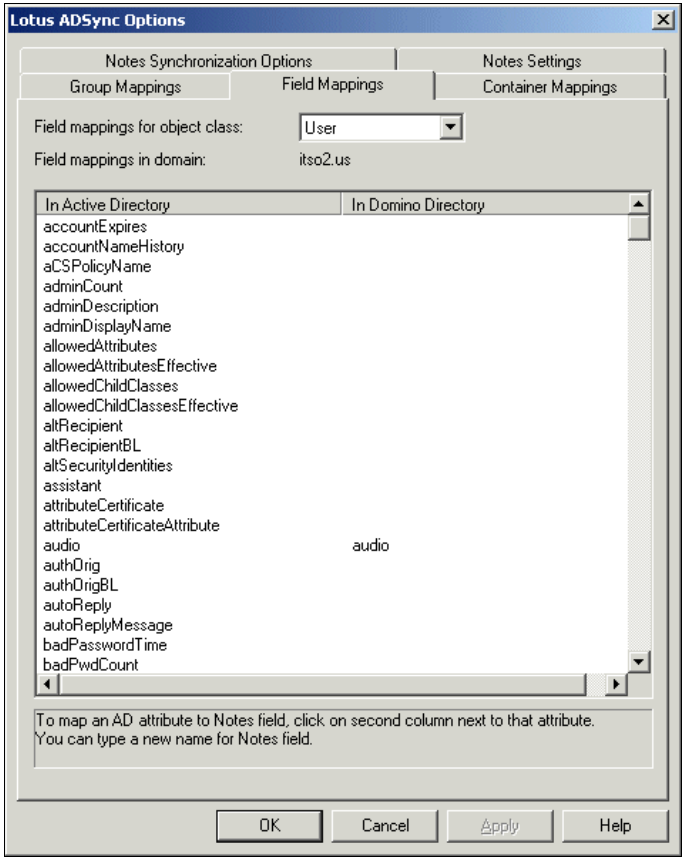


Figure 17-14 Lotus ADSync: Field Mappings

8. Select the Container Mappings tab, shown in Figure 17-15 on page 541, to map Active Directory containers to Notes Certifiers and Policies. Active Directory containers are a special class containing both a namespace and attributes. The container does not represent anything real or concrete, but rather holds one or more objects. Objects, on the other hand, are the underlying principle of everything in the Active Directory. Servers, workstations, printers, users, documents, and devices all represent objects. Each object has its own access control list (ACL) and attributes. By design, the synchronization tool allows you to preserve the hierarchies in Active Directory and Domino using mapping. You can select a specific container to map to a certifier and/or a policy. You may restrict access to a directory structure (container, object, etc.) with group policies in Active Directory just as

you can use the extended access control list in Domino to issue restrictions. An extended ACL is an optional directory access control feature available for the Domino Directory, an Extended Directory Catalog, and the Administration Requests database.

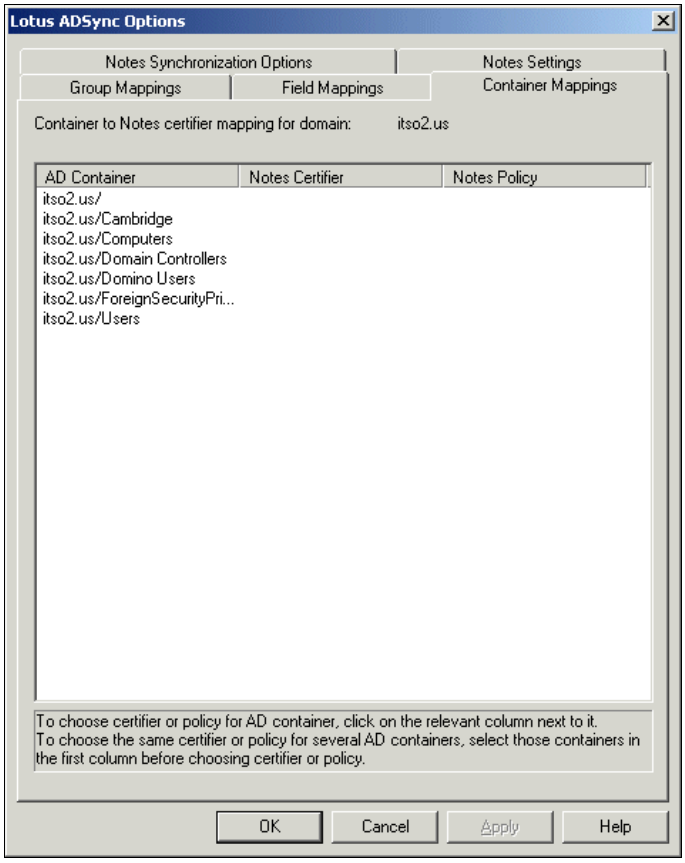


Figure 17-15 Lotus ADSync: Container Mappings

While the Domino Directory and Active Directory are synchronized, a user can have certain rights in one directory and not the other. ADSync does not ensure that Active Directory group policies and Domino extended access control lists are synchronized. Therefore, the administrator is responsible for ensuring no security settings are bypassed in either directory. In this example, we selected the container root, the domain controllers, and the Users container. Beside the container you wish to associate with a certifier, double-click in the Notes Certifier column to see your selection choices. Select the appropriate certifier and click OK to continue.

17.2.2 Registering existing users in Domino from Active Directory

Now that the Domino certifiers have been associated with the Active Directory containers, you can register existing Active Directory users and groups in Domino. Follow these steps to register an existing Active Directory user in Domino:

1. From the Active Directory Users and Computers window, select the appropriate container in the left-hand pane, then choose which user or group to register in the right-hand pane. In this example, we chose Users as the container. Right-click the selected entry and a pop-up window will display with Register in Domino as one of the options, as illustrated in Figure 17-16.

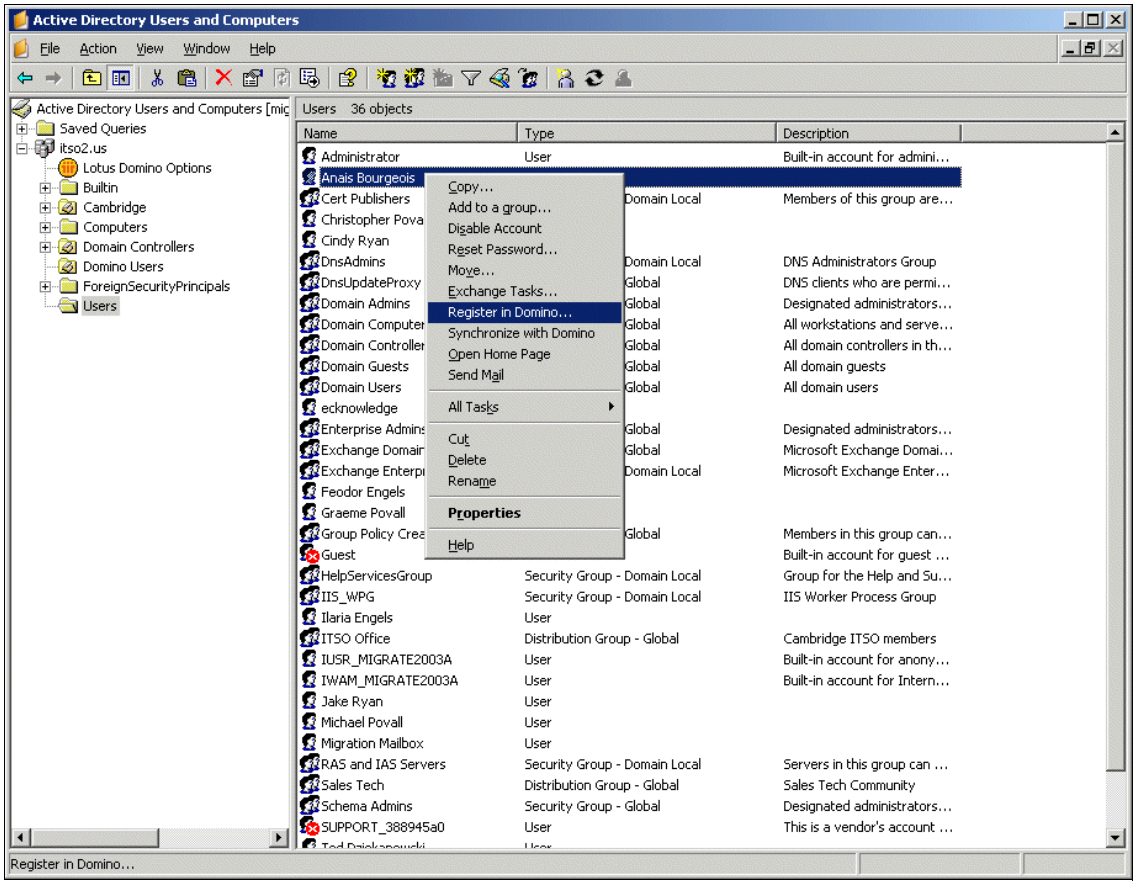


Figure 17-16 Register an existing Active Directory user in Domino

2. Select the option **Register in Domino** and the Choose Registration Options dialogue shown in Figure 17-17 on page 543 will display.

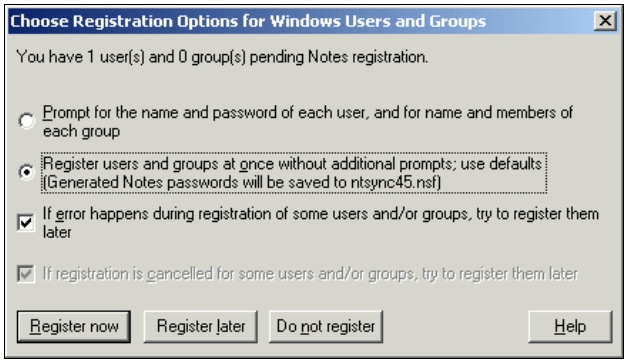


Figure 17-17 Choose Registration Options

3. Select the appropriate registration options for this user, then click the **Register Now** button. The dialogue illustrated in Figure 17-18 will display, prompting you to select the Notes certifier and the Notes policy for this user. You must select a Notes policy from the drop-down list.

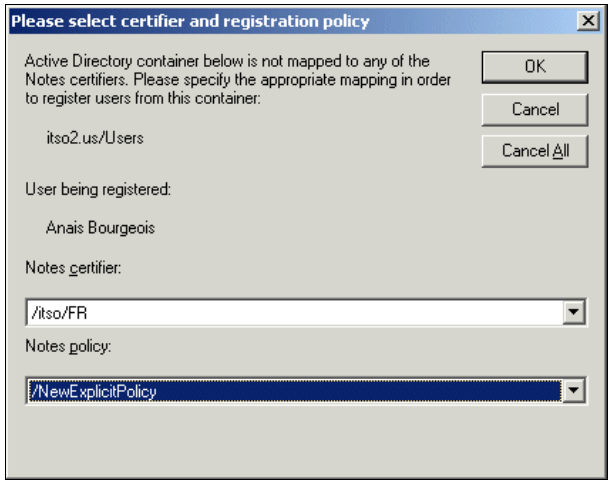


Figure 17-18 Select a certifier and registration policy

4. Once you have specified a certifier and registration policy for the Active Directory user you are registering in Domino, click the **OK** button to register the Active Directory user in the Domino Directory. The success window shown in Figure 17-19 on page 544 will display, indicating the registration process has completed.

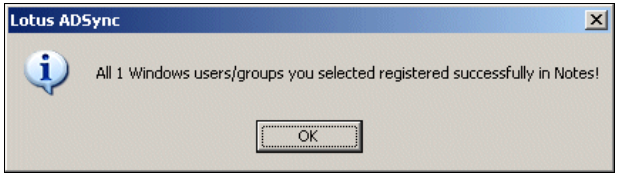


Figure 17-19 Registration in Domino is complete

17.2.3 Managing users with Active Directory

With the implementation of ADSync, you can manage (add, delete, modify) both Domino Directory and Active Directory users from Active Directory. If delete or modify a user in Active Directory who exists in the Domino directory, because Active Directory and Domino Directory are 'synced', the changes you made in Active Directory will be reflected in the Domino Directory as well. Likewise, you can simultaneously add a user to Active Directory and Domino Directory. In this section we outline the method for adding, deleting and modifying users in Active Directory and propagating these changes to the Domino directory.

Note: During coexistence, when adding a new user to Active Directory you will be given the option to create an exchange mailbox and a domino mailbox. Once the migration has completed and Exchange has been decommissioned, only the option to create a Domino mailbox will be offered.

Adding users in Active Directory

Follow these steps to add a user in Active Directory:

1. From the Active Directory Users and Computers window, select the appropriate container in the left-hand pane. From the menu bar at the top of the window, select **Actions** to display the Actions menu, then select New -> User, as illustrated in Figure 17-20 on page 545.

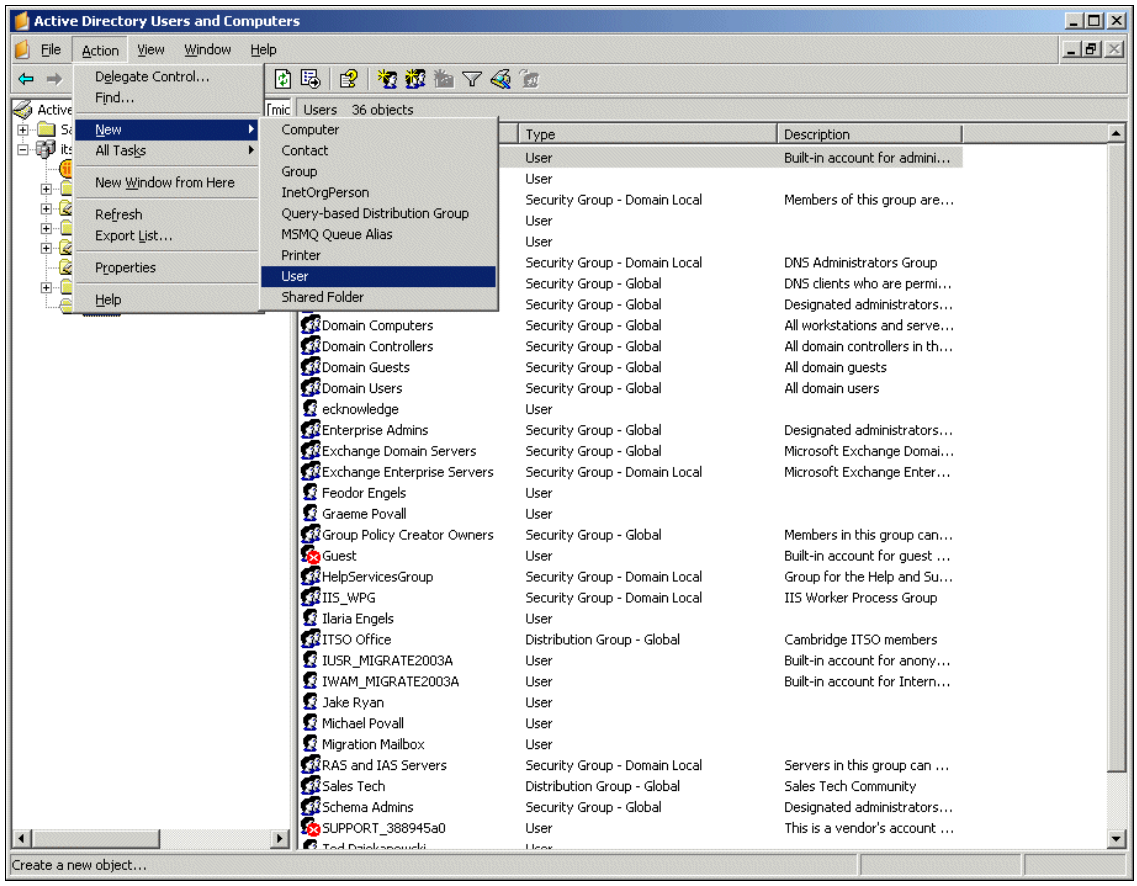


Figure 17-20 Active Directory Users and Computers: Actions: Add new user

2. The New Object - User dialogue will display, shown in Figure 17-21 on page 546. Complete the user name fields, including the user logon name.

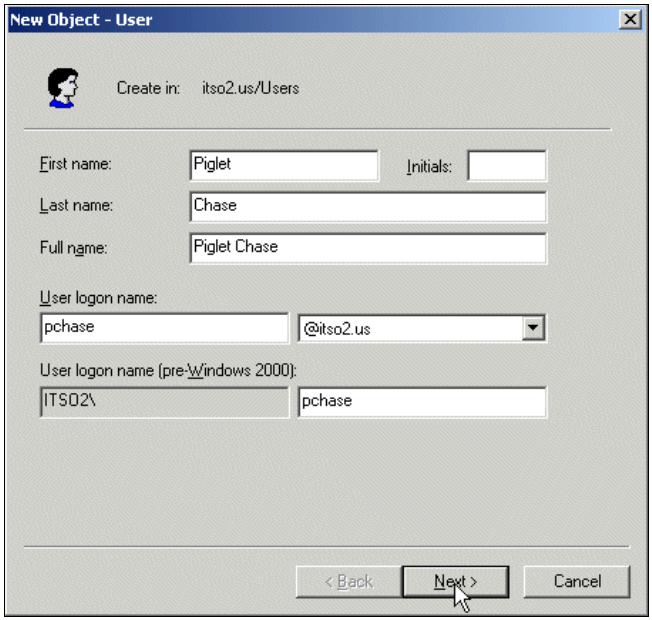


Figure 17-21 New Object - User: complete user fields

3. Click the **Next** button and the dialogue box shown in Figure 17-22 on page 547 will display. In this dialogue, type the password for this new user, ensuring it meets the security standards for your IT infrastructure. Also select the password settings for this user.

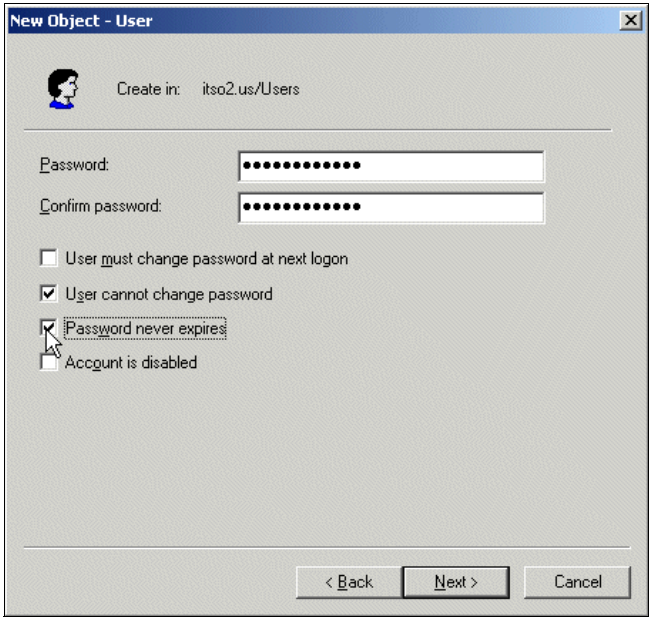


Figure 17-22 Create a password for the new user

4. Click the **Next** button to display the dialogue illustrated in Figure 17-23 on page 548. Since we're migrating to Domino, the checkbox next to **Create an Exchange mailbox** should *not* be selected.

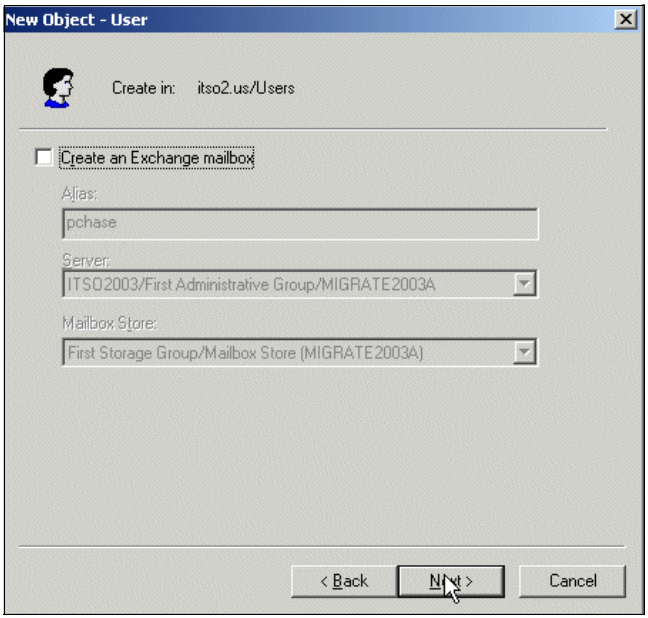


Figure 17-23 No need to create an Exchange mailbox for this user

5. Click the **Next** button and the dialogue shown in Figure 17-24 on page 549 will display, allowing you to register the new user in the Domino directory. We recommend selecting this checkbox, so the new user will exist and be accessible in both Active Directory and the Domino Directory. We also recommend selecting the checkbox next to **Use common password**, as setting one password for Windows and Notes is most convenient for the user. Fill in the password fields and set an explicit policy for this user (a requirement for this dialogue).

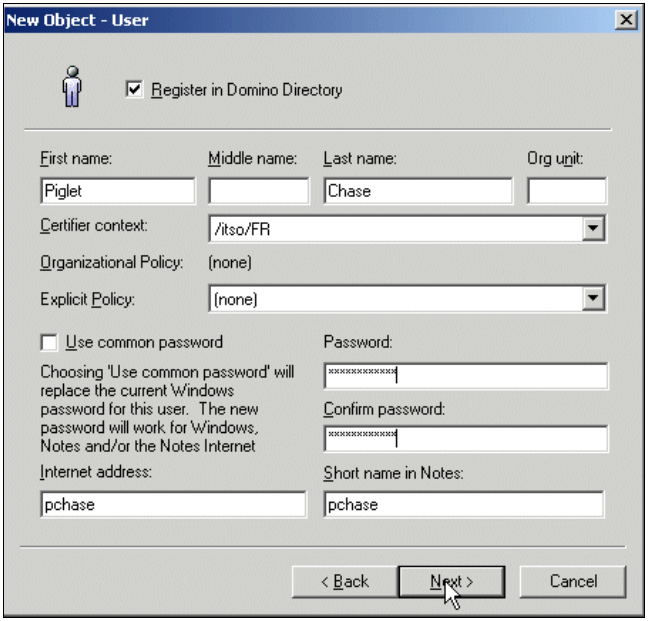


Figure 17-24 Register the new user in Domino

6. Select the **Next** button and you will be prompted to enter the certifier .id and password for the Domino server on which this user will be registered, illustrated in Figure 17-25 on page 550.

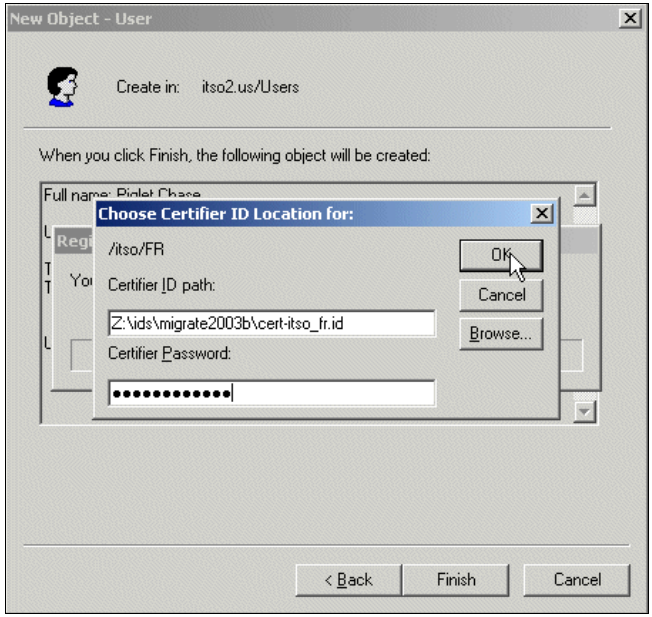


Figure 17-25 Enter certifier ID and password for the Domino server

7. Select the **OK** button and a confirmation window, illustrated in Figure 17-26 on page 551, will display. Notice that the new user will be added to the Domino directory as well as Active Directory.

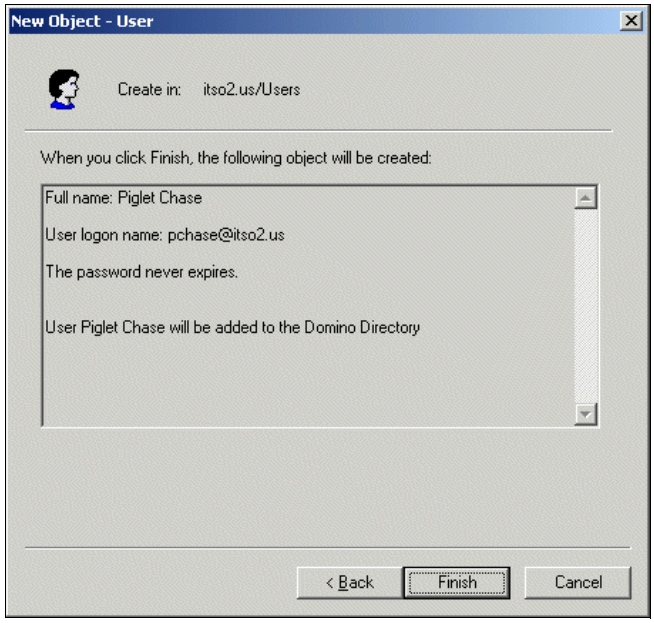


Figure 17-26 New user confirmation window - user will be registered in Domino

8. Click the **Finish** button to create the new user in Active Directory and the Domino Directory. A Lotus ADSync dialogue will display confirming that the new user has been registered in Notes (the Domino Directory).

Figure 17-27 Success - new user registered in Domino

Deleting a user in Active Directory

Follow these steps to delete a user in Active Directory:

1. From the Active Directory Users and Computers window, select the appropriate container in the left-hand pane. In the right-hand pane, select the user to be deleted. Right-click to display the available list of actions, then select **Delete**, as shown in Figure 17-28 on page 552.

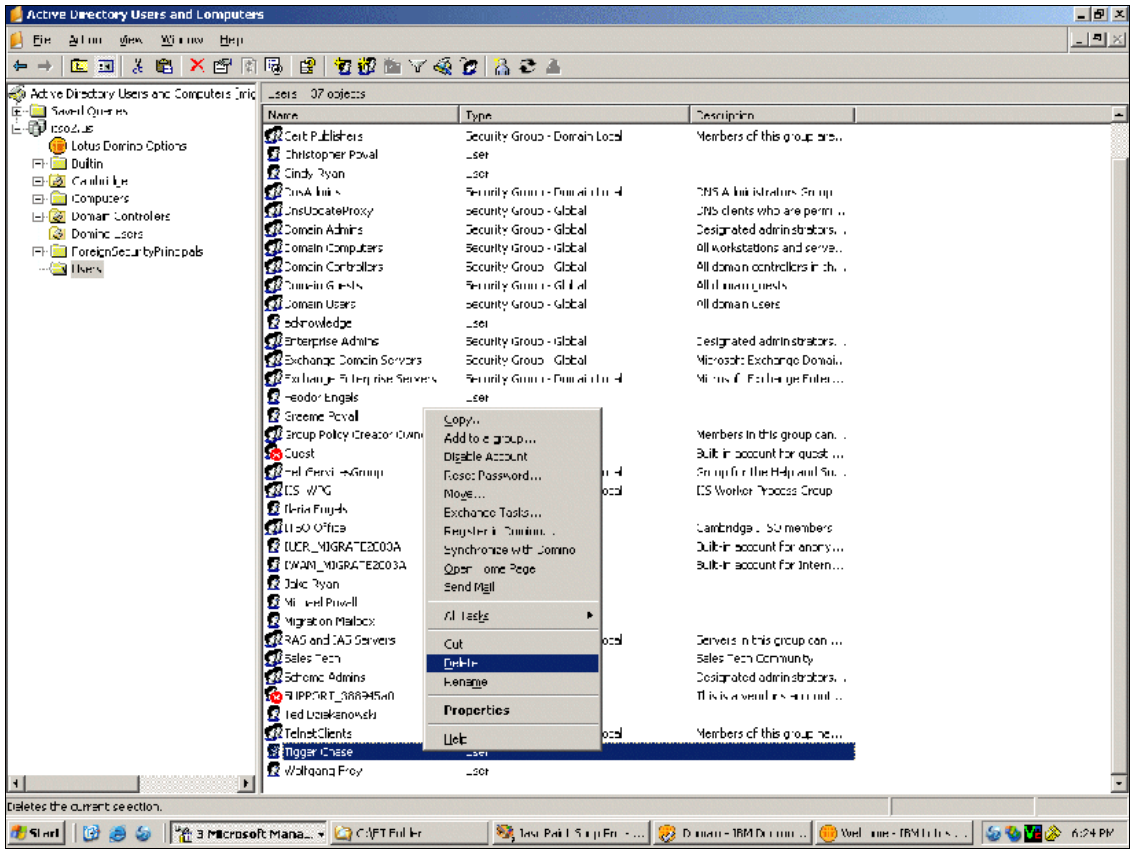


Figure 17-28 Select the user to delete, then select Delete from actions list

2. A confirmation dialogue, illustrated in Figure 17-29 on page 553, will display, prompting you to delete the user's mailboxes on Exchange and/or Domino. We recommend deleting the user's mailboxes on either server where they are present to conserve disk space.

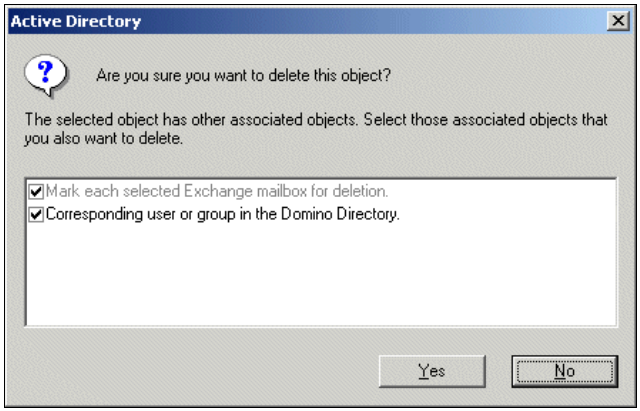


Figure 17-29 Delete the user's mailboxes

3. Click the **OK** button and the dialogue shown in Figure 17-30 will display, confirming that the user has been deleted from the Domino directory, as well as from Active Directory.

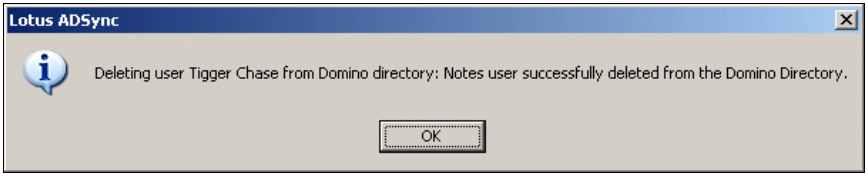


Figure 17-30 User has been deleted from Domino Directory

Modifying a user in Active Directory

Follow these steps to modify a user in Active Directory:

1. From the Active Directory Users and Computers window, select the appropriate container in the left-hand pane. In the right-hand pane, select the user to be modified and open the user's record. The General tab will be displayed, as illustrated in Figure 17-31 on page 554.

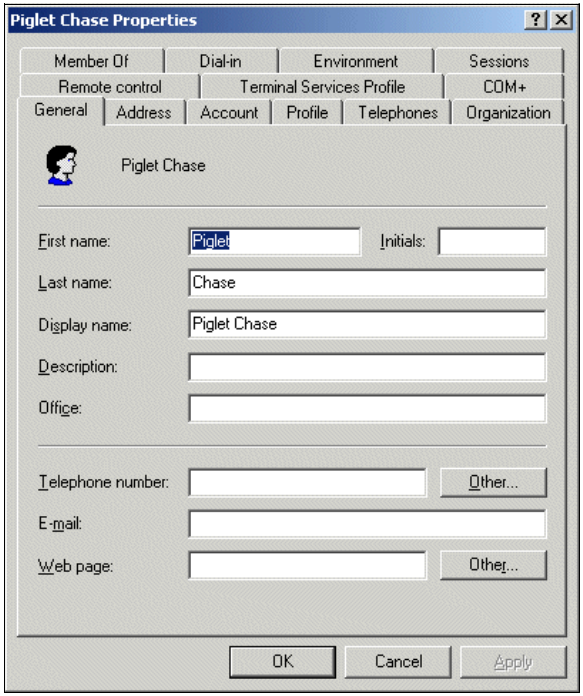


Figure 17-31 Active Directory user properties - General tab

2. Add the required information to the user's record. In this example, shown in Figure 17-32 on page 555, we've added a phone number for this user.

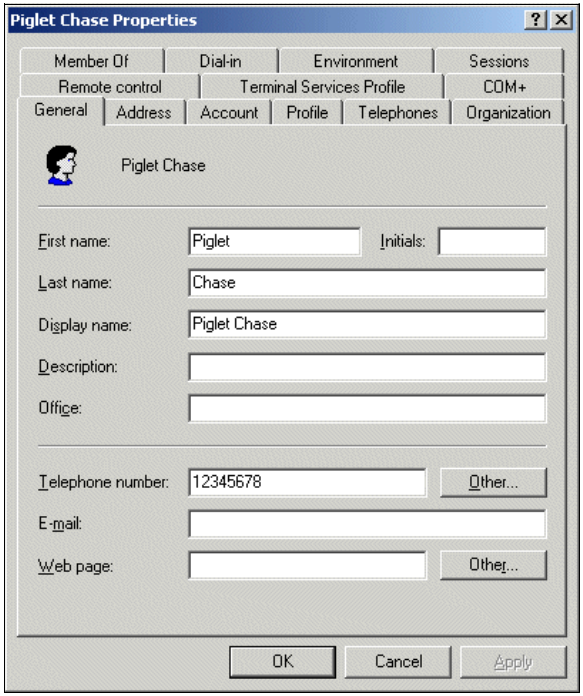


Figure 17-32 Add a phone number to the user's record

3. Click the **OK** button and the Lotus ADSync dialogue shown in Figure 17-33 will display. Because the Domino Directory and Active Directory are synchronized, you have the option of updating the Domino Directory with the changes made to this user. Click the **Yes** button to update the user's record in the Domino Directory.

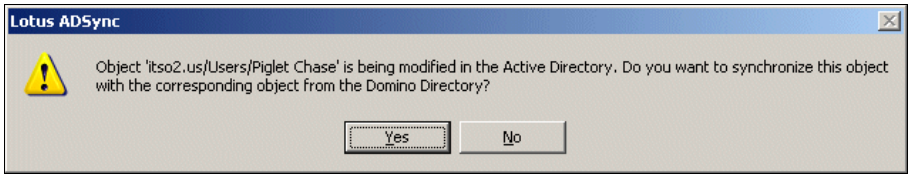


Figure 17-33 Synchronize this change with the Domino Directory

4. If you open the Domino Directory containing this user, you will find that the user's record has been updated with the changes you made in Active Directory. Figure 17-34 on page 556 illustrates the Domino Directory entry for Piglet Chase, updated with a phone number.

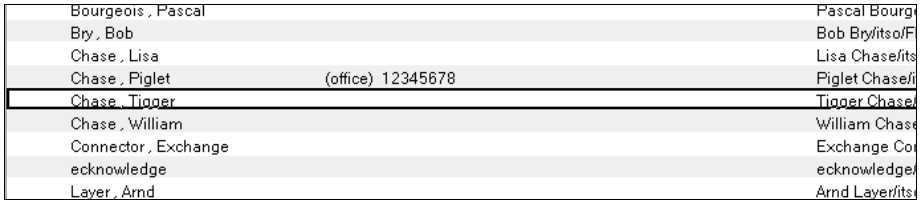


Figure 17-34 Domino Directory record, updated with the Active Directory changes

17.2.4 Registering new Domino users in Active Directory

In addition to registering users and groups from the Active Directory Users and Groups window for both the Windows 2000 and the Domino environments, you can register new users from the Domino Administrator client. Because the Domino Directory and Active Directory have been synchronized using ADSync, the new users registered in Domino will also be accessible from Active Directory. Follow these steps to register new Domino users in both Domino Directory and Active Directory:

1. Start the Domino Administrator client and open the server where you will register a new user. Select the People and Groups tab, as illustrated in Figure 17-35 on page 557.

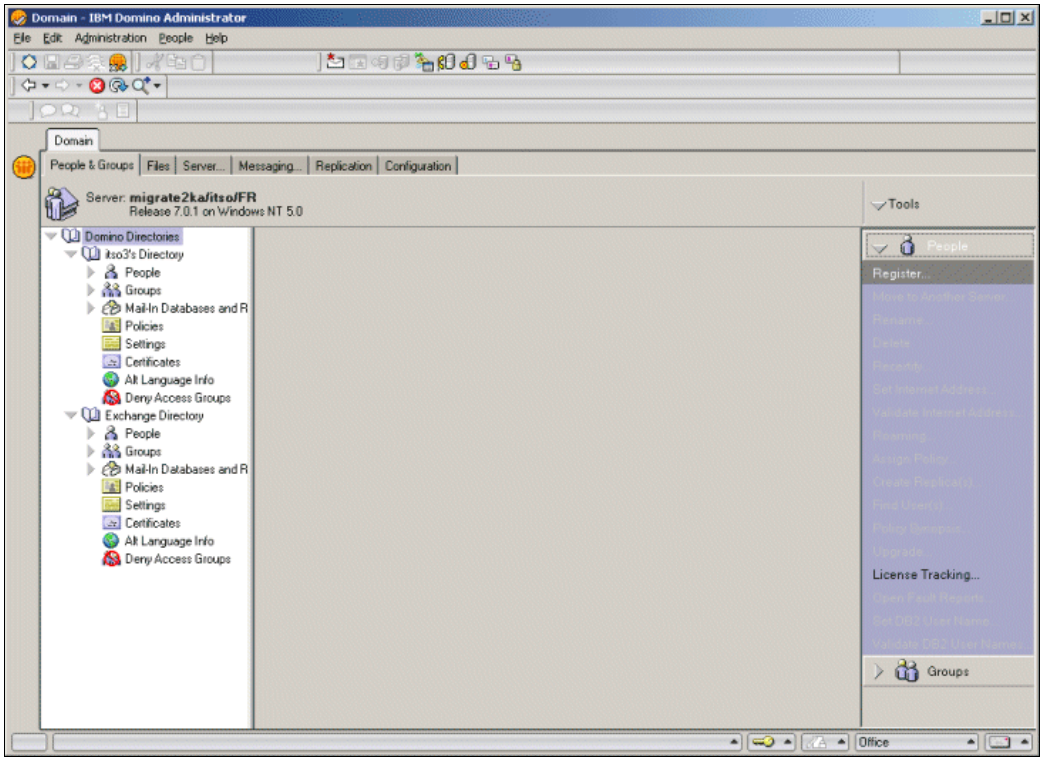


Figure 17-35 Server Configuration tab: People and Groups tab

2. On the right side of the screen, select Register -> Person. You will be prompted to enter the Notes Certifier ID file, as illustrated in Figure 17-36 on page 558. Select the appropriate certifier file to be used, supply the certifier password and click OK.

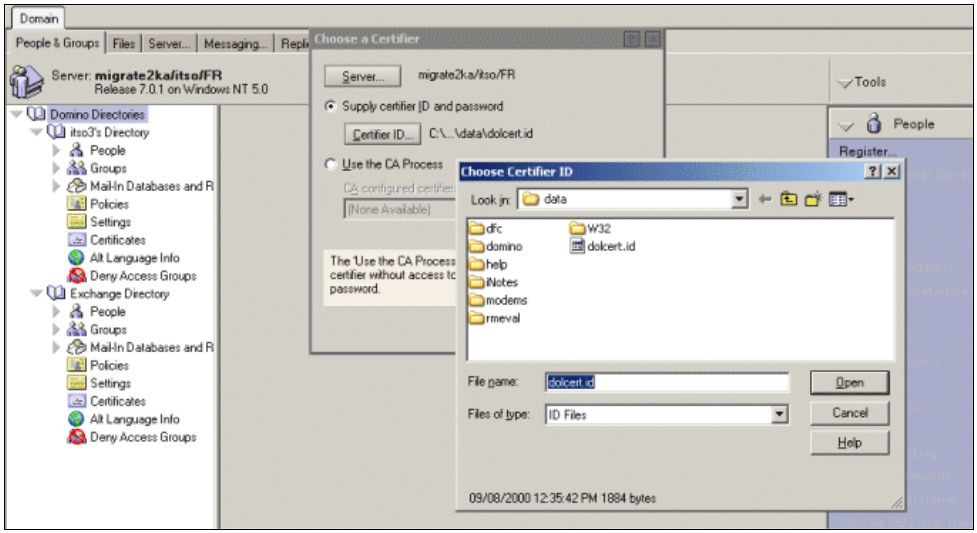


Figure 17-36 Choose the certifier ID and password

3. When the Register Person dialogue displays, complete the information for the new user, including any policy setting and password options. Figure 17-37 on page 559 illustrates the Register Person dialogue with all fields completed. Ensure that the password options for this user comply with your IT infrastructure's security policy.

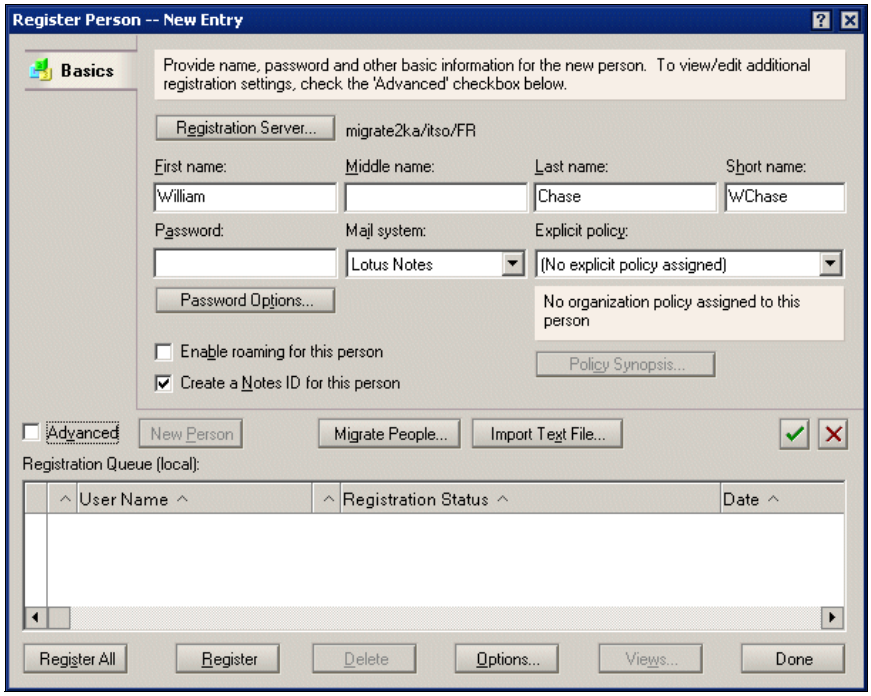


Figure 17-37 Register Person dialog: Basic tab

4. Select the Advanced checkbox to display the Advanced registration options, as shown in Figure 17-38 on page 560. Complete the information appropriate for your organization in the Mail, Address, ID Info, Groups, and Roaming sections. The Mail settings options are shown in Figure 17-38 on page 560.

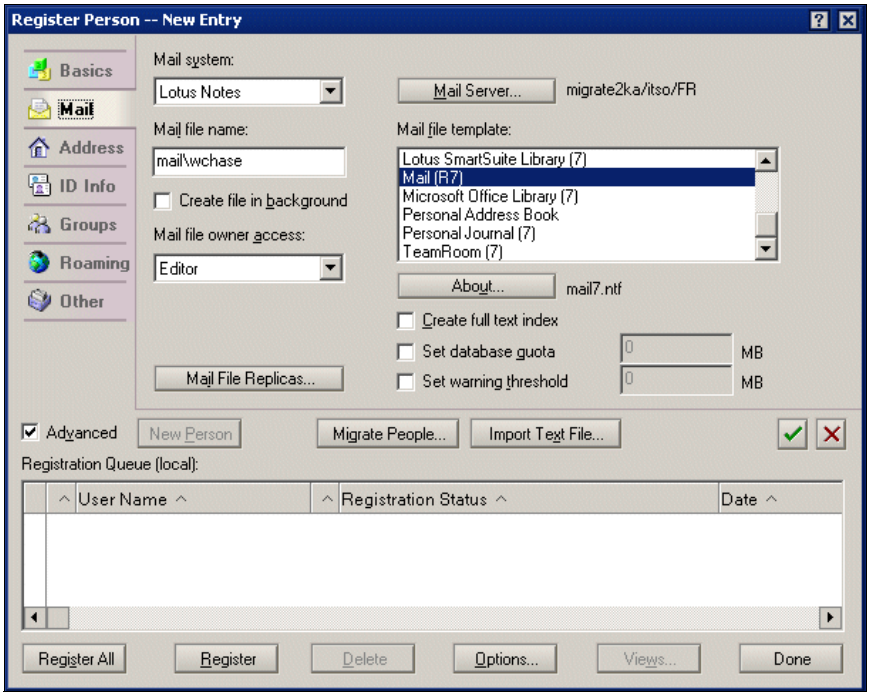


Figure 17-38 Register Person: Advanced options - Mail settings

5. Click the tab to display the Other section, then select the Windows User Options button to add this person to Windows 2000. The Add Person to Windows 2000 dialogue will display, as illustrated in Figure 17-39 on page 561.

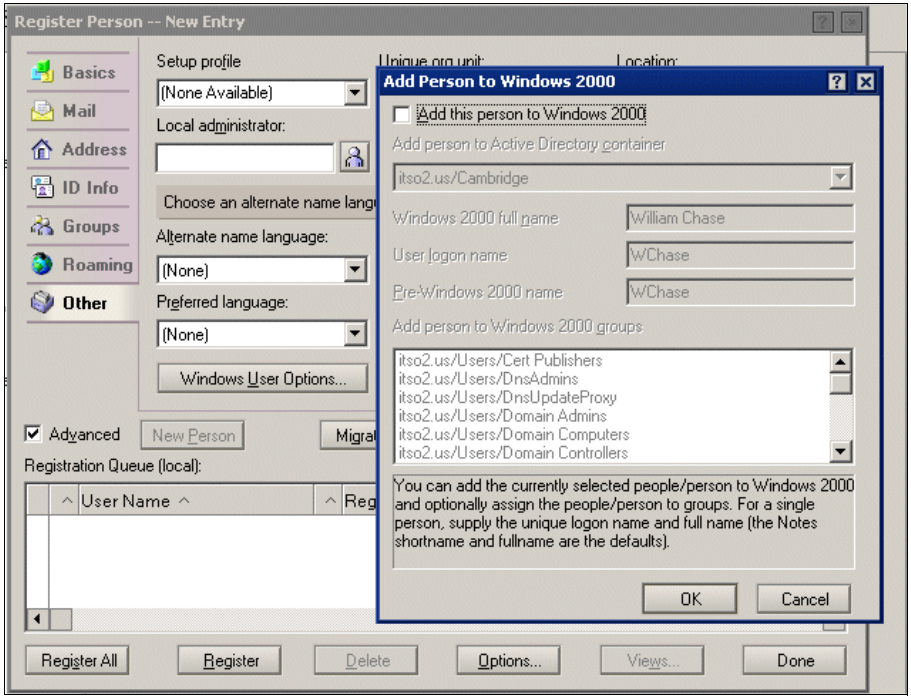


Figure 17-39 Add Person to Windows 2000

6. In this window, select the Active Directory container and Windows 2000 groups to add this person to, then click OK when finished. In this example, illustrated in Figure 17-40 on page 562, we've placed the user in the Users container, though we could have placed the new user in any container appropriate for that user's security rights.

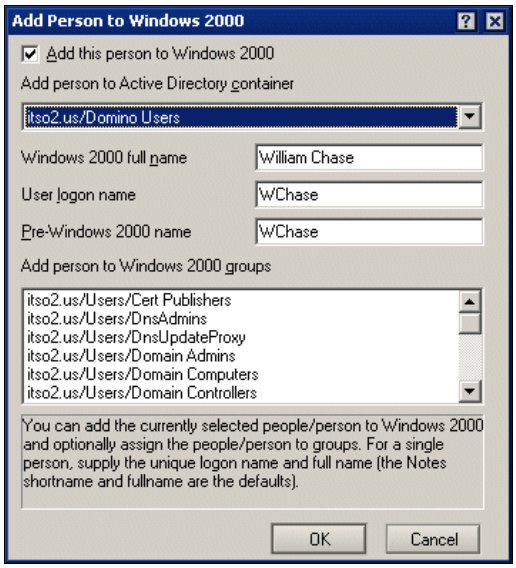


Figure 17-40 Add Person to Windows 2000

7. Select the OK button to return to the Register Person dialogue, shown in Figure 17-41 on page 563. Select the check mark box circled in Figure 17-41 on page 563 to confirm all information has been completed for the new person. The entry will be added to the Registration Queue window at the bottom of the screen, as illustrated in Figure 17-41 on page 563.

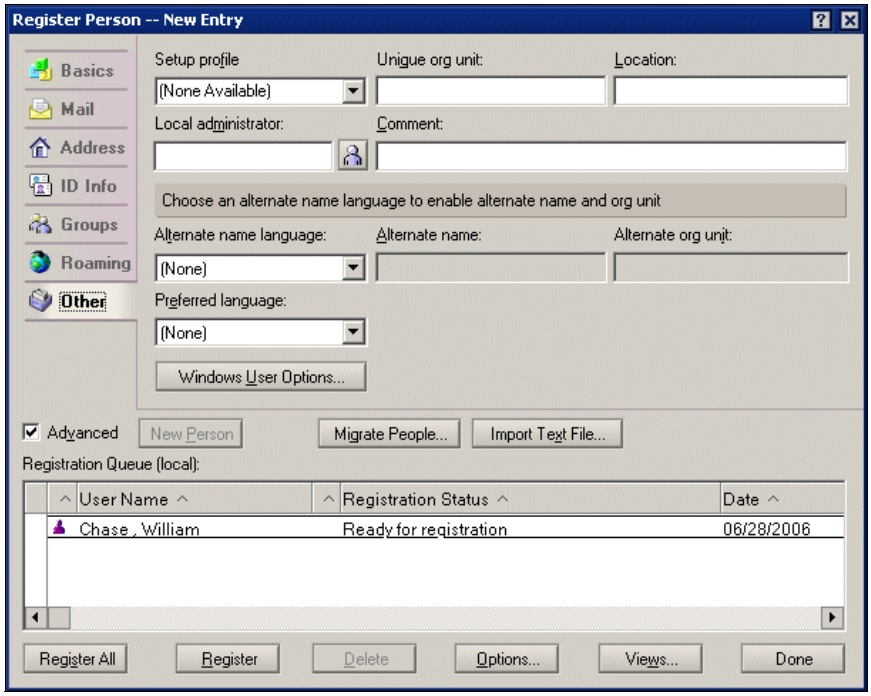


Figure 17-41 New person in the registration queue

Click the Register button to initiate the registration process. Once the registration process completes, this person will exist in both the Domino Directory and Active Directory.

17.2.5 Managing users with Active Directory

With the implementation of ADSync, you can manage (add, delete, modify) both Domino Directory and Active Directory users from Active Directory. If delete or modify a user in Active Directory who exists in the Domino directory, because Active Directory and Domino Directory are 'synced', the changes you made in Active Directory will be reflected in the Domino Directory as well. Likewise, you can simultaneously add a user to Active Directory and Domino Directory. In this section we outline the method for adding, deleting and modifying users in Active Directory and propagating these changes to the Domino directory.

Adding users in Active Directory

Follow these steps to add a user in Active Directory:

1. From the Active Directory Users and Computers window, select the appropriate container in the left-hand pane. From the menu bar at the top of

the window, select **Actions** to display the Actions menu, then select New -> User, as illustrated in Figure 17-42 on page 564.

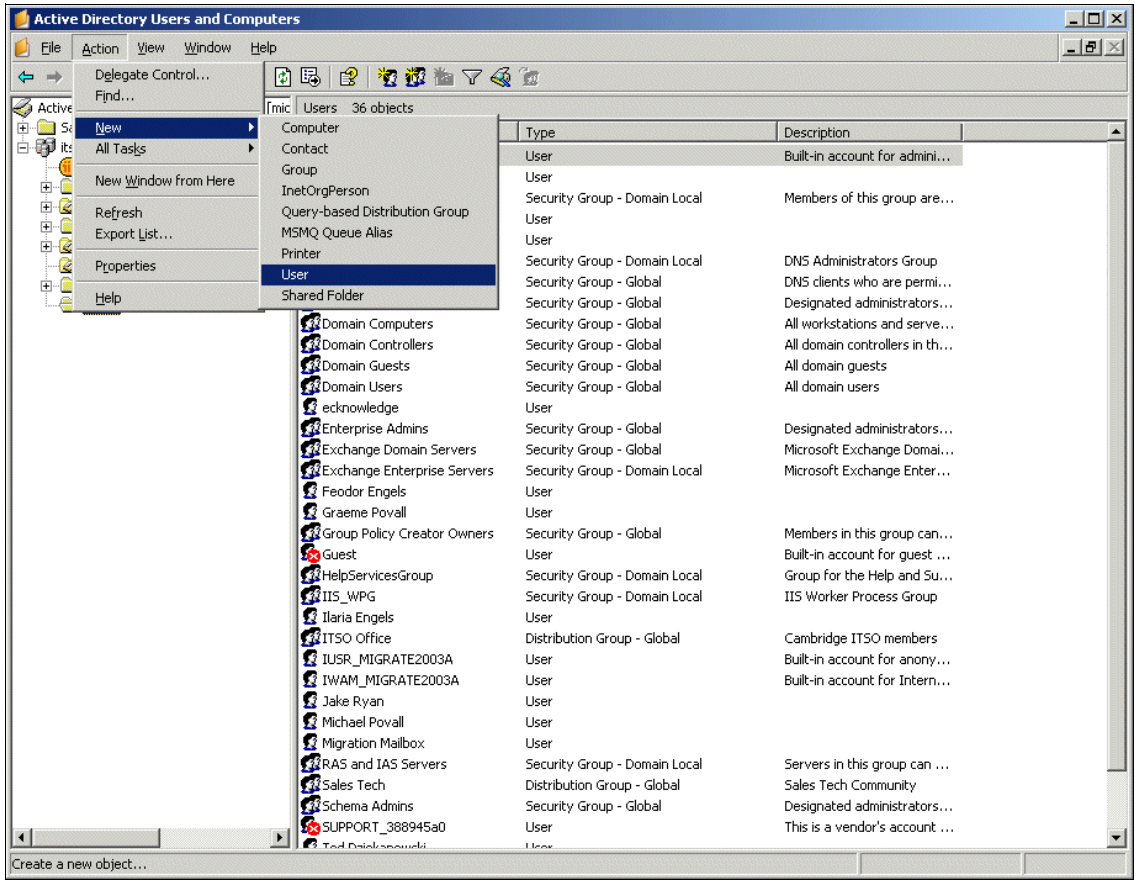


Figure 17-42 Active Directory Users and Computers: Actions: Add new user

2. The New Object - User dialogue will display, shown in Figure 17-43 on page 565. Complete the user name fields, including the user logon name.

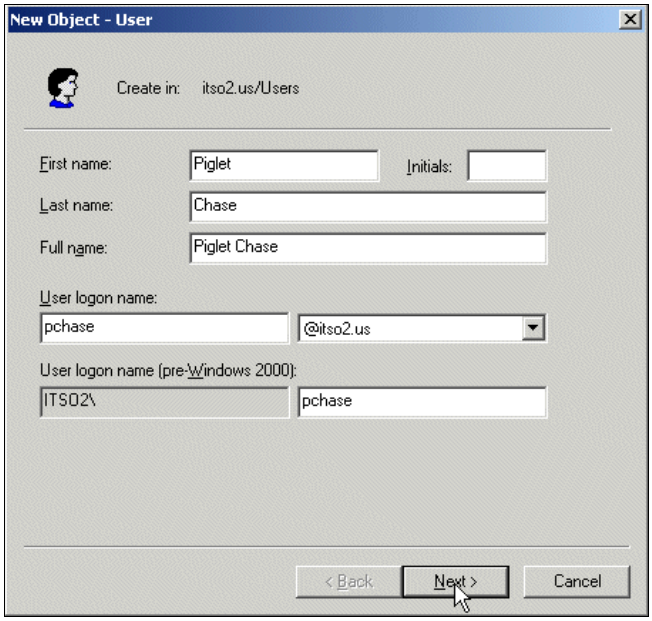


Figure 17-43 New Object - User: complete user fields

3. Click the **Next** button and the dialogue box shown in Figure 17-44 on page 566 will display. In this dialogue, type the password for this new user, ensuring it meets the security standards for your IT infrastructure. Also select the password settings for this user.

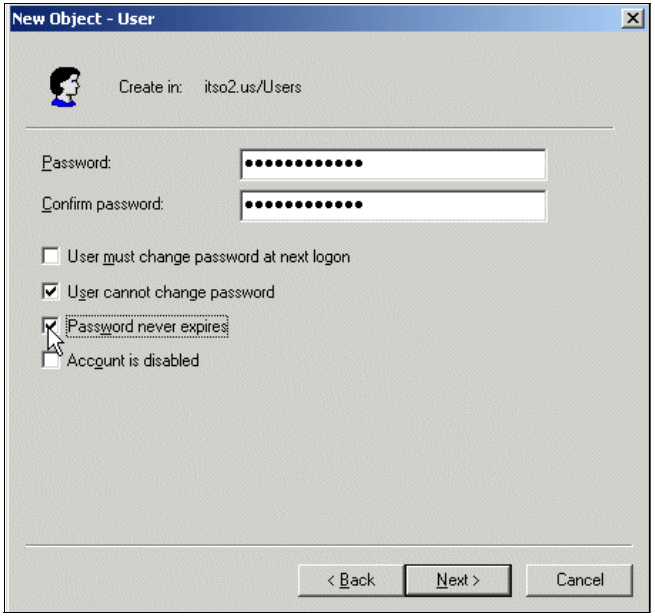


Figure 17-44 Create a password for the new user

4. Click the **Next** button to display the dialogue illustrated in Figure 17-45 on page 567. Since we're migrating to Domino, the checkbox next to **Create an Exchange mailbox** should *not* be selected.

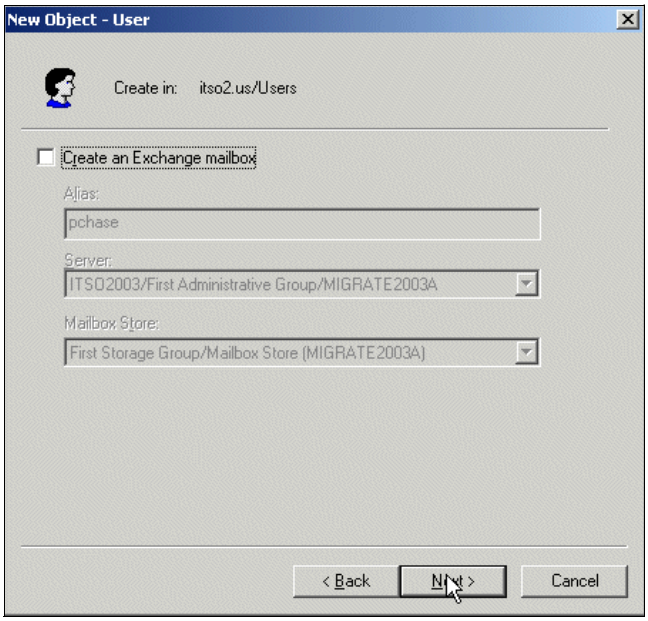


Figure 17-45 No need to create an Exchange mailbox for this user

5. Click the **Next** button and the dialogue shown in Figure 17-46 on page 568 will display, allowing you to register the new user in the Domino directory. We recommend selecting this checkbox, so the new user will exist and be accessible in both Active Directory and the Domino Directory. We also recommend selecting the checkbox next to **Use common password**, as setting one password for Windows and Notes is most convenient for the user. Fill in the password fields and set an explicit policy for this user (a requirement for this dialogue).

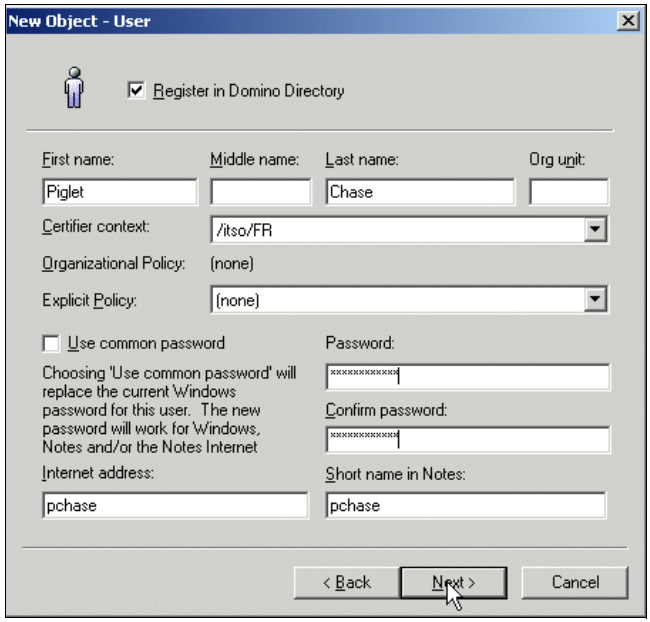


Figure 17-46 Register the new user in Domino

6. Select the **Next** button and you will be prompted to enter the certifier .id and password for the Domino server on which this user will be registered, illustrated in Figure 17-47 on page 569.

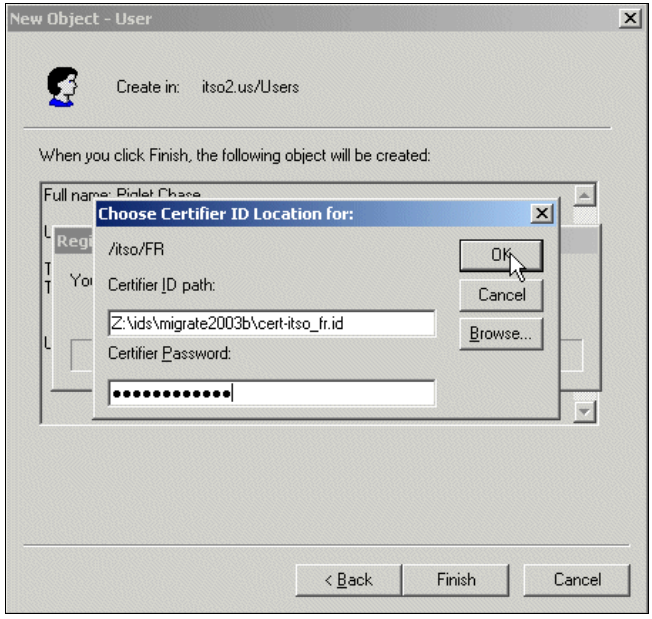


Figure 17-47 Enter certifier ID and password for the Domino server

7. Select the **OK** button and a confirmation window, illustrated in Figure 17-48 on page 570, will display. Notice that the new user will be added to the Domino directory as well as Active Directory.

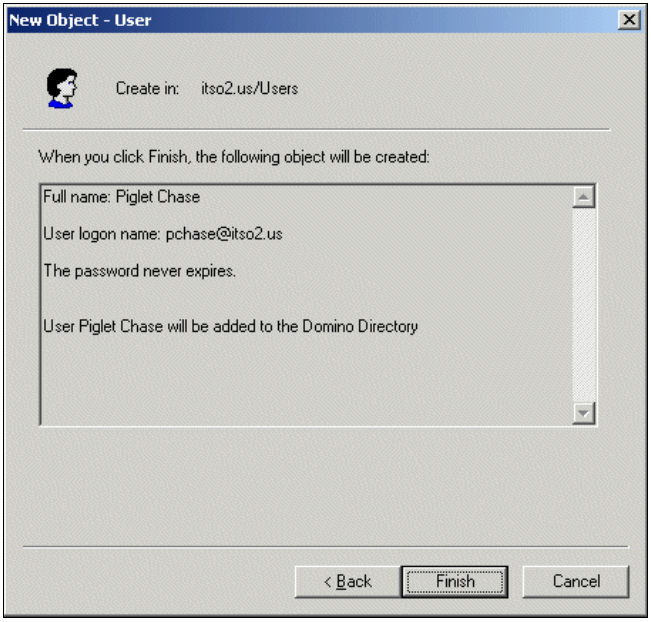


Figure 17-48 New user confirmation window - user will be registered in Domino

8. Click the **Finish** button to create the new user in Active Directory and the Domino Directory. A Lotus ADSync dialogue will display confirming that the new user has been registered in Notes (the Domino Directory).

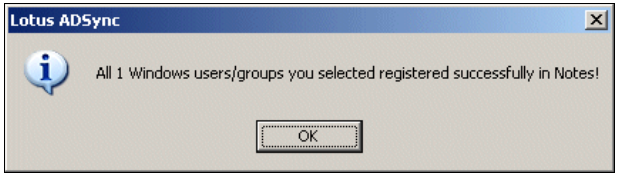


Figure 17-49 Success - new user registered in Domino

Deleting a user in Active Directory

Follow these steps to delete a user in Active Directory:

1. From the Active Directory Users and Computers window, select the appropriate container in the left-hand pane. In the right-hand pane, select the user to be deleted. Right-click to display the available list of actions, then select **Delete**, as shown in Figure 17-50 on page 571.

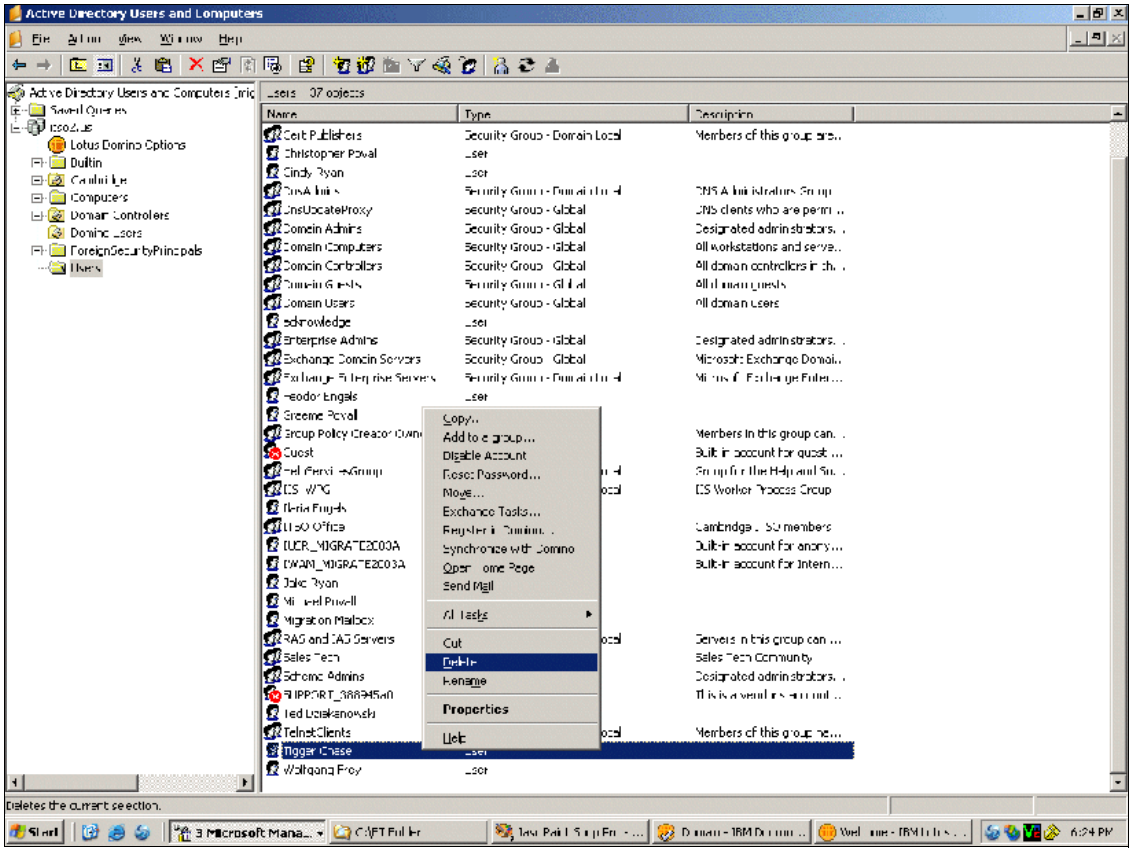


Figure 17-50 Select the user to delete, then select Delete from actions list

2. A confirmation dialogue, illustrated in Figure 17-51 on page 572, will display, prompting you to delete the user's mailboxes on Exchange and/or Domino. We recommend deleting the user's mailboxes on either server where they are present to conserve disk space.

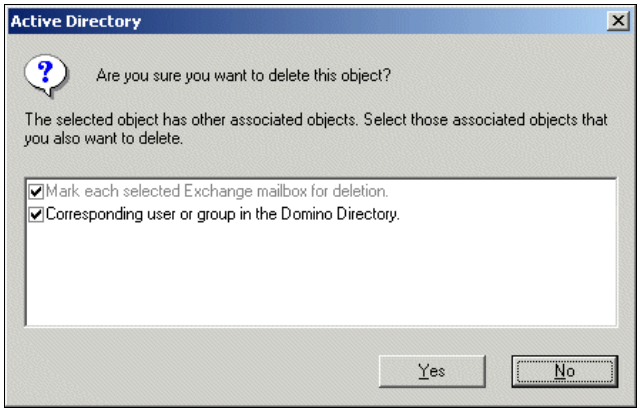


Figure 17-51 Delete the user's mailboxes

3. Click the **OK** button and the dialogue shown in Figure 17-52 will display, confirming that the user has been deleted from the Domino directory, as well as from Active Directory.

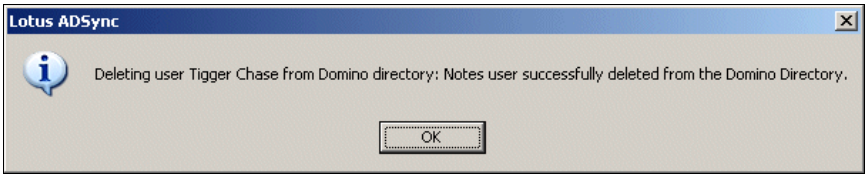


Figure 17-52 User has been deleted from Domino Directory

Modifying a user in Active Directory

Follow these steps to modify a user in Active Directory:

1. From the Active Directory Users and Computers window, select the appropriate container in the left-hand pane. In the right-hand pane, select the user to be modified and open the user's record. The General tab will be displayed, as illustrated in Figure 17-53 on page 573.

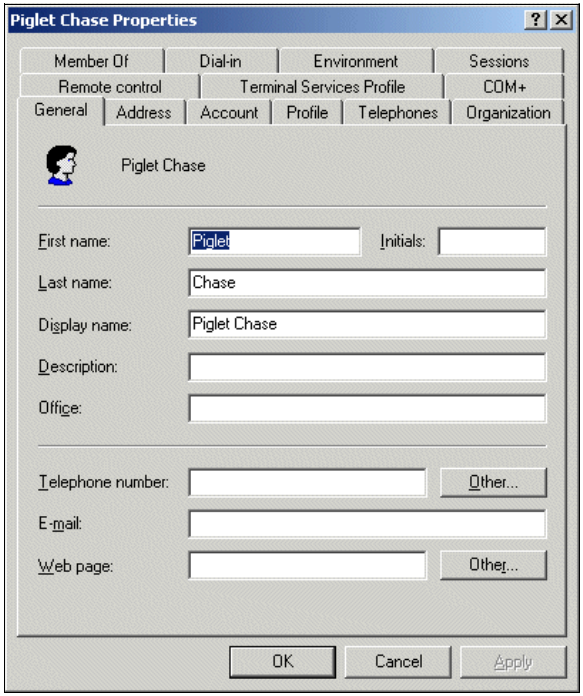


Figure 17-53 Active Directory user properties - General tab

2. Add the required information to the user's record. In this example, shown in Figure 17-54 on page 574, we've added a phone number for this user.

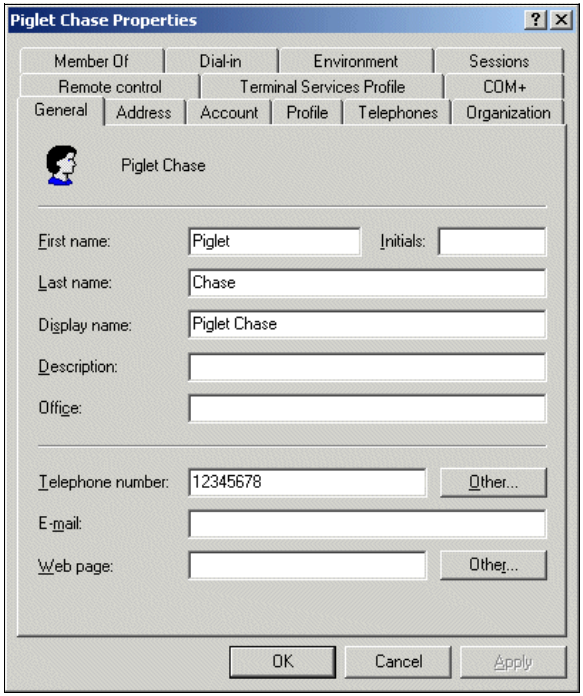


Figure 17-54 Add a phone number to the user's record

3. Click the **OK** button and the Lotus ADSync dialogue shown in Figure 17-55 will display. Because the Domino Directory and Active Directory are synchronized, you have the option of updating the Domino Directory with the changes made to this user. Click the **Yes** button to update the user's record in the Domino Directory.

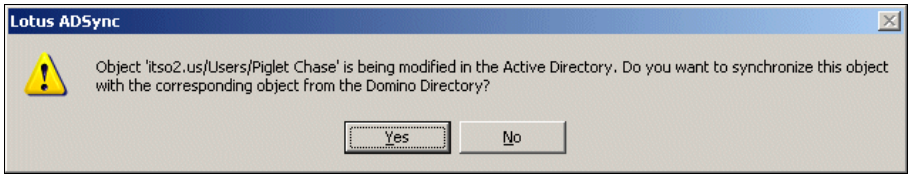
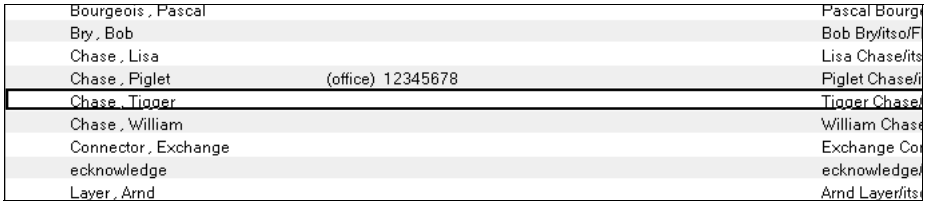


Figure 17-55 Synchronize this change with the Domino Directory

4. If you open the Domino Directory containing this user, you will find that the user's record has been updated with the changes you made in Active Directory. Figure 17-56 on page 575 illustrates the Domino Directory entry for Piglet Chase, updated with a phone number.



Bourgeois , Pascal		Pascal Bourg
Bry , Bob		Bob Bry/itso/F
Chase , Lisa		Lisa Chase/its
Chase , Piglet	(office) 12345678	Piglet Chase/i
Chase , Tigger		Tigger Chase/
Chase , William		William Chase
Connector , Exchange		Exchange Co
ecknowledge		ecknowledge/
Layer , Arnd		Arnd Layer/its

Figure 17-56 Domino Directory record, updated with the Active Directory changes

Part 6

Public Folders and Shared Data

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18

Public folders for Domino administrators

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

We appreciate that some readers of the redbook may not be Microsoft engineers who have worked with Exchange. The purpose of this chapter is to describe what Public Folders are in Exchange, and what they can be used for.

The contents of this chapter should help you understand the environment you are migrating better, and we have, within this chapter included additional details on how to create and administrate Public Folders.The subsequent chapters will explain the methods and available tools for coexisting and moving Public folders from Exchange to Domino

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18.1 Public Folder Overview

Public Folders are a Collection of shared information”

A user’s data takes many forms, Calendar entries, project details, activities, Contacts, tasks email, etc. Some of this data may be private and relevant only to a single user, however some data can be useful to group of users or the entire organizations accessible by a single user. The full potential of this data is only realized when it is shared. Traditional and still often used methods for sharing data is utilization of a shared disk or networked file system, More recent methods would be via Document management systems, Public folders Built into current releases of exchange (2000/2003) provide an additional and simple repository for this information that is accessible through Outlook. In most instances they are used to store shared calendars (e.g. room booking), files, contacts, and global emails. Some are open to the entire organizations or limited to a group of individuals

The data and format of public folders offers a degree of flexibility that allows you to customize the forms, and fields contained in the documents and thus the end user has the ability to define how the documents are viewed. When migrating the folders this needs to be taken into consideration as the form constructs and fields may not exist in the target domino database

In addition the Folders can be taken off-line and viewed whilst in a disconnected mode. The timing of the migration needs to take this into consideration also

18.1.1 Public Folder structure

By default a Public folder exists in a single Exchange server. For users to have access to the data The Public Folder Hierarchy (i.e. the infrastructure not contents) needs to be replicated throughout the organization. Once done the Data (i.e. documents) can be selectively replicated. This is important to note as not all data may be available at the time of migration as the hierarchy and the data may replicate at different intervals. (i.e. ensure that a full replication has completed and Public folders are no longer updated before you begin the migration.

18.1.2 Public Folder Security

Public Folder Access is Granted via the Security Tab of the Public Folders Properties, the hierarchy of the access can be granted at both the root and object level and can permission to grant access can also be devolved to users.

In many cases Migration tools will not be able to migrate the access and the Administrator will be required to add access via ACL's to the migrated database

.Additional information on permissions is given in the following section.

18.1.3 Required permissions

If you are creating a Public Folder, the permissions needed depend on where you are creating the folder. If you wish to create a subfolder, you need to create the rights in the permissions page of the parent folder (Figure 18-2). If you wish to create a folder at the root of the Public Folder hierarchy, you need rights to the Information Store at the site level.

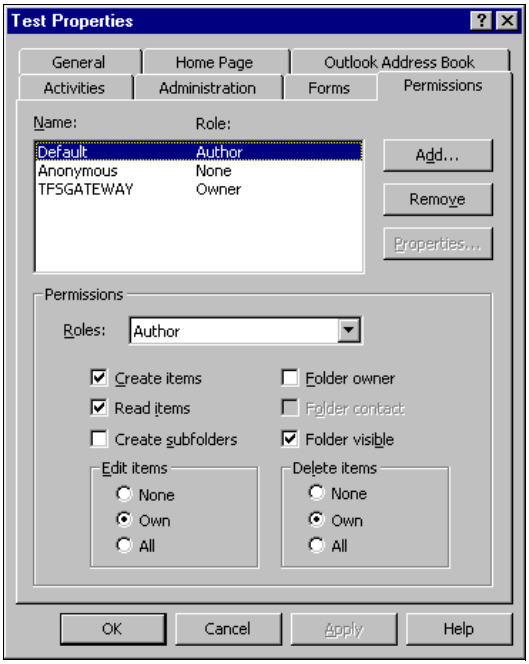

Figure 18-1 The properties tab of the Test public folder

18.2 Creating Public Folders and administering them

To ensure smooth migration testing, the public folder migration should be undertaken, Using copies or newly created folders should be used, in addition to having a basic understanding of how to create and administrate Public Folders can help the specialist resolve any issues they might encounter during the migration and coexistence.

18.2.1 Tools used to create public folders

In addition to Importing Public Folders can be created via the Exchange system manager or from within Outlook (assuming permissions on the public folder hierarchy have been granted. For further administration the Exchange system manager program should be used to administrate and build the public folder Hierarchy and apply permissions to any created folders.

18.2.2 Required permissions

before you can create a public folder the root hierarchy needs to be created and default permissions granted If you are creating a subfolder, you need to assign the correct permissions on the parent folder as well as the subfolder otherwise users will have too much or too little access to create or modify public folders.

Access to the security of the root Public folder open the Exchange system manager.

- Right Click the folder
- Select Properties (as shown in Figure 18-2 on page 583)

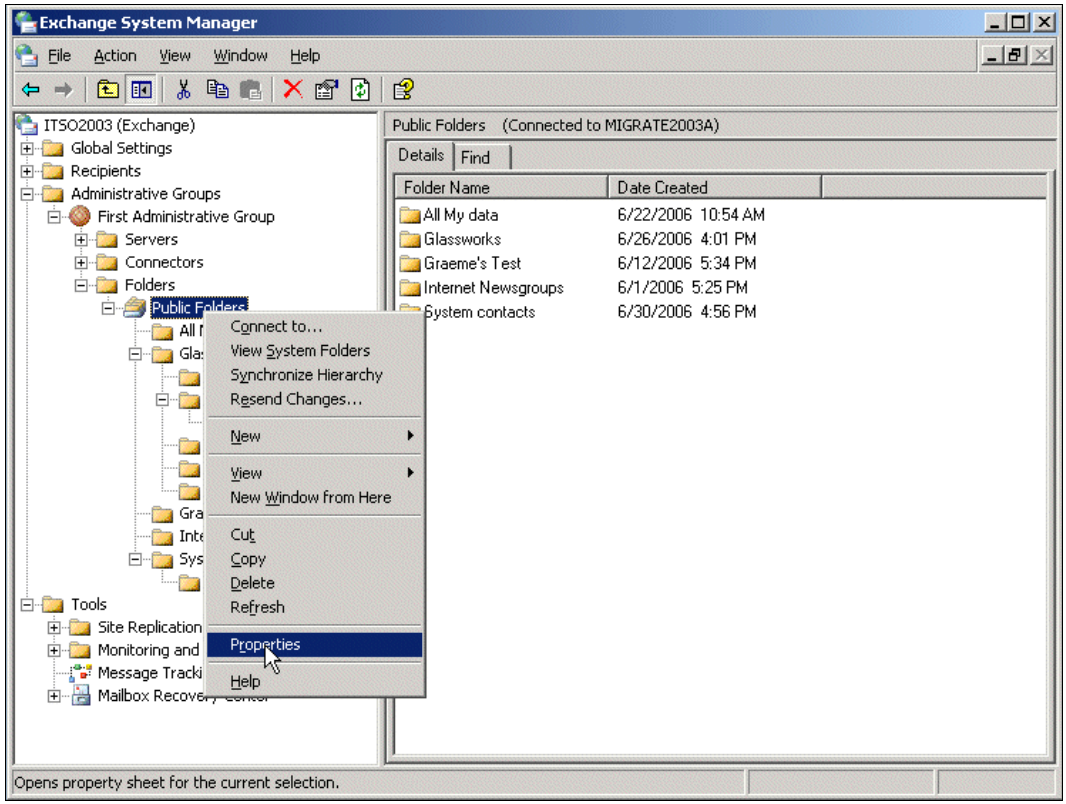

Figure 18-2 The properties tab of the root public folder

- Select the security tab

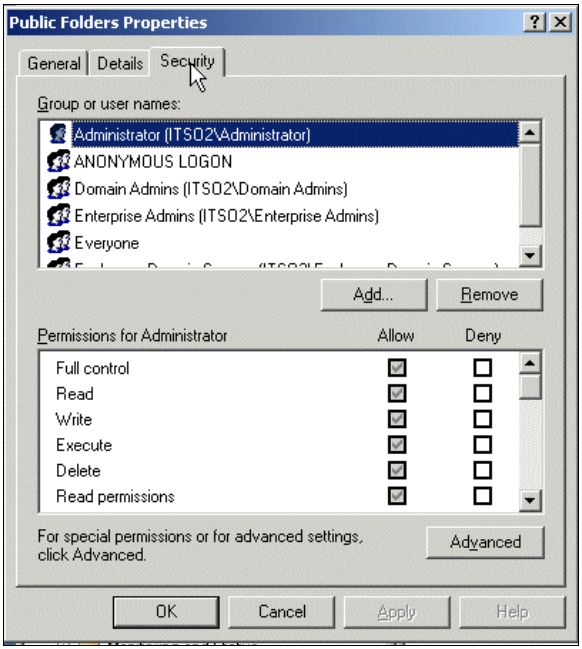

Figure 18-3 Security of the root folder

- Here you have the ability to assign or revoke public folder tree access. In our default installation the ability to create Public folders in the root was restricted to the system administrators.

Public Folder permissions

- We devolved the access to allow the ability to create a subtree from one of our folders. Once created Right Click on the folder
- Select Properties
- Select Permissions

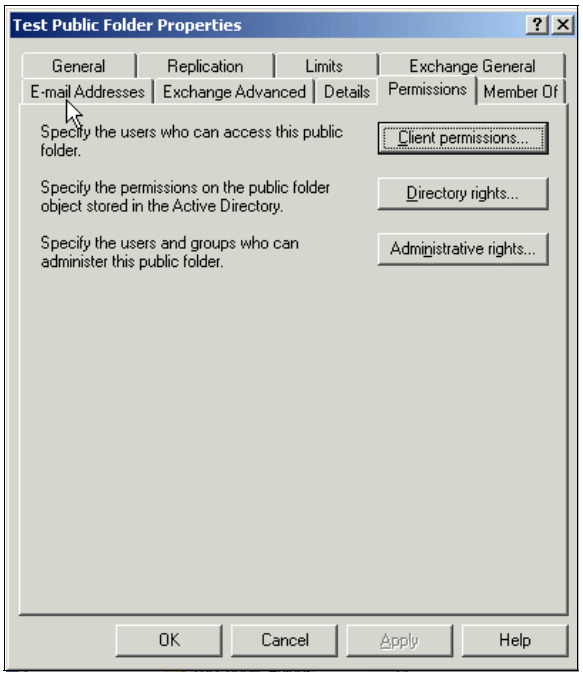

Figure 18-4 Public Folder properties

- Select Client permissions

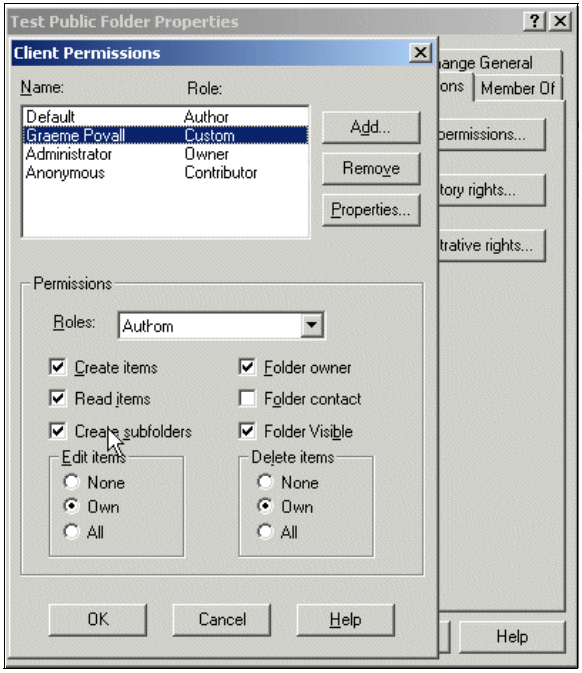

Figure 18-5 Public folder permissions ability to create subfolders

- Click Add
- add the members of the public folders
- Click the tick box “Ability to create Sub Folders”
- Click OK
- Click OK

18.2.3 Creating a Public Folder

As mentioned earlier there are a number of ways to create a public folder.

Via Outlook or via the Exchange System Manager the following procedures can be followed to create a public folder

Creating a Folder in the Public folder tree hierarchy

- Open Exchange system manager
- Select administrative Groups
- Select First Administrative group

- select and right click Folders
- select new folder
- Give the folder a name
- Click the security tab and assign permissions as described above

Creating a public folder with the exchange system manager

- Open the exchange system manager
- Select administrative groups
- Select First administrative group
- Select Folders
- Right Click Public Folders
- Select new -> Public Folder (see the following Figure 18-6 on page 587)

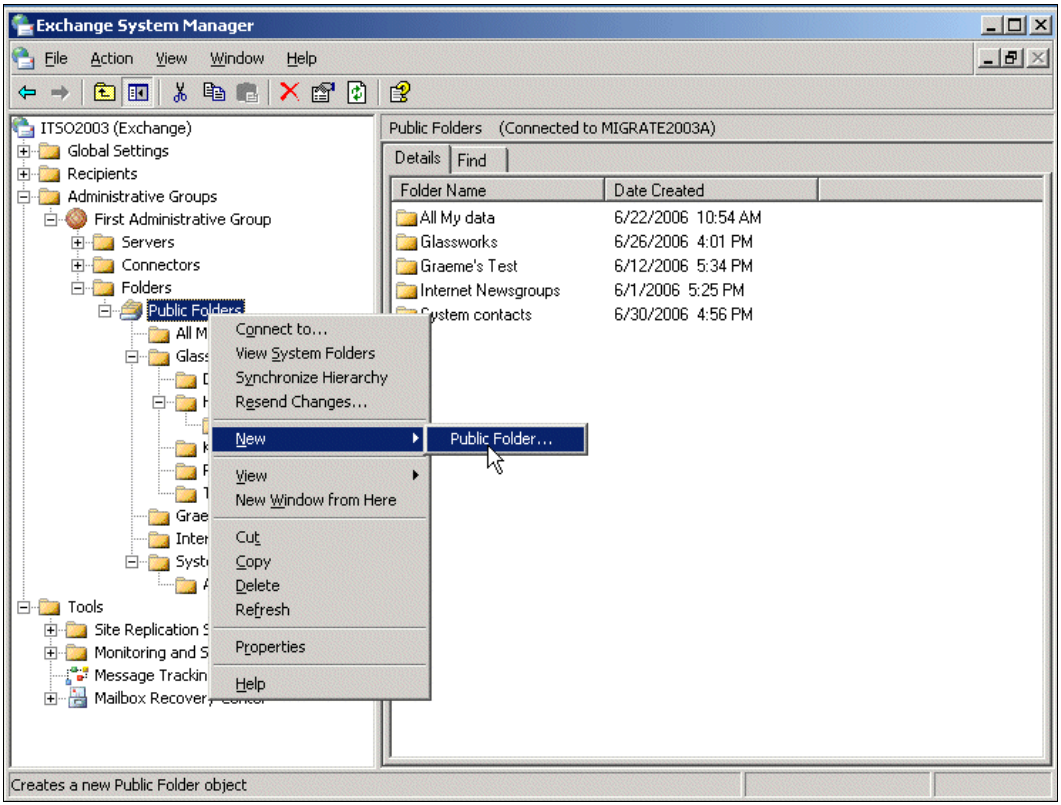

Figure 18-6 System manager > creating a public folder

- You will be presented with the properties box of the Public folder
- give your public folder a name and description
- Additional control information can be added on the replication limits and detail tabs for our testing default settings are adequate

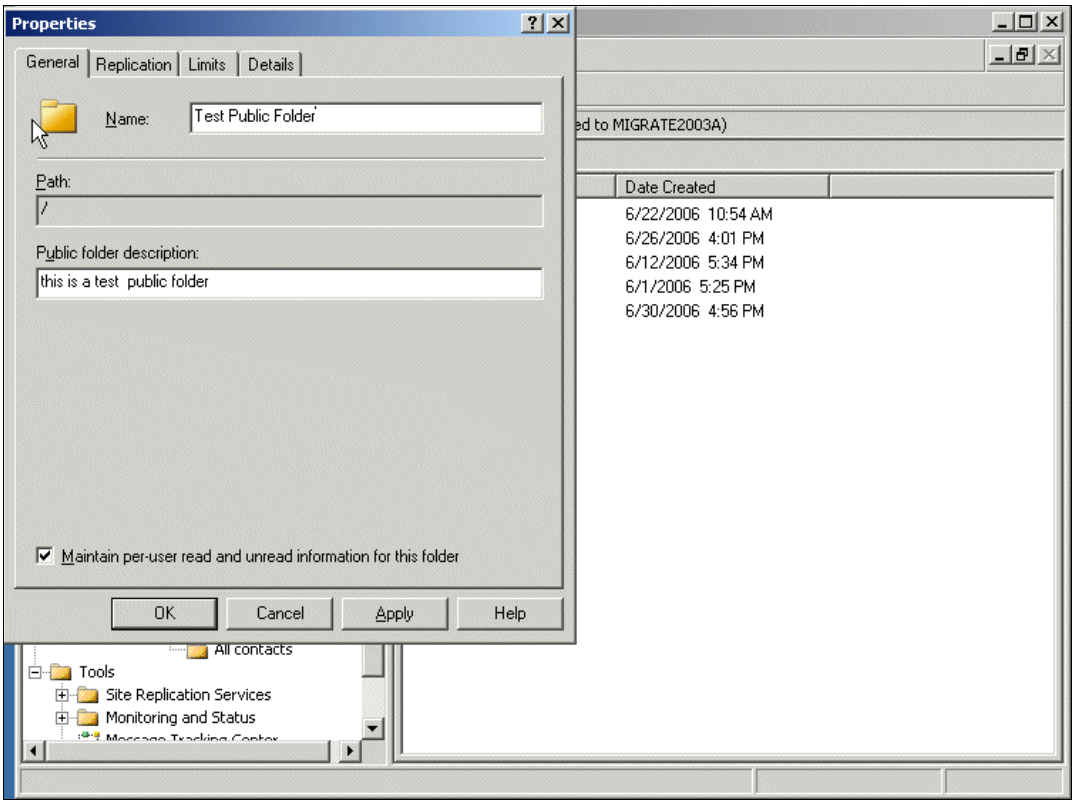

Figure 18-7 Public Folder general tab

- Click OK

  By default the root permissions will be default on this folder to allow different access i.e. restrict or allow the posting and reading of documents
- Select the newly created Public Folder
- Right Click
- Select Properties
- Select permission tab

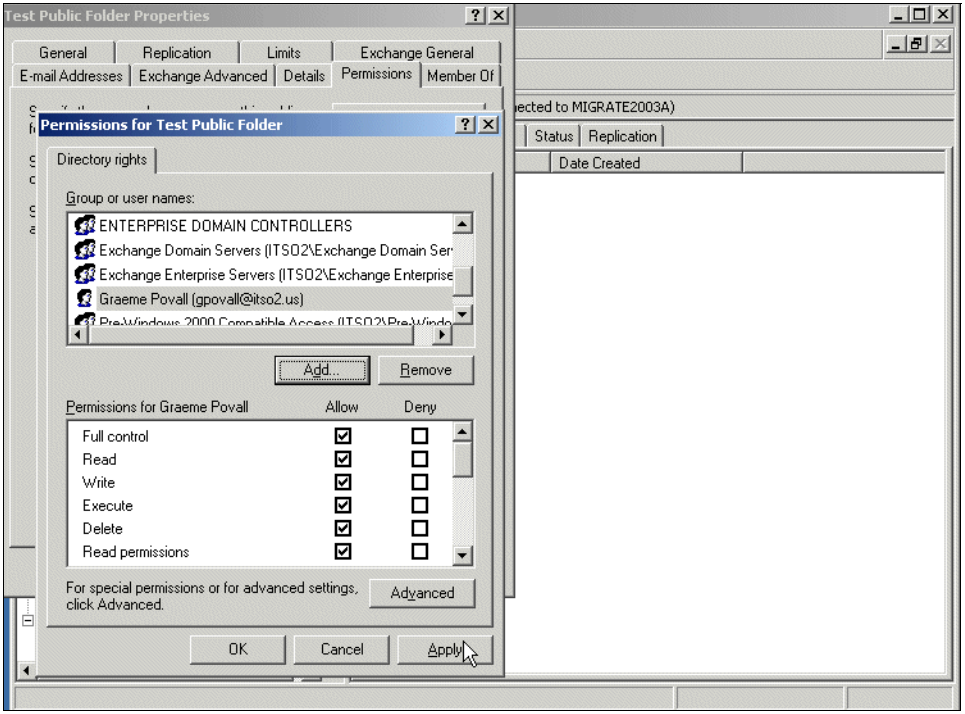

Figure 18-8 Setting permissions

- define access as per requirements.
- Click OK

Using Outlook to create a public folder

To create a public folder in Outlook you need the permissions granted at the folder level as described above (“Creating a public folder with the exchange system manager” on page 587)

Assuming you have access the following procedures can be used to create a public folder

- Open Outlook with the desired profile
- Create the new Public Folder in one of 2 ways,
  - navigate to the location in which you want to create the folder (I am creating mine in the test folder created earlier)
  - Right click the location and select ‘New Folder’ (Figure 18-9 on page 590).

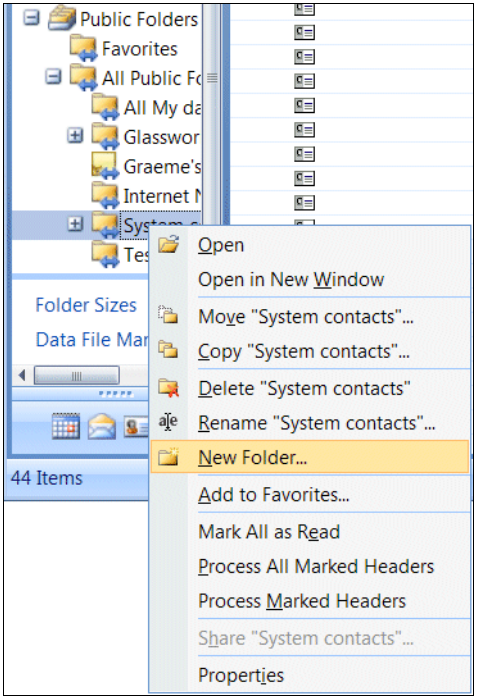

Figure 18-9 Creating new public folder 1

- or via -> File -> New Folder

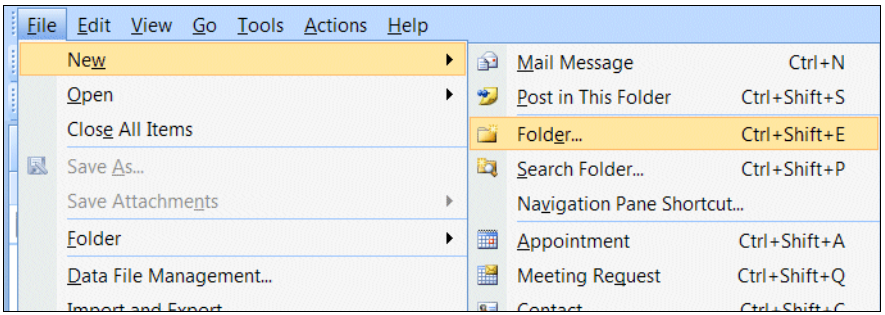

Figure 18-10 Creating a public folder 2

In both cases you will be presented with the create public folder properties box.

- Enter a name for the folder and select the content type to store.
-

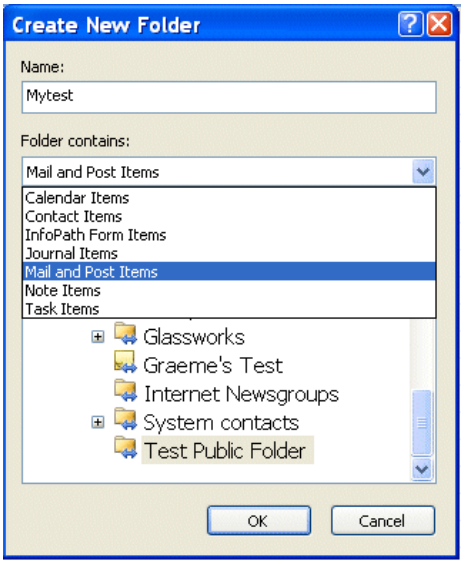

Figure 18-11 Initial Public folder properties

- Click OK

  Public folders in exchange 2000/2003 can have moderators to check the content before it is published. the following additional instructions define how to assign moderators and change the permissions of the folder

- Right click the Public folder
- Select properties

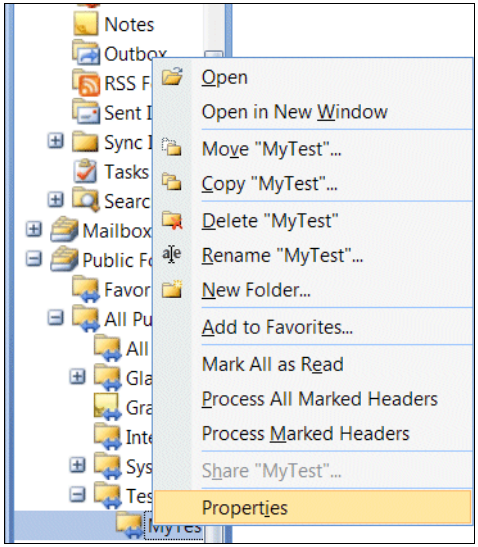

Figure 18-12 Public Folder Properties

- You have the option to add a description or by clicking the home page tab assign a web page to make the public folder available via the web browser.
- Select the Administration tab
- Click on the Moderated Folder button

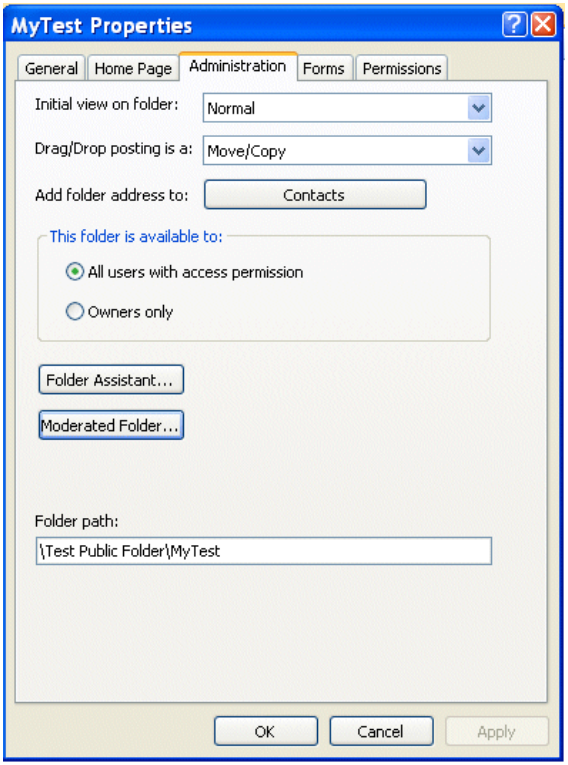

Figure 18-13 Administration tab and moderated folder button

- You will be presented with the following screen (Figure 18-14 on page 594)

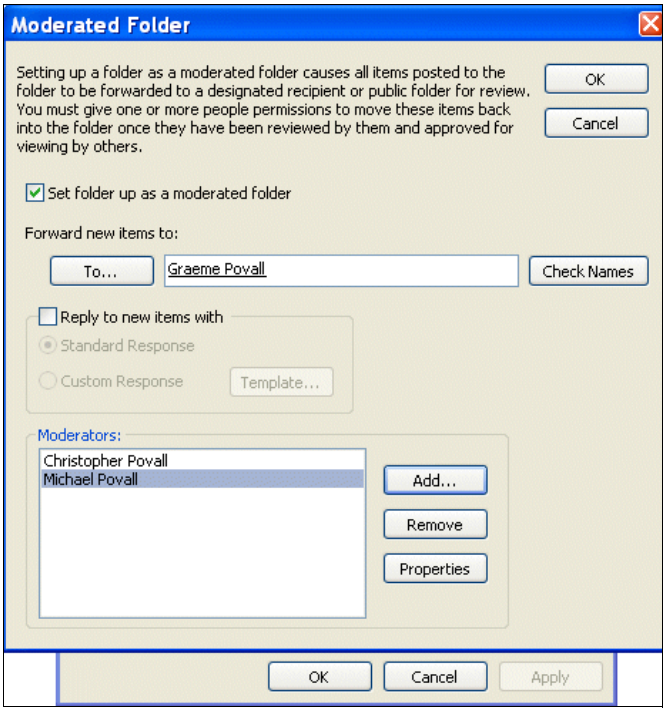

Figure 18-14 Adding moderators

- Add required Moderators
- If desired also add an autoforward for all content
- Click the Permissions Tab

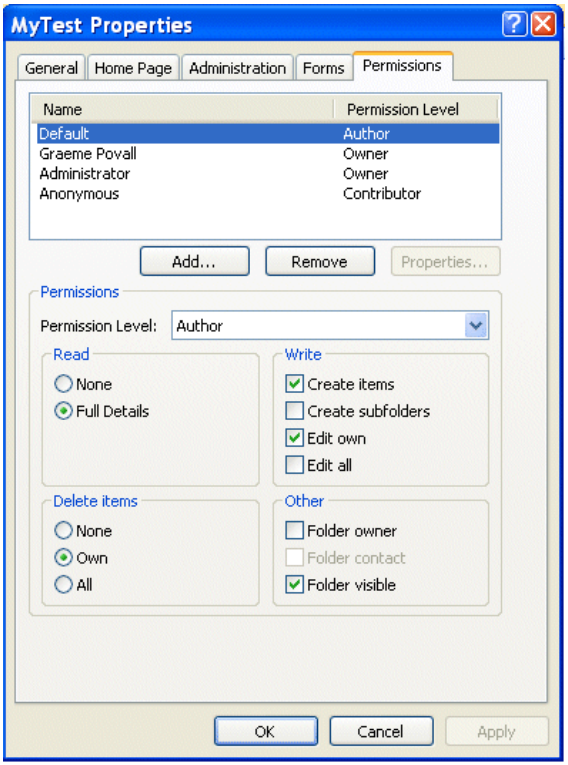

Figure 18-15

By default Author access is granted

- change the access as required to ensures that users have the required access
- Click OK

18.3 Considerations for Public Folder Migration

There are various tools for migrating Public folders. The subsequent chapters will be discussing the following:-

- Binary Tree CMT for Public Folders
- EcKnowledge Cashal for Public folder migration and coexistence
- Manual Migration
  - Using Dus
  - Using export
  - Using Spreadsheet

We will also review the differences between public folders and shared data and the implications and differences of the migration of shared data to Domino

However before migrating Public folders consider the following:

- Is the data required in your new system
- What access will need to be granted in the domino db post migration
- Is this a private folder or Public
- Review if Folders are being correctly used a new team room in domino may be more appropriate
- Get users to clean up defunct entries in the folder before migration
- Check for complex folders and custom forms.

19

Public Folder migration & coexistence using ecKnowledge

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

In a large migration it is likely that large parts of you user community will not immediately be using the Notes clients. If your organization is using Public Folders, there might be a need to not only migrate the Public Folders, but to maintain some level of coexistence with bidirectional updates.

In this chapter, we shown how to set up and use CASAHL Technology Inc.’s ecKnowledge product. We tested the tool in our lab using a sample Public Folder and Domino database, setting up coexistence between them and then migrating the information. We have included all of the steps required to set up the product

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and connector. We strongly advise testing this product and the other products in the marketplace to determine which one is best for your organization.

For more information about ecKnowledge, visit the CASAHL Web site at:
http://www.casahl.com/ecKnowledge/default.asp

19.1 Product setup and considerations

The installation of the ecKnowledge product is simple enough, but there will be some decisions to make prior to beginning the process.

19.1.1 Exchange considerations

On the server that will act as a gateway, you need an Outlook client (not Outlook Express) along with a profile with sufficient rights to read and write to any public folder you wish to migrate and coexist with. For the sake of simplicity we used the Administrator's account, which has the rights to control any object in the Exchange hierarchy.

You also need an account to associate with the service account created by the ecKnowledge program. The Windows login account specified for ecKnowledge service during install is really important for two reasons:

- Exchange/Outlook Mail profiles are user specific. Therefore, before installing ecKnowledge, you must make sure that the profiles are set up for the login account specified for ecKnowledge service during install.
- Since Exchange/Outlook security relies on Integrated Windows Authentication, the specific Windows login account selected during ecKnowledge install will determine the access rights for ecKnowledge server.

We used the Administrator's account here as well, again for simplicity's sake. In a real world implementation, you should consider creating a specialized account with a complex password for this application and giving it any necessary permissions to any Public Folders you intend to use.

If you will be working with Exchange Public Folders, then Outlook must be configured to connect to the Exchange server. You also need to understand which forms were associated with which Public Folder applications. ecKnowledge gets data from the Organizational Forms library on the Exchange server or from within the Public Folder itself. With that information, it reads fields in the Public Folder form and creates them in a Domino database, if necessary, or allows you to do mappings. We advise taking a look at the properties pages of the Public Folders you wish to work with to see what forms are being used. You may also wish to look at the design of the forms for any underlying logic that you might want to change before you begin.

19.1.2 Domino considerations

During our testing we installed the ecKnowledge product on our Domino server. The ecKnowledge product uses the Domino dll files to access the Lotus Notes

databases. We do not recommend nor do you need the Notes client on the Domino server for ecKnowledge to work. ecKnowledge can also be placed on a computer with just the Notes client if you prefer.

- You will need to know the password, if any, that is associated with the ID on the server.
- Make sure that the ID has sufficient rights in the access control list to read and write to any Lotus Notes database.
- The Lotus Notes/Domino executable directory must appear in the Windows System PATH environment variable.
- At a minimum, you also need to create blank Lotus Notes databases for each Public Folder you wish to migrate and coexist with, assign the appropriate rights, and replicate as required for you environment.
- Create (or have someone create for you) additional forms and views for each of the migrated Public Folders/Domino databases to better mimic the look and feel of the Public Folder.
- Monitor the performance of the Domino server that is acting as a gateway. You might want to dedicate a server for this function.

19.1.3 Other considerations

Make sure the profile you use can connect to the Exchange server. It is also wise to create replicas of the Public Folders you are coexisting with, if they are not there already, on the server with which the profile is associated. That should help avoid any unnecessary network traffic. You should also set expectations as to the latency of any transaction. Remember that what starts out on an Exchange server somewhere needs to replicate to the server with the profile, through the gateway, and then to whatever Domino server has a replica. The latency that you had with Exchange may no longer be true in this coexisted state.

ecKnowledge can be installed not only on a Windows server, but also on a Windows workstation provided the workstation offers connectivity to your Domino server through a Notes client and to the Exchange Server with a configured Outlook client (a local MAPI profile).

If ongoing coexistence with replication is needed, you should consider setting up a dedicated machine for this purpose. Several factors should then be taken into consideration, such as how often the Public Folders and the Notes databases are updated. Additionally, the network performance may also determine where ecKnowledge server is installed. For example, if there is a lot of data being transferred, it may make sense to install ecKnowledge on the same server computer as Exchange server or Domino server to reduce networks packets going back and forth, and to increase overall throughput of the system.

19.1.4 Application design

Before we begin, it is useful to do a before and after comparison of the Exchange Public Folder and the Domino database.

Domino Developers will want to create multiple views and build forms with sections and tabs in the target database to mimic the appearance of the Exchange Public Folder. Outlook can use auto fill-in features to do what Domino developers might “mask” in a field like a telephone number. So the Public Folder design should be examined carefully before the migration of data begins. While ecKnowledge can create a form and propagate it with fields from an Exchange Public Folder, it will be basic at best, and the views will have no value for the end user. One final note: certain types of embedded objects, such as Visio, do not seem to render properly. Test the migration thoroughly and set your end users’ expectations appropriately before you begin.

Figure 19-1 on page 601 shows the Employees public folder in Outlook before migration. Basically, it contains detailed information about the company employees.

Figure 19-2 on page 602 shows the Domino database before the data is migrated into Notes. We have created basic items, such as views, forms, actions and navigators using Domino Designer.

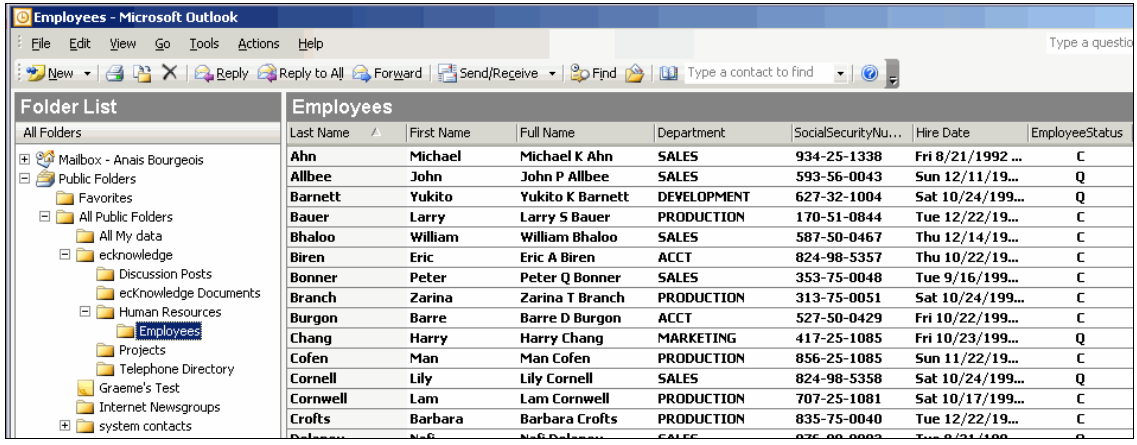

Figure 19-1 Data in an Outlook view

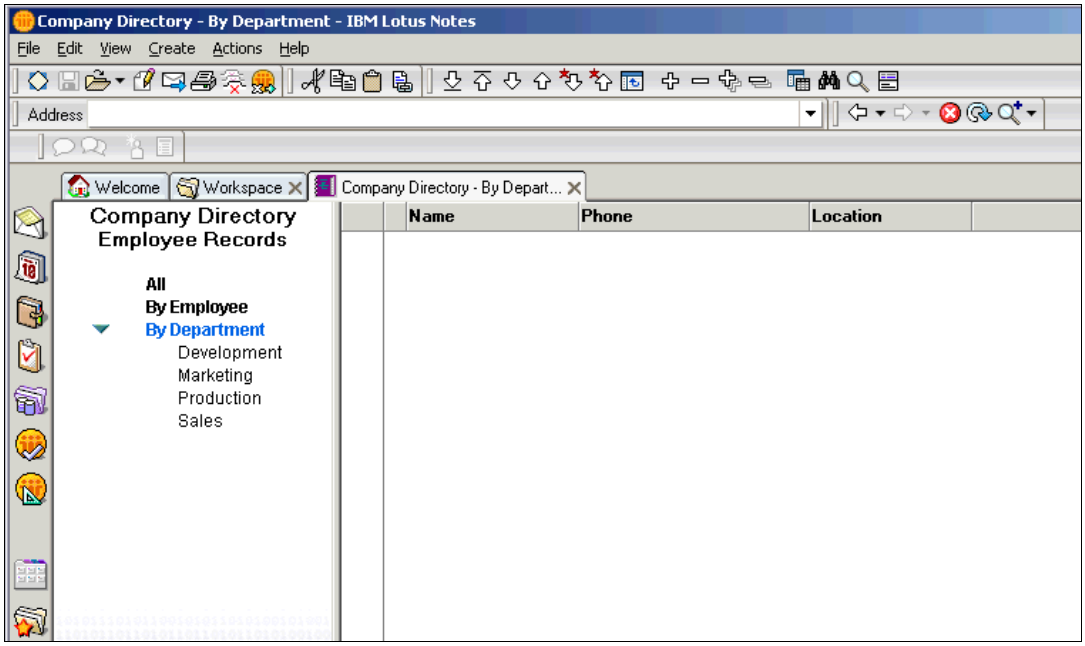

Figure 19-2 The Domino database before migration

19.2 Setting up ecKnowledge

First, you should be logged in with the account and e-mail profile you will use to run the program. If you are installing the program on a Domino server, be aware of the fact that you have to reboot the system after installation. Once you get started, setting up ecKnowledge is simple enough if you've covered all the issues mentioned earlier.

1. The initial screens are the typical Windows/InstallShield setup routines and licensing agreements (Figure 19-3, Figure 19-4, Figure 19-5).

Figure 19-3 First window you see after starting the executable

Figure 19-4 Welcome window

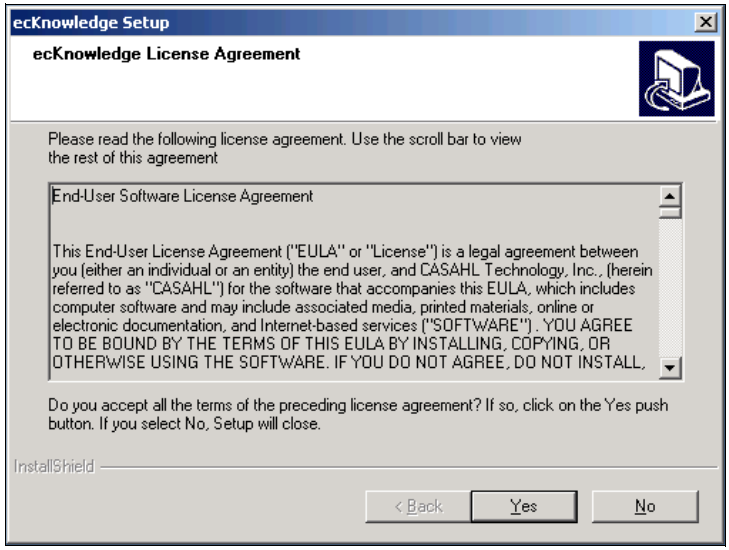

Figure 19-5 ecKnowledge license agreement

2. When you get to the registration screen, accept the defaults and use the Key Manager later to get the proper keys from CASAHL.

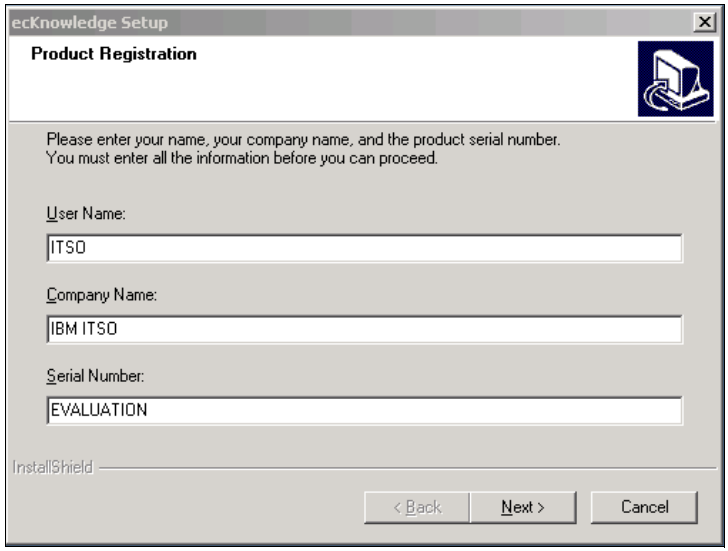

Figure 19-6 Product registration window

3. The program location can be modified from the standard destination folder if you wish (Figure 19-7).

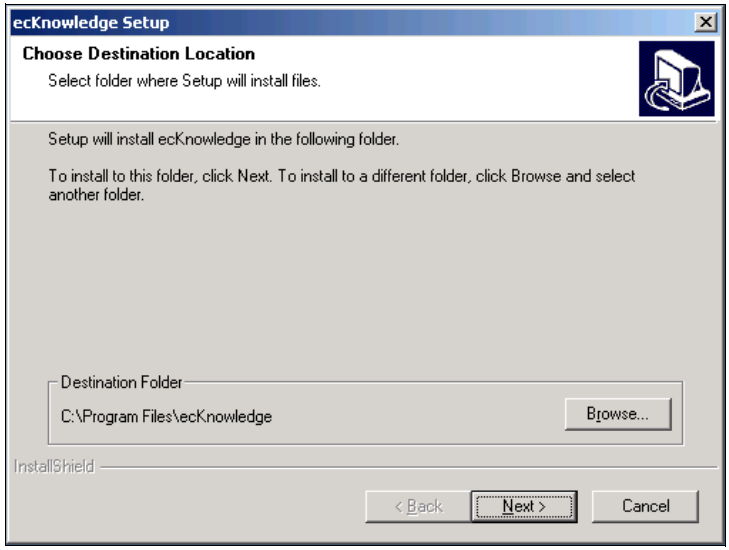

Figure 19-7 Selecting a program location

4. You can select either a custom or typical setup (Figure 19-8). ecKnowledge has a wide variety of connectors for other products, such as Oracle, Microsoft's SQL, SharePoint and Groove, as well as SAP. Licensing is done per connector, so you may decide to use this product for things other than just Exchange and Domino migration and coexistence. We chose the Typical installation.

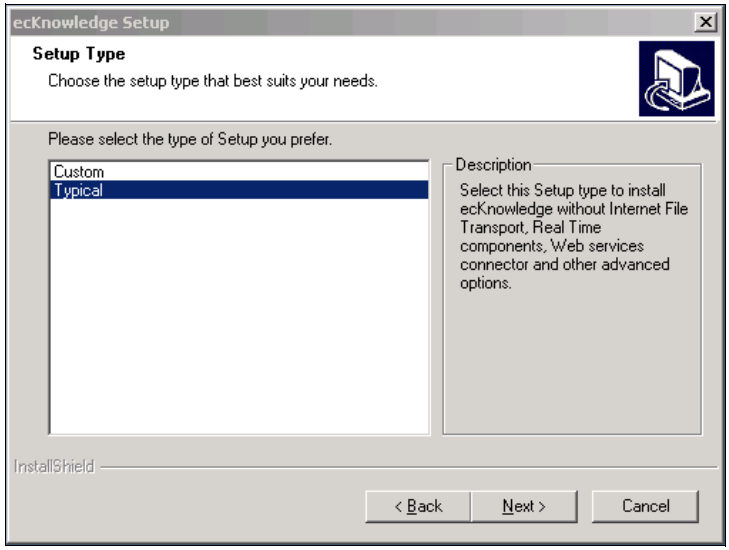

Figure 19-8 Selecting a typical install

5. We decided to create a separate program group for the icons.

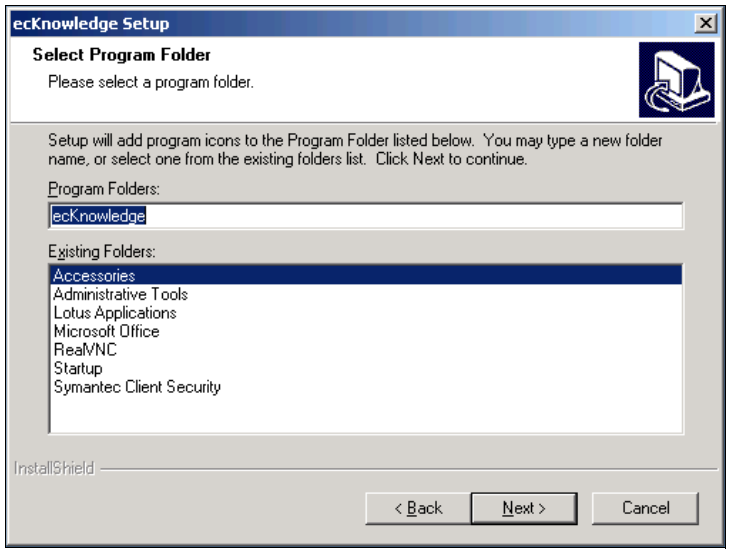

Figure 19-9 Program Group creation

6. After the program groups are created you are asked for an account (Figure 19-10) to associate a service with. We used the Administrator's account, but that is not what you would normally do in a production setting.

You should create an account, which you will use with your Outlook profile as well, that has rights sufficient that it can act as a service. The service associated with this account initially will be set to manual, which means it will not start automatically if the server requires a restart. After testing of the connector is completed, you should consider setting the service to automatic.

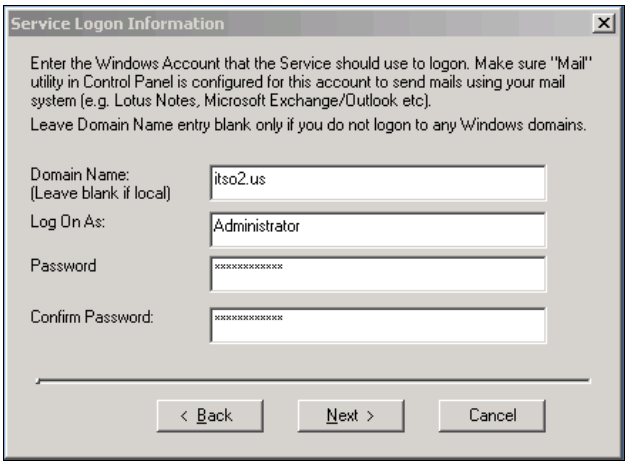

Figure 19-10 Selecting an account and setting a password

7. Figure 19-11 shows you a dialog box to either configure ecKnowledge to start with some same applications, or a blank system catalog for you to create your own applications.(Should you opt for a blank catalog, an MDB - Microsoft Access - database is created for this purpose.)

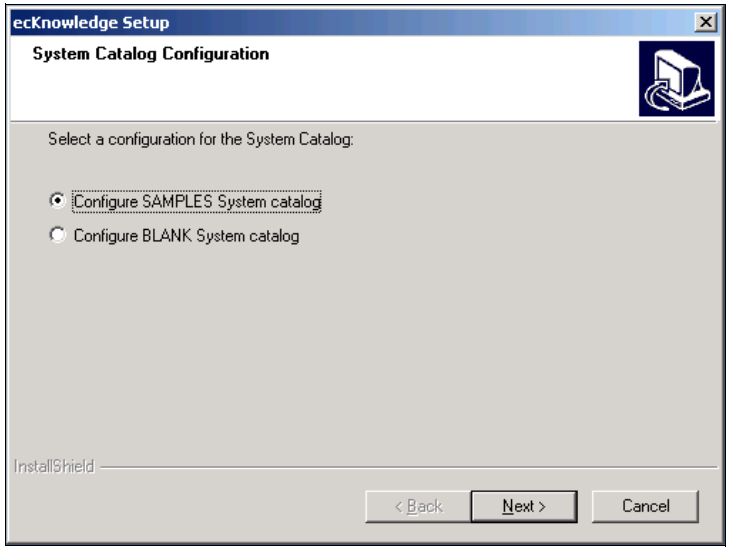

Figure 19-11 Creating a system catalog

When you install ecKnowledge with the samples, you will find some additional services added to the mail profile associated with the account used to install the program.

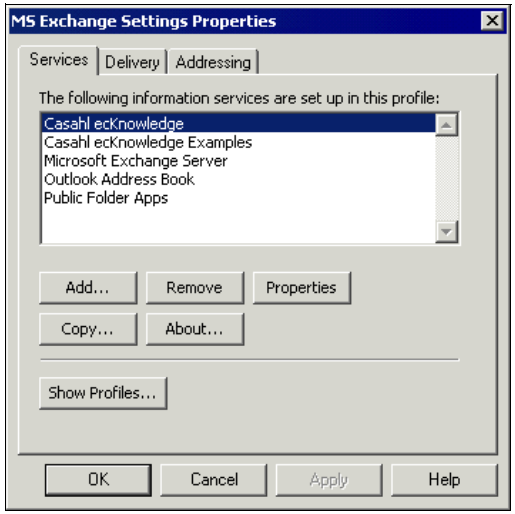

Figure 19-12 Sample CASAHL applications installed into the profile

19.2.1 Entering the product keys

1. Start the Key Editor program located in the ecKnowledge directory (Figure 19-13).

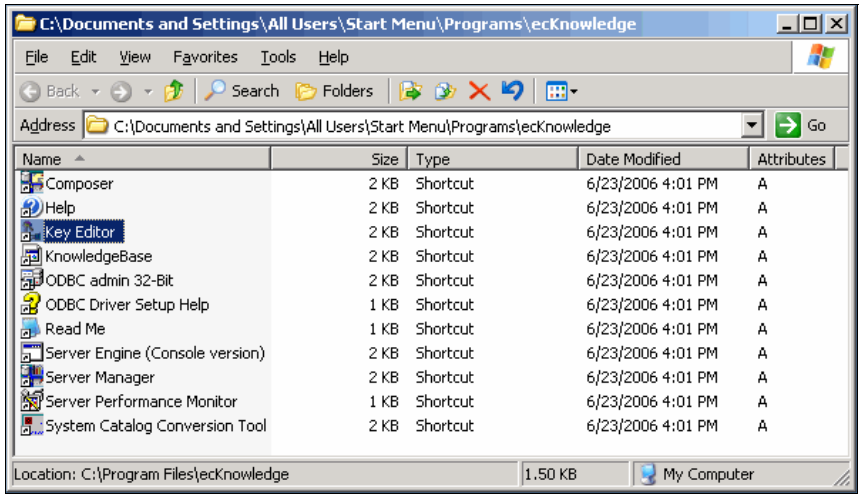

Figure 19-13 Starting the Key Editor

2. The first time you start the program you might see the dialog box shown in Figure 19-14. Click OK.

Figure 19-14 Dialog box after starting Key Editor for the first time

3. Enter the Site and the Features key you obtained from CASAHL (Figure 19-15 on page 610).

> **Note:** The Key Editor automatically generates a Site Code based on the machine. If you move the program to another machine, you may need to contact CASAHL for a new Site Key and Features key.

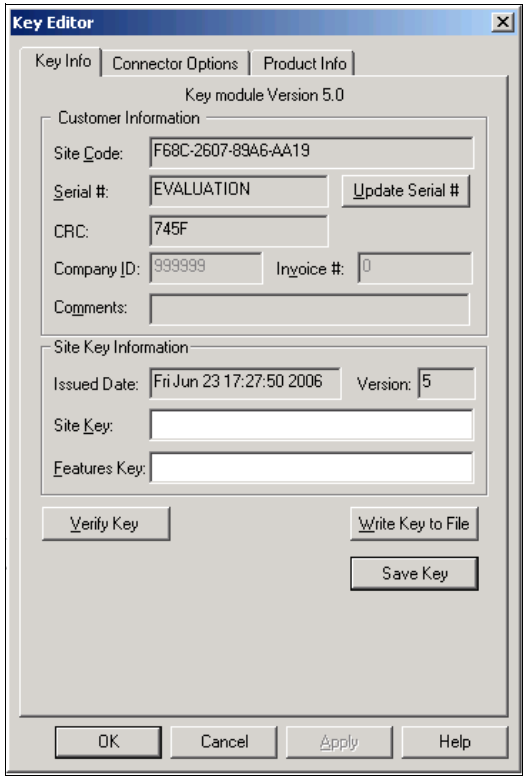

Figure 19-15 Entering the product keys in the Key Editor

19.2.2 Post-installation tasks

1. After entering the product keys, go to Windows services and set the ecKnowledge service to start automatically. Otherwise, when you reboot the server you will need to restart the service manually. Quit Domino if it is running and reboot the computer.
2. After rebooting the computer, verify that the ecKnowledge service is running.

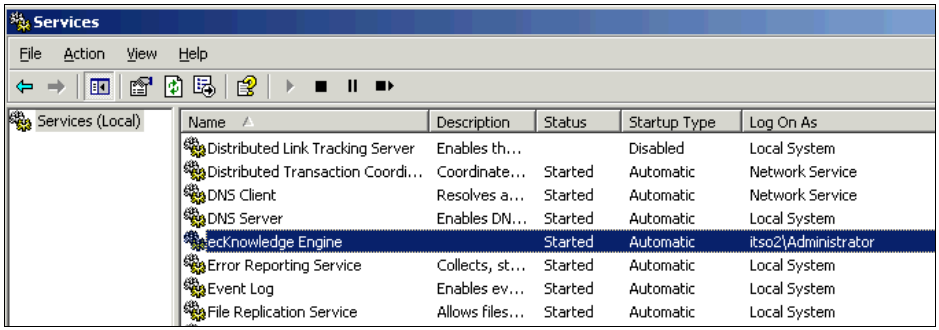

Figure 19-16 ecKnowledge service

19.2.3 Creating the connection between Domino and Exchange

Connections are created with the Composer program, which is also located in the ecKnowledge program group (Figure 19-17).

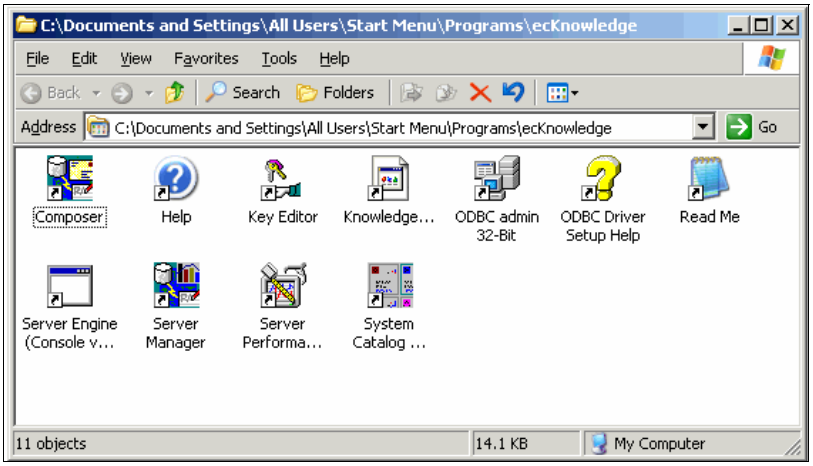

Figure 19-17 ecKnowledge program group

Important: If you want to do coexistence for a period of time, to minimize disruptions, we would recommend creating “Replication” objects to perform ongoing synchronization. This chapter walks through creation of “Import/Export” objects, which we typically recommend if you want to do one shot migration. Replication objects will provide functionality for two-way synchronization with conflict detection, etc.

We found two approaches to the next step. You can either create the connections to Lotus Notes databases and Exchange folders first, or as part of the Import/Export wizard. We selected to use the Wizard.

1. Select Create → Import/Export to start the wizard.

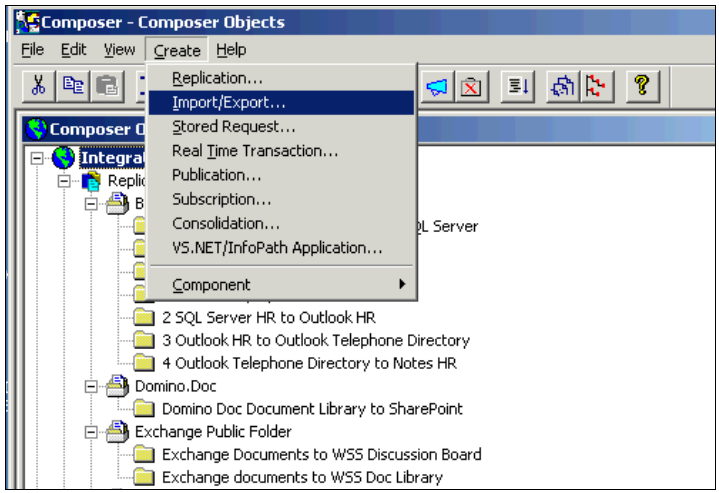

Figure 19-18 Creating connections with Import/Export wizard

2. Click Create New Connection to create the connection (Figure 19-19 on page 613).

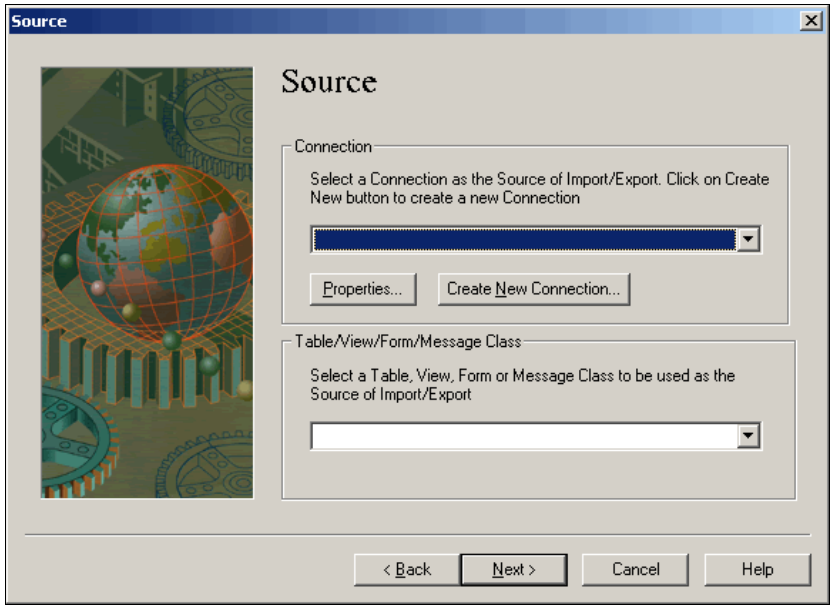

Figure 19-19 Creating a new connection

3. You need to be very specific when filling in the dialog box shown in Figure 19-20. Be careful if the machine you are using has multiple profiles. Make sure you spell correctly the profile with the proper credentials to the Public Folders you wish to migrate/coexist with.
4. Click the button next to the Folder field to choose the source Public Folder.

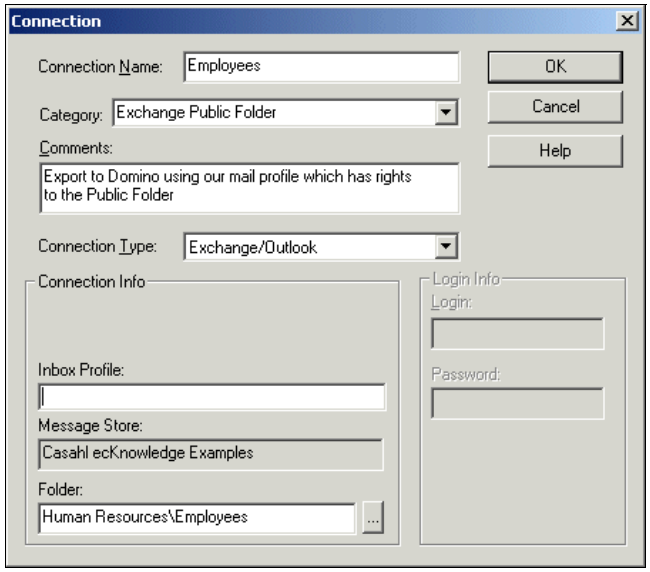

Figure 19-20 New connection dialog

5. Choose the folder for migration/coexistence and click OK (Figure 19-21) to confirm the folder selection and click OK to confirm the Connection dialog. You are returned to the Source dialog (Figure 19-22).

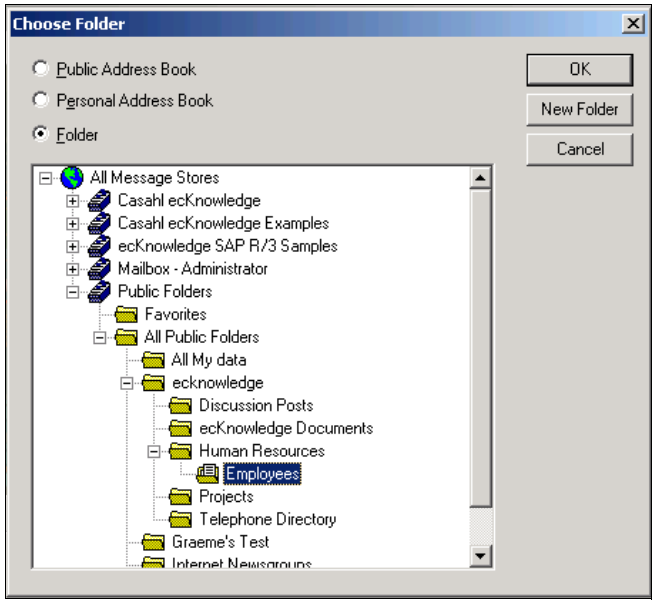

Figure 19-21 Selecting the source folder for migration

6. Here things get a bit tricky. ecKnowledge reads information from the Organizational Forms Library and the Public Folder. You need to know what form and fields you want to use for the migration before you get started. IPM.Contact.HR form has the fields we want and is associated with the public folder Employees. Choose the form and click Next to proceed to the Destination dialog.

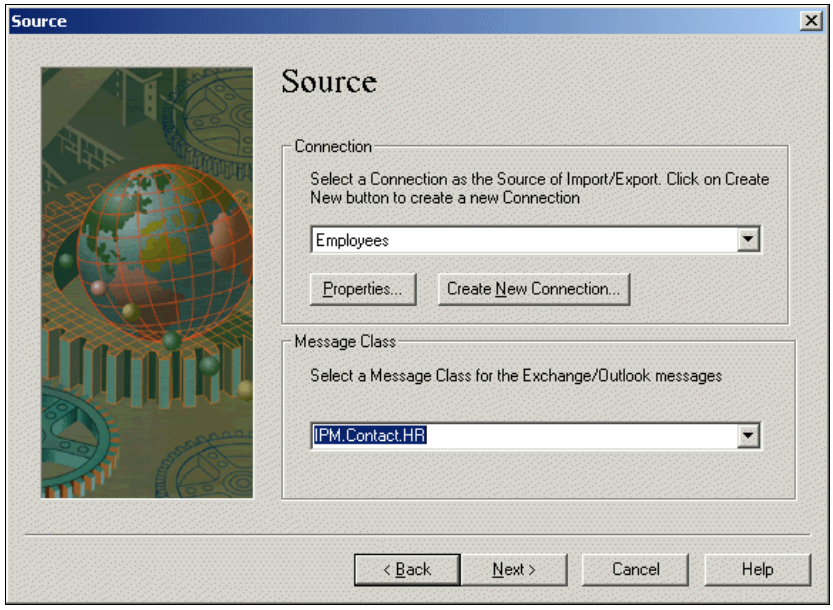

Figure 19-22 Choose the form carefully!

7. The next step is setting up the Domino side. Click Create New Connection to create one.
8. When you create the Domino connection you need to specify the Domino data path and the nsf file you want to use (Figure 19-23). The path may vary from machine to machine. Our Domino database has a form, although if it did not, ecKnowledge would create one.

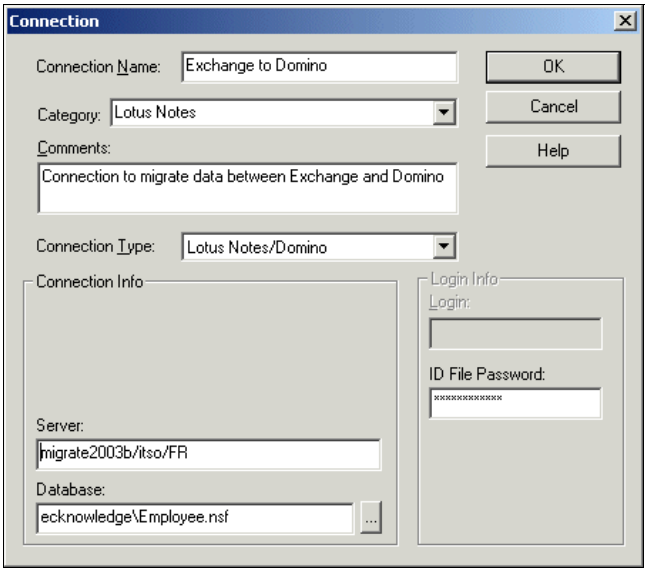

Figure 19-23 Configuration for the Domino Connector

9. Once you click OK to confirm the Connection properties, you are returned to the Target dialog (Figure 19-24). Select the correct form and click Next to proceed.

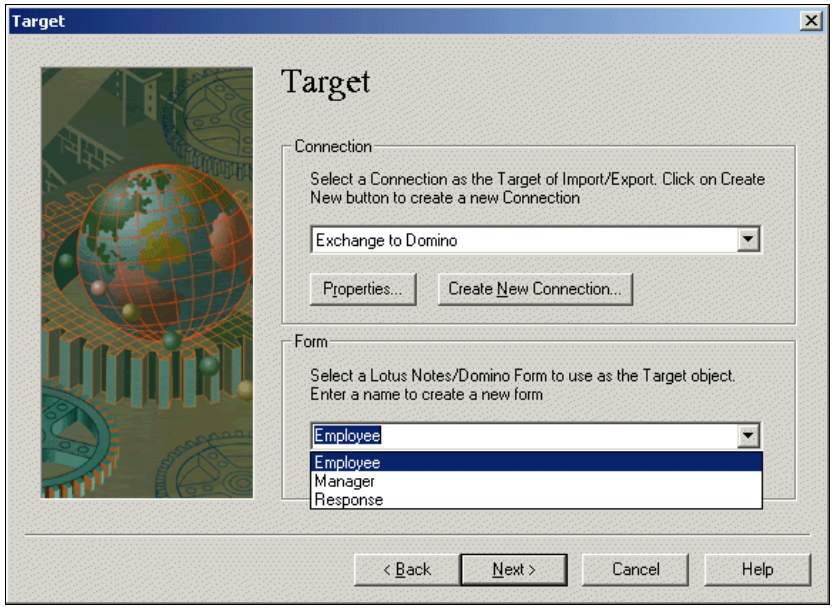

Figure 19-24 Finishing up the connector

10. The next step is to map fields (Figure 19-25 on page 619). You can elect to let ecKnowledge do it for you automatically (Figure 19-26) but you will still need to verify the mapping (Figure 19-27 on page 620). Click Next to proceed.

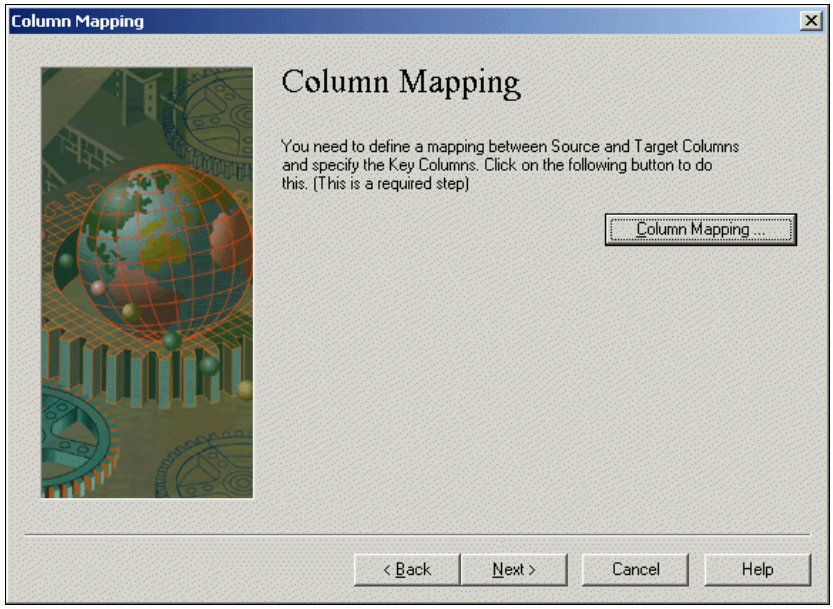

Figure 19-25 Column mapping step

11. The next option asks if you want to match columns based on names, which we accepted.

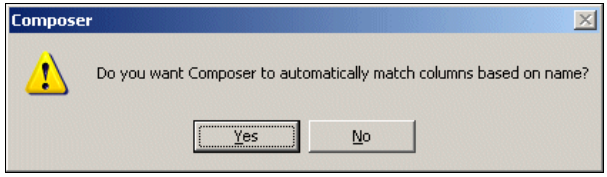

Figure 19-26 Automatic column mapping

Note: In some cases, you may need to massage data when converting from MS Exchange to Lotus Domino (e.g. when Domino designers created the application a little differently). To take care of such issues, ecKnowledge includes data transformation feature which allows conversion of data using simple table values, VBScript, Javascript or Notes formula. The data transformations can be associated during column mapping.

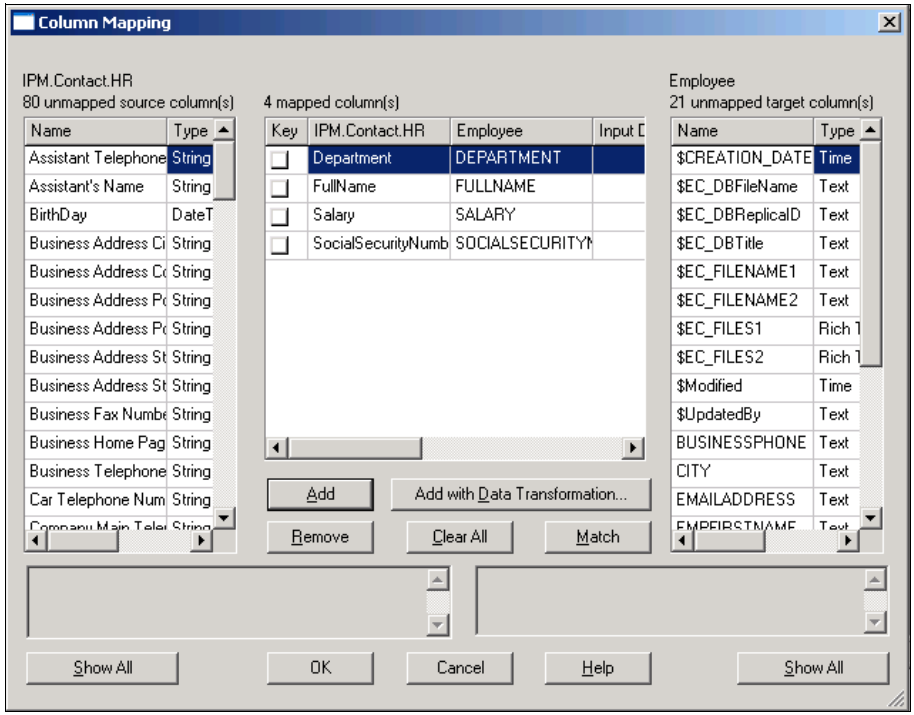

Figure 19-27 Automatic field mapping choice of mapping column by name

12. Figure 19-28 shows the field matches ecKnowledge can find and shows fields it could not. One necessary step is the selection of a key field or fields. If this selection is not made, you will see a warning message.

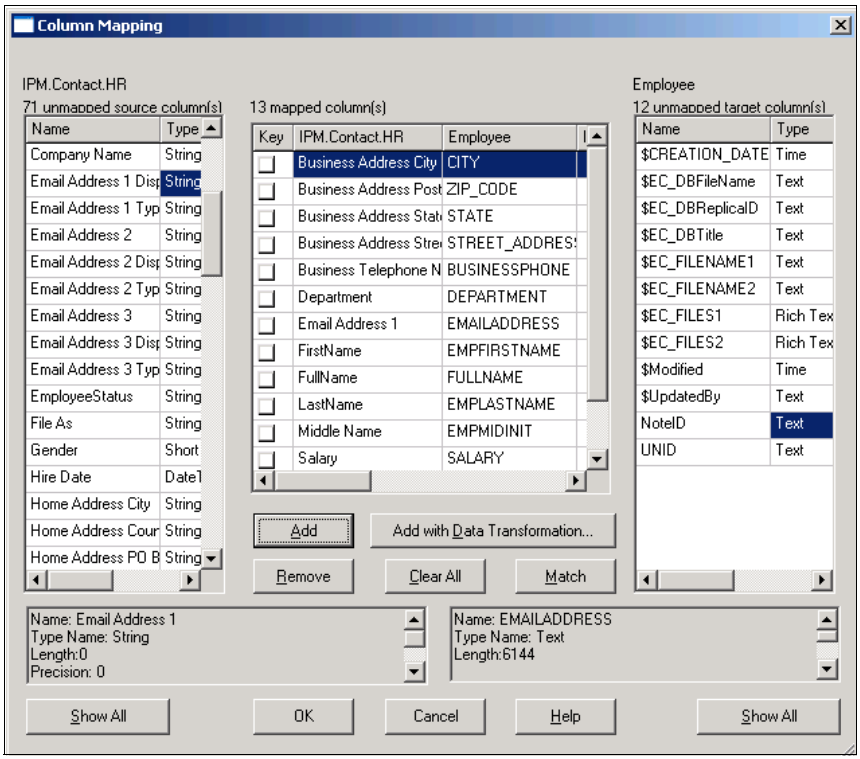

Figure 19-28 Field mappings

13. Select your key field. We chose the company name field as the key field (Figure 19-29). Click OK.

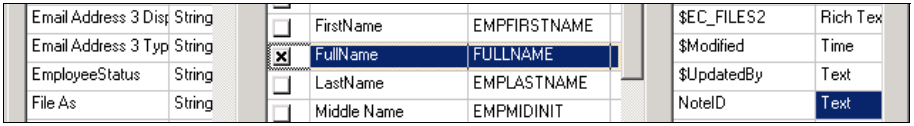

Figure 19-29 Key selection

14. You have the option of setting up filtering for the Import/Export Connector.

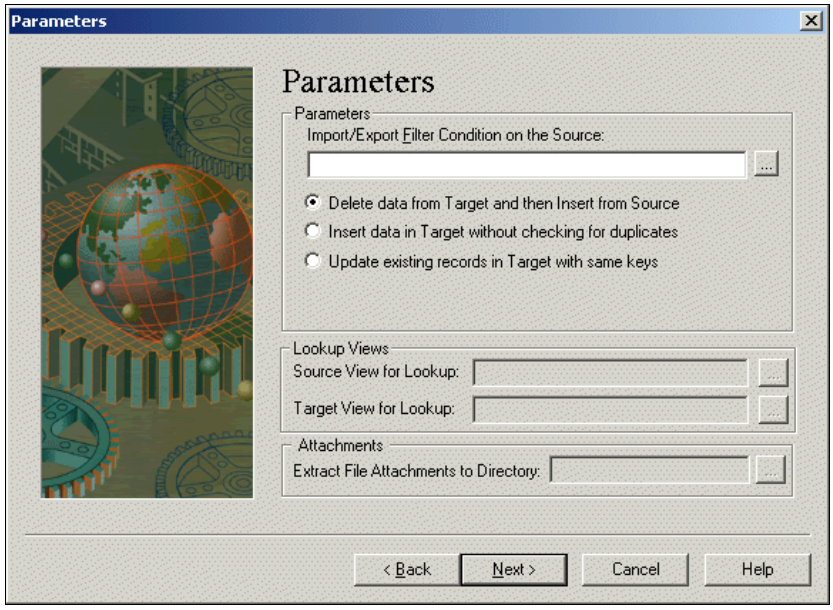

Figure 19-30 Parameter choices

Filtering can be set up by field (Figure 19-31) or keyword (Figure 19-32). VBScript or Domino's formula language can be used to set parameters.

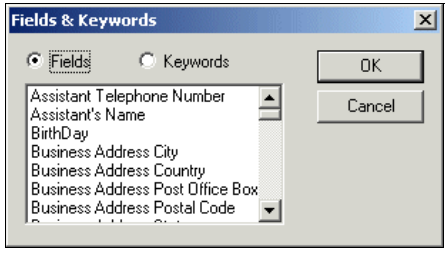

Figure 19-31 Field filter choices

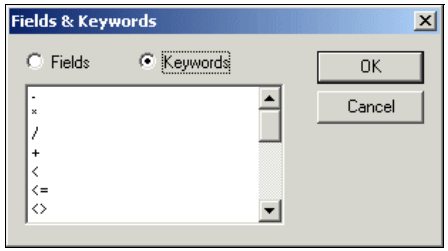

Figure 19-32 Field sort by keyword

15. You can also decide what you want to do with the source data and how to handle errors. We selected Update existing records in Target with same keys.

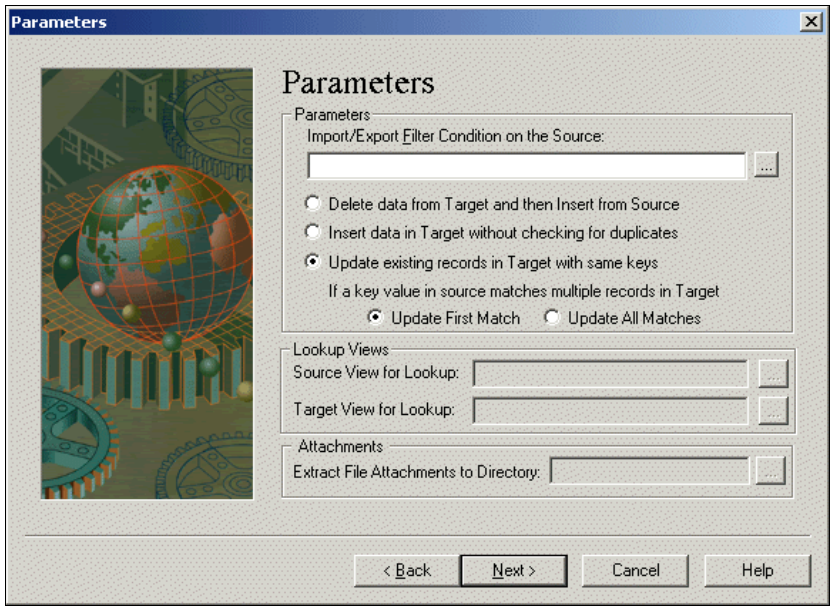

Figure 19-33 Parameter control

16. The step shown in Figure 19-34 provides execution, error control, and job handling.

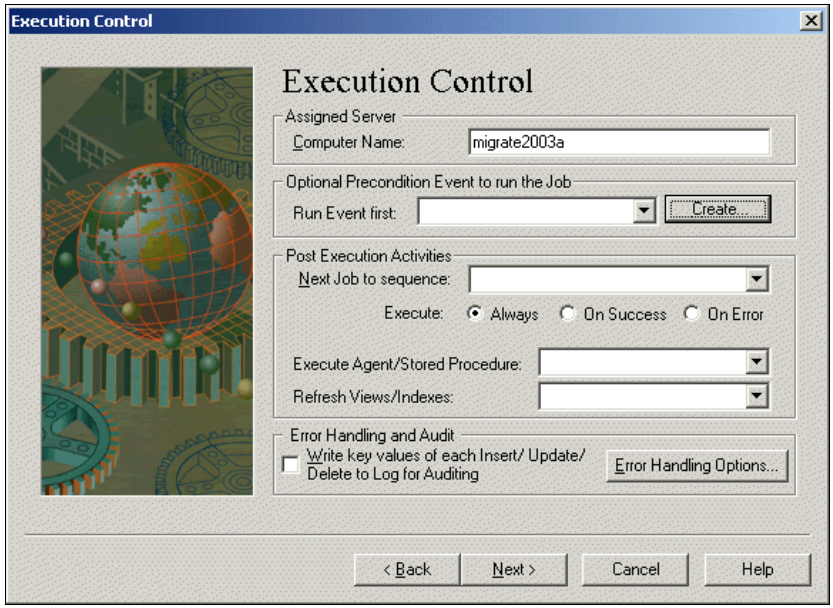

Figure 19-34 Execution control dialog box

17. The following four figures show the different scheduling options. You will need to take into account the expectations of your end users and your long term goals as you make these choices.

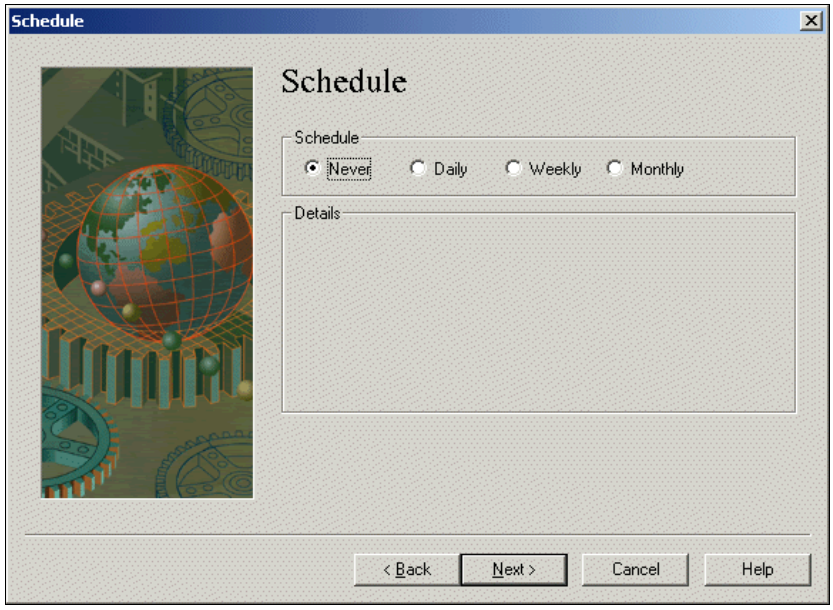

Figure 19-35 Coexistence can be run manually

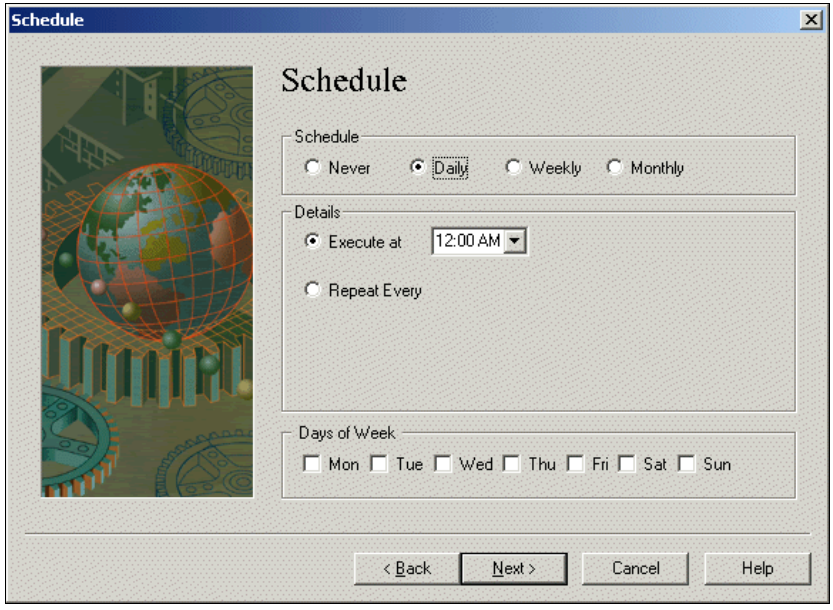

Figure 19-36 Running coexistence as a daily event

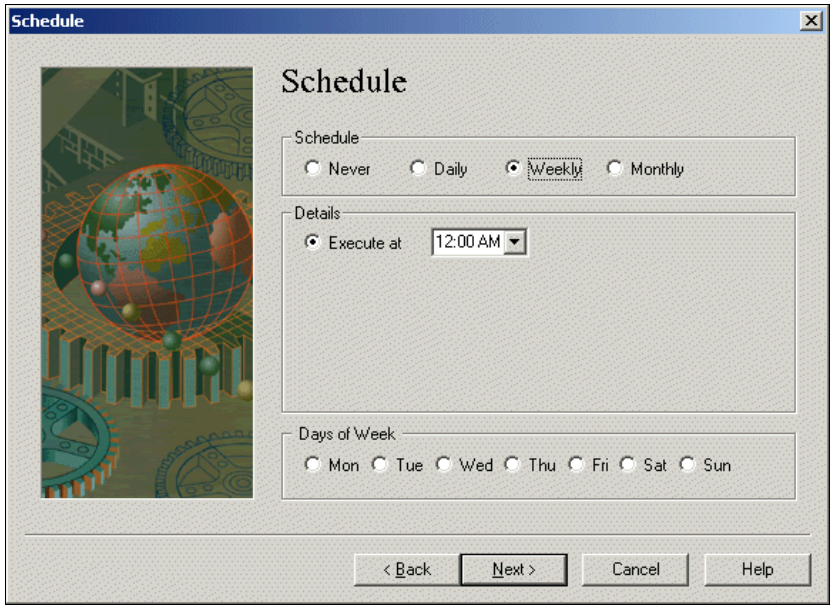

Figure 19-37 Running the job weekly

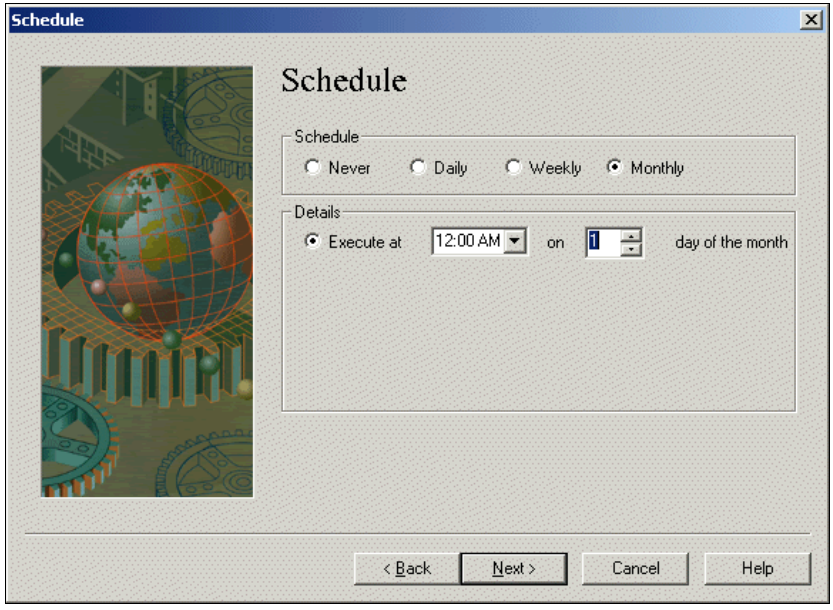

Figure 19-38 Running it once a month

18. If you want an e-mail notification to occur based on a condition, you can select a user to send it to (Figure 19-39 on page 627).

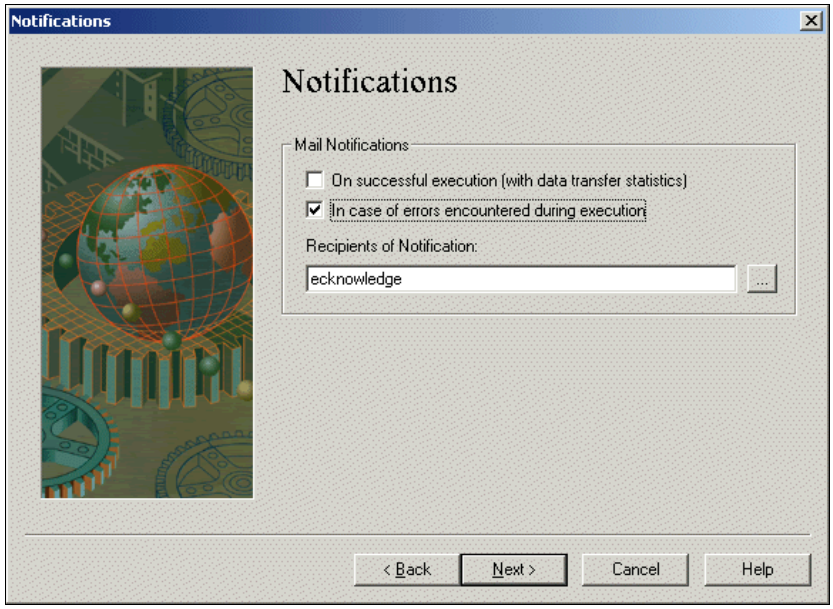

Figure 19-39 Notifications

19. Click Next.

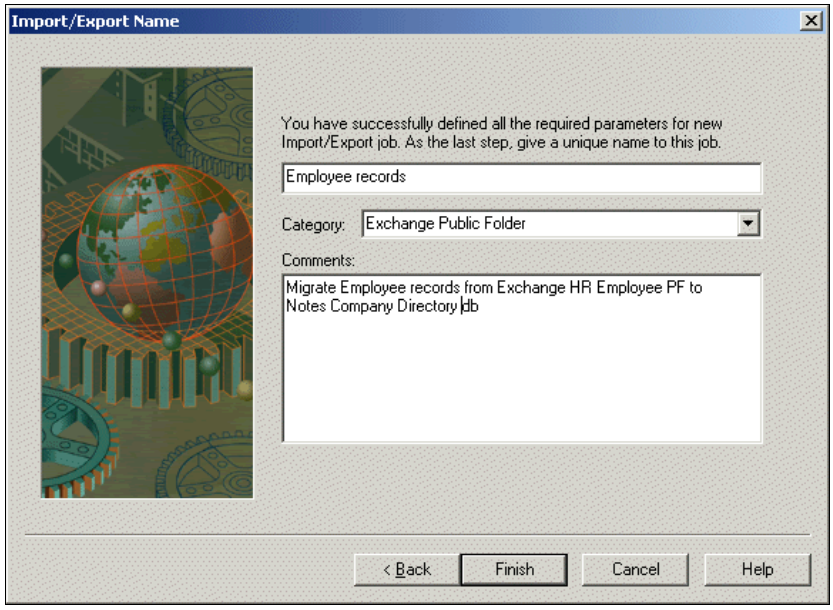

Figure 19-40 Final configuration window

20. Click Finish.

> **Note:** In many cases, we found that the Exchange hierarchy contains multiple similar folders. To take care of such cases, ecKnowledge provides an XML API. This API will allow to define the replication or import/export mappings one in Composer, and then just run in the context of different folders.

19.2.4 Running the coexistence

For our testing purposes, we elected to run the job manually from the Composer program.

1. Select the job in Composer, right-click it, and select Start to start the job (Figure 19-41).

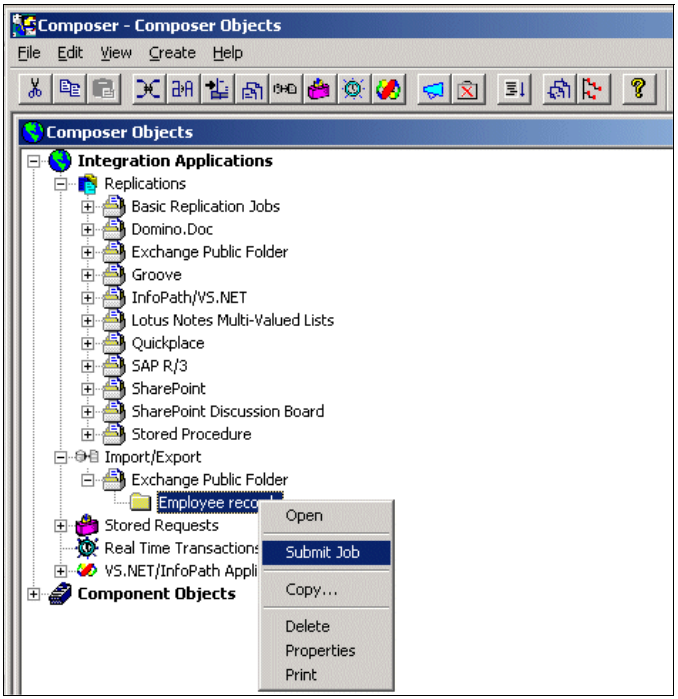

Figure 19-41 Starting the job in Composer

2. Figure 19-42 shows the data populated as a result of the job we created. If we select an entry, we can see how the data appears in Notes (Figure 19-44) and compare it to the same record in Outlook. (Figure 19-44 on page 631).

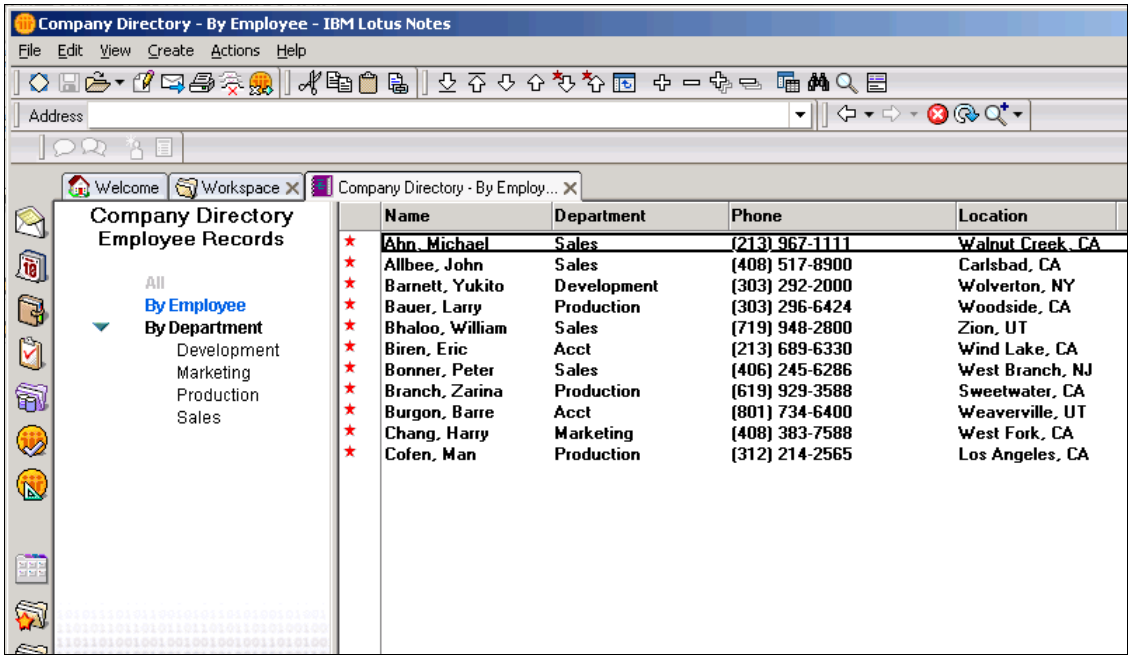

Figure 19-42 Migrated data in Domino database

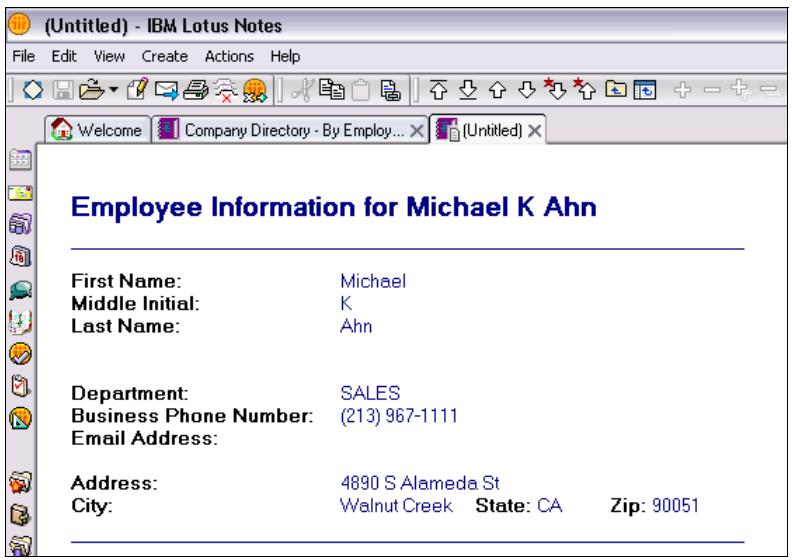

Figure 19-43 A single record shown in Notes 7

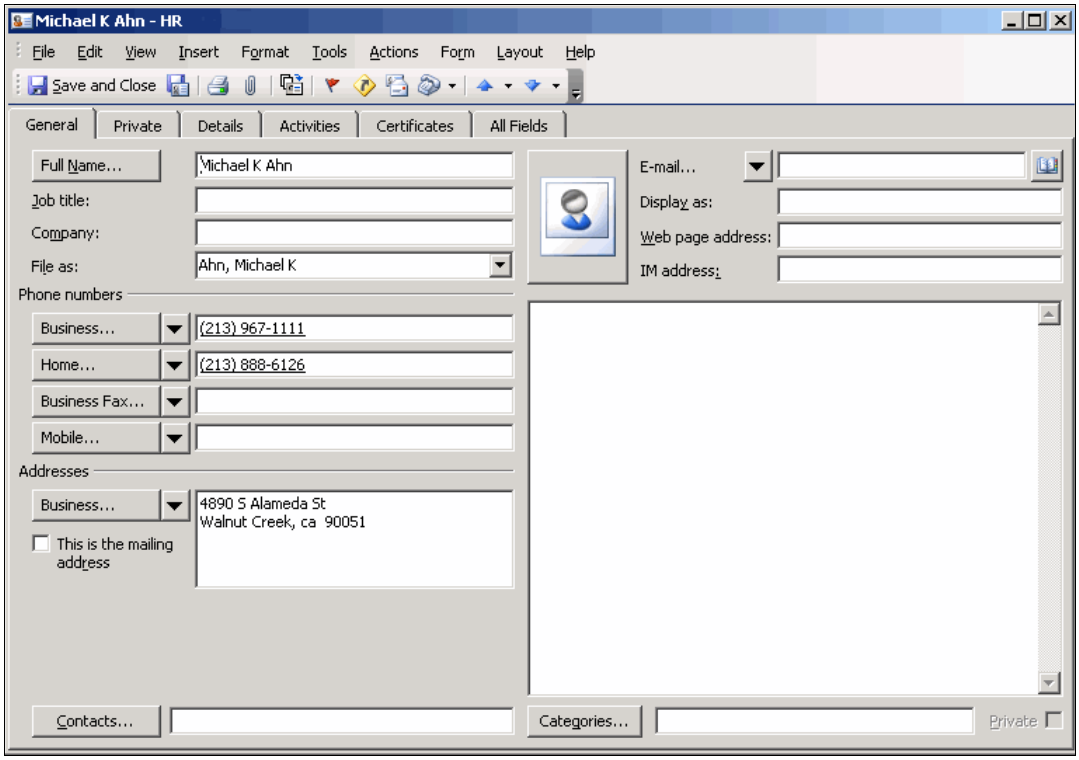

Figure 19-44 The same record in Outlook 2003

3. Finally, if you need to modify any job, you can go into Composer and examine it's properties. Figure 19-45 shows the options that will be presented.

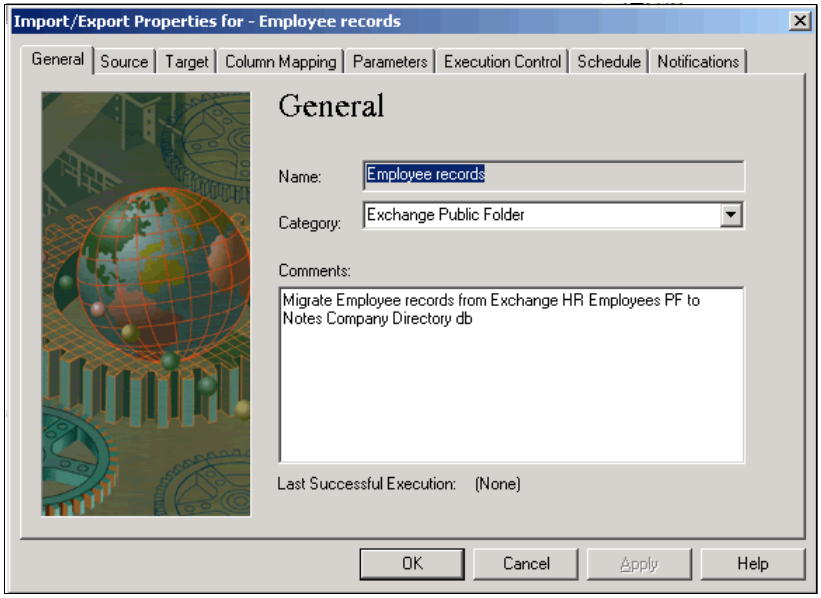

Figure 19-45 Import/Export properties

19.3 Working with a blank database

In the previous example we prepared a customized Domino database, set up the connectors, and migrated the data. The next example shows what an Exchange Public Folder looks like if you start out with a blank database and migrate data to it using ecKnowledge.

19.3.1 The Exchange Public Folder

The Exchange Public Folder has service requests in it (Figure 19-46). The form used is a simple one with a simple page holding all the fields (Figure 19-47).

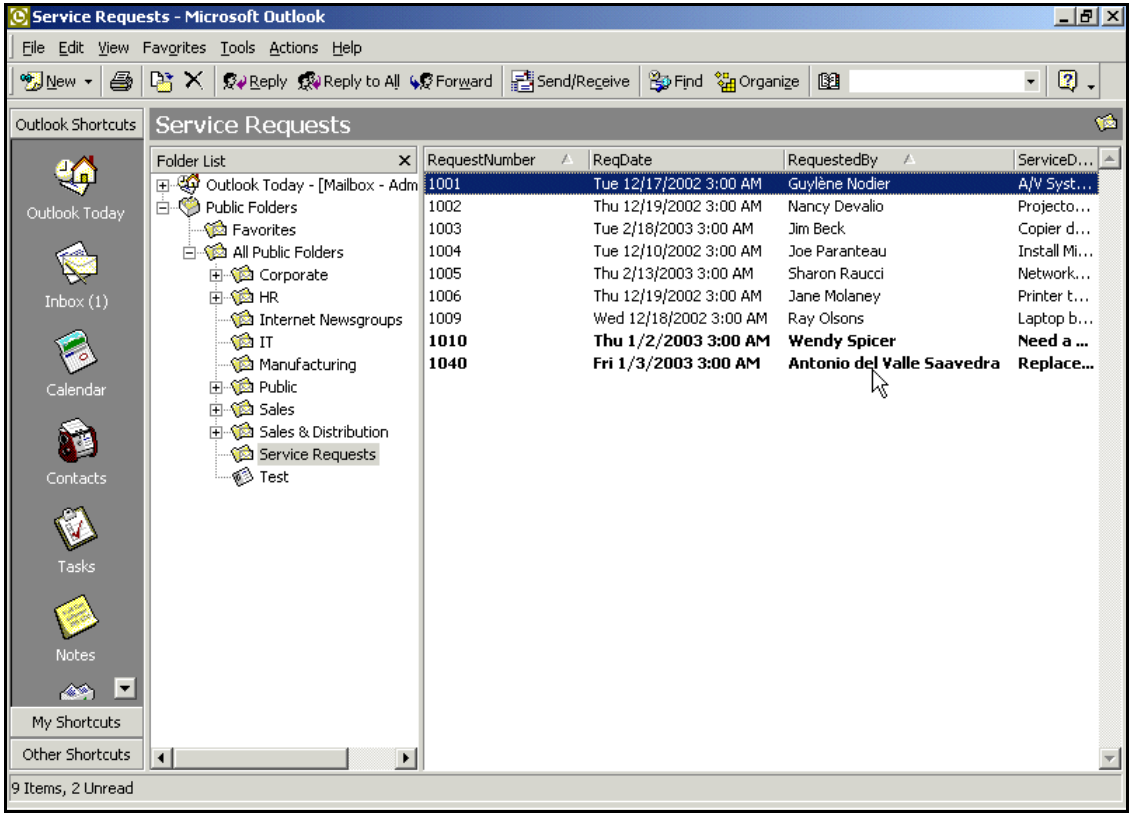

Figure 19-46 The request view of the Service Request Public Folder

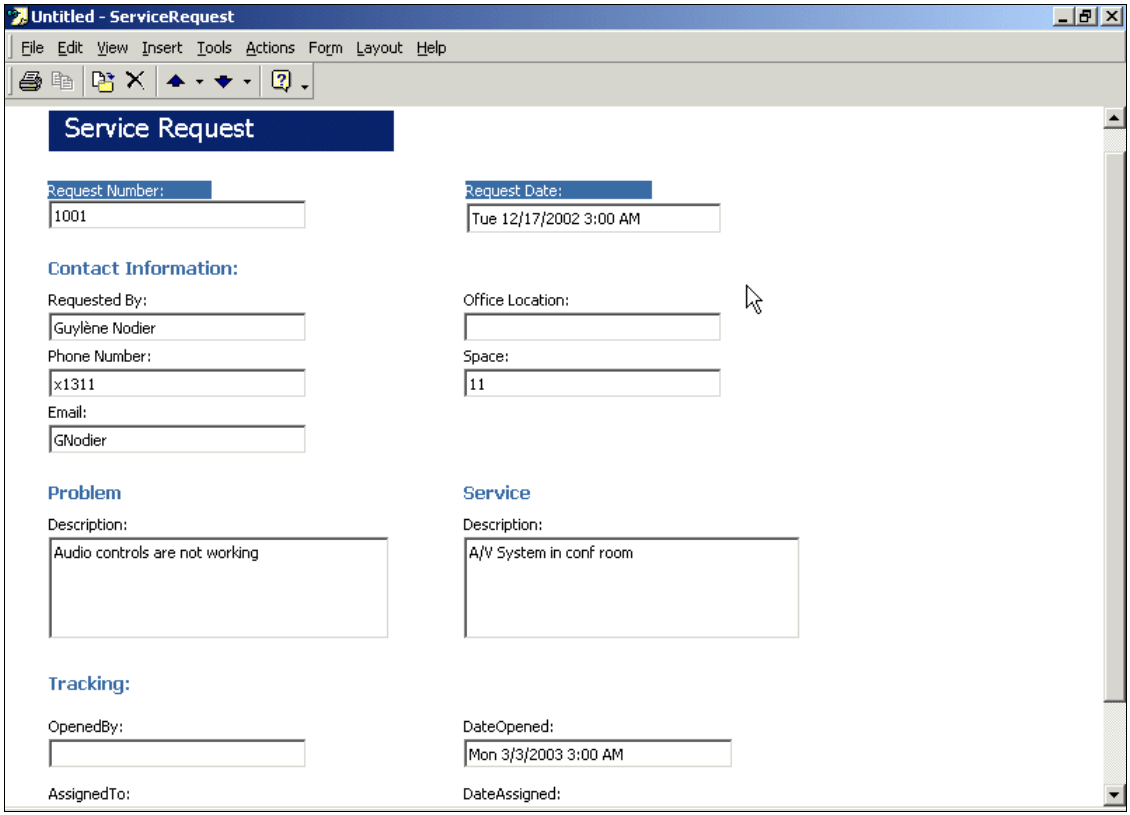

Figure 19-47 The Exchange Service Request form

The steps involved with migrating the data is almost the same as in our previous example. The only difference occurs when you are setting up the Domino side of the connector. Remember you are starting with a blank database with only the default view. In Figure 19-24 on page 618 you selected from the available Domino forms. Because you have no forms, type in the name of the form you would like ecKnowledge to create.

19.3.2 Migration results using a blank database

ecKnowledge does successfully migrate the data, as seen in the document pictured in Figure 19-48. While somewhat plain looking, it does have the information from the Service Request Public Folder in it and it is somewhat usable.

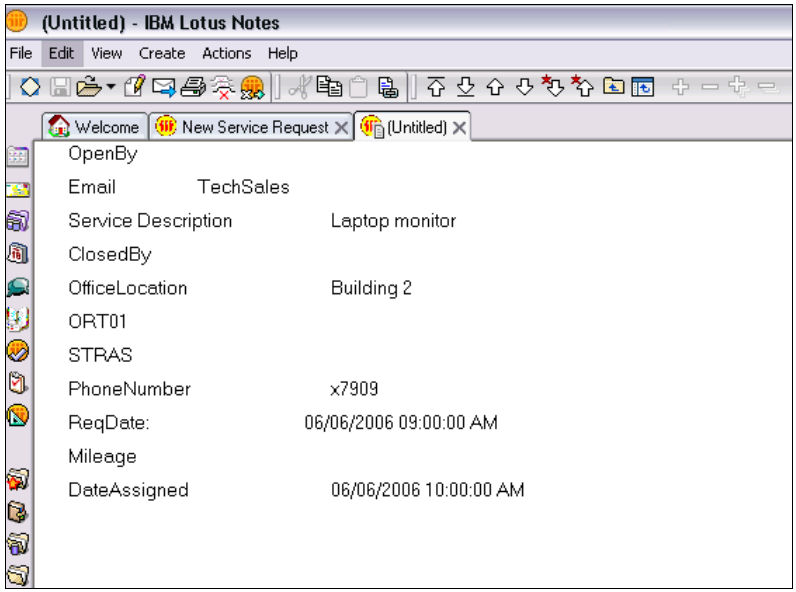

Figure 19-48 Migrated data with the form created by ecKnowledge

The view, however, only shows document numbers, and to someone unaware of Domino view capabilities it would look broken (Figure 19-49).

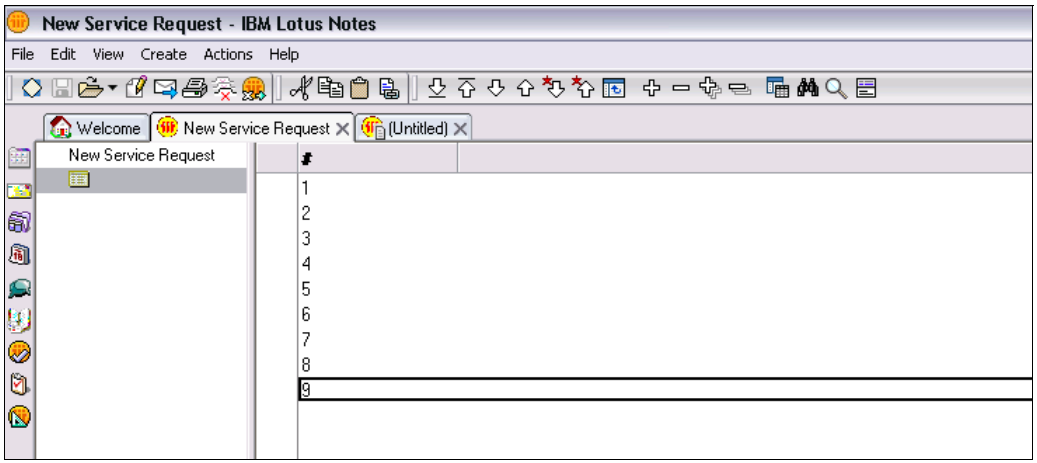

Figure 19-49 The view of data migrated into a blank database

To give end users what they had in Outlook, we need to modify the Notes view to show the contents of the Request Date, Request Number, Requested By and Service Description fields. We will do that with the Domino Designer program.

19.3.3 Using Domino Designer to modify the view

This section is not a complete guide to building views; that would be beyond the scope of this book. All we are interested in doing right now is making the views look the same as they do in Outlook. You will need a copy of Domino Designer, which must be purchased separately. This section assumes you have never used Domino Designer before. If you are a Domino developer, you can skip this part since it is only targeted for Exchange Administrators and other who need a very basic high-level overview of how changing a view is done.

1. Open the Service Request Database in Domino Designer.
2. Select the Untitled view in the left side of Designer (Figure 19-50). By default, only one column is defined, and that uses a document number by default defining what is presented to the end user.

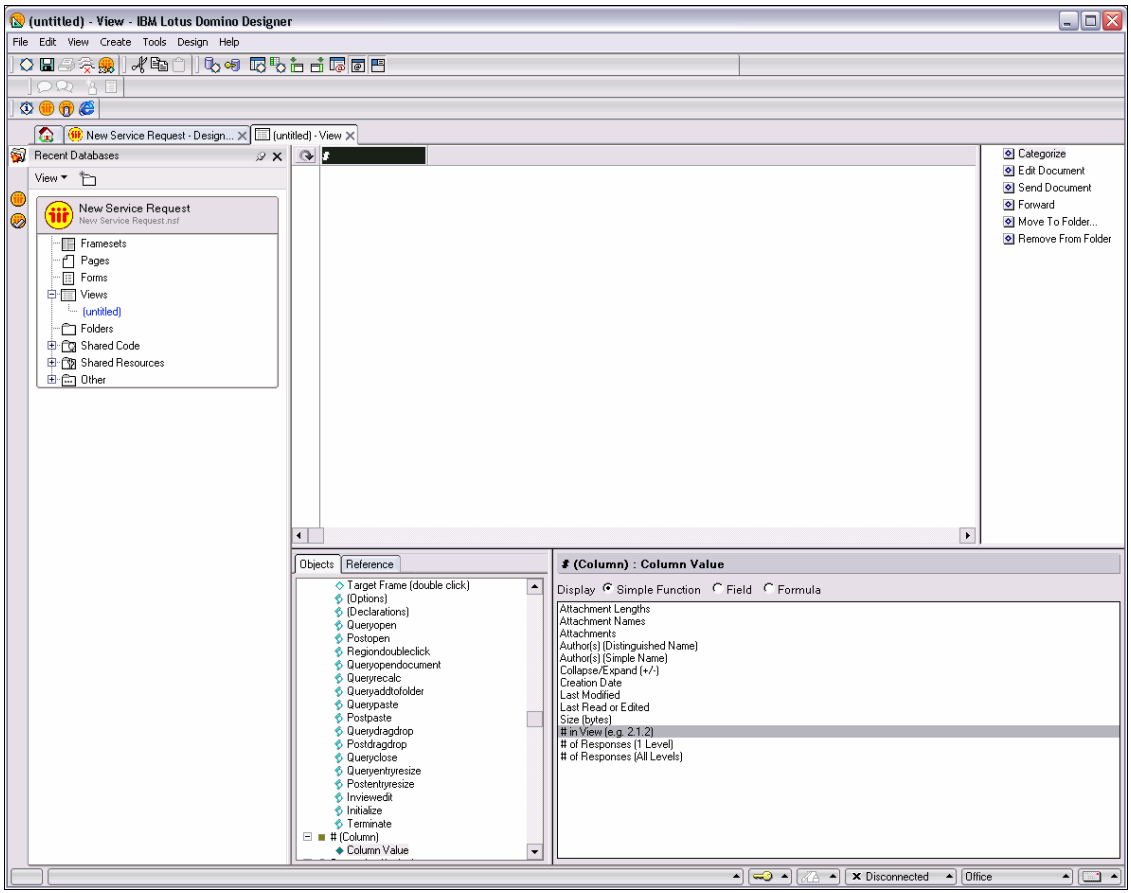

Figure 19-50 The default view of the Domino Service Request Database

3. Each column in a Domino view will have its own set of properties that will control things like appearance, sort order, and data format. You can reach the column properties by right-clicking the column in designer. You can also access them by the menu selections Design → Column Properties).

   You change the contents of a column at the bottom of designer. There you can place the content of a field, or multiple fields if you wish. You can add logic and simple functions as well.

4. Let's change the value of the first column. With the first column selected, at the bottom of the screen select the field radio button (Figure 19-51) and then select the reqdate (requested date) field.

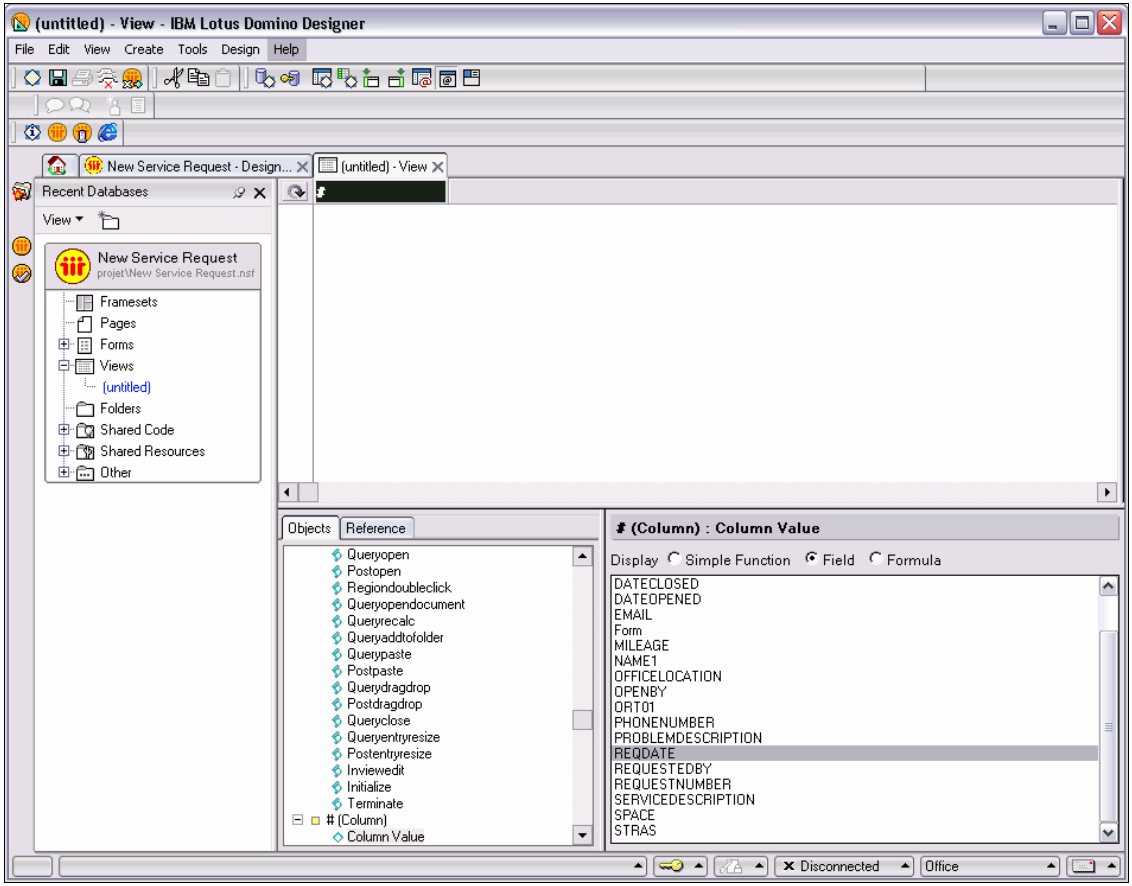

Figure 19-51 Select the Field radio button then reqdate

5. You can then go to the properties box for the column and change things like the title and format of data. Clicking the check box saves your changes.

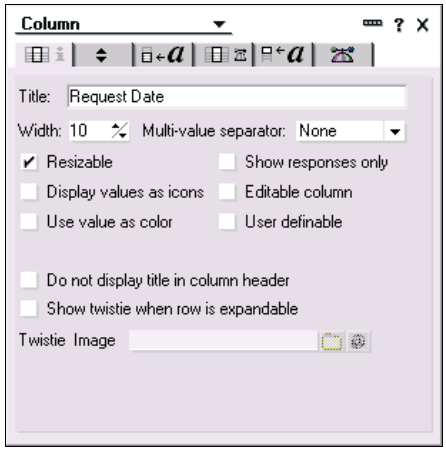

Figure 19-52 Column properties

6. You might as well change the name of the view and save it. In the Domino Designer select Design → Properties.

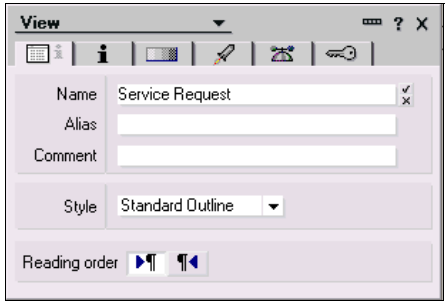

Figure 19-53 View properties

7. You can insert or append to add additional columns. Inserting adds a column to the left of the selected column and appending adds a column to the right of the last existing column. If you make a mistake you can drag and drop a column to the right place later. Figure 19-54 shows that we are inserting a new column.

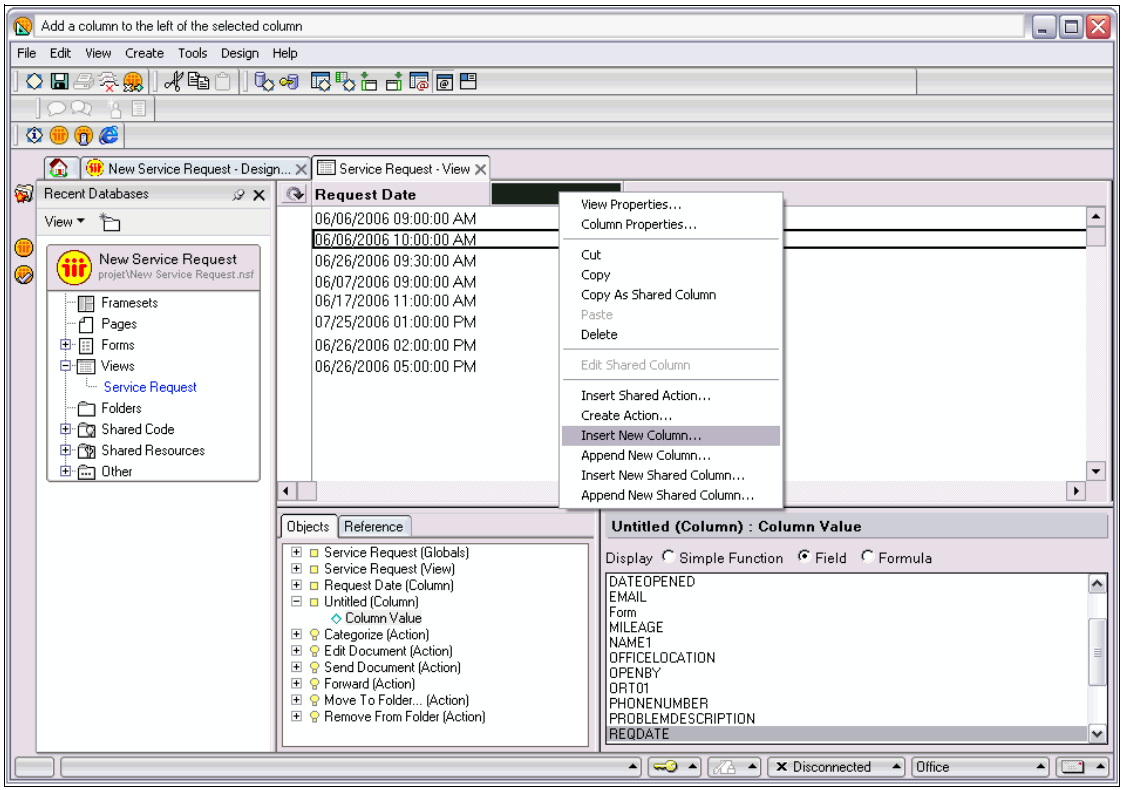

Figure 19-54 Adding a column

8. You can add any field you want to be shown in a view except for a field of type Rich Text.

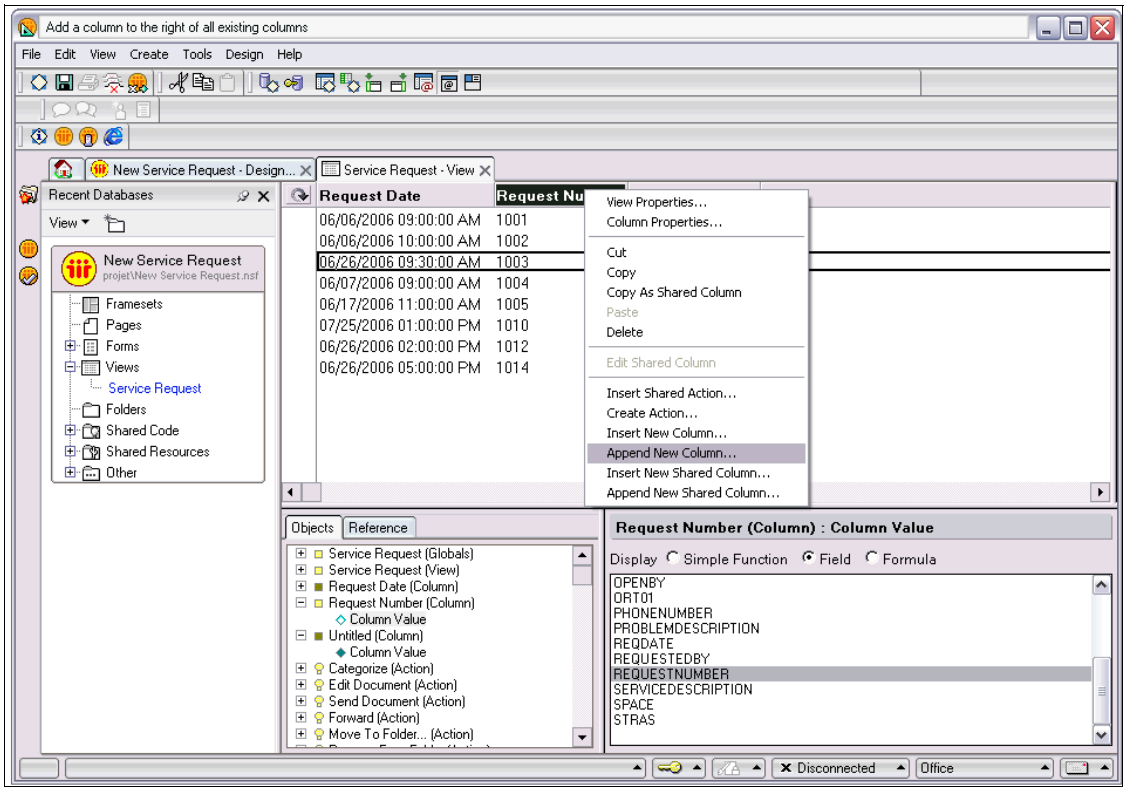

Figure 19-55 Appending a column to a view

9. Add the fields you want to each column, and make whatever changes to the column properties you may need, based on the types of data.
10. When you are done, your end users will see something that is similar to what they had in Outlook. This is illustrated in Figure 19-56 on page 641.

If you need more information on how to further customize views for your end users, see the Domino Designer 7 Help database, IBM Redbook *Domino Designer 6: A Developer's Handbook*, SG24-6854-00, contact a Business Partner, attend a Domino Developer's training class, or search the Lotus Developer Domain at `http://www.lotus.com/ldd` for additional resources.

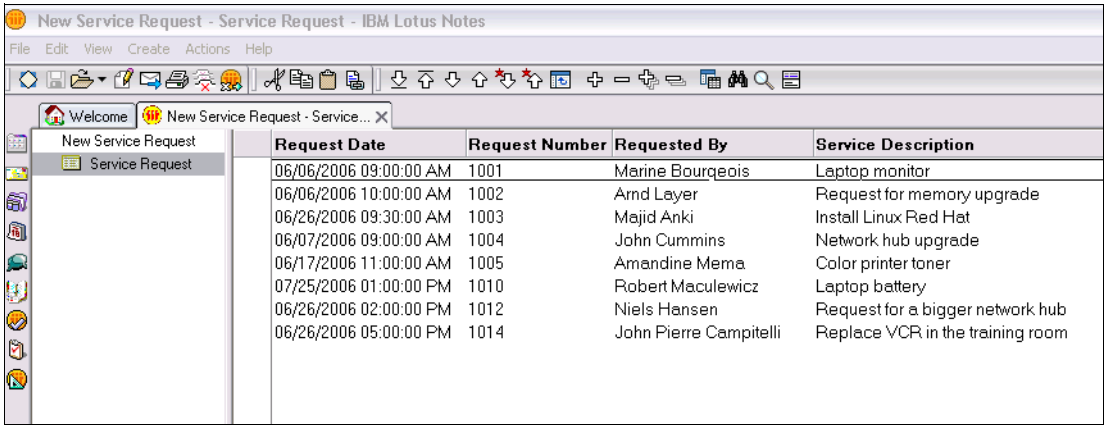

Figure 19-56 The Notes view after the modifications

19.4 Conclusion

If you have data in your Public Folder that you need to not only migrate but also coexist with, as demonstrated here, you do have options. Success will depend on you setting expectations as to performance and latency and making the transition of entering data in Outlook to Notes as seamless as possible. It may require some planning and effort but that should help overcome any resistant to migrating from Exchange to Domino that is based on data stored in Public Folders.

20

Public Folder migration using CMT migration tool

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This section deals with a one way migration of Public Folder data from Microsoft Exchange 2003 to Lotus Domino 7. The tool we describe for accomplishing this is the CMT for Exchange Public Folders migration tool (referred to as “CMT” or “CMT tool” later) from Binary Tree. The Domino Upgrade Service does not currently support the migration of Public Folder data. As with all the products mentioned in this book, you should thoroughly evaluate the CMT tool to see if it is appropriate for your environment.

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20.1 Binary Tree's CMT for Exchange Public Folders

The data in a Microsoft Exchange Public Folder often has significant value that has been protected with permissions based on the identities stored in Active Directory. To help firms recover the intellectual capital often found in these Public Folders, Binary Tree has created CMT for Exchange Public Folders. CMT not only takes data from the Public Folders, but can also mimic the permissions that existed on the Exchange servers in brand new Domino databases. CMT migrates the standard Exchange document types, including mail messages, calendar events, journal items, tasks, and notes. If your Public Folders contains forms that have been modified to include additional fields and data types, the CMT tool can be customized to migrate this data as well. Visit the Binary Tree Web site for additional information about the CMT for Exchange Public Folders migration tool at: http://www.binarytree.com

Migrating Public Folders from MS Exchange Server to Lotus Domino Server is a four-step process:

- First, you set up the migration settings from within CMT,
- Secondly, you import the public folder names into CMT,
- Then, you resolve the names from within CMT,
- Finally, you migrate the public folder contents into Notes databases.

20.2 Setting up the CMT tool

The CMT migration tool is a Domino database that needs to be configured prior to its use. Before you begin that, one issue that came up in our testing: verify permissions on the Public Folders being migrated. A MAPI profile is needed to read the Public Folder Hierarchy and the data in the Public Folders. It is recommended that the MAPI account used have owner rights to any public folder being migrated. That allows the profile to read all of the information in a Public Folder, including attachments, and recreate the Public Folder contents in the migrated databases. Verify, as well, that the Notes user migrating the Public Folders has the necessary rights to create Domino databases on a server.

20.2.1 Configuring the import of Public Folders tool

1. On your Notes client, open the CMT tool database and open the Migration Settings document (Figure 20-1).

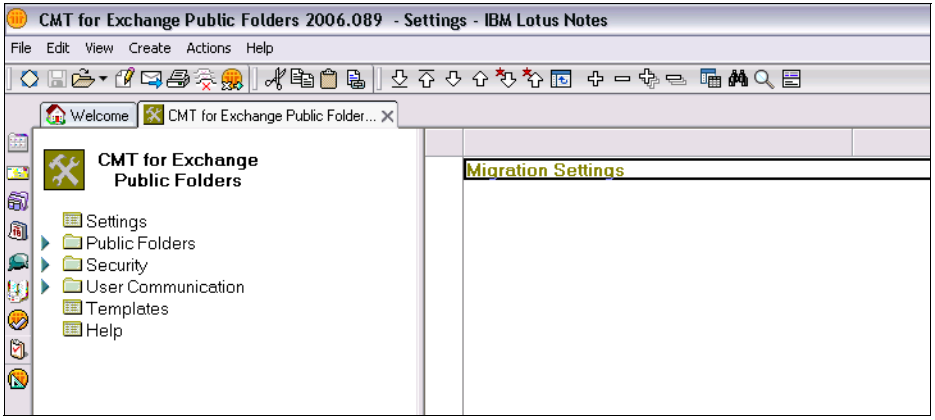

Figure 20-1 Default view of the Migration Database

2. On the General Settings tab (Figure 20-2 on page 646), you will need to:
   - fill in the name of the Domino server where the Domino address book (Domino Directory) is located,
   - enter the name of the Domino address book file name.
     The address book on the Domino server is used to compare and try to resolve the names found in the Exchange permissions to get a Notes canonical name that coincides with the Exchange distinguished name. This process is covered in the Security section on page 651.
   - select the level of logging for the migration tool.
     Only use verbose logging for debugging purposes. Verbose logging will generate very large logs that get attached to the Public Folder document.
   - select the Public Folder template.
     The CMT for Exchange Public Folder Migration Tool comes with a modified mail template that is used for creating the Notes databases. The main modification is the ability to store contact lists in the folder list in Notes. CMT also keeps shared calendars and shared contact lists separate in the folder list. The template design is open for further modifications.

Important: Modify the default Access Control List (ACL) entries of the template to suit your access requirements.

The Custom code flags and Rules options are advanced options.

Note: You can create rules to further refine your migration process. The procedure and features provided are similar to those described in chapter Chapter 13, “Server Level Migration process using CMT from Binary Tree” on page 401, and more specifically in “How to define migration rules” on page 418.

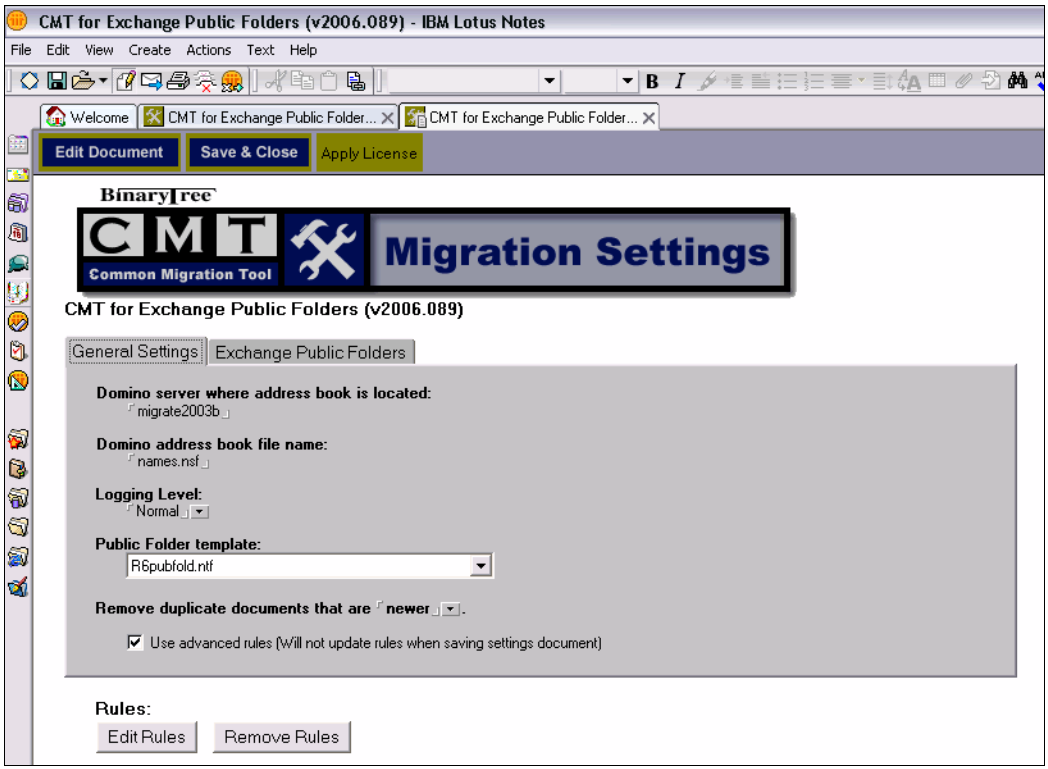

Figure 20-2 Domino Configuration page

On the Exchange Public Folder page (Figure 20-3 on page 647 and Figure 20-4 on page 648) you will need to select different parameters.

You may need to set the Exchange Public Folder Root to have nothing in it, depending on what you would like to import. The root is top-level Public Folder you would like to migrate. This becomes a Notes database and all of the sub-folders under this root become internal folders in this database. If you migrate multiple top-level folders, you will have multiple Notes databases. We left the Exchange Public Folder Root blank, so we could take all of the Exchange Public Folder.

You will specify the names of the Domino server and the directory where the new Notes databases are created. The default directory name is All Public Folders.

Make sure you have all of the message types selected that you would like to migrate. If you leave the wildcard symbol “*”, CMT will migrate all of the message classes as well as rich text.

You might also want to specify a profile to use for the migration of Public Folders. That will prevent being asked each time a database is created. The MAPI profile used for the migration has to have Owner access in the Exchange permissions.

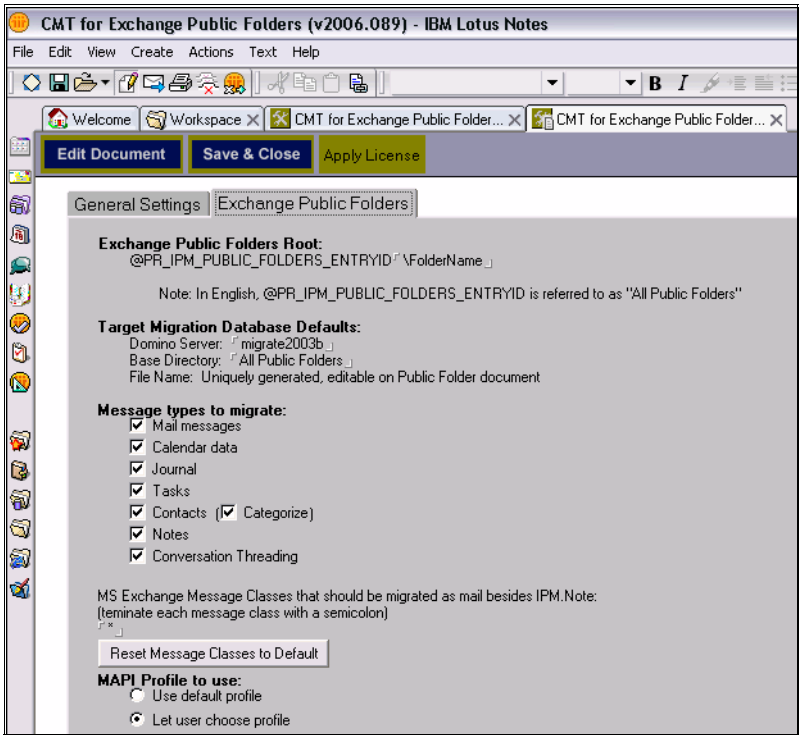

Figure 20-3 The Exchange Public Folder configuration page (top half)

The security options are found under the Exchange Public Folders Migration Settings (Figure 20-4 on page 648). CMT can bring over Database security, Folder security and Document security. These settings determine what rights should be migrated along with the data. Make the appropriate selections according to your security requirements and policies.

– **Database security:** The database security settings will remain intact and apply to the public folders migrated to Notes.

- **Folder security**: The security surrounding each folder (who can access which folders) will apply to the migrated folders in Notes.
- **Document security**: The security surrounding each document (who can access which documents) will apply to the migrated documents in Notes.
- **Ignore ALC entries whose permissions exactly match the Default entry**: The Access Control List (ACL) has the names of users who can access a specific database and documents in Notes. Each database has an ACL. In Exchange, security is at the folder level. In order to users' security to stay the same after the migration, CMT has to manipulate the document and database security. Each ACL has a default entry. You can have users who either match or do not match the ACL entry added to the ACL. Click on the check box to have users whose security does match the default NOT added to the ACL. Uncheck the check box to have users whose security does match the default ADDED to the ACL.

Figure 20-4 The Exchange Public Folder configuration page (bottom half)

The Import All Public Folders Actions section relates to the Import All Public Folders button found in the Public Folders views.

- **Merge database at top level**: The same database name is used for the top-level folder and all of the sub-folders found in the Exchange folder structure.
- **Use Aggregate Names**: The Exchange display name is used for the Notes database name.

The Custom fields section is used for migrating custom MAPI properties that are found in the Exchange Public Folders. You have three options:

- Ignore custom fields
- Use mapping file.
- Bring across all custom fields. If you select this option, you will need to go into the design of the Notes database and make all of the new fields viewable in Notes (see “Dealing with customized Public Folder forms” on page 662).

3. Once your selections are completed, click on Save & Close. You are ready to import and migrate the Exchange Public Folders.

20.3 Importing Public Folder names

1. Open the Public Folders view and select By Display Name.
2. Click Import All Public Folders as shown in Figure 20-5 on page 649. This does not perform the migration; it just brings in the folder names so you can select the ones you wish to migrate into Notes database(s).

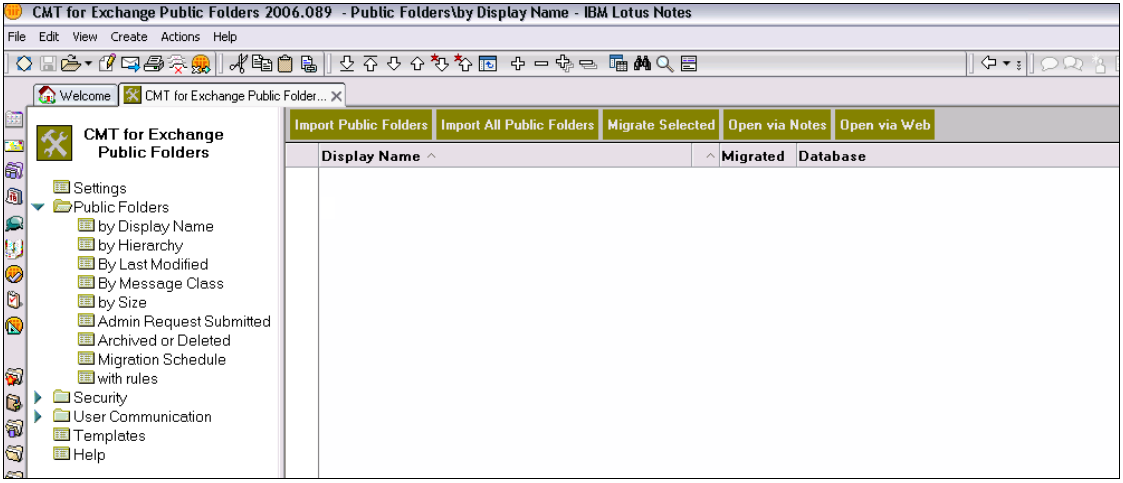

Figure 20-5 Bringing the Public Folder list into the CMT database

3. As the process begins you are asked for the Public Folder root (Figure 20-6). We went with the default of All Public Folders.

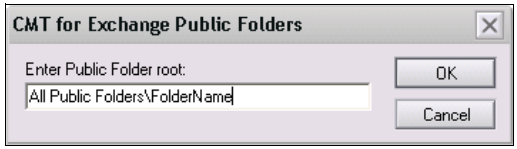

Figure 20-6 Public Folder root selection

4. The next question concerns which MAPI profile you want to use. If multiple profiles exist on the workstation, choose the one with owner rights to the Public Folders you wish to import (Figure 20-7).

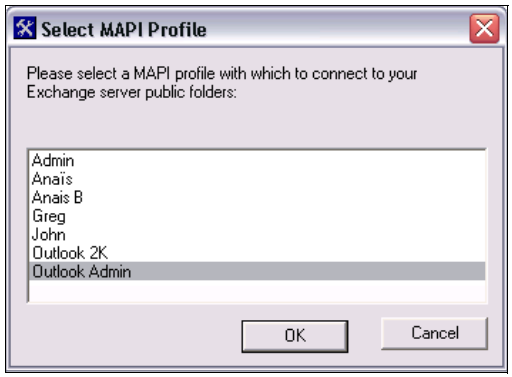

Figure 20-7 MAPI profile selection

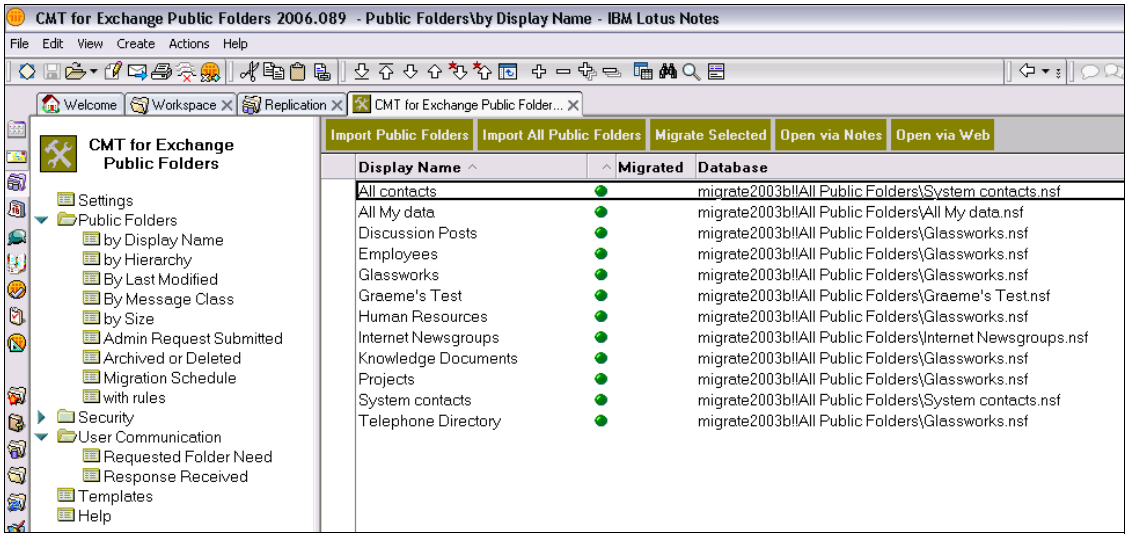

Figure 20-8 List of imported Public Folders

20.4 Name resolution, Security and Migrated permissions

During the Public Folder import phase, CMT is collecting the user entries found in the Exchange permissions and creating a person or group document located in the Security view of the CMT for Exchange Public Folder Migration Tool (see Figure 20-9 on page 651).

When you open any of the Security views, a list of all of the Exchange Display Names appears. The next step is to try and resolve all of the Exchange Display Names to a Notes Name. Select all documents and click on the Resolve Selected button. When the resolve is done, it will prompt you to see the log that was generated during the process. If the resolve worked, you should see a Notes Name that corresponds with the Exchange Display Name. For the names that did not resolve, you will have to edit the documents and select the correct Notes Names or mark the user as Ignore.

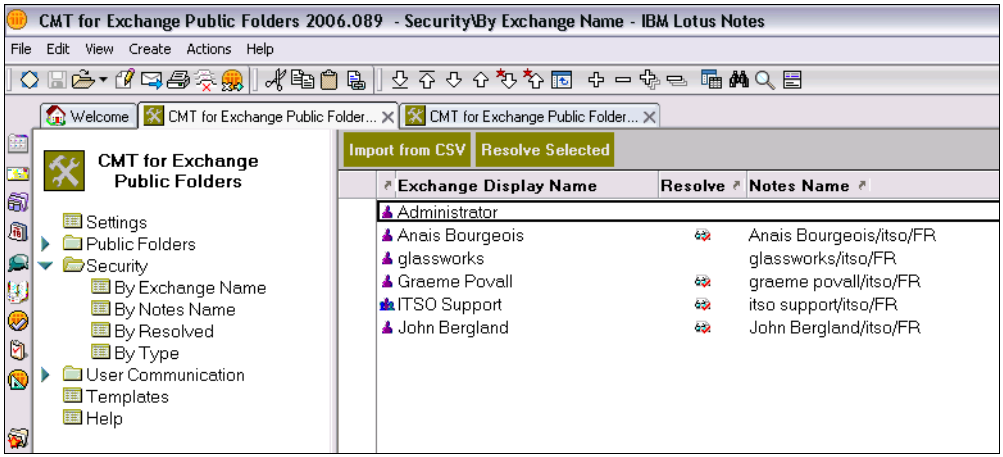

Figure 20-9 Successful mapping of users from Exchange to the Domino Directory

Additional information is found in the ACL Settings section in the Public Folder document (see Figure 20-14 on page 655).

With the ability to do ACL matching, CMT for Public Folders will translate Exchange permissions into Domino permissions. The equivalent permissions are shown in Table 20-1.

Table 20-1 Permission levels in Exchange and Domino

Exchange permission	Domino permission
None	No Access
Contributor	Depositor
Reviewer	Reader
Author	Author
Editor	Editor
Owner	Manager

Figure 20-10 is an example of a security document showing Anais Bourgeois has been resolved and marked as a person. The Exchange Permissions are mapped to Notes security during the migration. When CMT finds the Exchange Distinguished Name, it replaces the Distinguished name withe the Notes Canonical Name in Notes security. To ensure that security is brought over, you need to make sure all users have an Exchange Distinguished name with a matching Notes Canonical name.

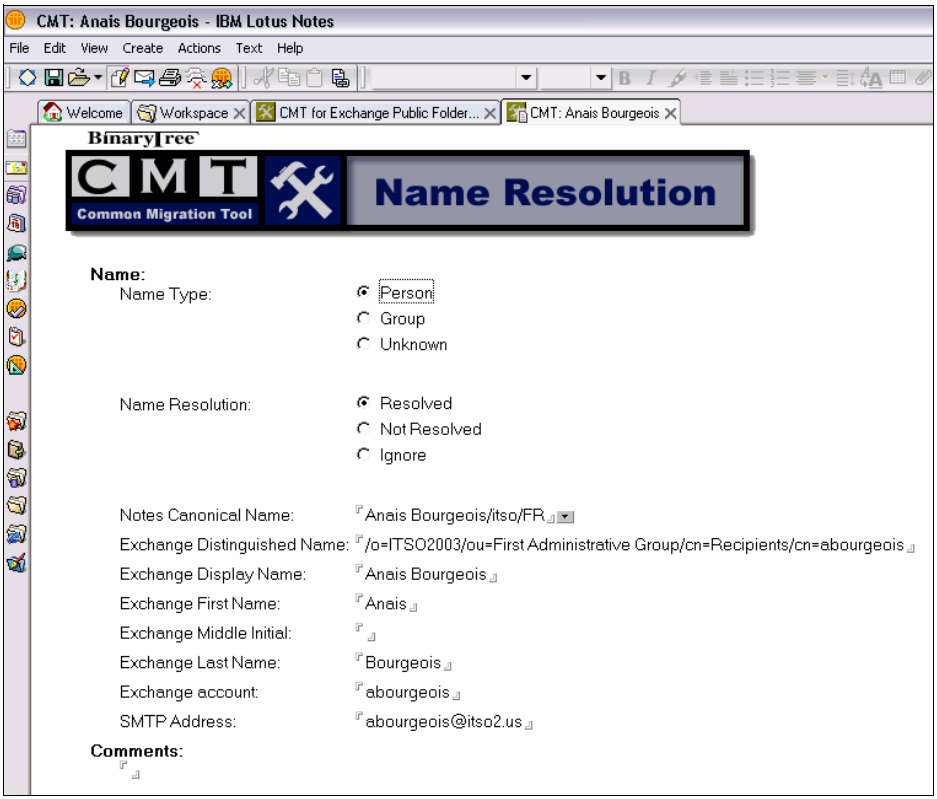

Figure 20-10 Name Resolution document for Anais Bourgeois

Once you have resolved the names found in the list, you are ready to proceed with migrating the Public Folders.

20.5 Migrating Public Folders

The next step requires a bit of analysis before you go forward. The CMT tool is designed to import data from the “standard” kind of Exchange Public Folders, such as Contacts. The CMT tool will use a template with forms that map to fields in those kinds of forms. If you ask CMT to evaluate and import “customized” folders, you might not get the expected results. More on that later.

For our Migration test we started with some basic Public Folders which are based on the “standard” kind of forms, as well as a mix of folders that had the basic Outlook forms customized.

In your testing of the product, be sure to evaluate a wide cross section of documents that are in a Public Folder. In some migrations, success is a seamless transfer of data across systems. Since Public Folders may hold timely and relevant business information, mitigating any issues before hand will help meet any expectations that may be set as part of the deployment.

Before you migrate any public folder, you can review and edit the info data collected during the Import phase.

1. Open the public folder document to be reviewed. The informational data is classified into four categories (Figure 20-11).

   The Exchange Folder Info section lists the data collected from the Exchange Public Folder, including the message classes if any.

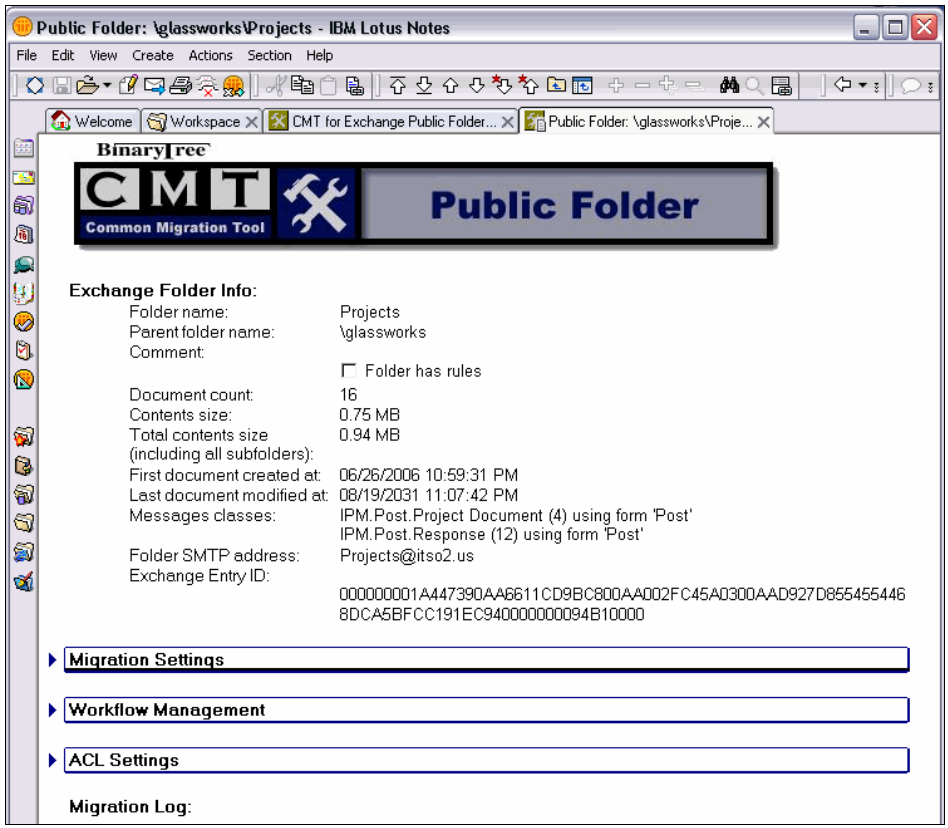

Figure 20-11 Overview of a imported public folder document

The Migration Settings section shows the folder name, the Domino server, the Notes database path, and the Notes URL for the public folder. You can edit any value as required.

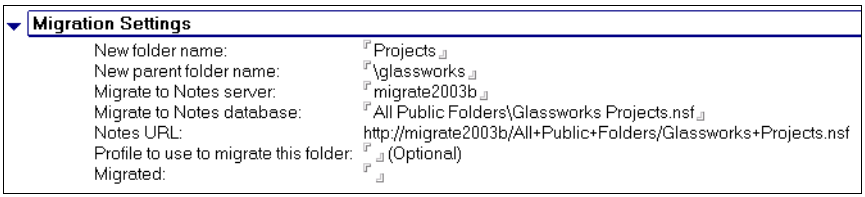

Figure 20-12 Overview of migration settings for a public folder

The Workflow section provides useful information on the status of the migration, whereas the ACL Settings section gives insight on the roles and permissions granted.

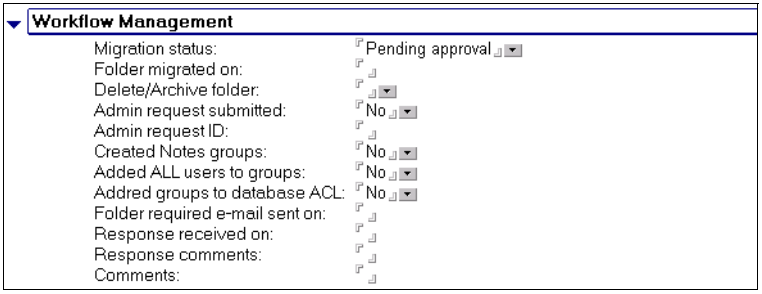

Figure 20-13 Overview of workflow settings for a public folder

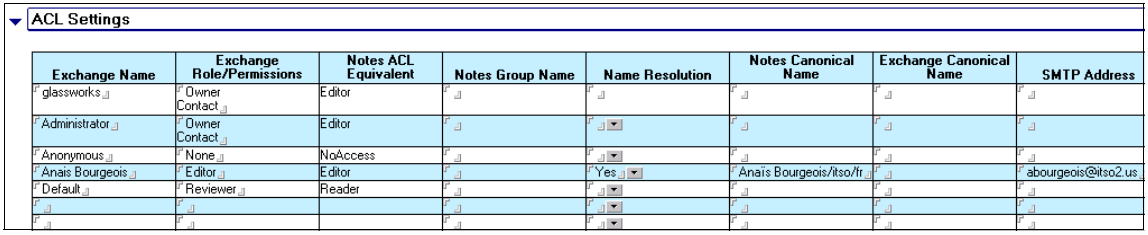

Figure 20-14 Overview of ACL settings for a public folder

If you are satisfied with your settings, close the document.

2. Select the folders you want to import from the list and click the Migrate Selected button to start the job (Figure 20-15).

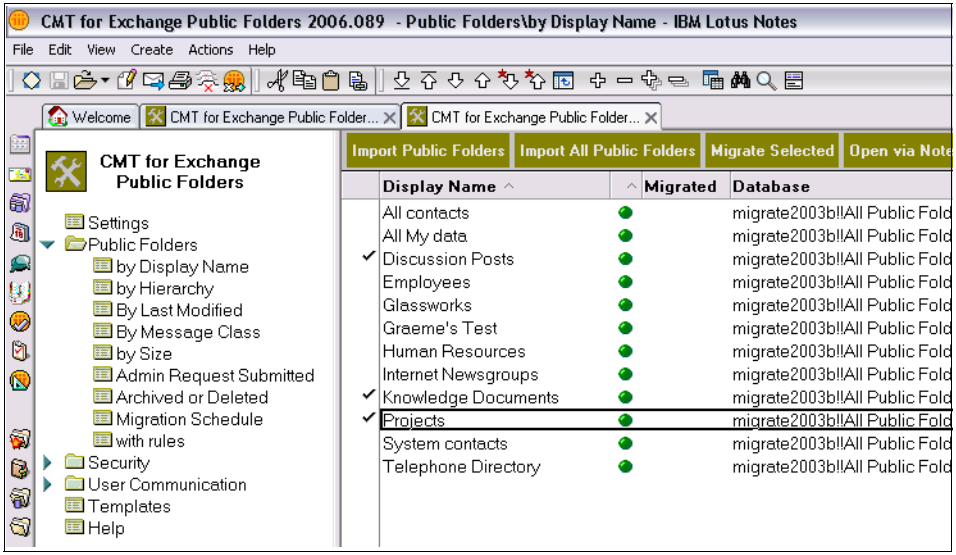

Figure 20-15 Selecting the Public Folders to be migrated

3. You may be prompted to accept or reject the overwriting of Domino databases and may need to confirm the MAPI profile used during the migration. (You have the ability to predefine these options in the Exchange Public Folders configuration page, see Figure 20-4 on page 648.)

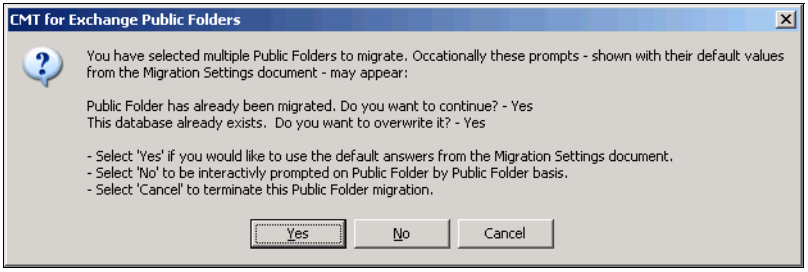

Figure 20-16 Overwriting existing databases message

4. You will see different progress bars while migrating.

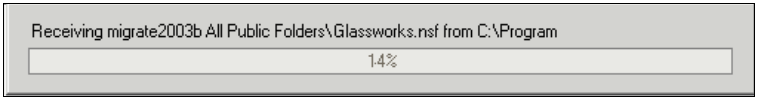

Figure 20-17 Typical progress bar seen during a migration

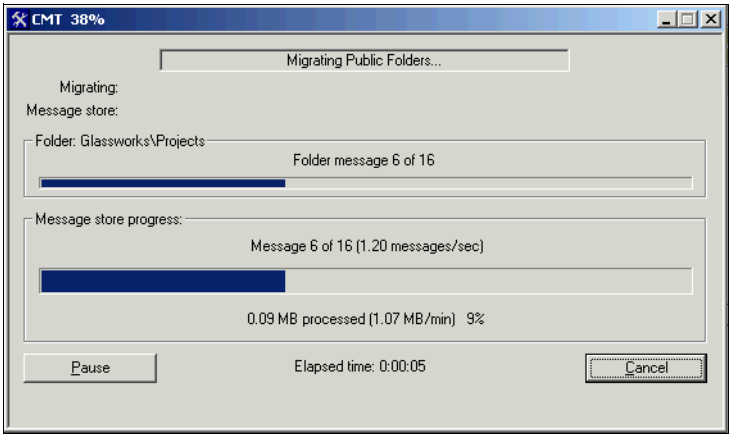

Figure 20-18 Progress bar indicating the status for a given Public Folder

5. When the migration is done, a green check mark appears next to the name of the folder, indicating successful migration.

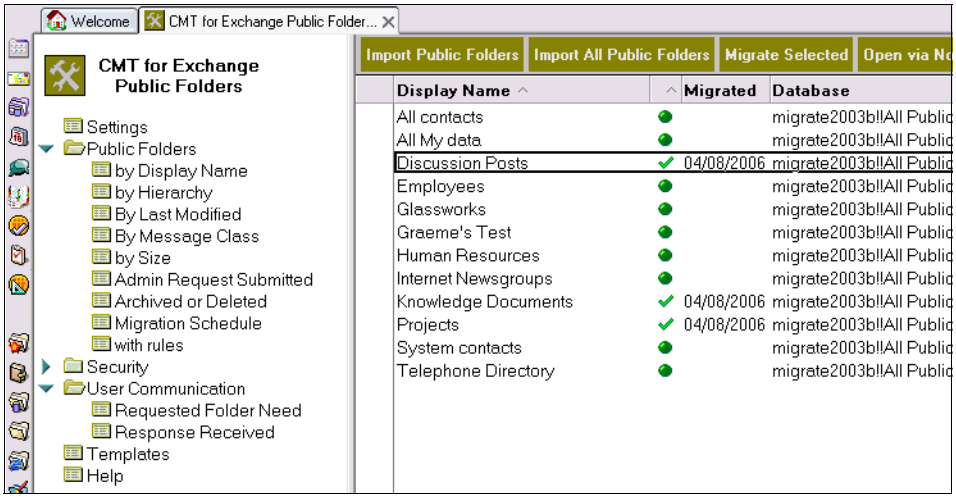

Figure 20-19 Status report showing a batch of successfully migrated Public Folders

Attention: We did see mixed results when looking at the various documents, and noticed that not all data is migrated without problems. CMT for Exchange Public Folders tool uses the same engine for converting documents as CMT for Notes does, and we have documented the migration results of the individual message types, in Chapter 15, “Migration Results” on page 467. We advise that you carefully examine the data types that may exist in your Public Folders and consider the consequences that the possible loss of any data fidelity might present.

6. Figure 20-20 shows the Domino database after the Public folder information has been migrated to it.

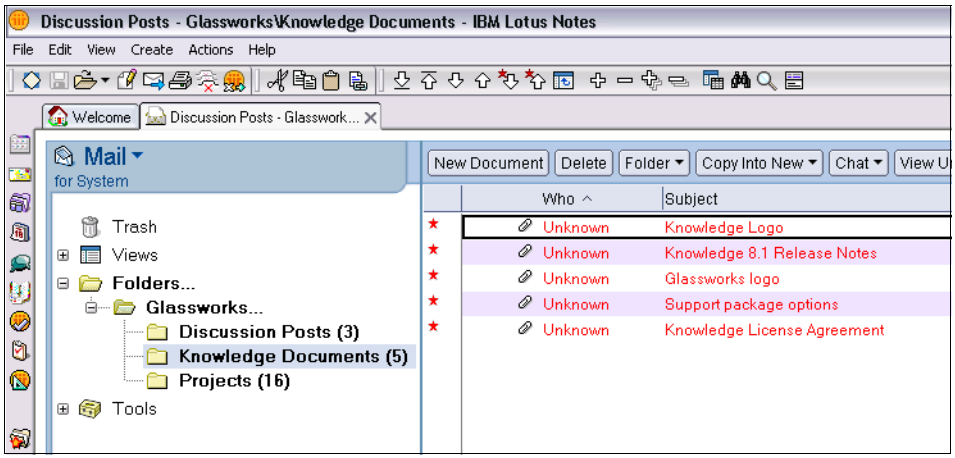

Figure 20-20 The selected migrated Public Folders

CMT tool was successful in bringing in standard type of Public Folder data. The following is a series of documents in both Outlook and Notes showing different types of Public Folder data.

The first example is one of more difficult items, a contact form. First shown in Outlook and then in Notes. The users experience will be somewhat similar with data fidelity maintained.

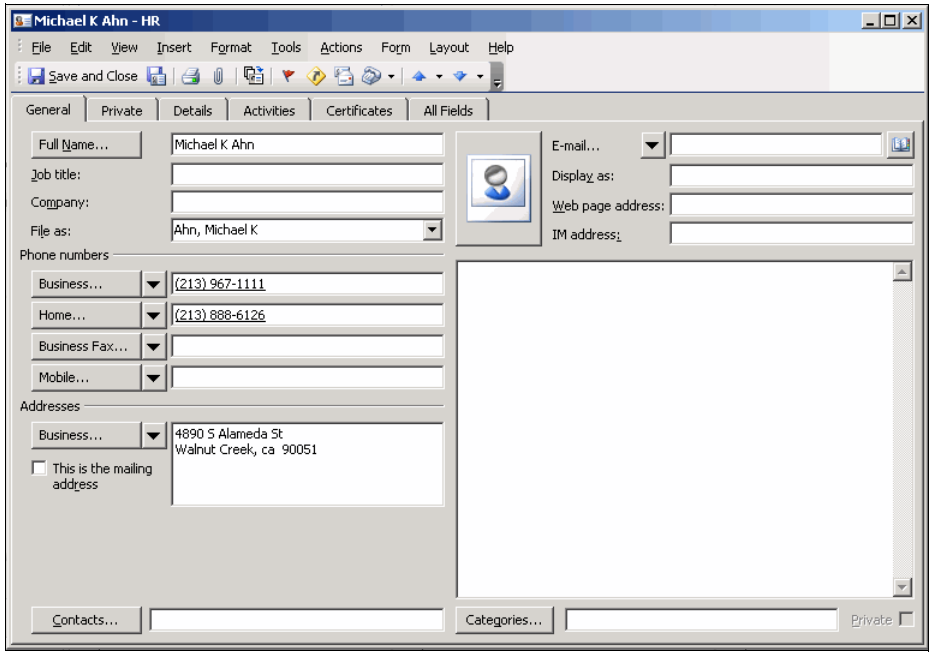

Figure 20-21 A contact in Outlook

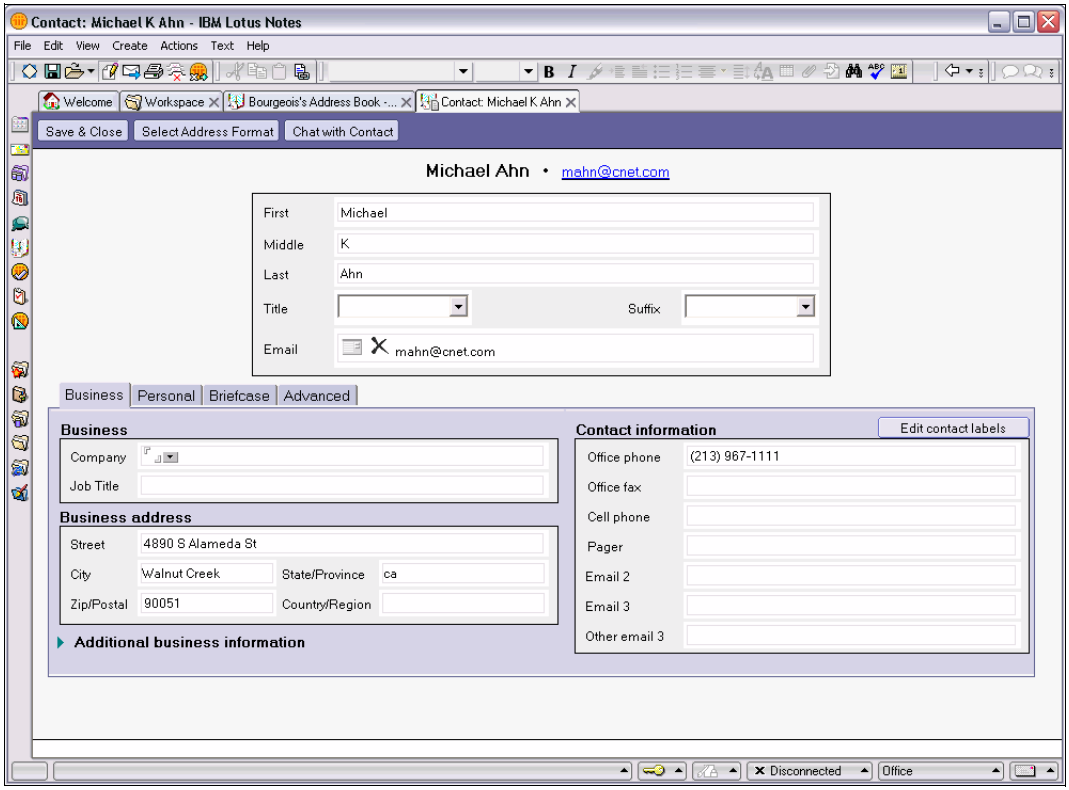

Figure 20-22 A contact in Notes

The view of “Contacts”, Figure 20-23 on page 661, also has a similar look and feel to it’s Outlook counterpart (Figure 20-24 on page 662). The same contact shows up multiple times because of her multiple categorization.

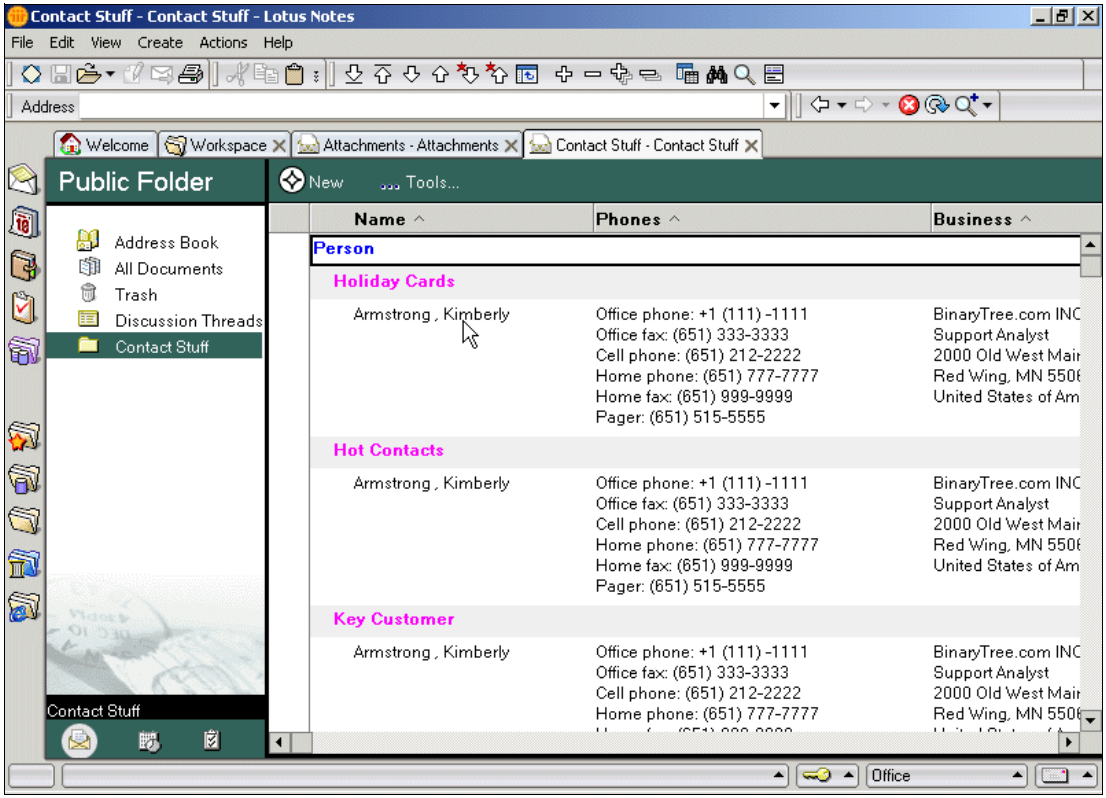

Figure 20-23 The “Address Card” view of Outlook in Notes

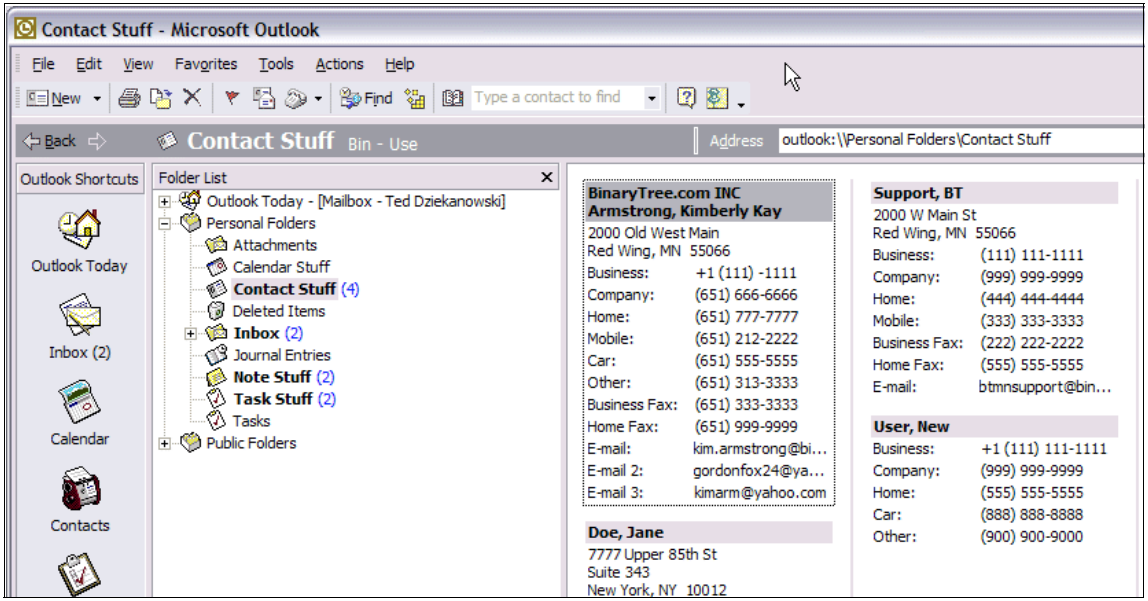

Figure 20-24 The same Address card view in Outlook

Dealing with customized Public Folder forms

Public folders might contain non standard forms, meaning something other than the standard mail and post, Journal, Contact, Note, Task, and Calendar kinds of forms. Those custom properties (or fields) will be imported as part of the message in Notes. You need to take some extra steps to create the User Interface to show those fields to your end users.

1. Open the Migration settings document as shown in Figure 20-2 on page 646.
2. Go to the Exchange Public Folder configuration page.
3. The very last field in the document is where you set up how Custom fields are treated in the migration. Select Bring across all custom fields.

Figure 20-25 Custom fields setting in Migration settings

4. Do the Public Folder migration again.
5. Figure 20-26 shows a non standard form in Outlook.

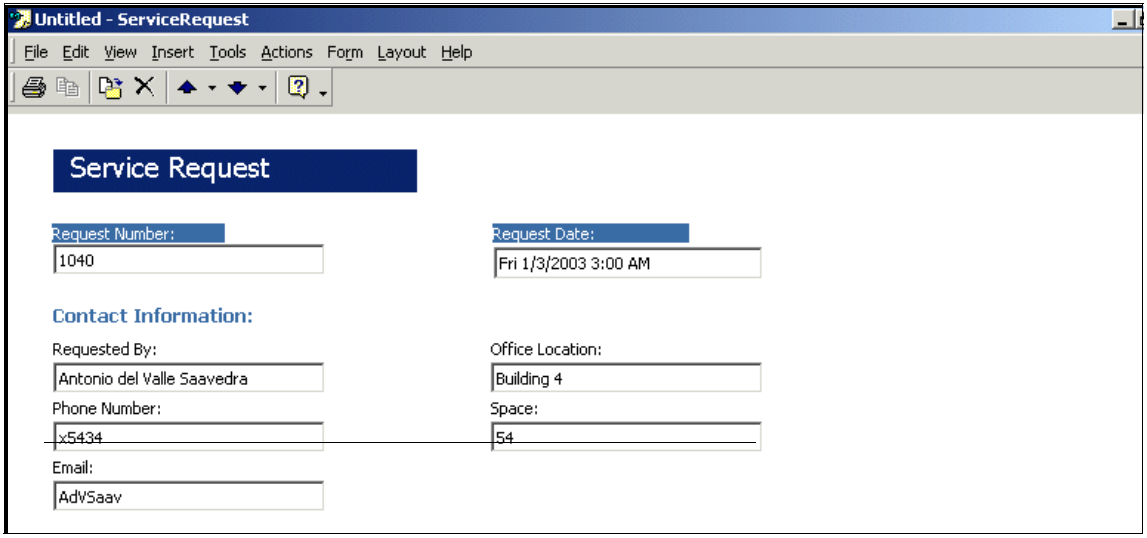

Figure 20-26 A service request form in Outlook

The default Domino database where we migrated the public folder to is shown in Figure 20-27.

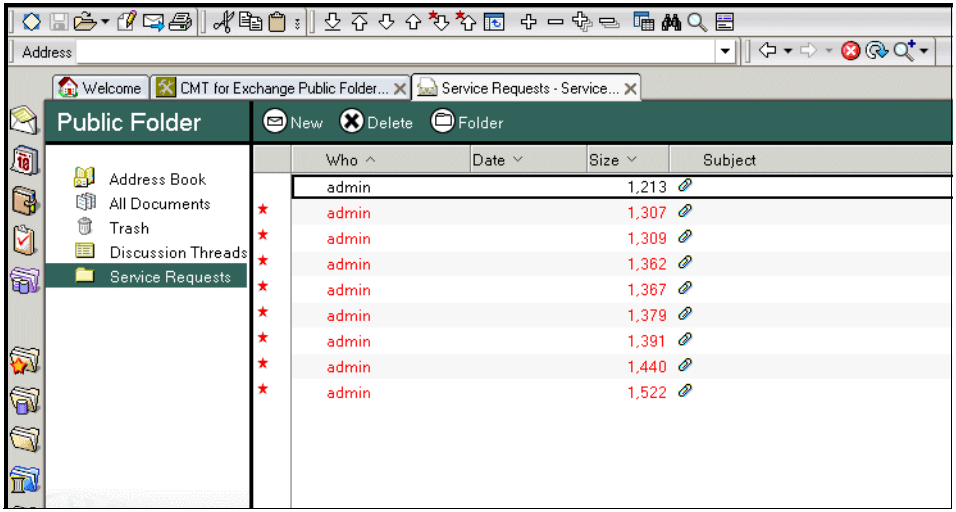

Figure 20-27 Domino database after migrating non standard forms into it

6. To see that the fields actually are part of the document, open the properties for a document (Edit → Properties) and go to the second tab (the Fields tab). Scroll down the list of fields to see the custom fields. *RequestNumber* field in

Figure 20-28 is an example of a custom field. On the right-hand side of the dialog box you can see that it has the value 1001.

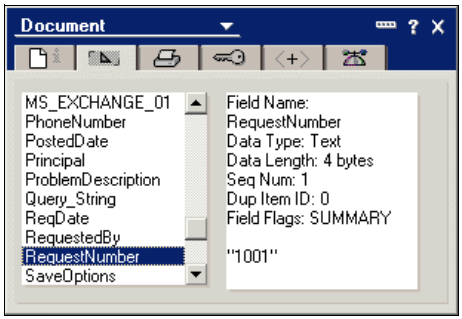

Figure 20-28 Document properties: List of fields

7. If you open the document, you notice that none of those fields are actually shown as part of the document.
8. The document contains a file attachment. When opened, it looks similar to Figure 20-29 on page 665. Each row lists a custom field name and the value of the field in the document. You can use this as a guide when designing the form to show the document.

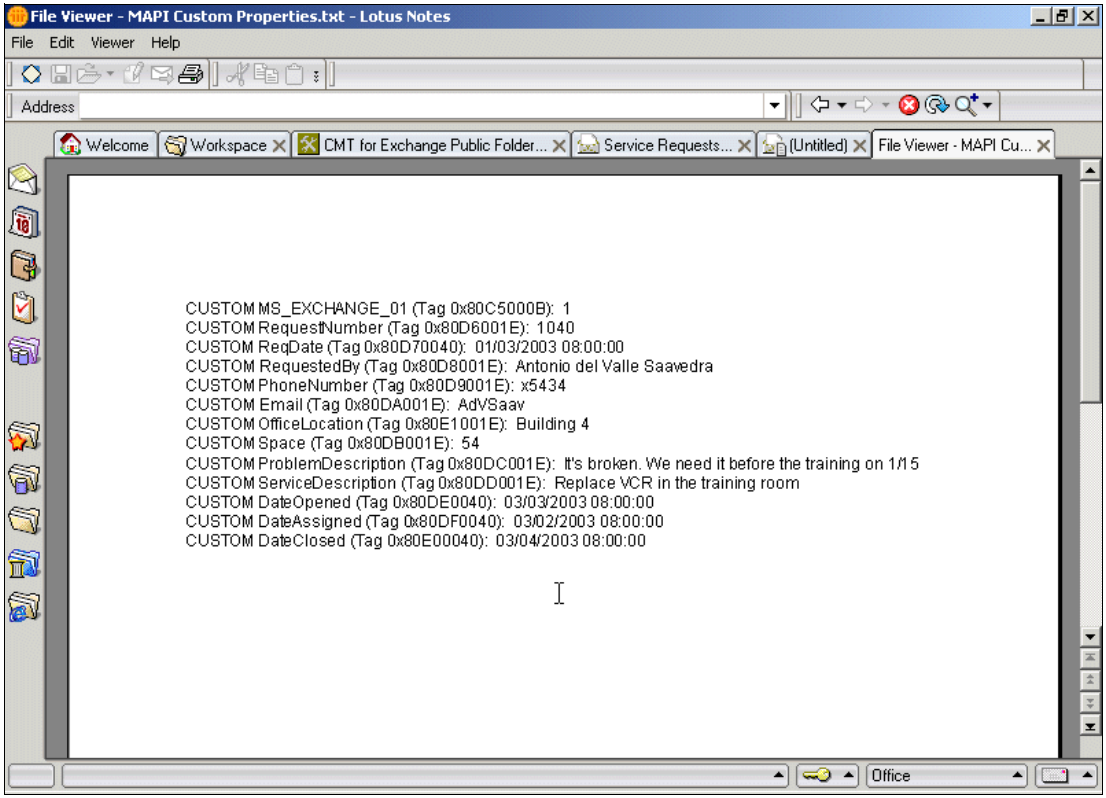

Figure 20-29 Custom fields of the migrated document

9. Use Domino Designer to create a form to show those fields to the end user. Going through all the necessary steps to create a form and views to show all these fields is beyond the scope of this Redbook. For detailed information about designing Domino applications, see the Domino Designer 7 Help database, IBM Redbook *Domino Designer 6: A Developer's Handbook*, SG24-6854-00, contact a Business Partner, attend a Domino Developer's training class, or search the Lotus Developer Domain at `http://www.lotus.com/ldd` for additional resources.

10. Figure 20-30 shows the design of a form in Domino Designer that we created to show the desired end result of the migration. The form is an example of what a application might create to mimic the look and feel of a customized form in a Public Folder.

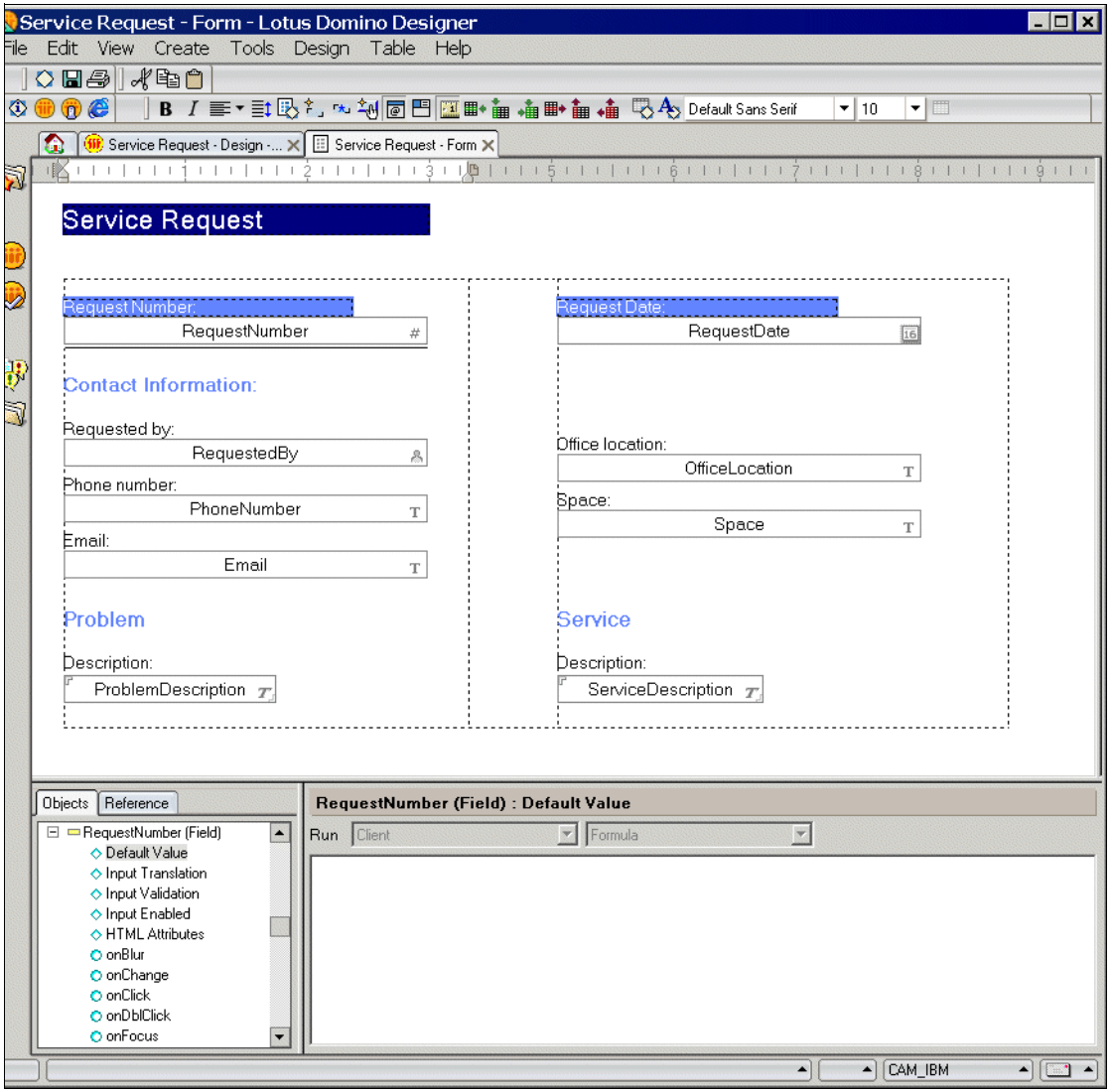

Figure 20-30 Service Request form in Domino Designer

11. Figure 20-31 shows the document in the Public Folder and migrated into the Notes client. The document is viewed with the form we created.

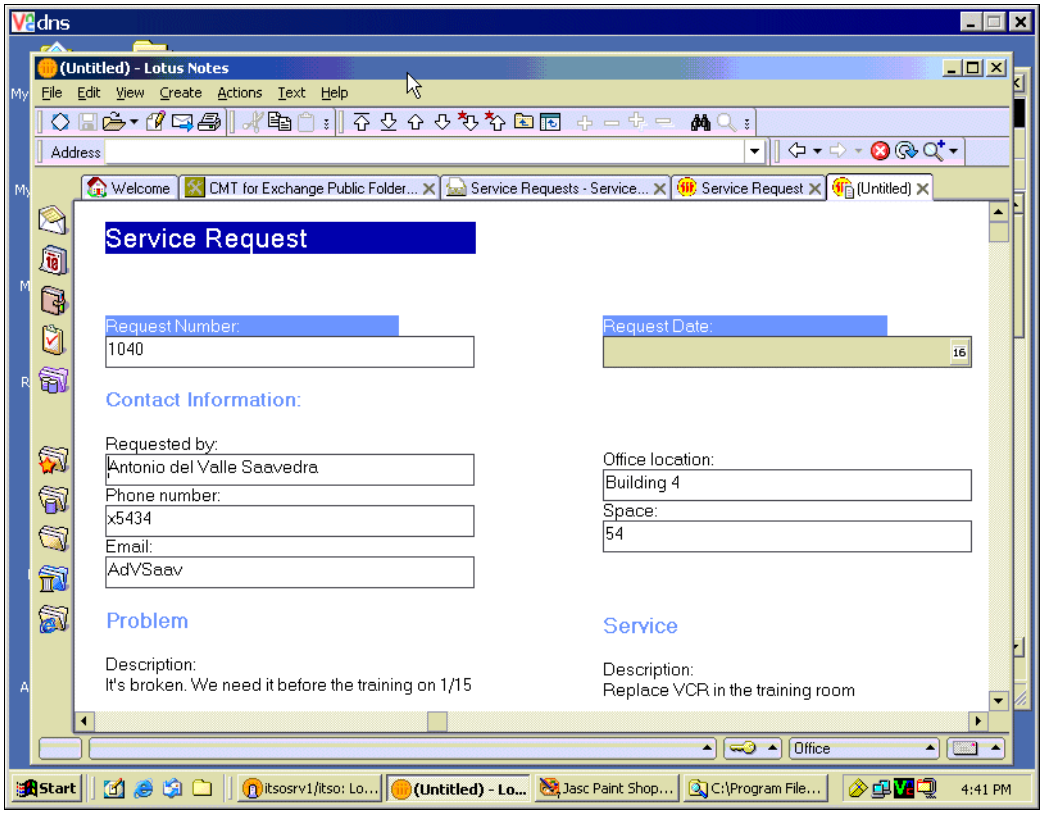

Figure 20-31 The migrated document in Notes shown with a custom form

20.6 Summary

Migrating data in a one way manner between Exchange and Domino can be done using the CMT tool. What is required is making sure that the profile has the correct permissions on the Exchange side, that the application has not been customized, and that sufficient permissions are available on the Domino server to which the data is being migrated. It is reasonable to expect that some post migration work may need to be done, especially when customized forms have been used in Exchange. Additional development work is need to mimic the functionality of custom applications that have forms with additional fields.

21

Manual migration of Shared / Public data

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter covers the manual migration of Public Folder to Domino.

Although many tools exist for migrating data form Exchange/Outlook to Domino/Notes some of which are covered in earlier chapters, there may be times when manual intervention may be required or better suited. The objective of this chapter is not to substitute these tools but to demonstrate the Manual method of moving data from Microsoft exchange to Domino. To this end this chapter will cover the following

- Basic Public Folders
- Public folders Shared Contacts
- Public Folders Shared Calendars

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We feel that these are the areas that may need additional attention or may be simple enough to do without the need of 3rd party tools.

Please Note that once data has been migrated into Domino, you may need to modify how this data is displayed thus you will need to be able to create Domino databases and views, as well as manipulate data in Domino documents. If you intend to store the new databases on a server (needed for shared information) then you will need the access rights to the domino server to create databases on the server

21.1 Pre-requisites

Manually moving data does not mean retyping it in or simple cut and pasting, It means using the installed applications import and export functions to move the data therefore certain pre-requisites are required to enable you to move the data from exchange Public/Shared Folders.

You will need at least need the following:

- Active Directory / Exchange privileges To create mailboxes, NB access to AD and Exchange admin tools will be required
- An Outlook Client
- A Notes 7.x Client and Designer
- Spreadsheet Program with the ability to read and write .XLS * .123 files

Given these programs you should be able to move data from most Exchange stores into a domino database

We have found additional support on the web for more complex migrations the following websites can be very useful in providing information on data extraction from exchange and Outlook.

http://www.outlookcode.com/dev/customimport.htm

The Web site contains not only a set of tools to import and export data from Microsoft Outlook, but access to VB Scripts, forums and information on Outlook in general.

21.2 Using DUS to Migrate Public Folders

The Domino Upgrade services where discussed in detail in Chapter 11, “Server level migration Using Domino Upgrade Services” on page 339

As noted the Domino Upgrade Services or DUS as it is more commonly known takes data from an Exchange mailbox and copies it to a Domino database (mailbox) given this If we can get data from the Public folder into a migration mailbox folder we will be able to migrate using the DUS. Our objective then becomes getting Public Folder data into a mailbox.

Noticing manual methods for moving copying data may have unpredictable results depending on the source and destination of said data. It maybe that additional manipulation of the data is required pre and post migration

The migration itself follows some simple steps

- Create an exchange mailbox, ensure that the account used for the migration will need full access rights to the mailbox.
- connect the mailbox to your Outlook Profile.
- Copy the Public Folder information into the new empty mailbox.
- Check the quality of the data.
- Migrate the mailbox using DUS.
- Review and manage the migrated data in the new database

The actual steps are discussed in detail in the following section 21.4, “Migrating Contacts Public Folder” on page 679

21.3 Using a spreadsheet as an Intermediary

It is possible to import Lotus 123 spreadsheet data into a domino database, by exporting your public folder data to excel and then saving as a 123 file this import function can be used to migrate non standard public folders into Domino

The following procedures describe the simple steps required to Migrate the data from the public folder into a domino database.

I

Note: some basic domino design skills will be required to do this for non standard forms and fields

The following step is optional, you may be able to import into an already created database

- Open domino designer and create a new database
- review the public folder and create the forms and views as per your requirements
- Open Outlook using the migration mailbox profile
- Create a new folder
- Navigate to the public folder to migrate
- Copy the items from the public folder to the new folder
- Open the new folder and export the data to excel

– select File

– Select Import and Export

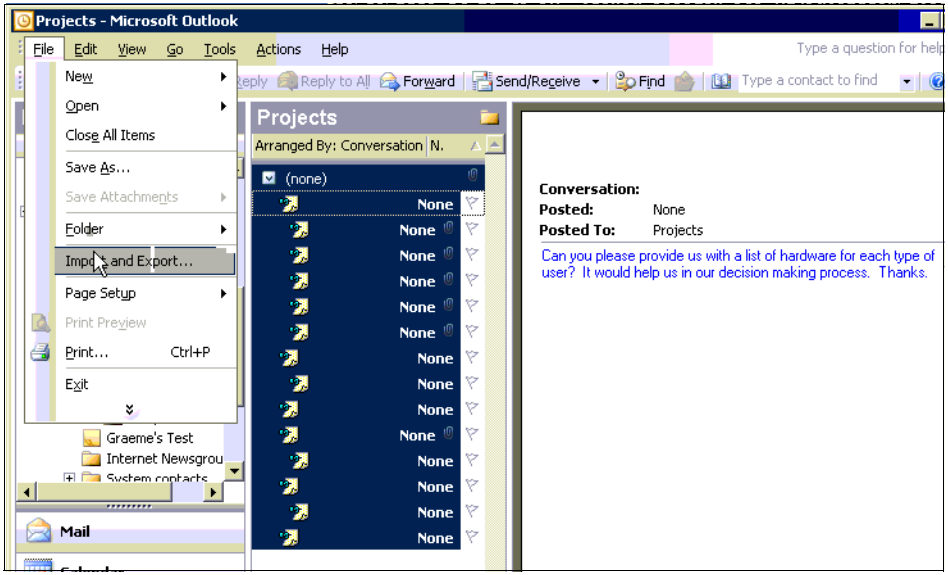


Figure 21-1 import/export

– select export as file

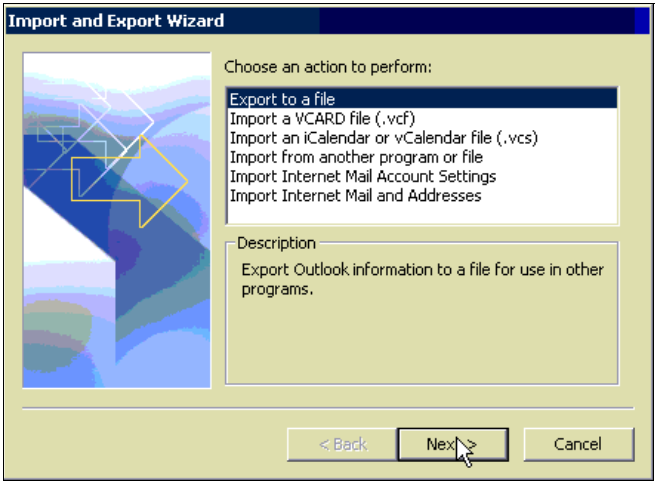


Figure 21-2 Select export as to file

– Select export to Microsoft Excel

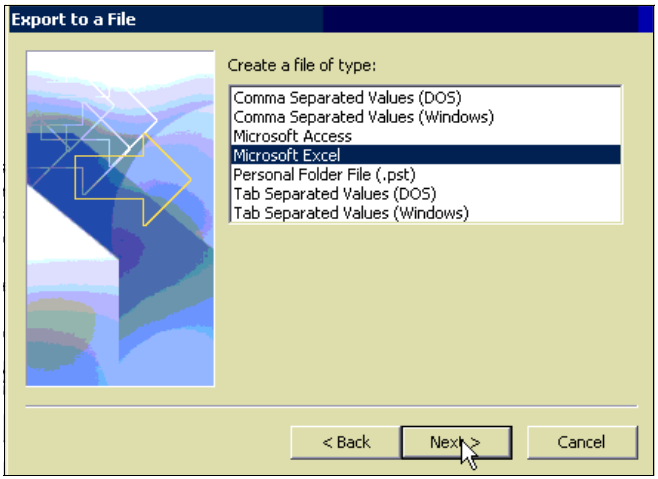


Figure 21-3 Export as Microsoft Excel

– Select the new folder as the export source

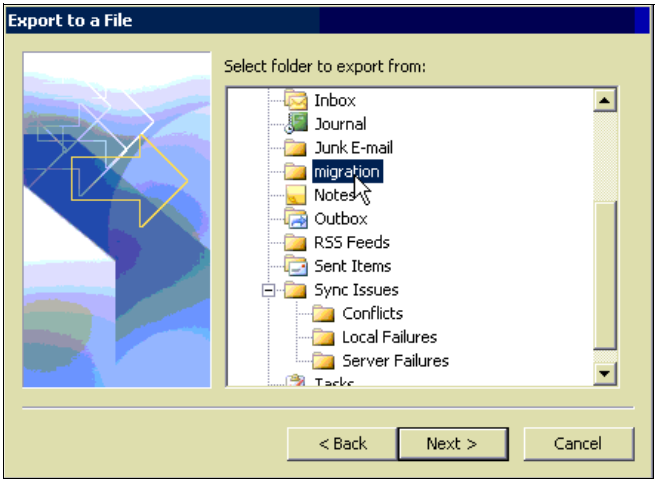


Figure 21-4 Select folder to export

– Click Next

– Enter a filename and location

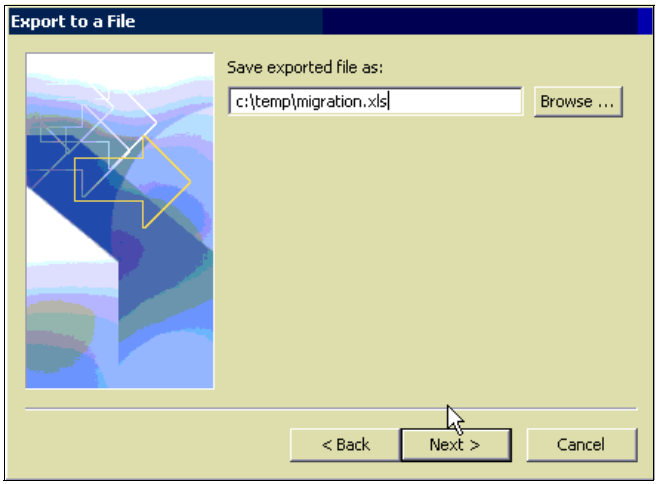


Figure 21-5 Enter a filename

– Click Next

– The next box defines the field mapping Click Define field mapping

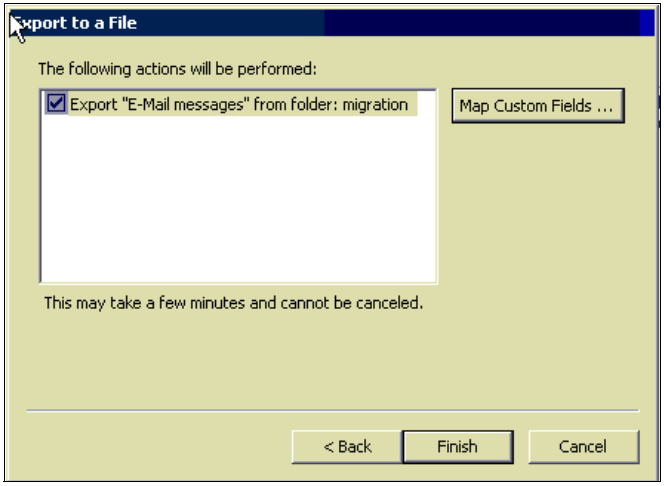


Figure 21-6 Option to map fields

– The current field maps should be a one to one, However there may be fields that you do not want to map or wish to map to similar fields defined in your domino database forms

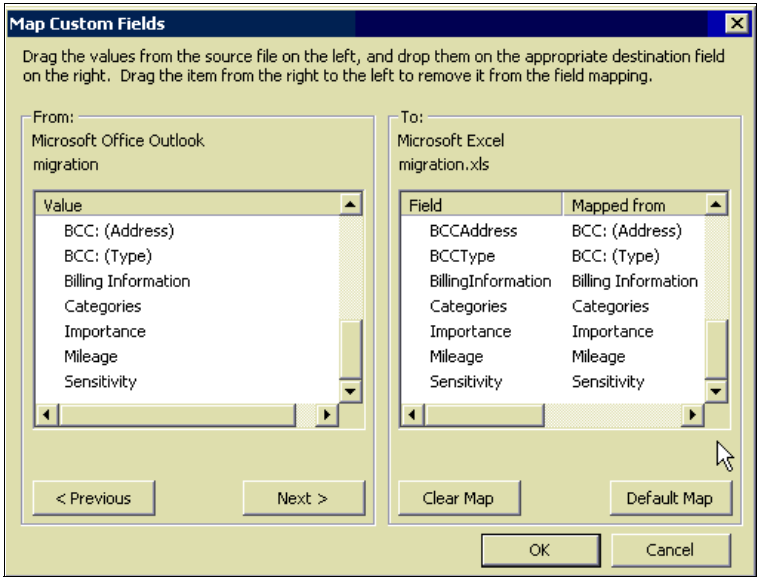


Figure 21-7 Field mapping attributes

  - Click OK
  - Click next
  - Click Finish
  - The folder has now been successfully migrated to a domino database

- Review the spreadsheet and remove any unwanted fields rows columns etc. and if required add additional information
- Insert a top row in the spreadsheet and ensure that each row matches the corresponding field in your Lotus Notes database. ensure the cells in this row are left justified and are formatted as Text
- save the file as a Lotus 123 (.wk1)(you may want to save as excel first in case of errors later)
- Exit Excel
- Open Lotus Notes
- Open the database created earlier
- Select File Import

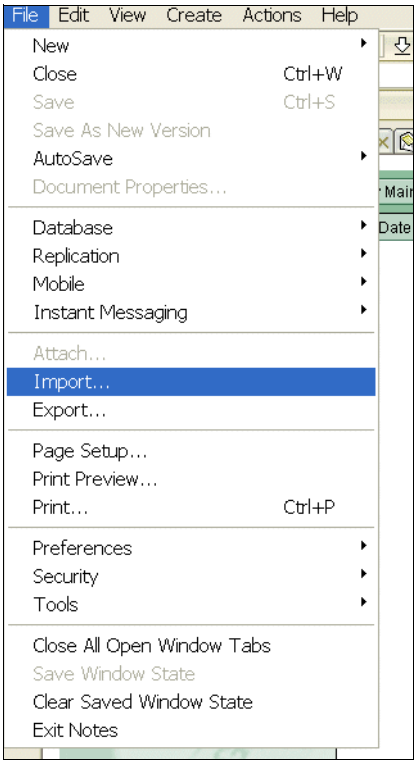


Figure 21-8 Import option

- Selected file type as Lotus 123
- Select the 123 workbook created earlier

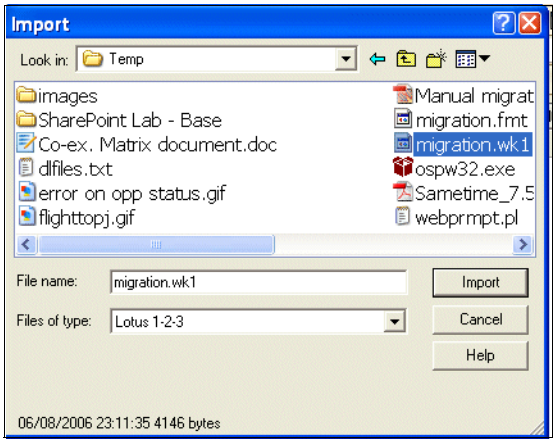


Figure 21-9 Import file

- Click Import
- When prompted Import as main document and select a form created earlier
- In column format select as defined by wks file

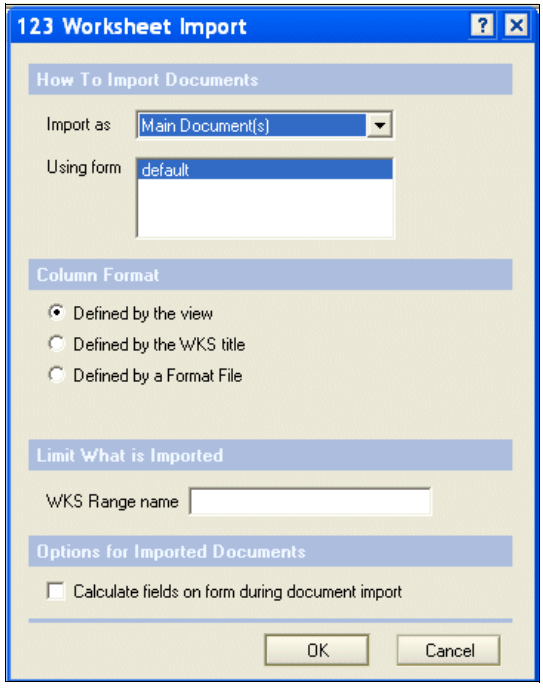
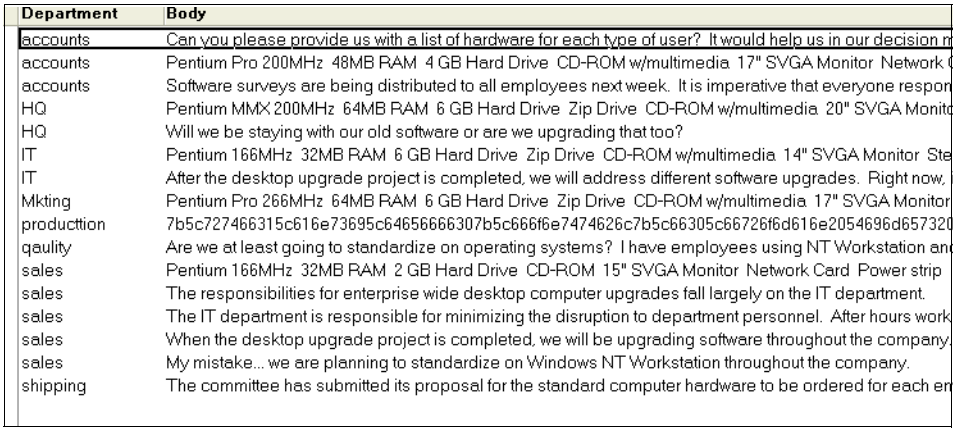


Figure 21-10 Import options

- Click OK
- The data will now be migrated



Department	Body
accounts	Can you please provide us with a list of hardware for each type of user? It would help us in our decision m
accounts	Pentium Pro 200MHz 48MB RAM 4 GB Hard Drive CD-ROM w/multimedia 17" SVGA Monitor Network (
accounts	Software surveys are being distributed to all employees next week. It is imperative that everyone respon
HQ	Pentium MMX 200MHz 64MB RAM 6 GB Hard Drive Zip Drive CD-ROM w/multimedia 20" SVGA Monitc
HQ	Will we be staying with our old software or are we upgrading that too?
IT	Pentium 166MHz 32MB RAM 6 GB Hard Drive Zip Drive CD-ROM w/multimedia 14" SVGA Monitor Ste
IT	After the desktop upgrade project is completed, we will address different software upgrades. Right now,
Mkting	Pentium Pro 266MHz 64MB RAM 6 GB Hard Drive Zip Drive CD-ROM w/multimedia 17" SVGA Monitor
producttion	7b5c727466315c616e73695c64656666307b5c666f6e7474626c7b5c66305c66726f6d616e2054696d657320
qaulity	Are we at least going to standardize on operating systems? I have employees using NT Workstation and
sales	Pentium 166MHz 32MB RAM 2 GB Hard Drive CD-ROM 15" SVGA Monitor Network Card Power strip
sales	The responsibilities for enterprise wide desktop computer upgrades fall largely on the IT department.
sales	The IT department is responsible for minimizing the disruption to department personnel. After hours work
sales	When the desktop upgrade project is completed, we will be upgrading software throughout the company.
sales	My mistake... we are planning to standardize on Windows NT Workstation throughout the company.
shipping	The committee has submitted its proposal for the standard computer hardware to be ordered for each en

Figure 21-11 Simple 2 field import

- we created a simple public folder with 2 fields body and billinginformtion the above Figure 21-11 on page 679 shows the results. (note - this db took 2 minutes to create a single form with 2 fields and a single view

Note: There is a hard limit of 8.192 rows for this type of import (wk1 limit), alternative methods of migration will need to be sought or manual creation of multiple wk1 file will be required for larger files

Remember that Domino can use Lotus 123 data, Lotus 123 does not need to be installed on the system (we also noted the beta2 version of excel 2007 does not have the ability to save files in the lotus format.

21.4 Migrating Contacts Public Folder

Outlook contact information is another common Exchange Public Folder is shared contacts. We discuss in the shared data chapter how the migration tools can be used to migrate shared contacts from a shared folder, the same process can be used on the public folder.

Another method that can be used is to send the contacts as vCards across the coexistence solution or to save to a shared network and drive and import to Lotus Notes. The following procedures explain how to do this.

- Open Outlook

- Select the Contacts public folder
- CTRL A (Select all) as shown in Figure 21-12

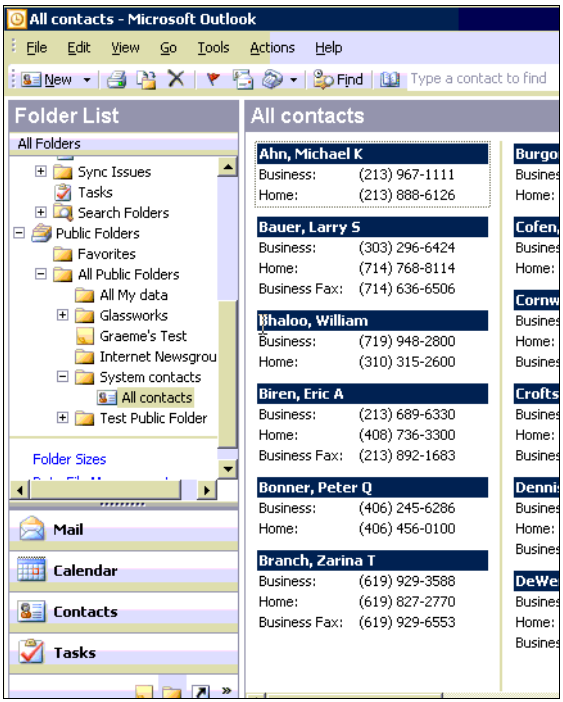


Figure 21-12 Select all contacts

- Select Actions
- Click Forward as vCard →

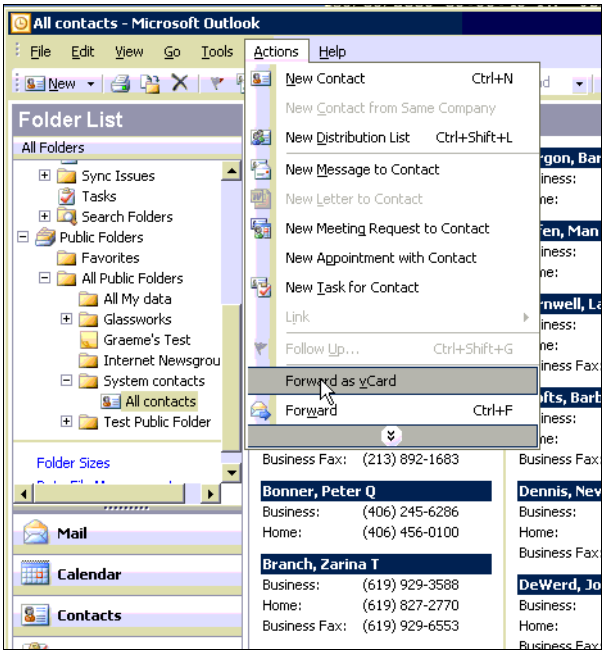


Figure 21-13 Forward Contacts as vCards

- The message will be received in the domino mailbox
- Open the received mail item

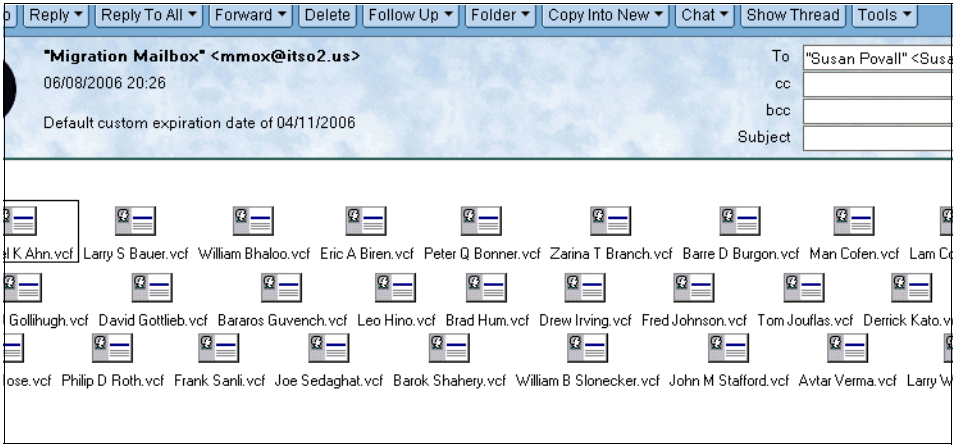


Figure 21-14 The recived vcards

- Select All (-> edit -> select all or CTRL-A)

- select Save

  place the files in a holding directory
- Create a new Personal address book
  - File -> Database ->new
  - select to save the file on the server
  - enter a meaningful title
  - enter a unique file name
  - select the personal address book template (pernames.ntf)

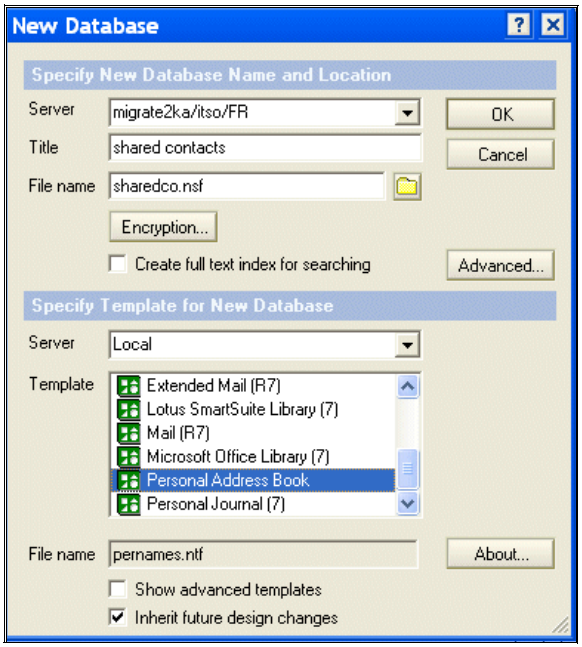


Figure 21-15 Create a new address book

  - Next Right Click inside the open database
  - Select manage ACL
  - Add all users who need access to the Database with defined permissions
  - next Select File Import
  - Select the files saved

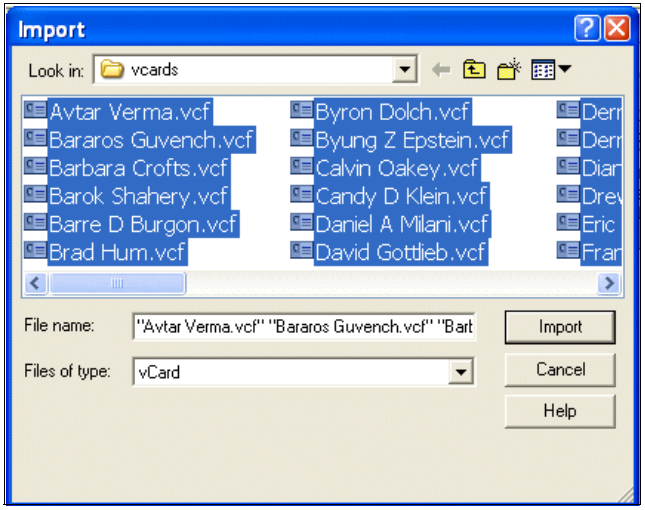


Figure 21-16 Selecting Import vCards

- Click Import
- for each vcard each vcard a prompt box to save will pop up

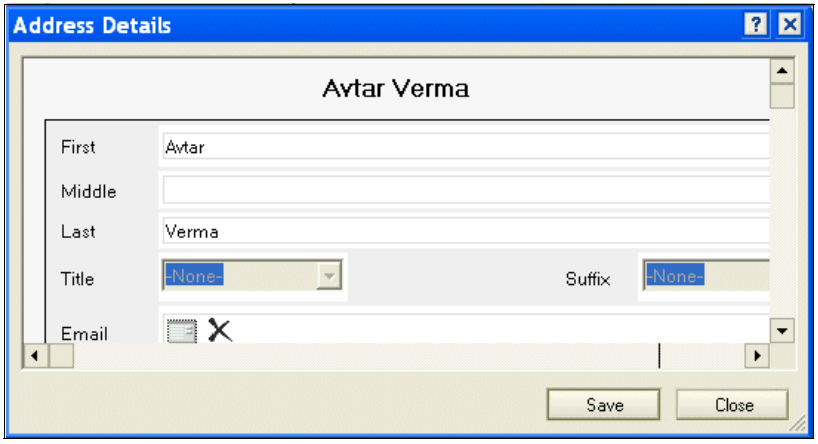


Figure 21-17 vcard import save prompt

- Click save for each vcard
- The following is a view of the imported files

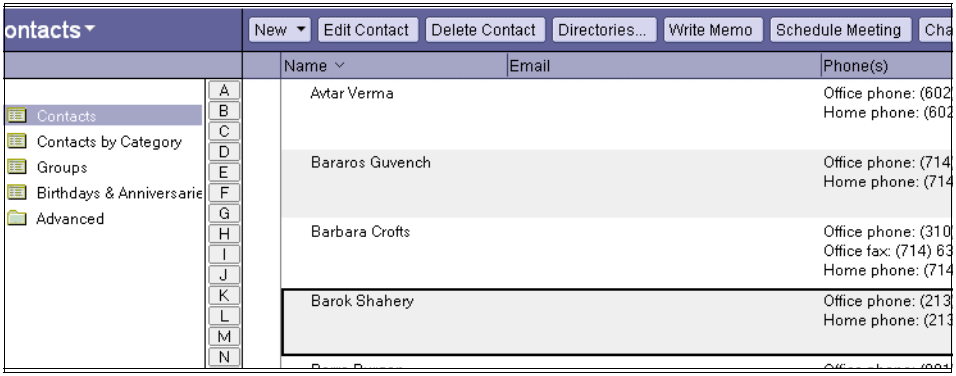


Figure 21-18 Imported vCards

21.5 Migrating shared Calendars Public Folder

Outlook calendar information is a common exchange Public folder application similar to contacts, Both Domino and Exchange support iCal calendar standard, Similar migration procedures can be used as described in the previous chapter (Chapter 21.4, “Migrating Contacts Public Folder” on page 679). however instead of forwarding as vCards the entries will be as icalender files (.ics)

We found that we had to do each calendar entry individually, This we thought could be extremely time confusing. However many tools exist, the following open source being one of many that will export the entire calendar as an ics file

http://outlook2ical.sourceforge.net/

The file can be either mailed or accessed via domino import. in either case a prompt will be given for each calendar entry to be saved.

Note: In our testing we found some issues with the ical support in Outlook 2000 and XP, both required patches and Hotfixes to fully support ical as stated in the products release Notes. Later versions we had at most recent sp levels and did not have the same issues

21.6 Archiving or sending Public Folder data elsewhere

If you do not feel comfortable creating applications using extracted Public Folder data, you can send the Public Folder elsewhere for someone else to work on it. It's unlikely that you will want to send the entire data store because that would require an Exchange 5.5 server and recreating permissions. A PST (personal storage file) is a much more convenient way of doing it.

Tip: A PST could also be used in a migration to store old mail messages of a critical nature. In the future, an Outlook client is all that would be required to recover a single document, which could be printed or e-mailed to the new system later.

Attention: The larger you make the PST, the more likely it is to get corrupted. There is a 2 gigabyte limit on PST files. You would be better served by created several smaller PSTs instead of one big one.

Creating a PST from a Public Folder is simple.

1. Select the Public Folder and go to the File → Import/Export option.
2. This invokes a wizard that walks you through the steps that get the job done. When the wizard begins, select the Export to a File action (Figure 21-19).

Figure 21-19 Select export to a file

3. Select Personal Folder File (.pst)

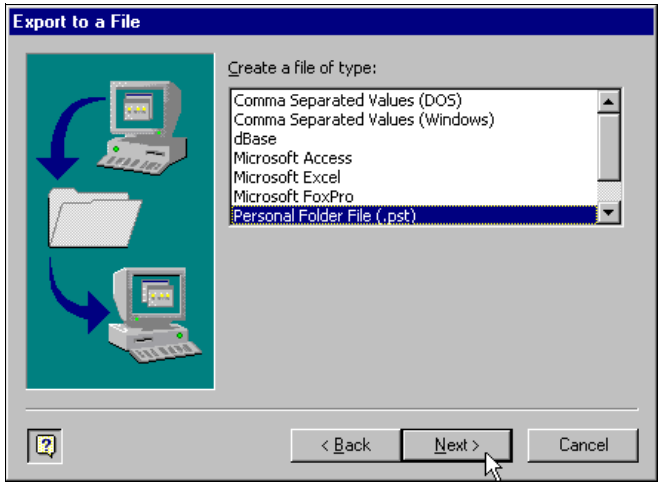


Figure 21-20 Select a file type to export to

4. You can select one or a set of nested folders if you want.

Figure 21-21 Pick the folder you want to export

5. Give the file a name and specify a location.

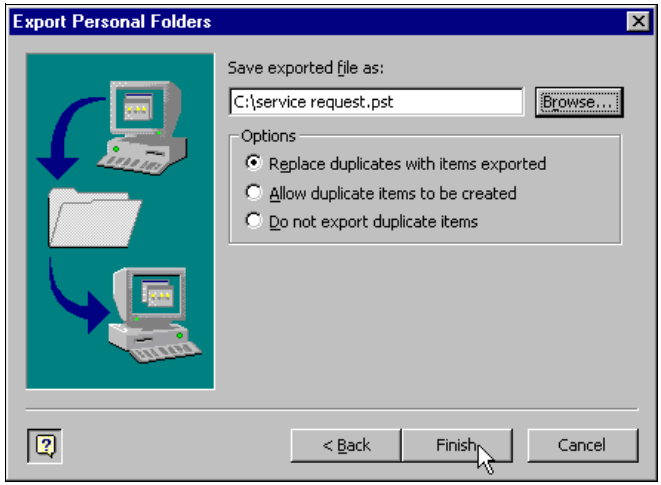


Figure 21-22 File name and the location

6. It is usually a good idea to give the Public Folder a different title than the default of Personal Folder, just in case the developer has multiple personal folders to work with (Figure 21-23).

Figure 21-23 Specify a name for the personal folder

7. You can put a password on the PST. Be aware that if you lose the password you will need to recreate the file.

After the PST is created you can send it to anyone you choose, by any means, including electronic. Just remember that if you burn the file onto a CD you will need to copy it back to disk and remove the read only attributes before you use it.

21.7 Summary

Data can be moved from Exchange Public Folders manually and be reused later. In this chapter, we have described several ways to do this. You might consider using one of these techniques if the data in your public folders is simple in structure and coexistence is not required. IF your data is extensive or complex then we recommend that you use one of the 3rd party tools available.

22

Migration of Shared Data

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter covers the topic of migrating shared data from Exchange/Oulook to Domino.

Although Shared data is like any other mailbox data we get asked many times during migration discussions on what to do about shared data.

Before we answer we like to understand what is meant by shared data, as it can take many forms. In outlook users have the ability to share aspects of their mailbox this ability to share data should not be confused with delegation.

users can share the following

- Contacts
- Folders

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- Calendars
- Tasks
- Notes
- Journal

The level of sharing that can be granted can be restricted from no access to full access. There are many reasons why people share data and although this is not the ideal method it is used by some people. However the most common form of sharing data takes the form of sharing an account (shared mailbox), this tends to be to have one address for mail in request that a number of users may need access to (for example support). the rest of this chapter will clarify how you should treat the migration of shared data many tools exist for migrating data form Exchange/Outlook to Domino/Notes some of which are covered in the red book

In earlier chapters we reviewed the use of Domino's migration tools and Binary Tree's CMT. Both these tools can be used for the migration of the data.

22.1 Migrating shared mailboxes.

Shared mail boxes for migration purposes can be treated the same as any other user account however additional steps will be required during the migration regardless of the tool to migrate.

- Review the current access to the shared mailbox.
  - Open active directory users and computers
  - Select the shared mailbox user account
  - right click and select properties
  - click the security tab
  - take note of the users granted access and level off access
- Post Migration
  - Right click the database
  - select manage ACL
  - add users noted above with relevant access
  - If database is to be mail enabled add to domino's mail in database list

22.2 How to share data in a mailbox

You may need the ability to create and test the migration of shared data therefore this section will explain the procedures for setting up a shared mailbox and also how to configure your outlook account to share aspects of the data.

22.2.1 Creating and configuring a shared Mailbox

To share any other folder other than the Inbox, Contacts, Calendar, Notes, or Journal, you must share permissions on the folder you want to share and each folder that is higher in the folder hierarchy. For example, to give another person access to a folder that is under Inbox in your mailbox, you must grant permissions to the Mailbox, Inbox, and the subfolder. Even though it might appear you're granting the other person access to more folders than you want, only the items in the Inbox subfolder will be available.

Sharing folders should not be confused with Delegate Access, another feature available to Outlook users who connect to a Microsoft Exchange Server. Delegate Access provides the additional functionality of allowing another person to send and reply to messages in your mailbox on your behalf. You would use Delegate Access with your administrative assistant so that they can send and

reply to e-mail messages on your behalf, including scheduling and accepting meeting requests. you may share a folder for multiple access for a limited group of suers when you don't have rights to share the same data in a public folder

Share a folder

To share an e-mail folder permission needs to be granted at the top level folder for example if you create a Folder called Projects and then under projects create a subfolder called 2006 to grant access to 2006 you will first need to grant at least read access to Projects, the following procedures can be used to share a folder in Outlook/Exchange

- Open Outlook with your desired folder
- Click a folder (The items in the folder will be shown in the viewing pane)
- Right click the folder to share and select sharing as shown in Figure 22-1 on page 692 below

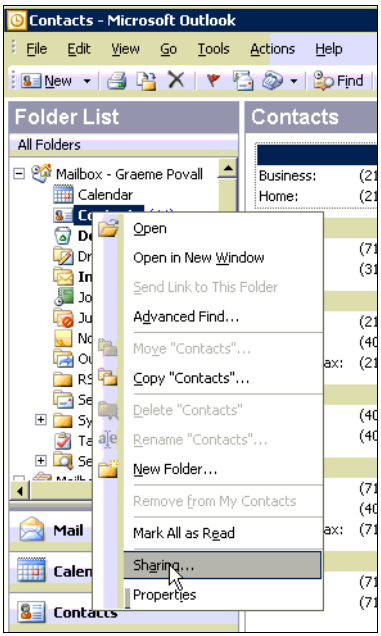

Figure 22-1 Folder Properties sharing

- You will be presented with the sharing properties box as shown >

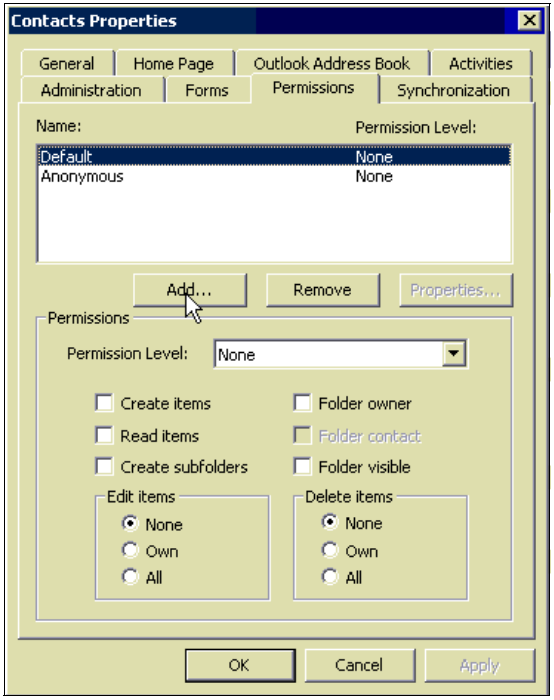

Figure 22-2 Sharing properties

- Click permissions
- Click Add
- Select a user from the GAL and click OK
- Assign permissions which can be granted from just being able to see the folder to being a able to create subfolders and edit/delete items.
- we assigned Christopher the rights to read and edit items and create subfolders see

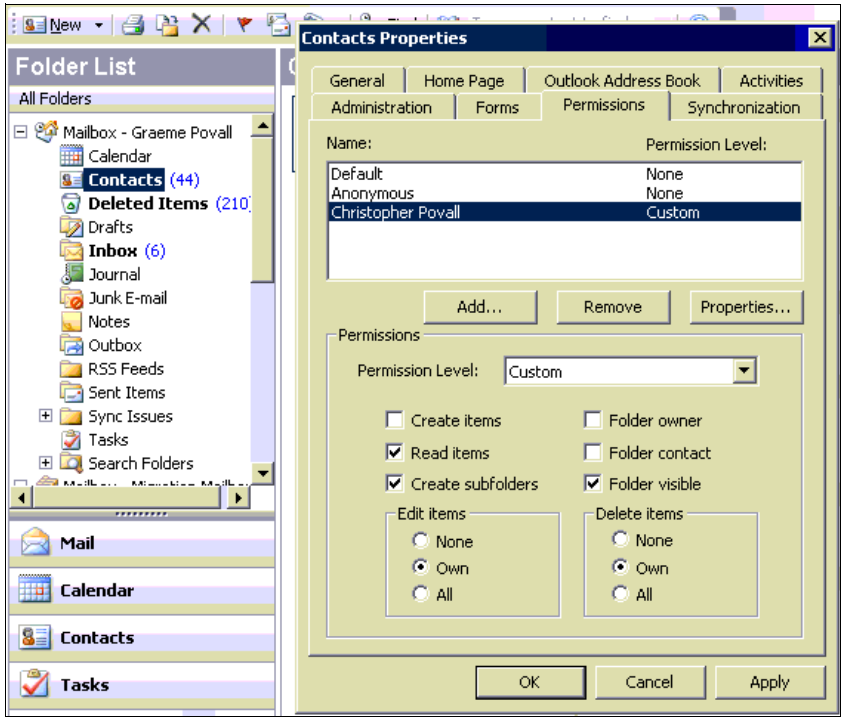

Figure 22-3 Assign user sharing permissions

– Click OK

22.2.2 connecting to another users shared folder

Open Outlook and log in with the profile that has permissions to a shared folder mailbox

1. Select File > Open > Other User Folder as seen in Figure 22-4 on page 695

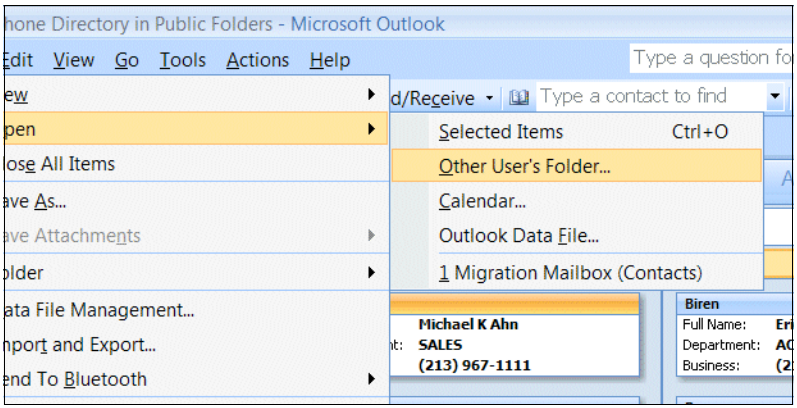

Figure 22-4 Open additional folder

2. Enter the details of the users account and folder that you want to connect to, you can use the name button that will bring up the GAI for you to select the name. A selection box will show available folders.

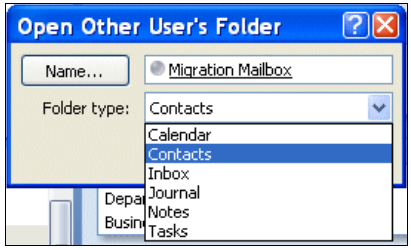

Figure 22-5 Selecting user and folder

3. Click OK
4. The folder will now open in a new pane in outlook.

22.3 Migrating shared Data

The following section will describe how to migrate shared mailboxes. Shared data will be migrated by default However all the sharing permissions will not. If a user still has a requirement to share the data Once the mailbox has been migrated the administrator will need to add the users to the ACL of the database and provide a database link to the mailbox for each user

22.4 Using CMT to Migrate Shared Data

By default Binary tree Common Migration tools do not migrate shared data however within the migration settings there is an option to do so

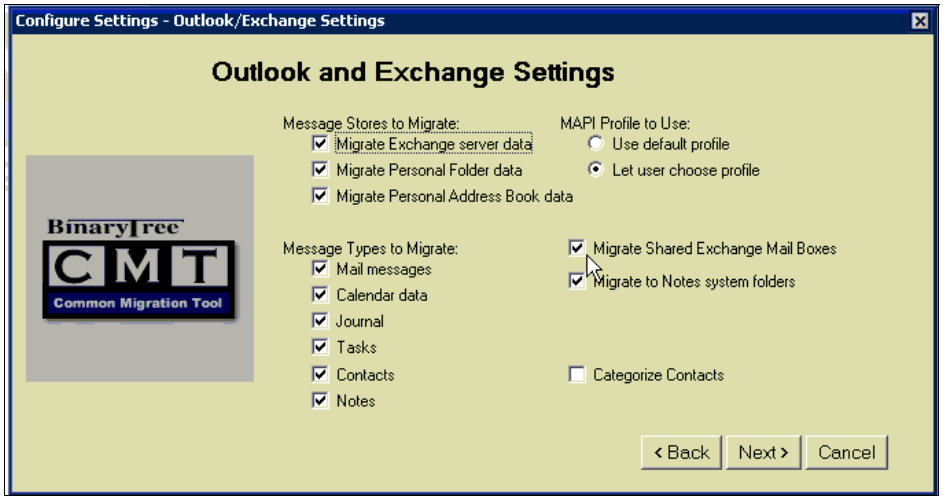

Figure 22-6 CMT migration settings shared mailbox

Note: When this option is clicked when an end users migration is initiated all shared folders will be migrated along with the users other local data. this means that multiple copies of the same data will exist in multiple peoples migrated mailboxes

22.5 Using DUS to Migrate Shared data

Note: Information on shared data will be required prior to migration. This may be very difficult as it is initiated on a user level. i.e. users have granted the permissions to share folders etc with other users. therefor the migration of shared data should be undertaken on a one to one basis

The Domino Upgrade services where discussed in detail in Chapter 11, “Server level migration Using Domino Upgrade Services” on page 339.

As noted the Domino Upgrade Services or DUS as it is more commonly known takes data from an Exchange mailbox and copies it to a Domino database (mailbox). By default when you a users data is migrated non of the shared folders

are migrated and all permissions on shared folders is lost. If it is deemed necessary to Migrate this data to a shared source then the following procedures can be followed to do so.

Overview

If we copy all shared data into a intermediary mailbox folder we will be able to migrate using the DUS. or any other migration tool for that matter thus Our objective then becomes getting the data into a mailbox to migrate and gather information on the shared folder permissions

Note: This will be a manual intensive process and have to be done on a user by user basis and planning for this should be included in the planning phase. For large scale migration, either get users to move shared folders into public folders or use the CMT and look at utilizing Team rooms for provide managed share repositories.

The migration itself follows some simple steps

- gather information on shared folders, permissions accounts etc.
- Create an exchange mailbox, ensure that the account used for the migration will need full access rights to the mailbox.
- connect the mailbox to your Outlook Profile.
- Copy the shared data information into the new empty mailbox.
- Check the quality of the data.
- Migrate the mailbox using DUS.
- Review and manage the migrated data in the new database.

22.5.1 Create a migration mailbox

Using the Exchange System Manager (NB You need to be a member of the exchange Administrative group) to create a mailbox. When you create the mailbox, give the mail account the AD permissions that will belong to the person who will modify their Outlook profile to include this mailbox later. although we create a user account this will be used only for a migration holder for shared Folder information and accessing the shared data in other users mailboxes

The following steps walk through the configuration of an already created account mail box

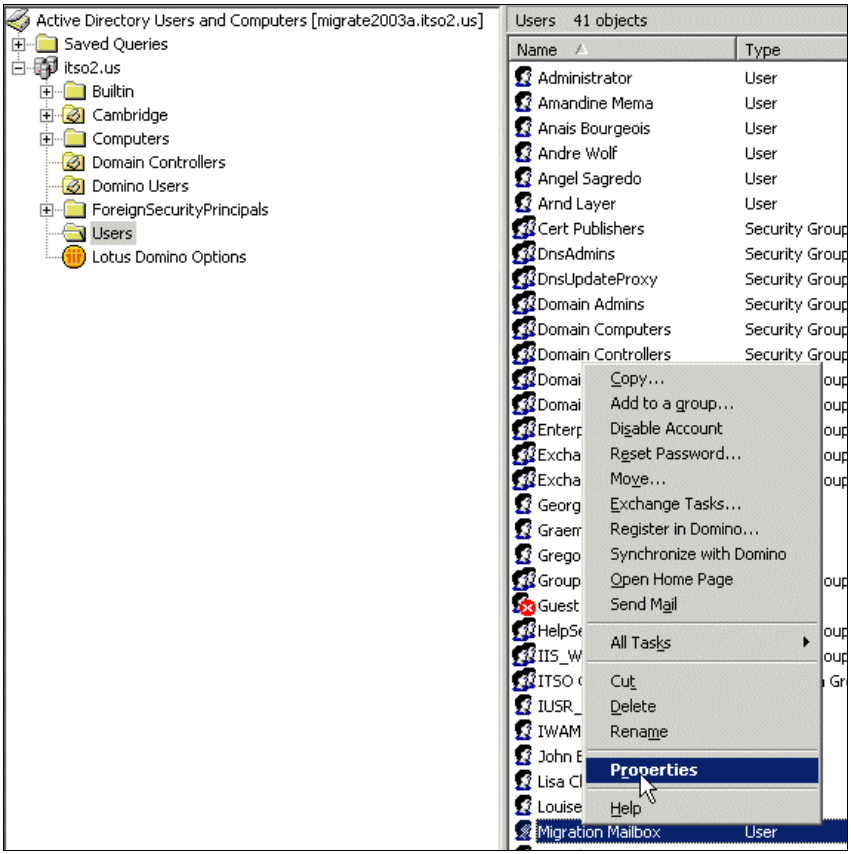

Figure 22-7 Opening a mailbox properties

- From the Active Directory Users and Groups management console select the required user account, -> Right Click -> Properties
- Select the Exchange Advanced tab as shown in Figure 22-8 on page 699

> **Tip:** to see exchange advanced properties select View > advanced features

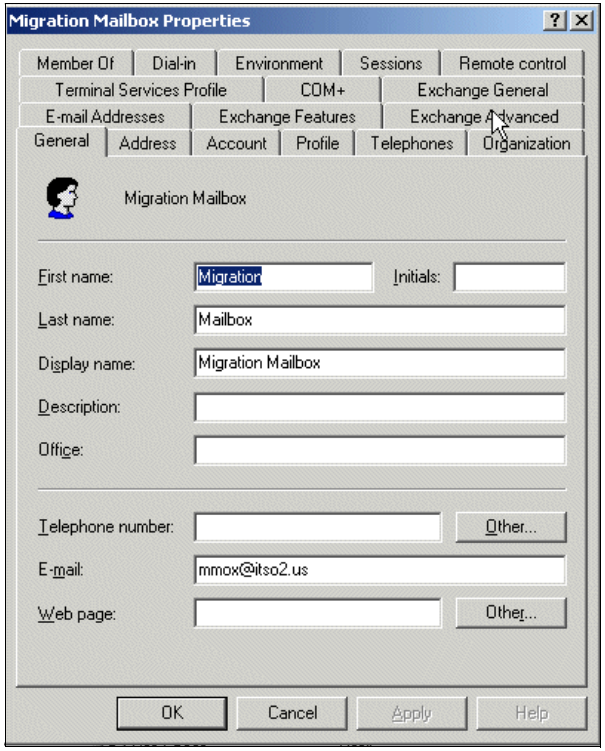

Figure 22-8 Selecting the exchange advanced tab

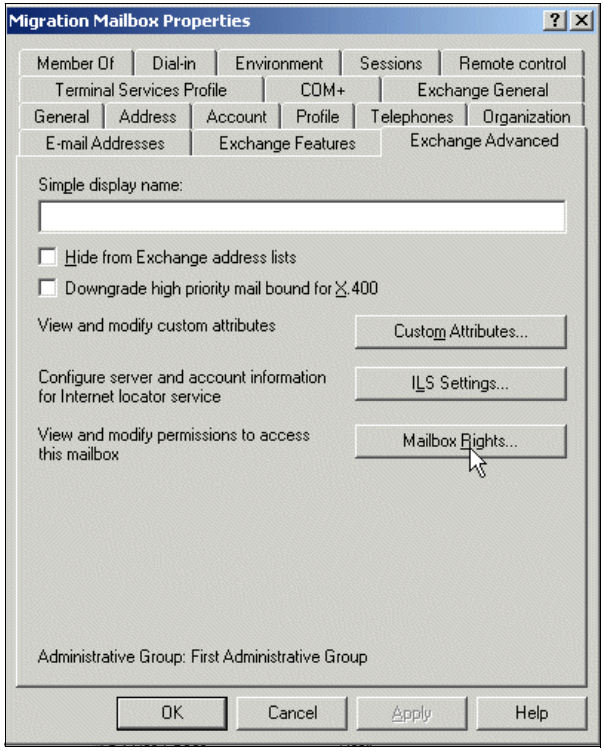

Figure 22-9 Exchange Advanced tab

Select the mailbox Rights button

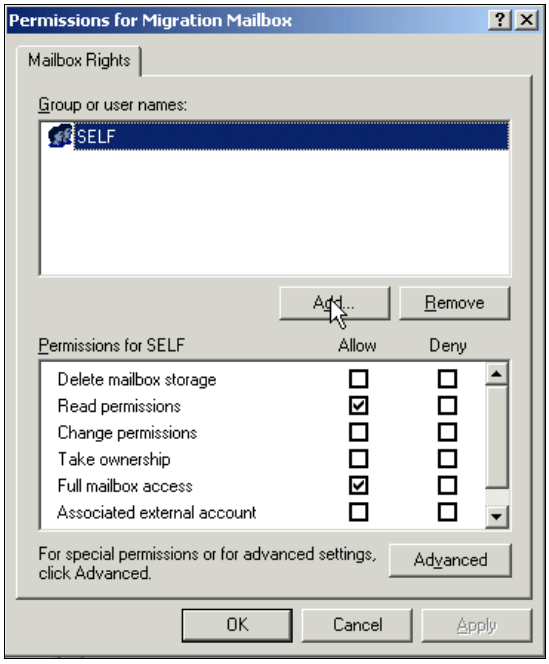

Figure 22-10 Add user access

- Select Add

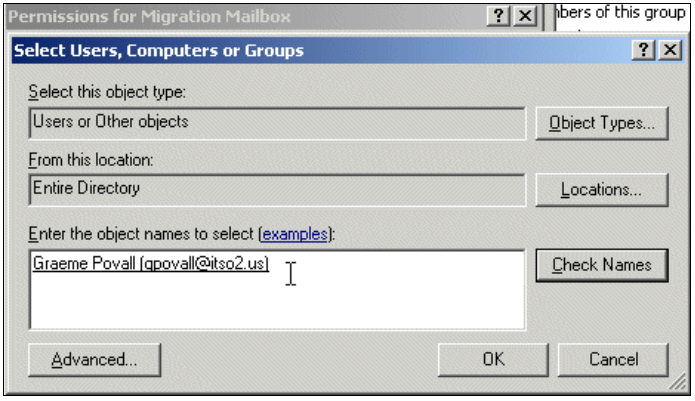

Figure 22-11 Adding user

- Type the migration mailbox user name and click check name

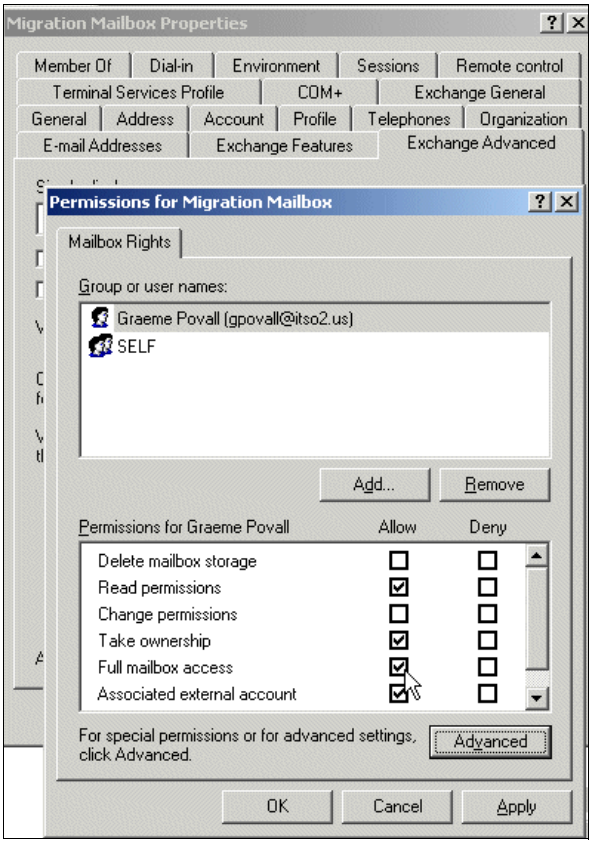

Figure 22-12 Select rights

- Select the rights the mailbox user should have the user should have full mailbox access

22.5.2 Copy Contents from shared folder to migration Folder

5. Copy the contents of the Shared Folder.
   a. Log into the Migration mailbox account
   a. connect and open the shared folder from the folders view (use procedures described in Part 22.2.2, “connecting to another users shared folder” on page 694
   b. from within the folder Click Edit Select All (CTL A)

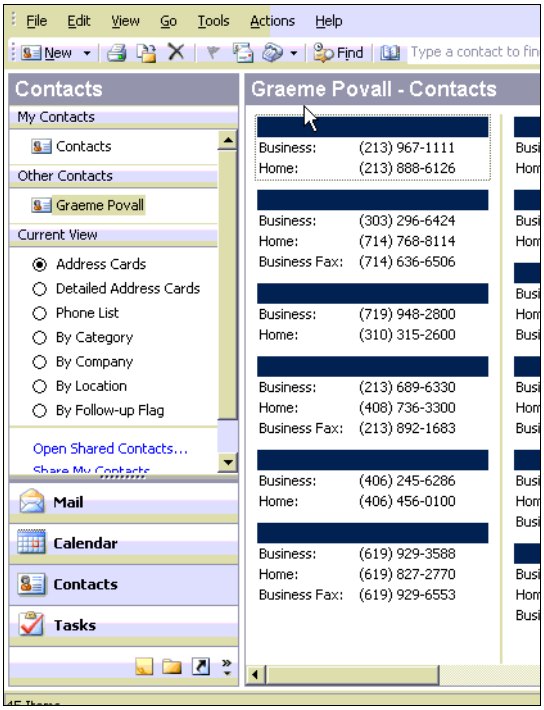

Figure 22-13 Copying the contents of a Shared Folder

6. Copy the selected contents to the clipboard either CTL C or -> edit -> copy

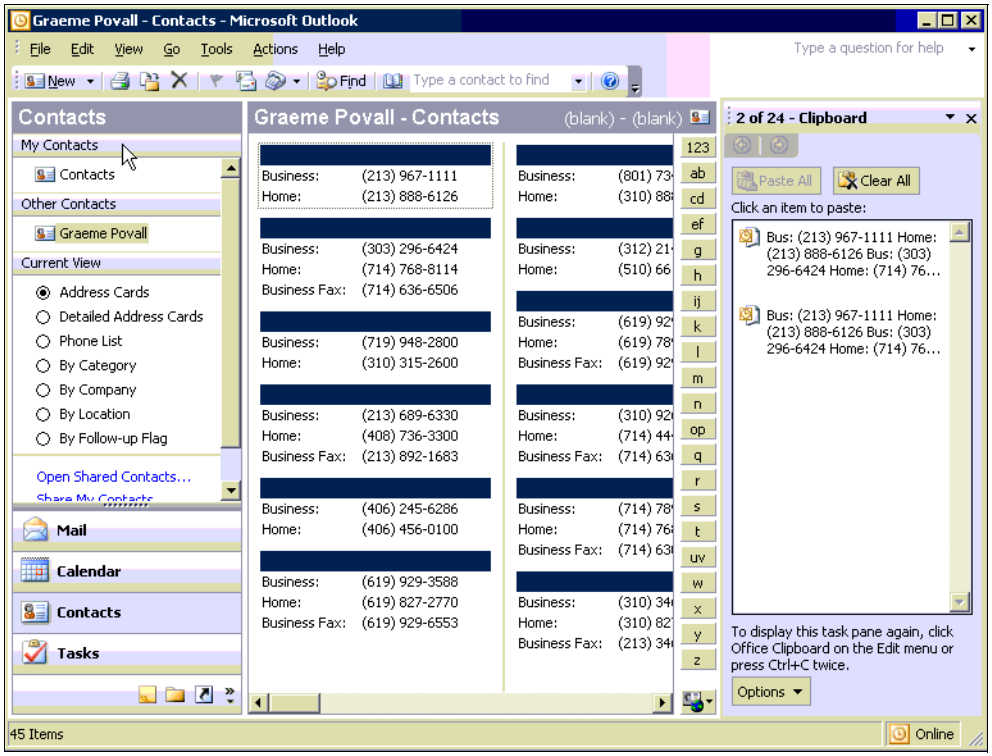

Figure 22-14 Copy content to the clipboard

7. Next create a new folder in the migration mailbox
   a. File -> New _> Folder
   b. Give it a meaningful name i.e. Graemes contacts
   c. Select the location under the mailbox tree
   d. Click OK
8. copy the contents of the clipboard into the newly created folder shown as Figure 22-5 on page 695.

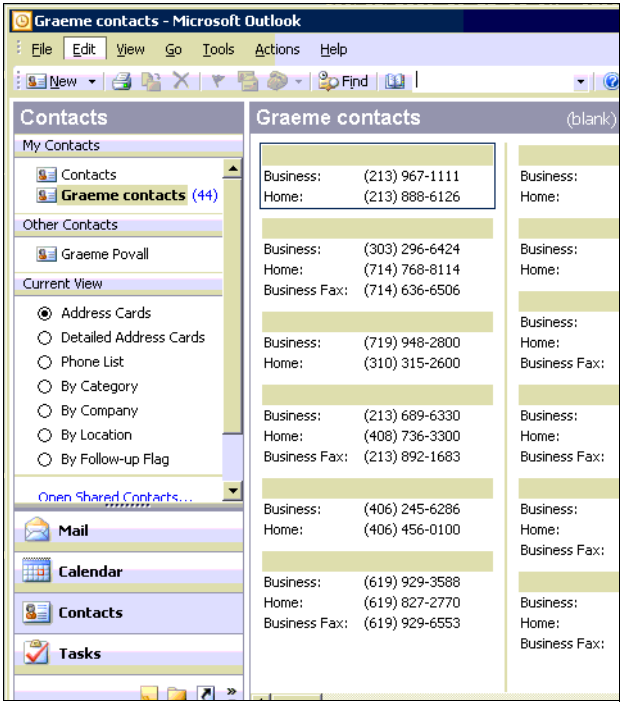

Figure 22-15 Copying contents into a new folder

We can now use the Domino Upgrade Service to bring the data into Domino.

Tip: contacts will be created as a subfolder in contacts and when migrated will be migrated as contacts and will thus not be visible as a folder in the new mailbox. an additional step has been added to describe what to do with contacts

Once the migration is complete domino the Administrator will need to change the access to the ACL to give access to all the users

- Open domino administrator
- select the registration domino server
- Create a new mailbox
- select people and groups
- from the right hand tool bar select -> people -> register

Tip: you may want to reuse the same account for multiple shared migrations (this may also be the case for shared mailboxes) the following option should be used if this is the case

- Click the options Button ans select the following options
  - Allow registration of previously registered people
  - click don't prompt for duplicate person
    - select the update the existing address book entry option
  - Click the don't prompt for duplicate mail file
    - select replace the existing mail file option

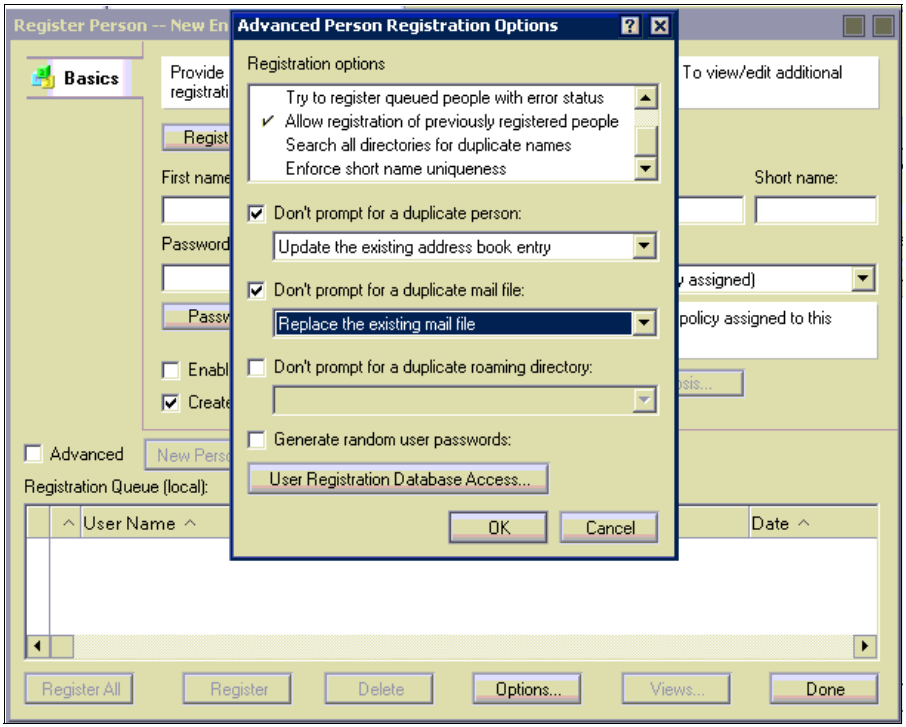

Figure 22-16 Registration options

  - Click OK
- Click the migrate people button
- Select exchange as the foreign directory source

Use a profile that has full access to the exchange migration mailbox created earlier

- Click GO
- Select the migration mailbox and click add
- Click Options
- Deselect all options and select Convert mail only

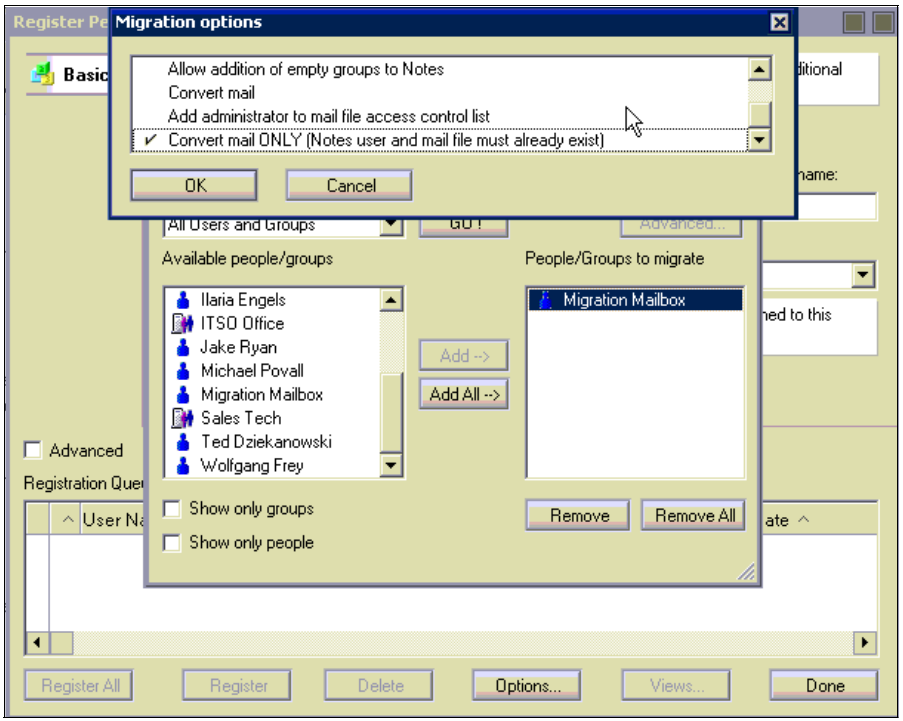

Figure 22-17 Migration options convert mail only

- Click OK
- Click Migrate

  you will get an error about user migrated with errors this can be ignored
- Click Done
- Enter a Password that meets your password requirements, and select an explicit policy
- Click the tick box

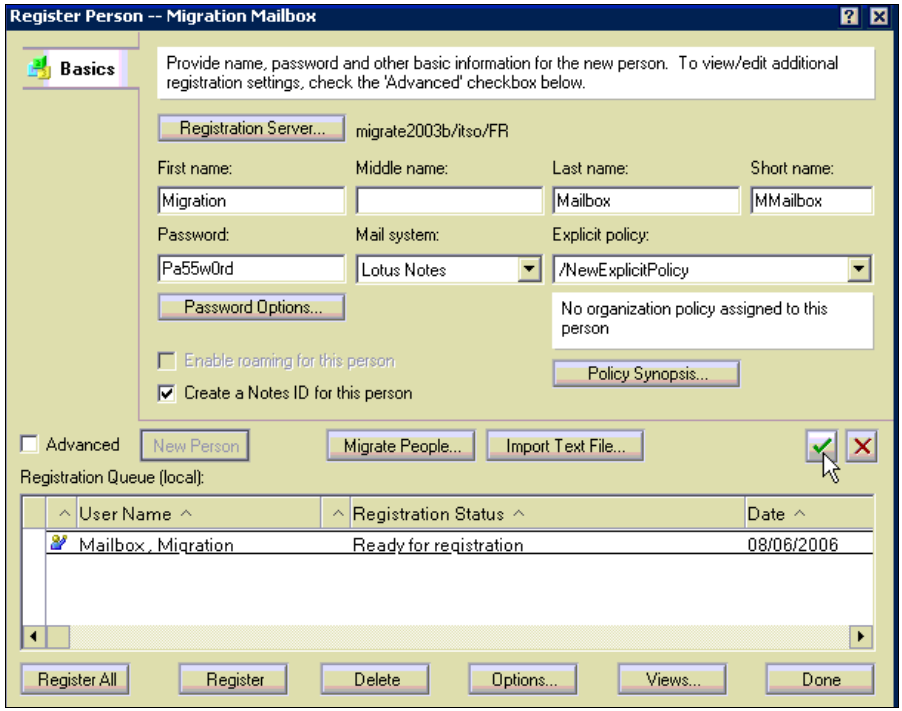

Figure 22-18 Completing registration settings

- Click Register

  The account data will now be migrated

- Click OK
- If there are any errors review and rectify the error messages are normally descriptive enough
- Click Done

Configuring the data for sharing

Once the data is in domino you will need to configure the ACL for sharing, given that all users that need access have been migrated they can be added to the ACL.from the domino administrator

- Select the file tab
- Select the mail subdirectory
- Select the migration mailbox

  as we intend to re-use this db for multiple migration then do the following

– select -> file -> database -> new copy

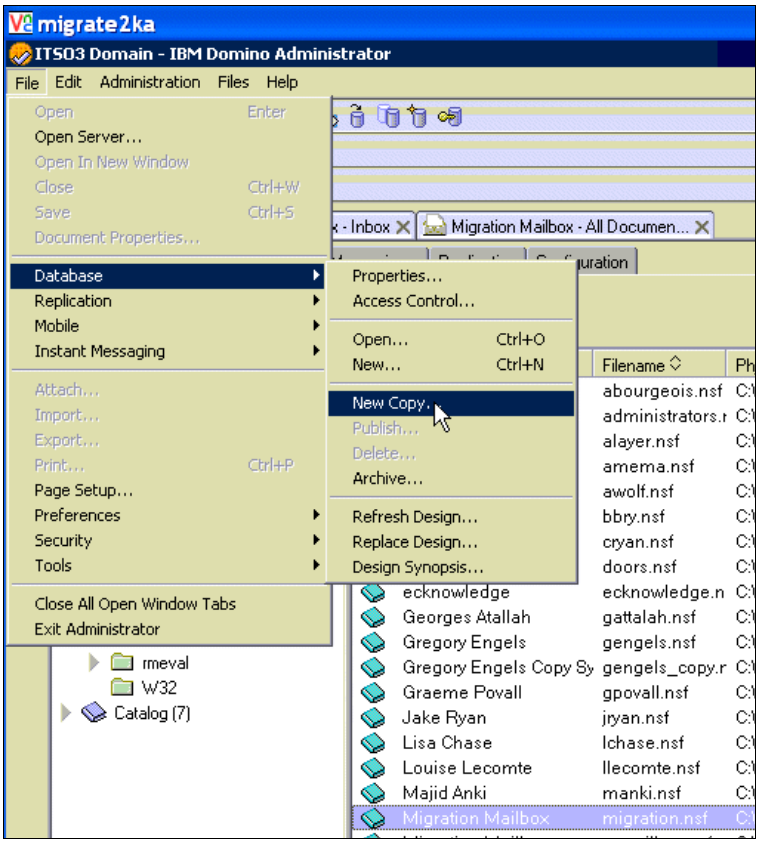

Figure 22-19 Making a copy of the database

– enter the details for the new copy, keep in the server but give the file a descriptive title and unique file name

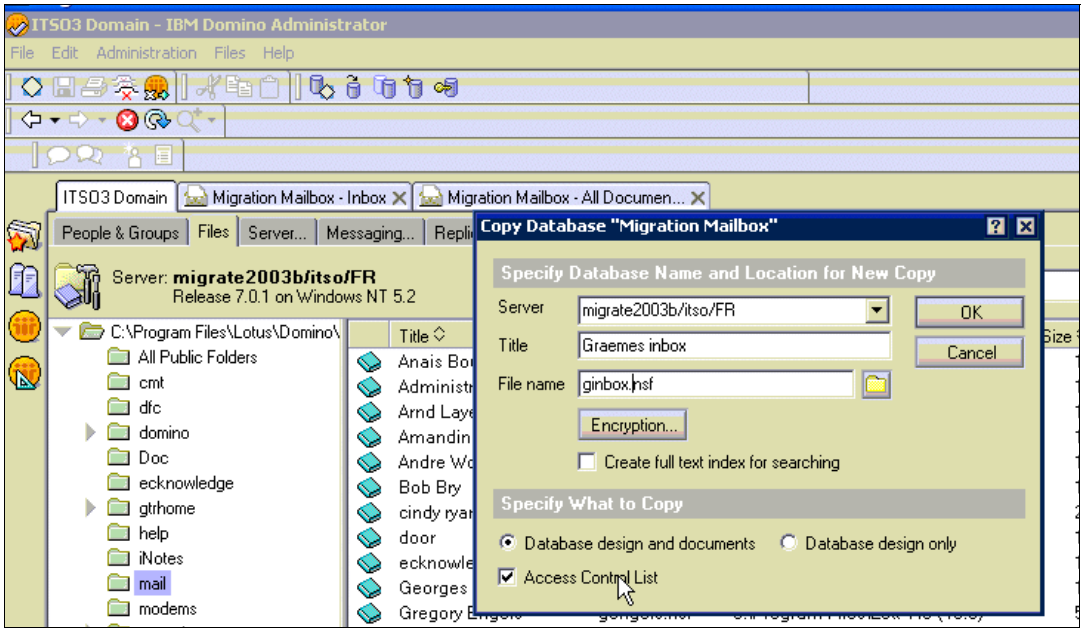

Figure 22-20 Details if the new mailbox

- Leave all other details as default
- Click OK

- Select the new mailbox
- Right Click on the mailbox and select Access Control
- Click manage

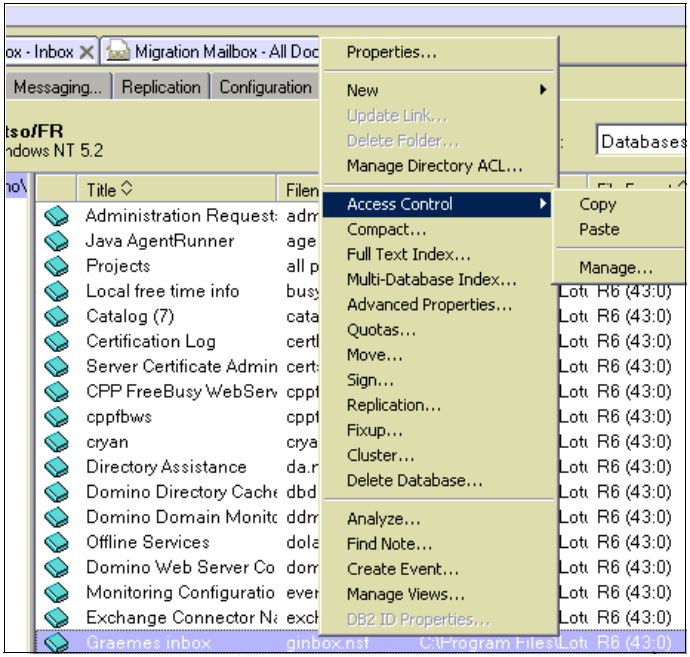

Figure 22-21 Access the ACL

- Add the users as required for sharing, user can be selected from the address book by selecting the person icon

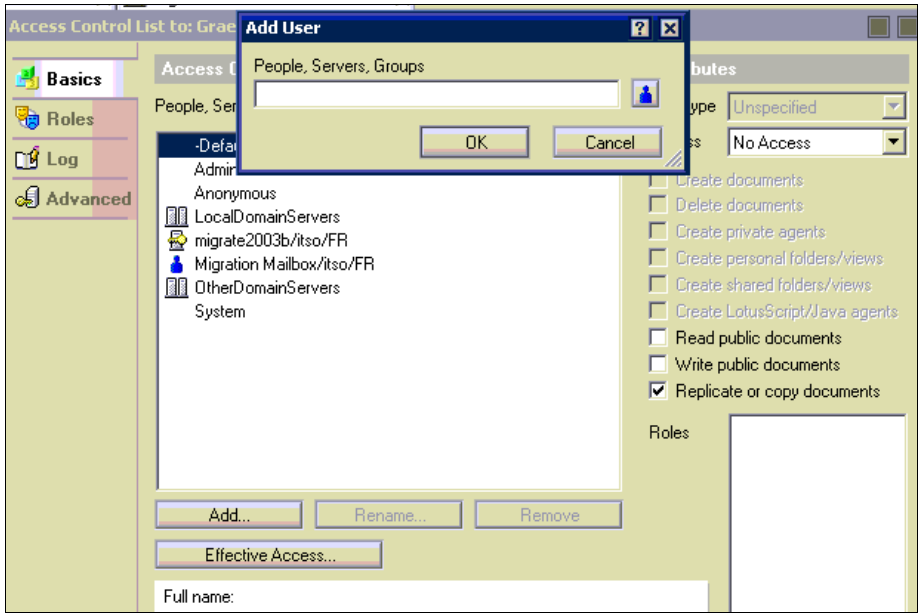

Figure 22-22 Adding users to the ACL

- You now have the data shared in domino and shared amongst the users

For data using custom forms additional work on the domino views and forms may be required. Other redbooks accessible from `http://www.ibm.com/redbooks` cover design and development of domino databases.

Special considerations for shared contacts.

Shared contacts will be migrated as contacts into the migration mailbox, although they are visible via the web access they will need to be synchronized to a personal address book.

- Log into the migration account on domino
- open the mailfile
- select actions -> synchronize address book

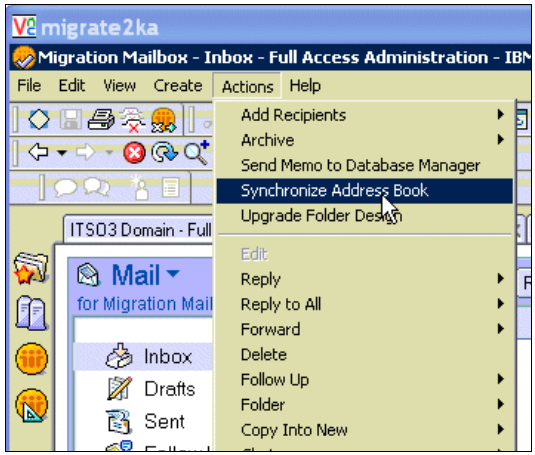

Figure 22-23 Synchronize the address book

The contact data in he address book will be synchronized with the personal address book on the local machine (names.nsf)

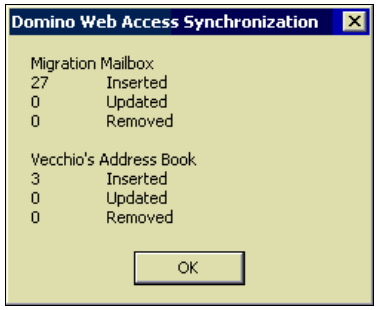

Figure 22-24 Synchronization complete

The personal address book can be copied to the domino server and relevant permissions assigned as discussed earlier.

Note: if you intend to re-use the same databases be sure to delete and recreate before each migration. Otherwise, you will mix your data.

23

Migration Project wrap up - Removing the Microsoft Exchange environment

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This chapter deals with removing Microsoft Exchange from your organization. The process can be simple or fairly complex depending on the size of the installation and the speed of your migration.

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23.1 Removing Exchange servers

As you begin removing Exchange servers from your company, be sure to consult the appropriate Microsoft documentation, some of which is listed here. Not following the proper procedures might lead to a disruption in the messaging flow, Public Folder access, directory services, and other Exchange server functionality.

23.1.1 Reasons to remove Exchange carefully

If you are removing a single server from a single site the process is a very straightforward one. After you migrate your users and are confident that all is well with your Domino migration, you simply power off or reconfigure the server.

If you run a multi-server, multi-site environment, you will most likely need to go through a period of coexistence before you can reuse the equipment, if that's your plan.

During that period of coexistence there might be Public Folders that need to be replicated and re-homed. Connectors may need to be replaced or removed, routing may need to be recalculated, and directory connectors may need to be removed. You need to consider where you are in your migration before you start.

23.1.2 Reasons for leaving things alone

You may, of course, elect to leave your Exchange structure intact, shutting it off only after you've migrated completely. This certainly will give you a fallback position should something in you Domino migration go wrong. The servers which hold Exchange could be getting old as well, so reusing those servers will probably not be a high priority. Leaving the Exchange servers up could also facilitate the recovery of any messages that might have, for whatever reason, not migrated over successfully. Finally, there is the possibility of problems with some regulatory issues concerning the deletion, however unintentional, of mail.

23.1.3 Additional resources

The Microsoft Knowledge Base has some very important articles on the topic of removing Exchange 2000/2003. Failure to take a look at these documents first can result in some serious issues later. You can get to any of the following technotes by going to `http://support.microsoft.com`

- Knowledge Base article 189286 covers deleting a server from a site.
- Knowledge Base article 152959 covers deleting the first server in a site. This may or may not be the same as the previous item.

- If you accidently erased the Organizational Forms Library, Knowledge Base article 239760 may help you recover the lost forms.
- And finally, if you need to recover a single mailbox from a deleted server without causing problems with your remaining Exchange organization, see Knowledge Base article 163713.

23.1.4 Before you begin removing Exchange

First, you should be completely confident that the Domino migration is going according to your plan. Your connectors should be working, and both messages and directory changes, if you've elected to put both in, are working predictably. Any profiles that users had to the old Exchange servers should be gone by now and, if they are not, you should be removing them. Having a user start Outlook and have nothing happen will make no one happy.

You should have good backups that have been thoroughly tested. Few things could be worse than finding out management wasn't quite ready yet, and you've just finished removing Exchange and the tapes don't work.

What is your Exchange contraction strategy? If you can't answer that question you better start working on one. Do you know what Public Folders are on what servers? How about the one connector you had in an Exchange site that acted as a gateway? Removing Exchange is easier than installing it, but that doesn't mean you can get away with no planning.

In the locations that have Exchange, how many Exchange servers are there in a given site? If there is more than one, do you know which was the first one? If this is a phased contraction, it might make a difference.

As you are removing Exchange from your network, remember the old carpenter's motto: "Measure twice, cut once."

We next go through some scenarios of Exchange removal. The two we focus on are a single server in a single site, and multiple servers in a single site.

23.2 Single server, single site

This scenario might apply to a branch office. Consider that you have migrated your users and their mail to Domino and you still have Exchange in your organization. If you just shut down this Exchange server, the other Exchange servers, at the least, would still attempt to send it directory changes and mail. In a worst case situation, this server would have your only internet connection and the removal of the server could impact other users in other sites.

23.2.1 Considerations

Being extremely cautious, let's imagine some of the things that could be on that server:

- A mailbox you chose not to migrate, like an archival mailbox that held information from the mailboxes of other users.
- Public Folders that do not have replicas elsewhere.
- Connectors, or it could be a key management server.
- The server could be a bridgehead or a replication hub.
- Public Folders might be homed on it.
- Maybe you started to deploy Active Directory and the server has the Active Directory connector on it.
- The server is used to expand a distribution list.

These items, in and of themselves, are not a reason to necessarily keep a server up indefinitely. However, they may represent issues that need to be mitigated prior to decommissioning any Exchange Server. What follows are some suggestions on how to deal with such conditions.

- Mailboxes not migrated

  If a mailbox contains messages but was not migrated, there are two alternatives. Either place the mail in a PST—the details on how to do this are the same as for a Public Folder—or confirm you have a good backup, and recover messages as required on an Exchange server that is not really part of the network. For details on this, see Microsoft Knowledge Base article 163713. If you put the mail in a PST and store it optically, you will need to return it to disk and change the permissions from read only. If you are relying on tape, be aware that recovering an Exchange server can take several hours from start to finish.

- The server has connectors

  The impact of removing a server that has a connector could be profound to the other remaining users of Exchange. Be sure to create alternate connectors with a lower cost than the connector being removed. Also, allow for any changes you make to your topology to propagate through the rest of your Exchange environment. If the connector on the one server in the one site is the Internet connector, make sure that you have a way to send mail to the Internet, as well as the appropriate MX records to point to the connector. Allow sufficient time for the MX records to replicate on DNS servers throughout the world. If someone else is hosting DMS services for you, make sure the provider makes the changes correctly.

- It is a key management server

  This server manages keys used to sign and encrypt mail. If this server was unavailable and a user's certificate expired, they might not be able to open some messages. See the Microsoft documentation on how to move this functionality elsewhere.

- Bridgehead server

  While not very likely, a server might act as a hub for one or more functions. If the single server is acting as a bridgehead, make sure you adjust your topology accordingly.

- Public Folder home server

  If you have a Public Folder that was created on the Exchange Public server you wish to decommission, then the Public Folder will need to be re-homed in order to ensure that proper permissions are maintained. To re-home a folder, first create a replica on another server, and then go to the advanced properties of the folder resetting the home server (Figure 23-1).

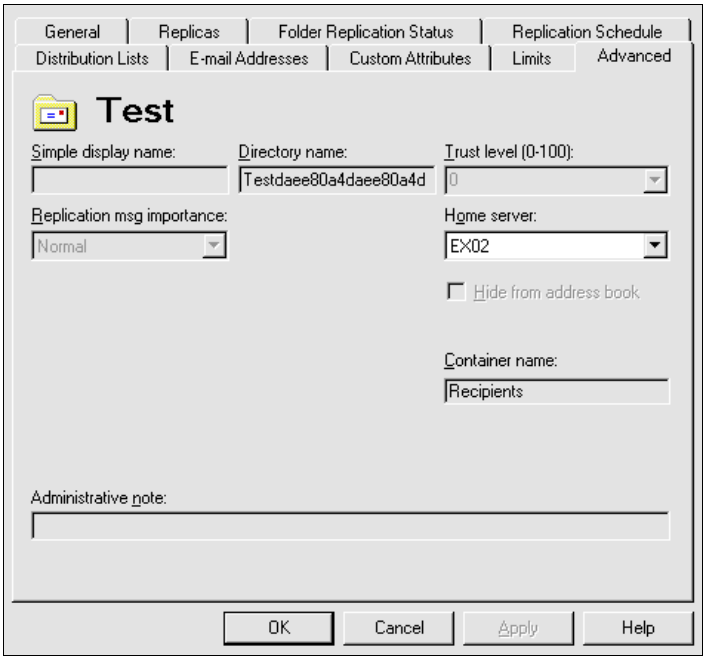

Figure 23-1 Changing the Home server of a Public Folder

Public Folder permissions can be reset when a consistency check is done on the information store. Orphaned Public Folders get new permissions when the original server can no longer be found in the directory. The consistency

checker is manually run when you delete a number of objects and want to clean things up. The Consistency Adjuster is on the Advanced tab of the Property page of the server (Figure 23-2).

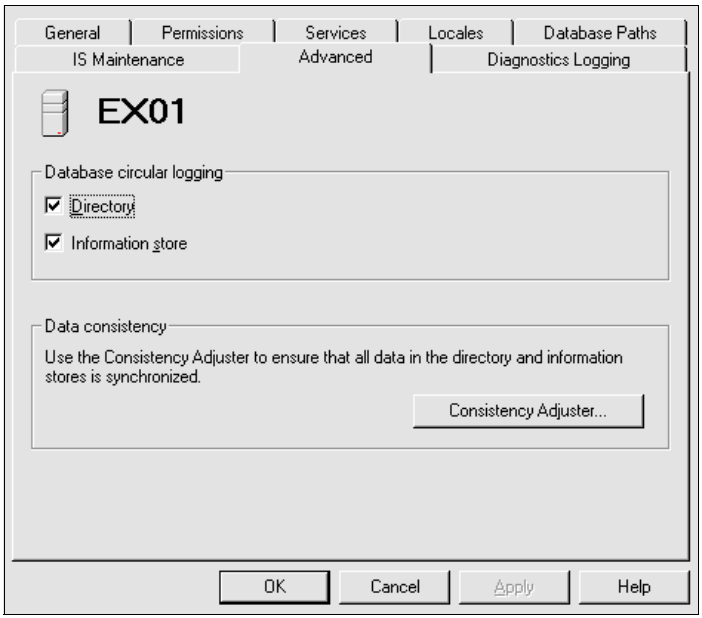

Figure 23-2 Consistency adjuster on an Exchange server

- An Active Directory connector is on the server

  The Active Directory Connector is used to synchronize data between the Exchange 2000/2003 world and Active Directory. Loss of the connector means there would no longer be updates between Exchange 2000/2003 and perhaps Exchange 2000 servers that might have been part of a cancelled deployment. Your alternatives are to break the connector and let no further changes replicate or place the connector elsewhere.

- Server is specified to expand distribution lists

  A distribution list can be parsed locally or on a specified server. Verify that distribution list expansion is not on a targeted server.

23.2.2 Removing the server

If you are satisfied that you are ready to decommission this single server, take the following steps.

Remove all existing connectors to the site

You need the appropriate levels of permissions to remove connectors.

1. From the Exchange Administrator program, first delete the directory connectors (Figure 23-3).

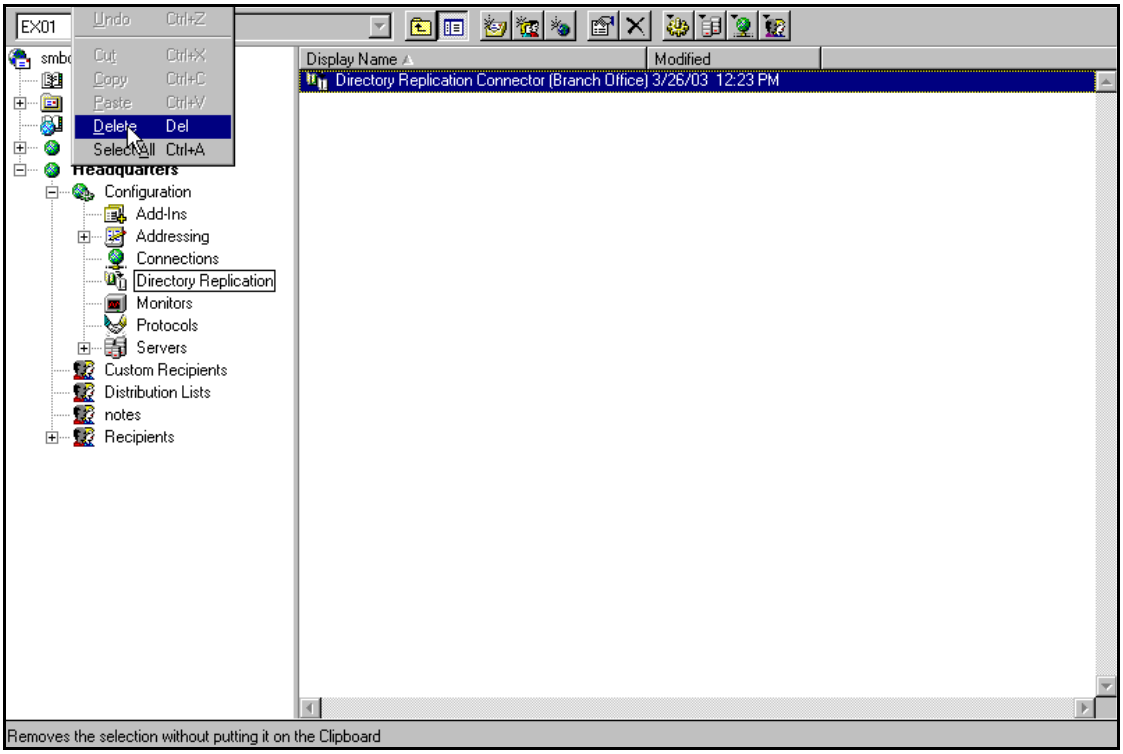

Figure 23-3 First step in removing the directory connector

2. Confirm the deletion by clicking Yes.

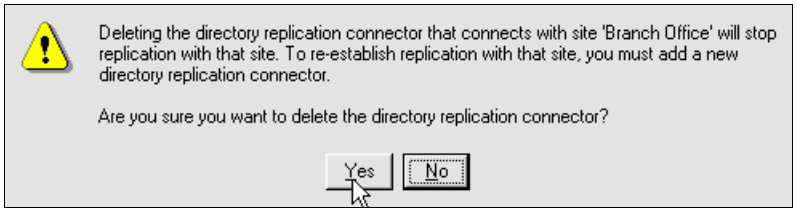

Figure 23-4 Confirm the directory connector deletion

3. If you have the rights, you next have the option of removing the connector at the remote site (Figure 23-5). If you do not have permissions, the deletion will fail. Click Yes to confirm the deletion.

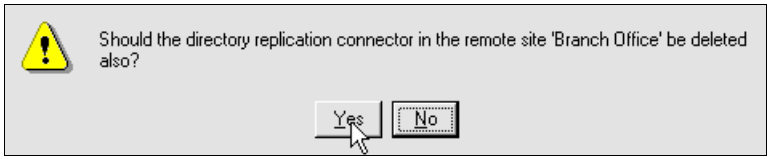

Figure 23-5 Removing remote directory connector

4. The dialog shown in Figure 23-6 warns of the consequences of using the Consistency Adjuster before you have verified that the Public Folders have been re-homed properly. You should have done this as part of your pre-contraction checklist.

Figure 23-6 Consistency Adjuster warning dialog

5. Remove your site connector to the Branch Office (Figure 23-7).

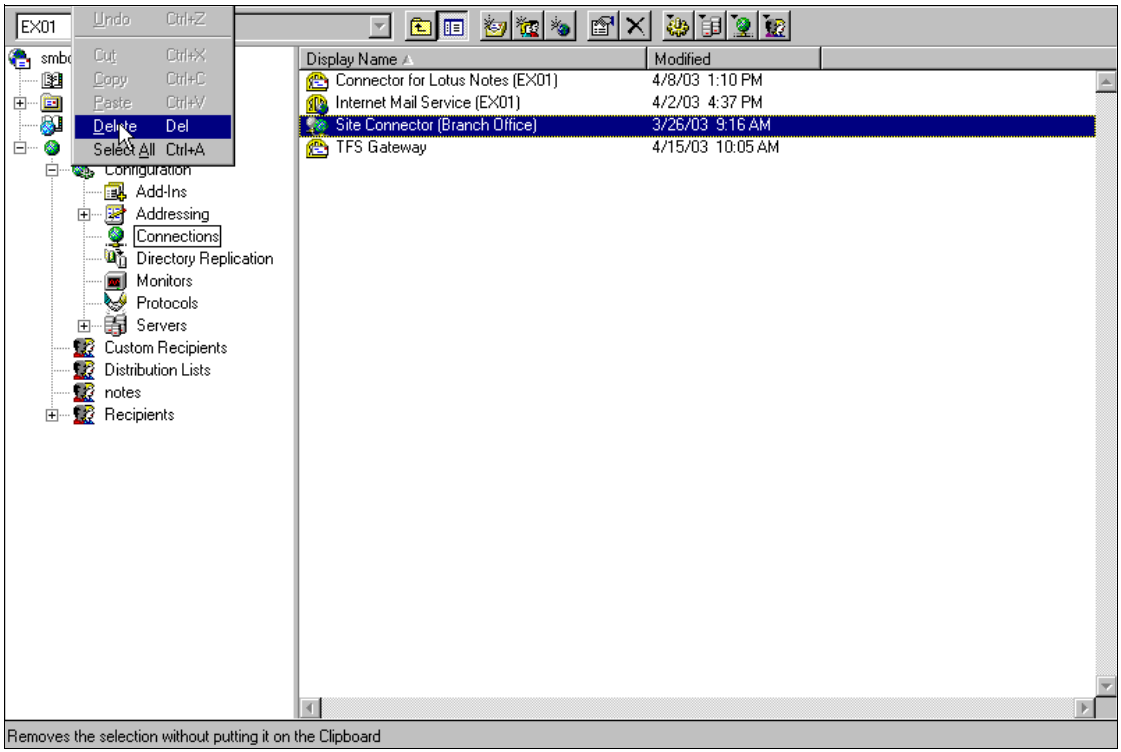

Figure 23-7 Removing the site connector

Important: Besides Site Connectors, you may find either X.400 or SMTP connectors that would need to be removed as well.

6. You will be asked to confirm this action. Click Yes.

Check Event viewer

Make sure you check the Event viewer program for errors. Verify that messaging and directory services between the remaining sites still function.

Force replication

In the site or sites that remain, force replication from servers that connected to the site about to be removed to other sites.

Get rid of orphaned objects

Run the consistency adjuster on all servers (Figure 23-2 on page 720).

Recalculate routing

Run the routing calculation on the routing calculation page of the site addressing tab (Figure 23-8).

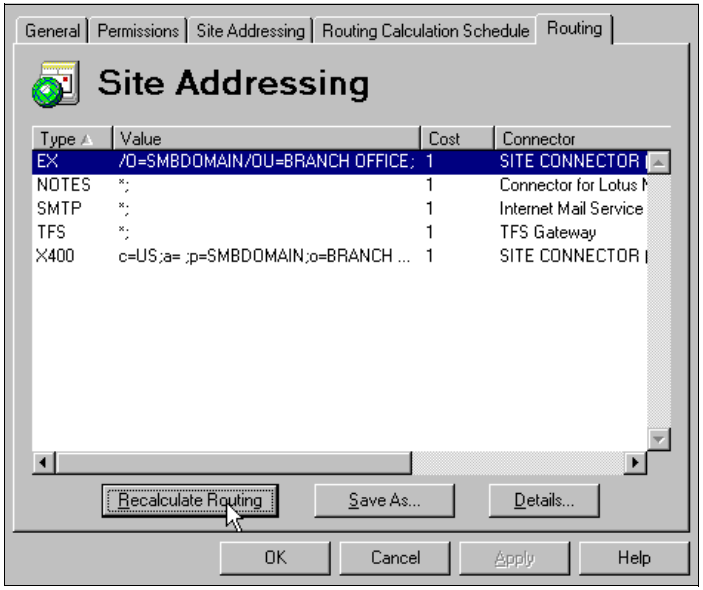

Figure 23-8 Recalculating routing

Your server's global address routing table will no longer show a way to get to the Branch Office (Figure 23-9 on page 725).

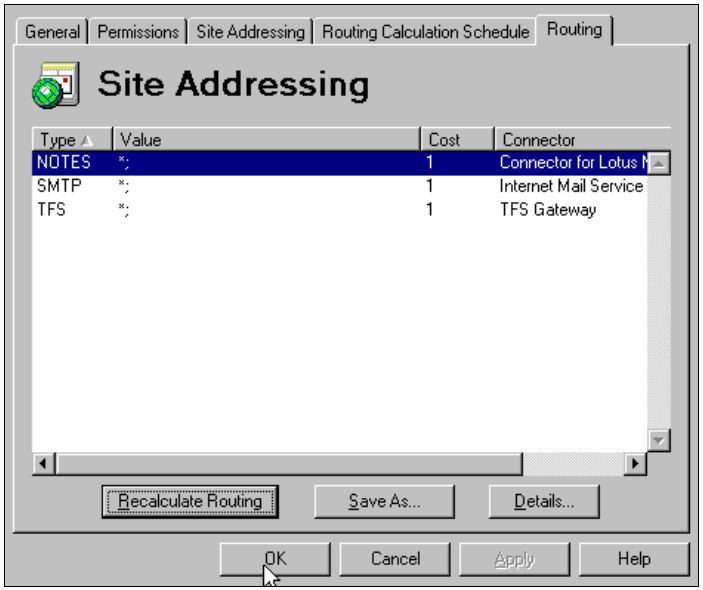

Figure 23-9 The revised Site Addressing or GWART

Check the Event viewer for any errors.

Uninstall Exchange 2000/2003

Uninstall Exchange 2000/2003 software from the server being removed by running the setup program.

23.3 Removing a server from a multi-server site

In this scenario you have multiple Exchange servers in a site. You might have some users on one Exchange server but not on the other. The things you need to be careful of are the same as the single server, single site scenario, but with one big exception: the first Exchange server in a site does things that other Exchange servers do not. Among the things a first server does, by default, include it being:

- A routing calculation server
- Site folder server
- Default site folder replica server
- Offline Address Book generation server

So, if you have a choice, you would delete the first server last under most circumstances. Knowledge Base Article 152960 deals with moving first server

functionality. Best Exchange practices will have you move those functions before decommissioning the first server.

Otherwise, removing other Exchange servers from a site follows the same pattern as a single server, single site. The steps are as follows:

1. Verify everything on the single server, single site list.
2. Make sure the server is not the first server.
3. Run the Exchange setup from the server you are decommissioning and make sure to remove all connectors. Not doing this may result in your being unable to remove the server.
4. Using the Exchange Administrator on a remaining server, remove the object that represents the deleted server.
5. Force replication to other sites.

If you need to keep users on Exchange in a site but need the server, either migrate the users or use the Exchange Administrator to move them to another Exchange server in the same site.

23.4 Summary

It may take several months to migrate all users from Exchange to Domino in a large organization. In a low bandwidth environment, you do not want unnecessary network traffic from redundant messaging systems, so decommissioning servers is important not only from a networking perspective, but from a cost of ownership perspective as well. It is very important to consult the Microsoft documentation to ensure that contracting your Exchange environment is done properly.

A

Other migration tools

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

In this book we have covered in detail some of the most valuable and most recognized tools used in a migration project. There are, however, additional tools on the market, addressing some specific issues and tasks that may be very relevant for companies migrating from Exchange to Domino. Some of these specific tools are covered in this appendix.

The main goal in this appendix is to give an overview of additional tools, and to point out the specific value each tool provides and for which situations it is most suitable. Some of the additional tools discussed here do not deal directly with the *migration* aspect of data, but add value in additional ways to a migration project.

The tools covered include

- “Coexlinks”

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- “ICODEX Client Genie”
- “Transend Migrator”
- “GMI Infopath_2_Notes”
- “Nash!Com Domino on Unix/Linux Start Script”
- “Nash!Com Trace & Lowercase Conversion Extension”

Note: IBM does not necessarily endorse the tools listed in this Appendix over other available tools to be used in a migration. While there may be many additional tools in the market, the scope required for discussing each of them exceeds what is possible in this book. Instead, we focused on those tools with which members of the Redbook team had experience with.

A.1 Coexlinks

Coexlinks is a coexistence solution which maintains the fidelity of embedded Notes document links (Document Links). It complements the Microsoft Exchange connector or the pure SMTP routing solution by adding message fidelity while sending mail messages from Notes to Outlook which contain embedded notes document links.

(Please refer to Chapter 5, “Using the Microsoft Exchange Connector for coexistence (Exchange 2000)” on page 107, or Chapter 6, “Using the Microsoft Exchange Connector for coexistence (Exchange 2003)” on page 169, or finally, Chapter 9, “Using SMTP routing for coexistence” on page 267 for the details on each of these solutions.)

As we highlight in Chapter 10, “Co-existence test results - what to expect” on page 309, (specifically in the section , “Document Links” on page 323.) the fidelity of document links is normally lost when sending messages between a Domino and Exchange Domain. Rather than the document link remaining in the Notes document, it appears within the message received on the Exchange side as a long URL. Coexlinks addresses this issue.

A.1.1 Overview

Coexlinks is a Tool manufactured by Genii Software, http://www.geniisoft.com

It watches the outgoing Notes mail messages for notes document links (doclinks) and converts these to a format that can be handled by non-notes clients, including Microsoft Outlook. It offers:

- Seamless conversion of doclinks, view links and anchor links, as well as link hotspots
- Customized disclaimer on modified messages
- Converts links to choice of NDL attachments, Notes URL links or Web HTTP links
- Selective conversion to HTTP links by database allows non Notes users to use notes databases over the web
- Optional formatting URLs allows calls to agents or servlets to process links
- Plug in architecture requires no scripting, coding or design changes

A.1.2 Value add

Organizations that have Domino for a period of time typically deploy a large number of business applications utilizing some mail workflow. The workflow

process often involves mail processing, by sending mail notifications to a user asking them to perform certain actions on Notes documents. For example, give a manager's approval to a vacation leave request. Such mail notifications usually contain direct links to the Notes documents in questions These links are typically notes links, i.e. they work specifically as intended only inside Notes Client.

Noteslinks can be generated not only through a workflow application, but also directly by a user, since this is a quite common way to send information to other notes users. In many cases, the users sending messages might be unaware of the mailsystem which the target recipient is using. If an Outlook user receives an email that contains such notes links and does not have Notes Client installed on the same machine, he would not be able to open such a link.

Coexlinks converts such noteslinks into a format that allow a user to open such links by using the web interface of the database.

A.1.3 How can this tool can be used in Migration/Coexistence project?

This tool can be used in any migration project with an extended coexistence phase. Typically, following coexistence scenarios would benefit most from this tool:

- You expect a long coexistence phase after an enterprise merger with a significant number of users using Notes and Outlook over significant period of time.
- You have Notes based applications that utilize mail based workflow and you want to enable your Outlook users to work with it, without modifying the application.
- You want to add a specific disclaimer to mails that has been routed from your Notes environment into Exchange without leaving your organization (namely, the messages do not pass through an SMTP Gateway which could also function to provide a disclaimer).

A.1.4 Technical Background

Coexlinks is an Extension Manager plug in. It scans the server outgoing mail.box for messages containing notes links and converts them into a desired format. For the Coexistence scenario preceding an actual Migration from Outlook to Notes, where Outlook Users would not have Notes installed on their machines, the most suitable conversion way is to convert all noteslinks to appropriate web links, that would be opened in a browser.

For routing purposes CoexLinks can be installed on the gateway hub server transferring mail. Or in a large organization with a large mail workload, Coexlinks can be installed on every Domino Server.

Figure A-1 illustrates a sample message, how it is sent from an Notes based workflow application. You can see the doc link embedded.

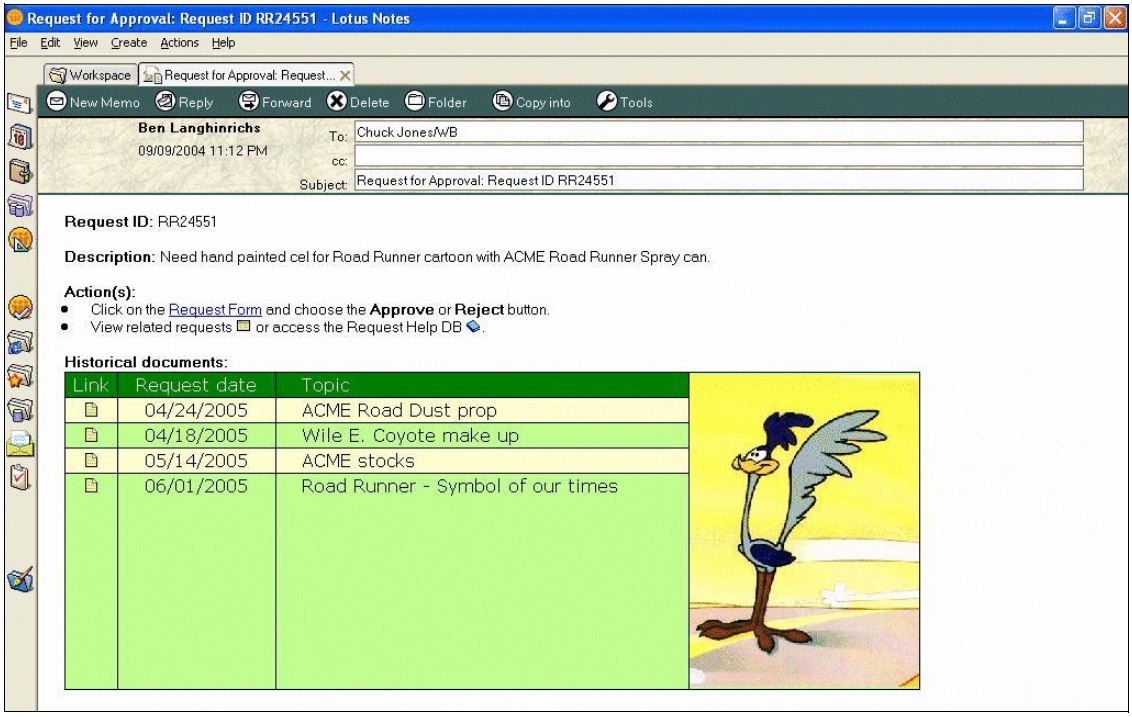

Figure A-1 A sample message, how it is sent from a Notes-based workflow application

Figure A-2 on page 732 illustrates he same message has been converted by coexlinks. Notes links has been replaced to .ndl files in this example, but could be replaced to http:// links as well where appropriate.

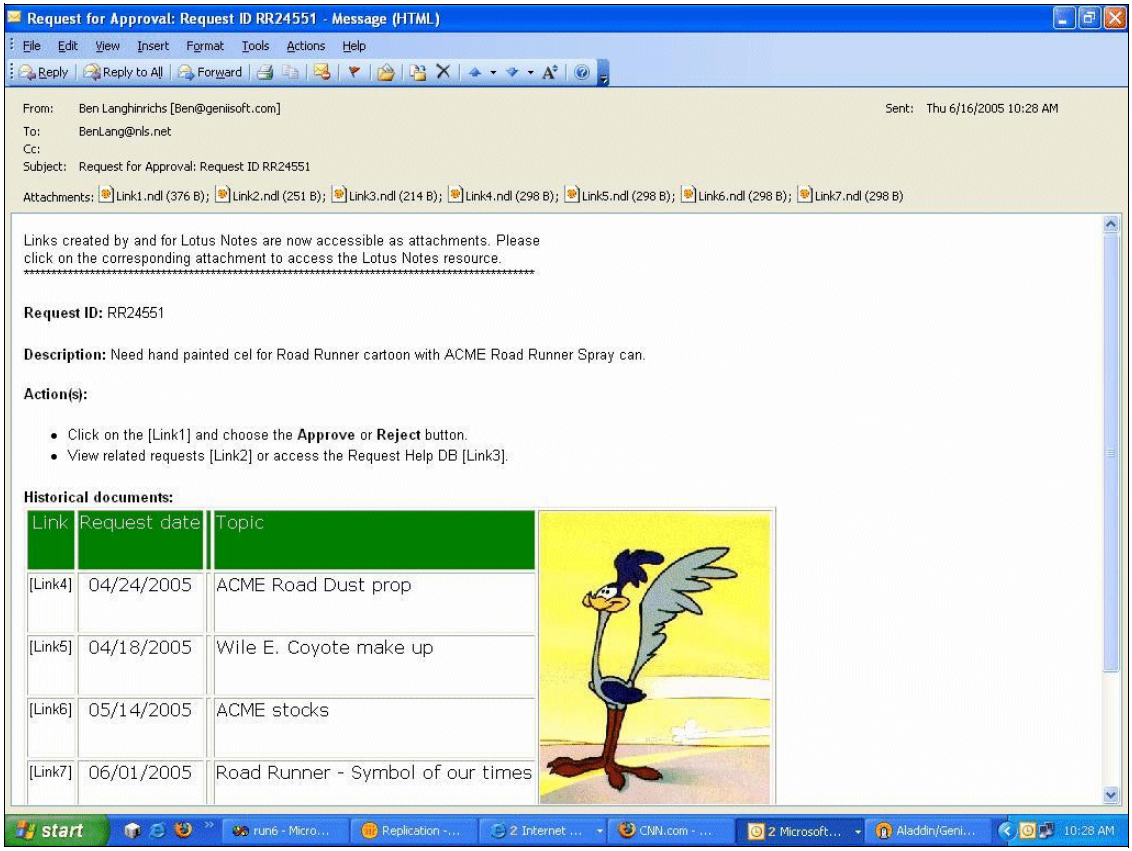

Figure A-2 The same message has been converted by coexlinks. Notes links has been replaced to .ndl files in this example, but could be replaced to http:// links as well where appropriate.

A.1.5 Installation

The detailed installation instructions for this tool is provided with the distribution of the product and will not be covered specifics here. The intent is to provide a an overview of what components are involved in setting up the tool.

To install the product, the following steps are taken,

1. Copy the CoexLinks software, named nCOEX.dll for Windows systems, libCOEX.so for Solaris and libCOEX.a for AIX, and the license file liccoex.lic into the same directory as the Domino server software.
2. In the Notes.ini file on the Domino Server, add COEX to the extmgr_addins line.

   So, if your extmgr_addins entry in the notes.ini looks like this:

```
extmgr_addins=toool1, tool2
```

it should be changed after the installation to:

```
extmgr_addins=toool1, tool2, COEX
```

3. After you have done these steps, you need to restart the Domino Server.

A.1.6 Configuration Settings

There are a number of additional configuration settings which can be set in the servers notes.ini file. We will not cover all of them here, but instead, focus on the ones that are important to get an understanding of this product.

COEXDocLinkType

Determines the form the converted doclinks will take. If set to 0, doclinks will not be converted at all, and all other CoexLinks processing will be suspended. Effectively, this is a way to temporarily disable CoexLinks. The most common choices are 2, for NDL attachments, which works well with all versions of Outlook, and 8, for URL hotspots.

Table 23-1 Overview of the COEXDocLinkType notes.ini setting

Notes.ini value	Meaning
COEXDocLinkType=0	disable CoexLinks - no processing will take place
COEXDocLinkType=2	convert to NDL file attachments - leave text in place
COEXDocLinkType=4	convert to text URL's
COEXDocLinkType=8	convert to URL hotspots - default Notes://
COEXDocLinkType=16	convert to NDL file attachments - no text left in place
COEXDocLinkType=32	convert to URL hotspots - default http://

COEXLimitToDB[n]

Limits processing of messages to specific databases, which are usually specific mailboxes. For example, you can limit processing of messages to those which flow through the exchange.box if you want to use CoexLinks in conjunction with the Microsoft Exchange Connector. This ensures that only messages destined for the Exchange Connector will be converted, and other e-mails which may be routed to Notes client users will not.

Table 23-2 Overview of the COEXLimitToDB notes.ini setting

Notes.ini value	Meaning
COEXLimitToDB1=exchange.box	process only messages sent via the Microsoft Exchange Connector and not affect any messages set directly over SMTP (via mail.box)

COEXPrependDocLink

Enables a disclaimer to be prefaced every message that has been changed by the conversion process.

Example: A-1 sample notes.ini entries to enable a disclaimer been added to every mail that has been converted by coexlinks.

```
COEXPrependDocLink=1
COEXPrependDocLinkText1=********************************************
COEXPrependDocLinkText2=Lotus Notes doclinks have been converted to
COEXPrependDocLinkText3=URL links.  Launch the hotspots to
COEXPrependDocLinkText4=access the linked document in web browser.
COEXPrependDocLinkText5=********************************************
```

A.2 ICODEX Client Genie

Client Genie is a tool that allows full remote control of all Notes Client settings, including the Notes desktop (workspace), bookmark data, toolbars and notes.ini.

While ICODEX Client Genie is not a tool which is directly involved with migrating data, it is a very useful tool to consider once your organization is working with and administering a Notes and Domino Environment.

A.2.1 Overview

Client Genie (http://www.clientgenie.com)is manufactured by ICODEX, and was originally been marketed under the name INTEGRATE!People. It is a highly configurable solution for controlling, managing and monitoring Notes Clients from a centrally administered Notes database.

The key features Client Genie provides include:

- Enhanced Lotus Notes Login Screen with easy Location- and User-ID-Selection
- Central Administration of the Lotus Notes Workspace

- Central Administration of Replicator pages
- Central Administration of Personal Names
- Central Administration of notes.ini
- Central Administration of Welcome page (Homepage bookmark)
- Central Administration of the Bookmarkstore
- Central Administration of Toolbars
- Stores desktop, bookmark and various other data as XML for enhanced roaming and rollback
- Viewing e.g. Notes desktops with a web browser just like in Notes, without needing physical or network access to the respective users computer
- Automatic building of "maintenance-free" portals that mix centrally controlled notes-, web- and filelinks with user individual noteslinks all from a single point of administration into a single point of information access portal for every user to just about any information.

A.2.2 Value add

Almost all Lotus Notes settings can be administered centrally with the Lotus Notes / Lotus Domino Components within ICODEX Client Genie and can be distributed and / or synchronized when a user registers to a Lotus Notes / Lotus Domino server. These settings range from security settings and usability settings (e.g. close window with right mouse double click), user- and group related location and connection settings, to specific database settings related to the user's position and role(s) within the company as well as their current geographical location and connectivity state.

ICODEX Client Genie secures full consistency of Lotus Notes Client configurations and can help to significantly maximize cost saving potential (e.g. minimize help desk enqueries and costs due to different and formerly uncontrollable client configurations).

Finally, ICODEX Client Genie enables the transformation of a wide range of Lotus Notes and Lotus Domino contents and functions in the Web browser, e.g. the Notes desktop or Workspace itself.

A.2.3 How can this tool can be used in a Migration/Coexistence project?

Although Client Genie is not a dedicated data migration tool, but rather a Notes Client deployment and management tool, ICODEX Client Genie can still be very valuable in an Exchange to Domino migration project. It helps in deploying a

unified and customized Lotus Notes Client desktop and helps to reduce helpdesk load by giving administrators the tools to remotely control any of the Notes Clients settings from a serverside database. Additionally, it allows to modify these settings at any given time, even if the Notes Client will only connect to a server at a later time. All changes are applied without any emails or end user interaction.

Here some example scenarios depicting how Client Genie could be used in a Microsoft Exchange to Lotus Domino migration project:

- By using the ability to run agents in a Lotus Client, you could install a migration tool on the end users' machine(s) and run the agent with a help of Lotus Script, or through Windows Scripting Host (WSH). For example, you could run the Domino Migration Services local data migration process (i.e nupgrade.exe) (see Chapter 12, "Migrating local Outlook data using Notes Upgrade Services" on page 367) and auto fill the dialog boxes the user would have to complete by himself. Additionally, as a preventative measure, you could also ensure that the local data migration process could not be run a second time (accidentally allowing a user to migrate all the data a second time with the result of creating duplicate data). Alternatively, you could use Client Genie to deploy TransSend Mail Migrator (see Appendix A.3, "Transend Migrator" on page 741) and run it in batch mode (visible or invisible).
- By defining a corporate standard for Lotus Notes Client desktop, you could give a newly migrated user give a ready to use, fully "furnished" desktop surface with all desktop icons, bookmarks, local replicas, replicator page settings and toolbars in place. This allows users to use the new platform in the most productive way, reducing the time required for training and learning the new environment (Note: to some degree, the ability to deploy and create a standardized desktop can also be accomplished by using the build in setup policies in the Domino directory - this however is mostly limited to initial setup only and does not cover the entire lifecycle of a notes client. For additional information on this topic, see the Domino Administrator Help http://www-12.lotus.com/ldd/doc/domino_notes/7.0/help7_admin.nsf/f4b82fbb75e942a6852566ac0037f284/74996b4926fa94378525706f0065b175?OpenDocument)
- By creating a custom skin for the login dialog and the Notes workspace, you could implement your company's Corporate Design, to drive end user acceptance of your project.
- When you have a migration project as a result of an enterprise merger or acquisition, and you are integrating new users into an existing Domino infrastructure you could use Client Genie to support the consolidation of your Domino Servers by redirecting the bookmark links and workspace tiles on the users desktop to reflect database moves across servers. Furthermore, Client Genie can help in the renaming of servers or whole domains, without any interaction required from end users. This contributes toward minimizing the

load at your helpdesk that usually accompanies large scale changes in your organization.

- By using the log database of Client Genie you could analyze how Notes Clients are set up "out there", and how your end users utilize Lotus Notes. Namely, this can help to identify what databases users have links to on their desktop and in their bookmarks, which screen resolution are they running and even latency times as to identify network bottlenecks from a clientside perspective.

A.2.4 Technical Background

ICODEX Client Genie runs as a client / server application. On the Lotus Notes Client, there is a .dll file that runs as an extension manager addin that communicates with the two Client Genie databases that reside on the Domino Server - to download new instructions and upload comprehensive monitoring information as well as XML file exports of the current client configuration across desktops, bookmarks, replicator pages, replicas and toolbars.

A.2.4.1 High level overview of how it works

When a user logs into Notes, Client Genie looks in the Client Genie Central database for updated settings for that user, converts the local desktop , bookmarks etc. into XML format, synchronizes - if necessary - with the new settings, and finally uploads all data to a monitoring database in zipped format.

On the Server, the Domino administrator can create new settings for workspace tabs, databases, bookmark folders, bookmarks, toolbars, agent runners and many more, and assign them to groups or specific users as well as to clients with certain attributes, such as laptops, desktops or citrix users only. In the Monitoring database, every Notes Desktop can be viewed offline and every setting of the client can be controlled.

Figure A-3 on page 738 illustrates how Client Genie looks like for the user: Users log into Lotus Notes - the ICODEX Client Genie Login Screen displays (naturally not with Single Sign On). The login screen can be freely customized; all ID & security handling is still done by Notes - the ICODEX Client Genie Login dialog only ensures that new changes can be downloaded from the server and immediately applied to the local client configuration before Notes locks it (like deskop*.ndk, bookmark.nsf, ...).

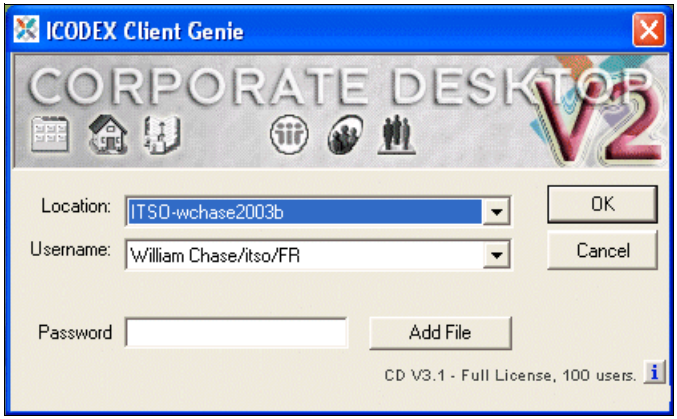

Figure A-3 Client Genie replaces the Notes login dialog with a customized, skinned version

After successful password entry, users see a short progress bar, indicating THAT something is happening, but not allowing the end user to choose WHETHER it happens or not (and without being dependent on the end user as with email- / buttonbased administration)

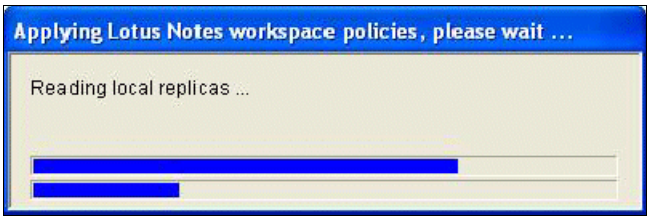

Figure A-4 After the login dialog the user sees progress bars

After synchronization is finished, Lotus Notes starts as usual. Except for the managed content such as e.g. the position of a database tile, bookmark or replicator page entry, and the server to which they point to, all of which is fully controlled through the administration documents in the Central database.

Finally, Figure A-5 on page 739 illustrates how Client Genie can provide a customized skin to the Notes Desktop to provide a compliance with corporate design and identity.

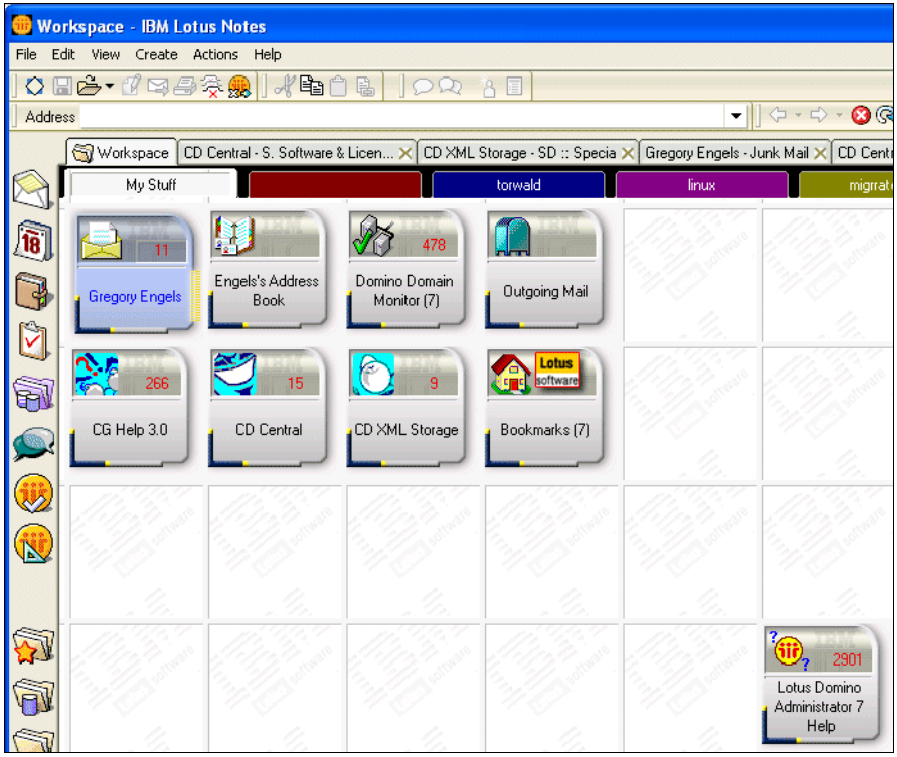

Figure A-5 Client Genie can provide a customized skin to the Notes Desktop to provide a compliance with corporate design and identity

A.2.5 Installation

The detailed installation instruction is provided with the distribution of the product and will not be covered in extensive detail here. We will give only a general direction of what components are involved in setting up the tool.

Installation of Client Genie is divided into two parts:

A.2.5.1 Serverside Installation of Client Genie

This involves creating a Database File (*.NSF) for

- CG Central Database
- CG Monitor
- CG Help

No other files or configuration on server is needed.

A.2.5.2 Clientside Installation of Client Genie

Clientside installation involves:

- Deploying the Lotus Notes C API DLL
- Deploying Client DLL (corpdesk.dll) and License File (ICODEX.lic) to either the notes data or program directory - ICODEX Client Genie does not require any admin rights or registry settings.
- Configuring Client Notes.ini (Adding one entry)

This installation process can be done by building a customized Lotus Notes Client install package, or if the Notes Clients are already rolled out, via an email based setup that is build into Client Genie.

A.2.6 Configuration

All the configuration of all the user settings is done in the Client Genie Central database, which is illustrated in Figure A-6 on page 741.

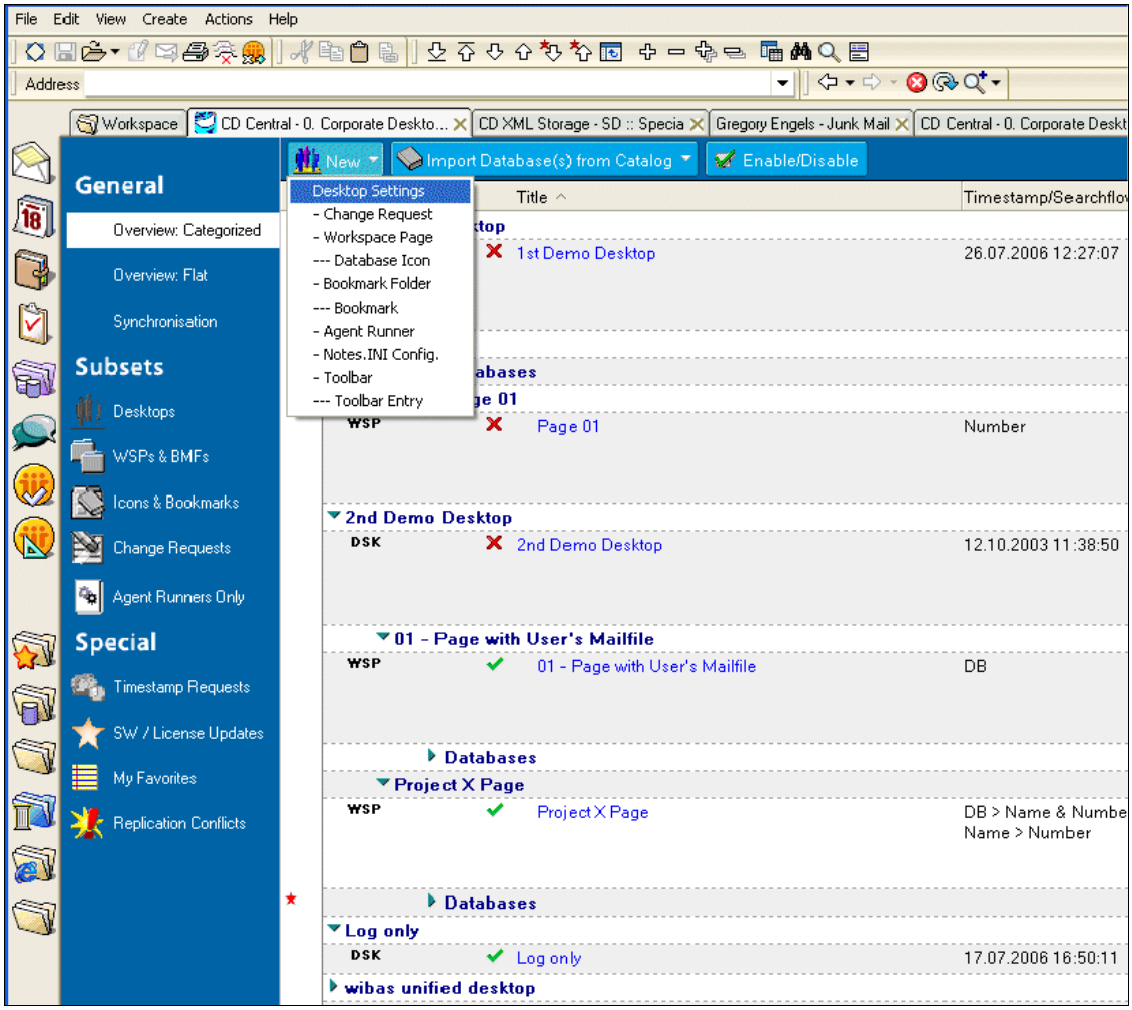

Figure A-6 Client Genie Central Database

All the settings are made by creating appropriate Notes documents that are arranged hierarchically as parent documents (i.e. multiple Database Icon documents can be attached to a Workspace Page document). All documents have fine tunable access control entries of readers and authors fields.

A.3 Transend Migrator

Transend Migrator is an easy to install and use Windows utility for converting email data between virtually all legacy and leading edge email systems and

clients, including Outlook/Exchange, Notes, GroupWise, IMAP, Netscape, Eudora, Pegasus, AOL, Outlook Express and more. It provides both an intuitive wizard driven interface for end users and technicians and a powerful command line batch mode processor for automating the conversion of thousands of users from a central location.

A.3.1 Overview

Transend Migrator is manufactured by Transend Corporation. (http://www.transend.com/)

It is a client-based utility for converting data to and from a number of email programs including a migration from Exchange/Outlook to Lotus Notes and vice versa. It covers:

- Messages/Folders
- Local Archives
- Address Books
- Calendars
- Tasks

Notes versions 4 to 7 are supported. All versions of Outlook/Exchange are supported. Both the Notes and Outlook clients need to be installed on the PC running Transend Migrator, which can be installed on a network drive or the end user's PC.

Transend Migrator typically is run from the end user's PC, but can also be run for multiple users from a central location (see below: Running Transend Migrator from a Central Location). Transend Migrator includes both a graphical Windows interface with easy to follow wizard-like instructions as well as a powerful command line batch mode processor.

The users Exchange mailbox and Outlook personal folders (.pst file) can be converted to the Notes server or local .nsf file. Transend Migrator provides a report of the completed migration and generates a detailed log file.

A.3.2 Value Add

Transend Migrator is a full scaled migration tool that allows the conversion of all personal data from Outlook to Lotus Notes. It offers alot of configuration possibilities and can be tweaked to your very specific migration goal.

Here are some highlights:

- Runs on the client machine either in a GUI or directly using a command line.

- Attachments are converted and maintained with the converted messages or can be detached from the message and copied to a specified directory.
- Addresses can be converted to a format that can be replied to through Notes based on a specified name conversion rule.
- Outlook Contacts or Personal Address Book are converted to the users local names.nsf, including personal addresses and distribution lists.
- You may optionally specify an email address conversion rule, so that the converted addresses would work in the new environment. (i.e. convert Exchange addresses to SMTP or to Notes hierarchical name)
- All data from the Outlook address book is converted, including: name, email address, comments, location, department, manager, company name, title, suffix, job title, spouse, children, assistant, pager, office phone, office fax, home phone number, home fax, cell phone, birthday, office address, home address. (Domino Upgrade Services does not migrate some fields, like birthday)
- The user's Outlook calendar is converted to the Notes calendar. Transend Migrator gets all Outlook appointment types: anniversary, all day, meeting, and reminder. It also converts the Tasks list. Reoccurring entries are supported, but expanded to multiple entries in Notes. Data fields retrieved are Subject, Location, Room, StartDateTime, EndDateTime, Importance, DueDate, AppointmentType, SentTo, RequiredAttendees, OptionalAttendees, comments, and attachments.
- Can be installed on a network drive

There are some limitations:

- It runs on a client machine and need both a MAPI (i.e. Outlook) and Notes installed side by side.
- You have to create the Lotus Notes user accounts in advance
- There is no management interface were you would track the status of the migration of multiple users
- When running in the GUI mode a user required to do a lot of interaction with the dialog boxes, being asked for quite obscure technical information and settings.
- It does not migrate all Outlook data in one step. The user need to start it multiple times to migrate mails, than calendar and then address books.

A.3.3 How can this tool can be used in Migration/Coexistence project?

While Transend Migrator is a client level tool, it can be run from a centralized location, without any user intervention. For centralized operation, access is required to both the users' Outlook/Exchange mailbox stored on the server (if Exchange is involved) and any local personal folders (.pst files). On the Notes side, there must be access to the users' Notes email database (typically stored on a server but it could also be a local .nsf file) and their local names.nsf file for address books (local .nsf files are stored in each user's notes data directory).

If Outlook data is converted to local Notes .nsf files (one for each user), then access to the Notes server is not required. The local Notes .nsf files can then be distributed to the Notes users.

Transend Migrator can be run in an interactive or batch mode. A single batch mode .dat file can be created for multiple users, which would enable the conversion of groups of users in a single process.

This is done by running the program TMB.EXE. TMB by default looks to the file UAB.DAT for its script.

A script consists of various keywords that supply the same information that is collected by the user interface. When all the required information is present, you trigger a conversion by using the keyword "Start". TMB performs the requested conversion, and then returns to processing the script. If additional data is found, the process begins again. The UAB.DAT file that is supplied with Transend Migrator can be used as a starting point for your own script.

A.3.4 Technical Background

When Transend Migrator starts, it displays the Conversion Type screen. This allows you to indicate which type of conversion you will be performing. You may select Message Folders, Address Books, Calendars or Tasks/To Do.

Figure A-7 Transend Migrator - manual migration - Step 1

From the same Dialog box you have the access to the program options dialogs. Below are the screenshots for the Outlook and Notes settings screens.

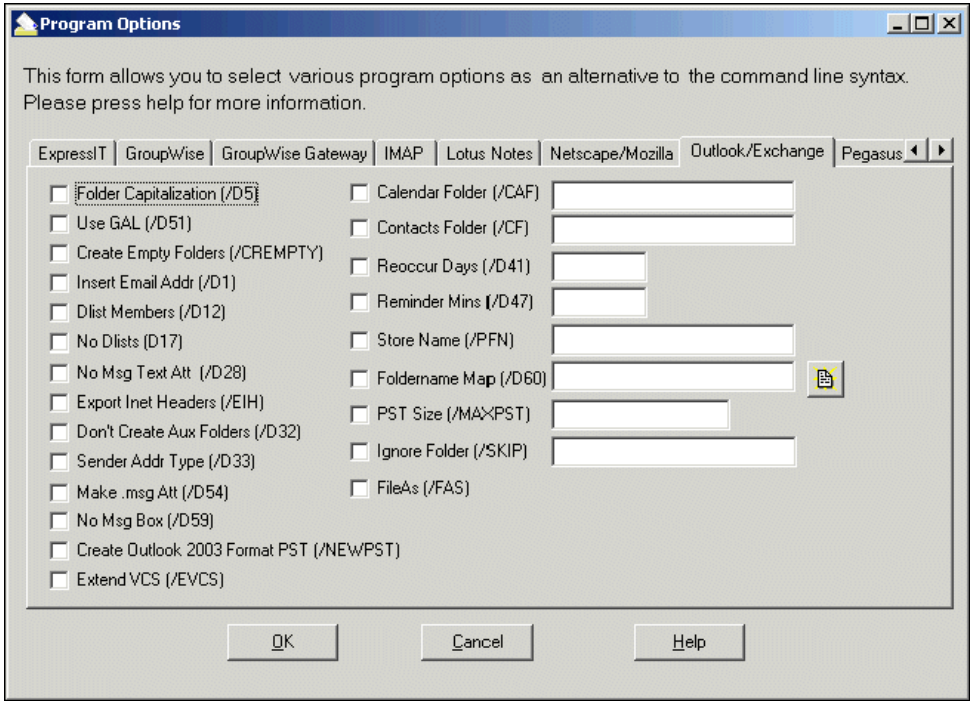

Figure A-8 Transend Migrator - Outlook options

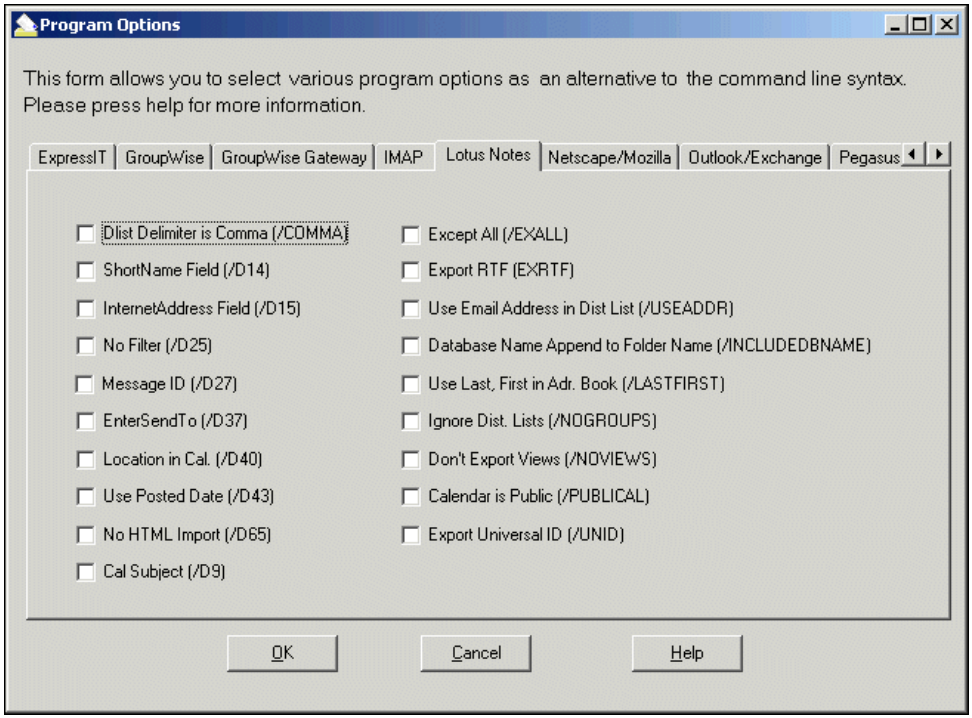

Figure A-9 Transend Migrator - Notes options

Next you will be asked for what systems you want to migrate to and from.

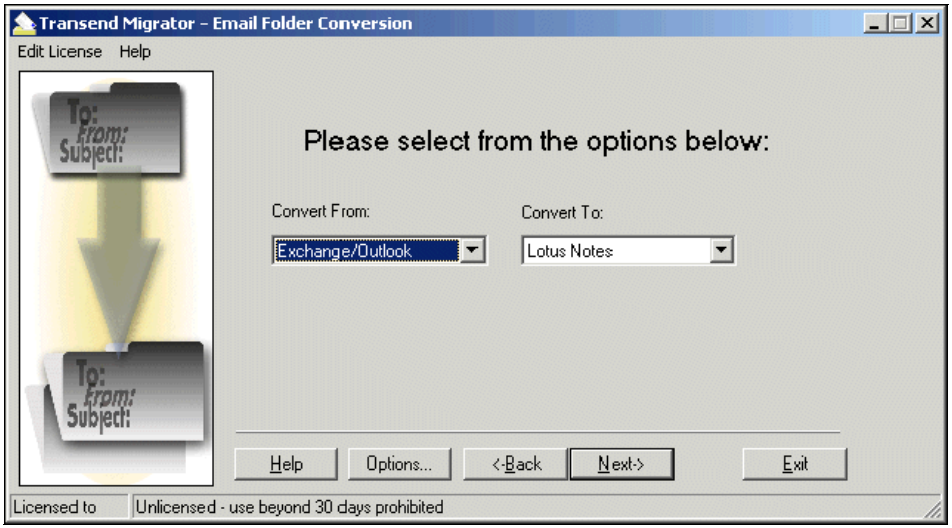

Figure A-10 Transend Migrator - manual migration - Step 2

In order to access Exchange or Outlook to extract the data, you must have already installed the Exchange or Outlook client on your machine. In most cases Outlook will be accessed via a "profile". If you are using a profile, enter the name of the profile here. As an alternative to using predefined profiles, you can tell Transend Migrator to extract data from a .pst file that you specify. If you are converting address book data, this screen will include the field "Contact Folder", where you may enter an alternate name of the folder containing your Outlook contacts if you are not using the standard default.

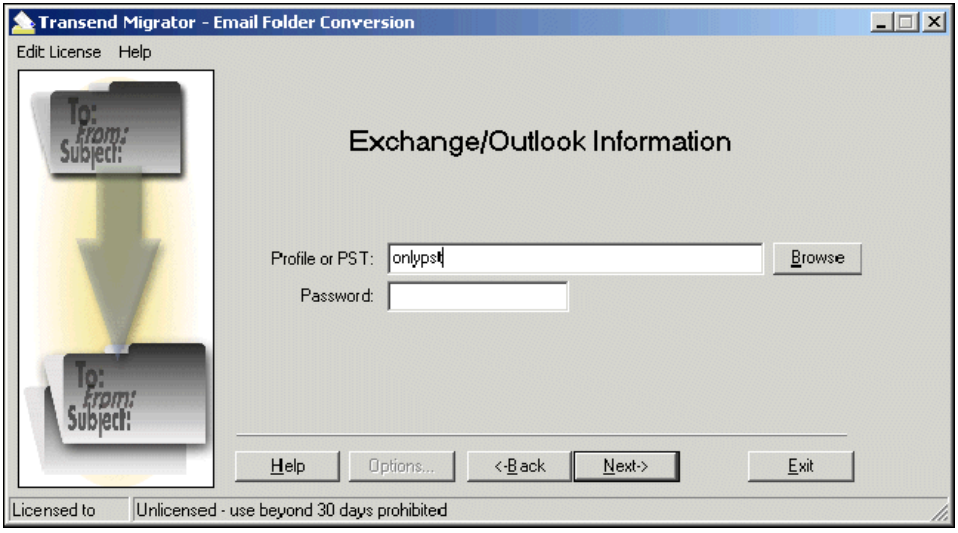

Figure A-11 Transend Migrator - manual migration - Step 3

The logon screen for Lotus Notes asks you to enter values for the Notes user name, mail database, and password. Default values for both the user name and mail database should appear in these fields. This screen also contains a checkbox for "Shared Folders", which should be checked if you intend to convert to a shared Notes database.

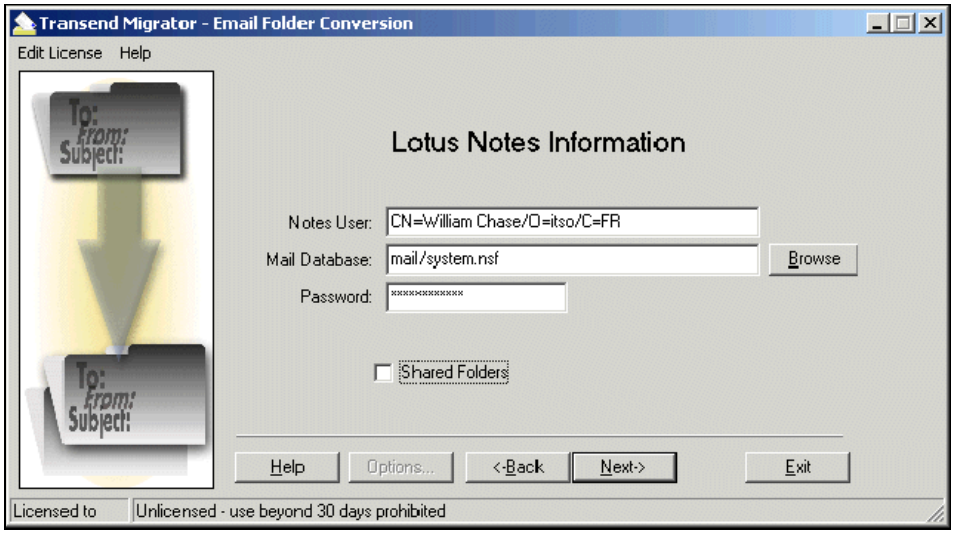

Figure A-12 Transend Migrator - manual migration - Step 4

The folder selection screen presents a list of all existing Outlook/Exchange folders (what you are converting from). Folders in a multi-level hierarchy (folders within folders) will be separated from higher levels by a slash. Single or multiple folders can be selected for conversion.

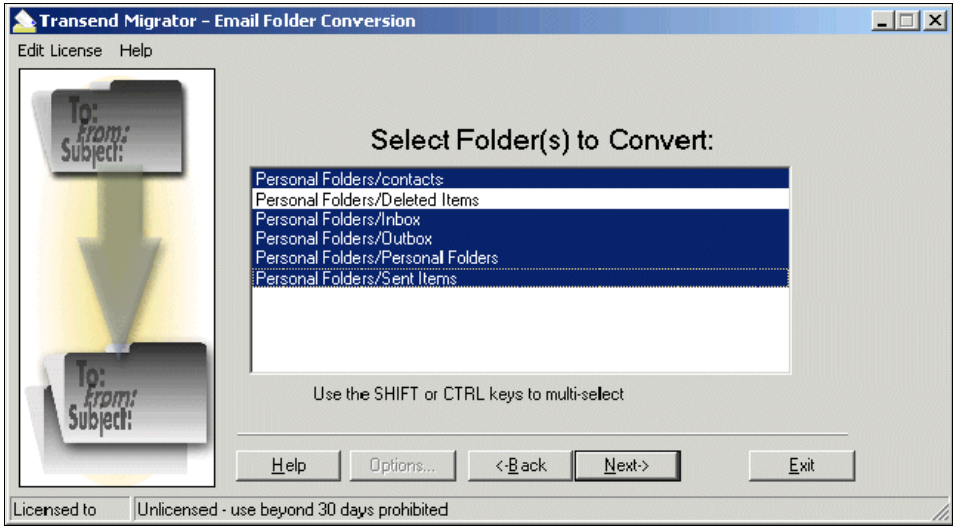

Figure A-13 Transend Migrator - manual migration - Step 5

Prior to running the conversion, the following options can be set from the Miscellaneous Options screen:

Figure A-14 Transend Migrator - manual migration - Step 6

- Convert only those...: To convert only those messages that contain the given string. Leave this field blank to convert all messages.
- Max Attachment Size: This field allows you to limit the size of attachments that are converted. If you want all attachments to pass, enter all 9's in this field. There is a command line switch that allows you to specify that deleted attachments will be copied to a directory. See Command Line Options.
- Max Distribution List: Use this field to cut off a distribution list (to's and cc's) at a given number.
- Oldest Message Date: This option allows you to convert only those messages that were created more recently than the given date. To convert all messages, enter a very old date (such as Jan 1, 1980, the default).
- Message Store: This field appears only if you are converting to a system that supports multiple message stores, such as Exchange or Outlook. In that case, you may select the message store from the drop down list.
- Name Conversion: For many conversions, the original email address of people on the distribution list will not make any sense in the new system. This field allows you to create an Internet style address based on a display name.

In the example in the Figure A-14 on page 750 the address conversion rule would convert the sender `Gregory Engels` to `GEngels@itso.de`

A.3.5 Installation

The detailed installation instruction is provided with the distribution of the product and is not covered in extensive detail here.. The intent is to provide only an overview of what components are involved in setting up the tool.

To install Transend Migrator, run the install file. You may select the install directory, and optionally create a program group for the main executable TM.EXE.

All documentation is provided via a Windows Help file. You can invoke the help system by running TM.EXE and pressing the HELP button, or by running WINHELP.EXE and opening the file UA.HLP.

The setup program will copy files required by all conversion types. For a smaller installation, you may remove DLL files that are not required by the type of conversion you are doing.

It is also possible to install the tool on a network drive, so that there would be no need to run the installer on the single client machines.

A.3.6 Configuration

Transend Migration does not need to be configured in order to be able to run, but you have to enter the client license key in the GUI dialog field

The included command line tool tbm.exe does take a lot of command line parameters.

A.4 GMI Infopath_2_Notes

GMI InfoPath_2_Notes is a notes tool that allows an automated migration of Microsoft InfoPath® forms and views into Lotus Notes

A.4.1 Overview

GMI Infopath_2_Notes is manufactured by Smartix Gmbh
http://www.smartix.de

GMI InfoPath_2_Notes provides a set of rule-based transformations to migrate any MS InfoPath form in a Notes database and therefore provides the solution for option (c) above.

This transformation includes 4 different steps.

1. Saving the MS InfoPath form as resource-files
2. Selecting a target location on your Domino server or local Notes client
3. Migrating the UI of the selected Form according to the specified translation filter
4. Migrating the code of the form based on configurable translation filter and highlight the migrated elements in the new created Notes application

A.4.2 Value Add

GMI InfoPath_2_Notes enables the automated migration of any known MS InfoPath form to a new Notes database.

Within the migration process, approximately 85% of the complete code will be migrated within seconds and all unknown elements will be highlighted for manual correction afterwards.

Using GMI InfoPath_2_Notes allows the migration-team to do a much better and much completer job with little additional costs within its project.

Additional advantages of an automated migration are:

- consistent data model due to identical fieldnames
- identical UI of the notes-application lead to a reduction of a need to train the endusers
- fast and error-free status quo on the new platform due to exclusion of human error-sources
- consistent solution across all existing MS InfoPath forms (and views)

A.4.3 How can this tool can be used in Migration/Coexistence project?

To migrate a MS InfoPath application proceed with the following steps as described:

1. Open your MS InfoPath in design-mode

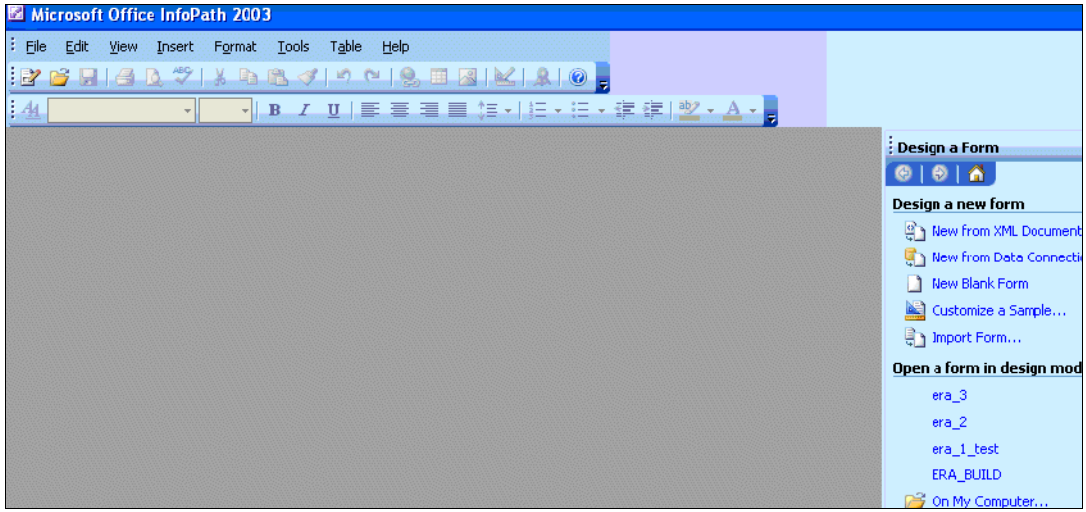

Figure A-15 Microsoft InfoPath open in edit mode

2. Select the form on your computer (Open a form in design mode - on my computer)

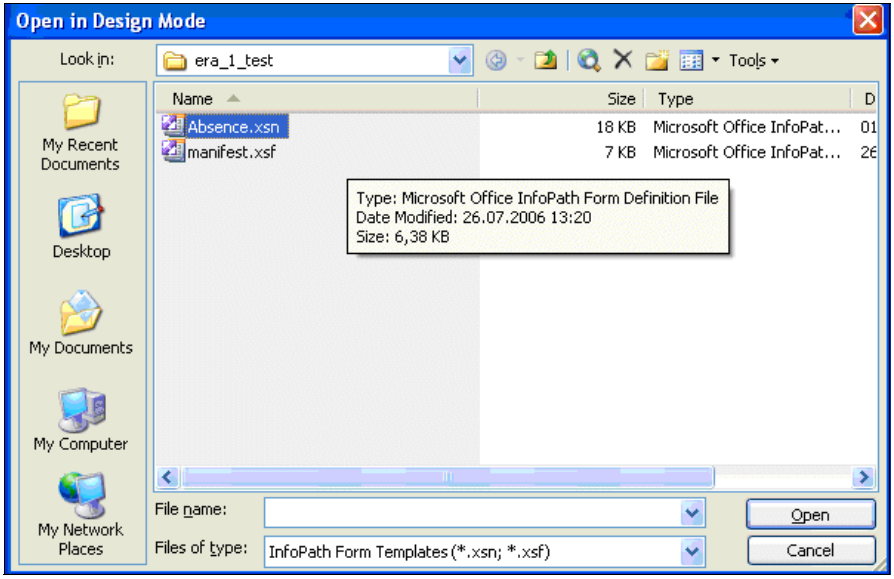

Figure A-16 The dialog box to select a form template (.xsn file)

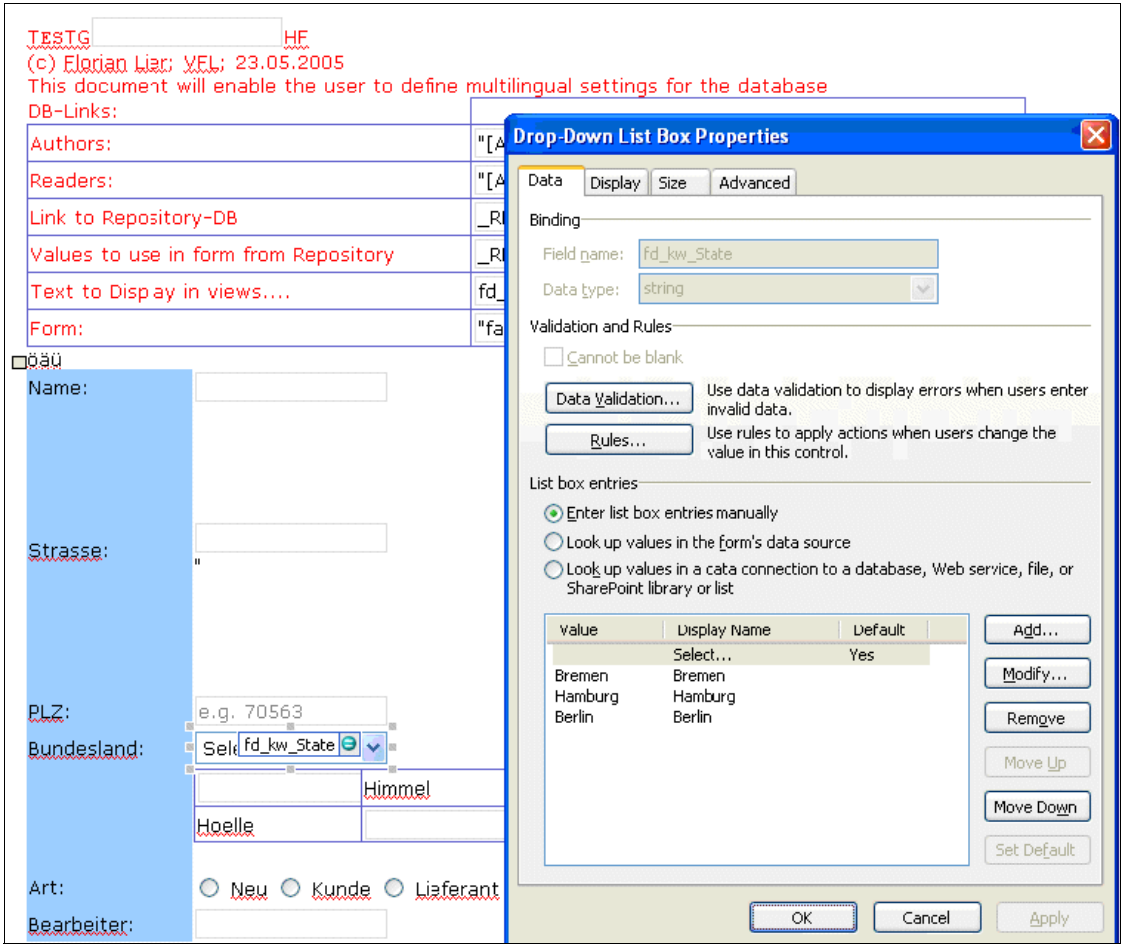

Figure A-17 This is a fragment of the InfoPath form in edit mode

3. Save the resource-files for this form

the menu command is File → Extract Form Files

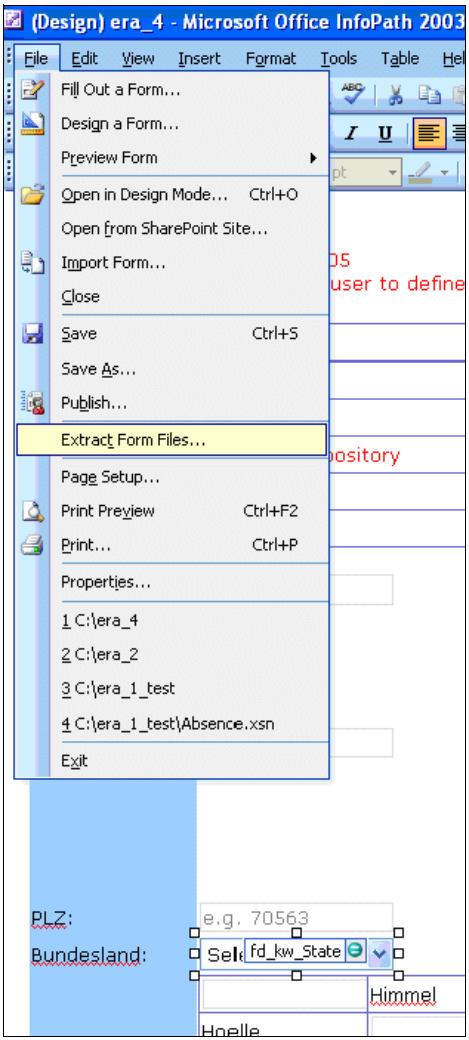

Figure A-18 Save the forms resource files

4. Go to your InfoPath_2_Notes - database and run the action

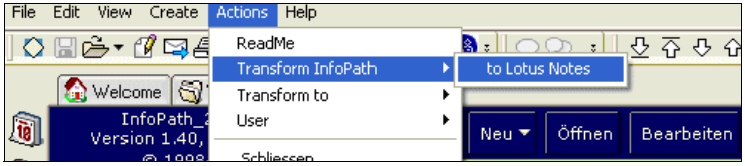

Figure A-19 Run the action transform InfoPath to Lotus Notes

5. Select a location for the new Notes database

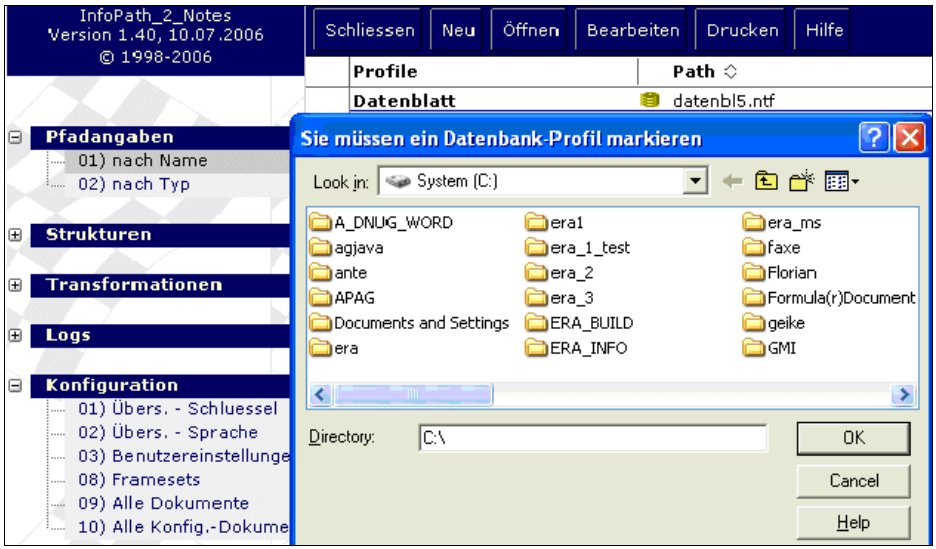

Figure A-20 Select the filename for the new database

6. And if necessary - customize the result of your migration

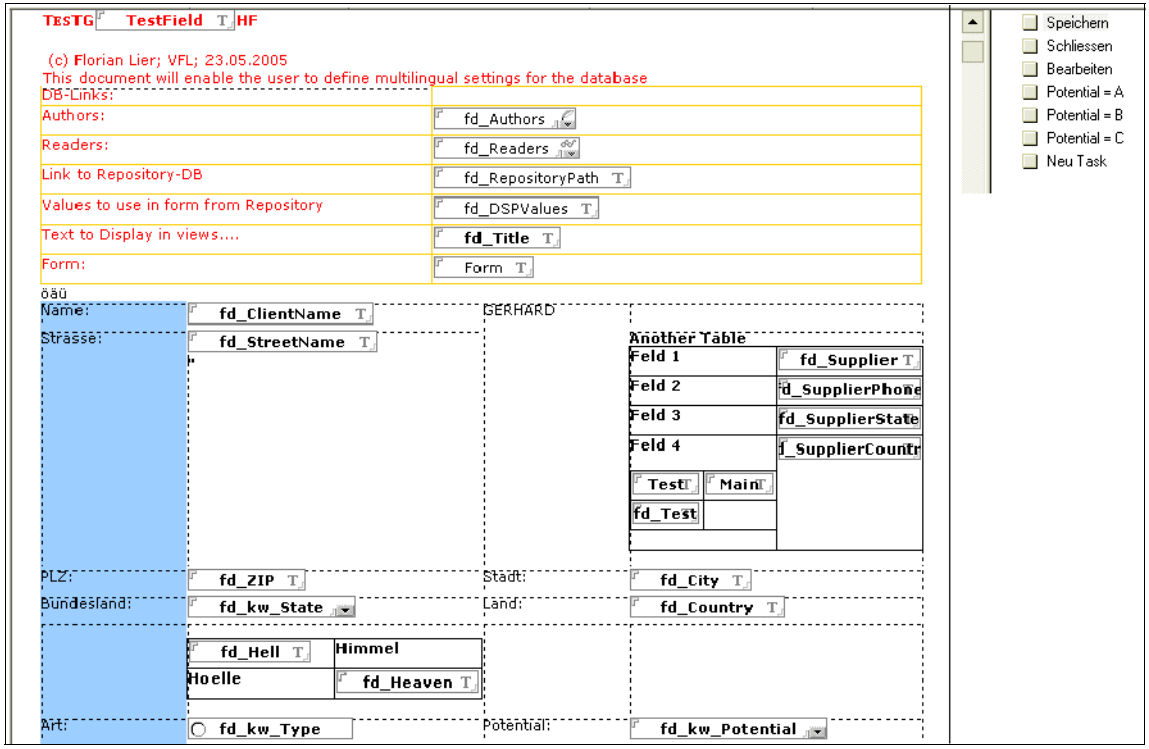

Figure A-21 The new Notes form opened in Domino Designer

A.4.4 Technical Background

As with many other enterprise scale (and often "complex") IT systems (similar to WebSphere Portal and WebSphere Application Server) MS InfoPath applications are build of a bundle of resource-files in XML-format. When deploying MS InfoPath form, these resource-files will be combined in a "run-time" file with the extension ".xsn"

Table A-1 Files contained in the InfoPath .xsn file

Resource file	is used for
manifest.xsf	stores information about combined files and field-formats
schema.xsd	stores field-information
template.xml	stores additional field information
sample.xml	handles default-values and some example data

Resource file	is used for
script.js or script.vb	stores the enhanced code
view_1.xsl	keeps all the UI-information

GMI InfoPath_2_Notes reads the XML-stream of all these files and combines them into a valid DXL-stream.

This DXL-stream will then be imported to an empty Notes-database and creates forms and included Code within this empty database.

For the transformation of the UI-information like tables, fields and action-buttons GMI InfoPath_2_Notes uses the GMI framework to translate the MS InfoPath structure in the GMI-XML-pattern in the first step:

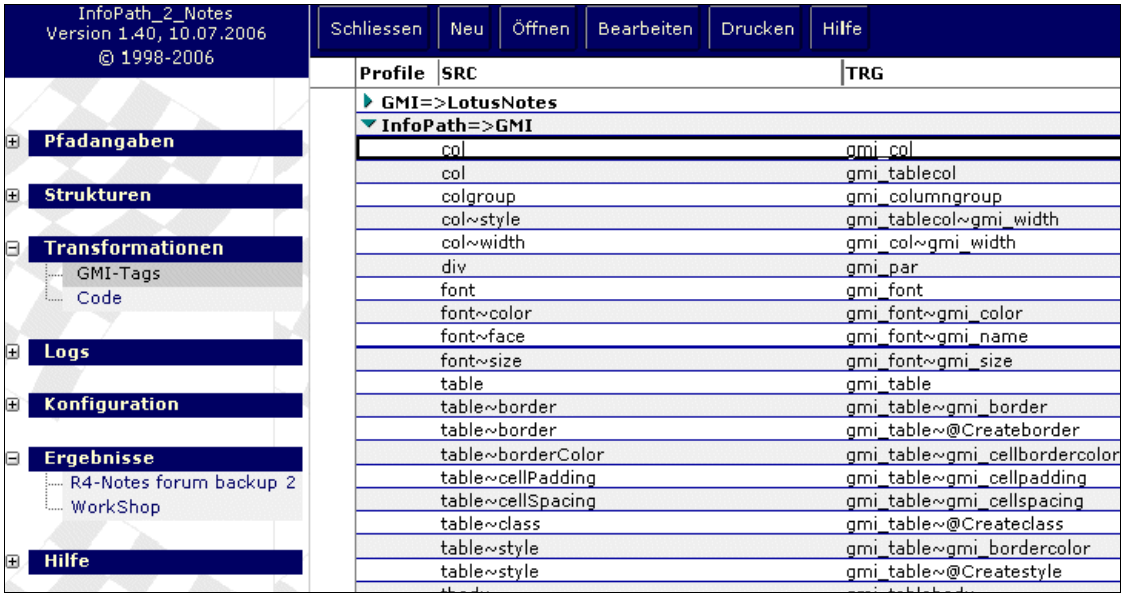

Figure A-22 Setting for InfoPath to GMI framework conversion

During the second step the GMI-representation of the MS InfoPath form will be transformed in a Notes-application using the "GMI → Lotus Notes" set of filter

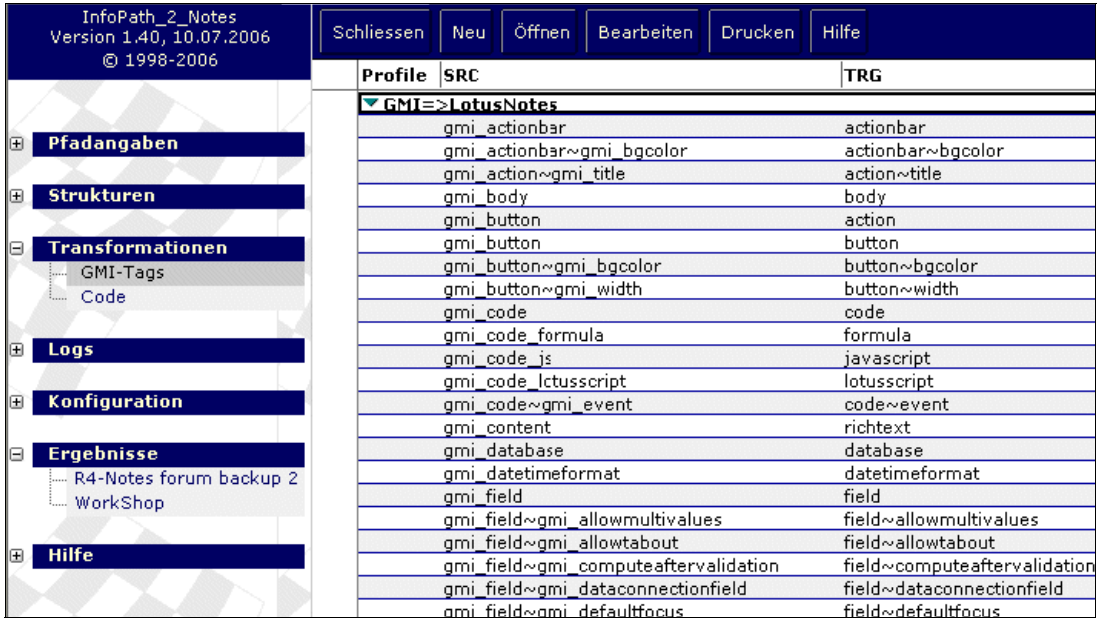

Figure A-23 Settings for translation of GMI-XML to Lotus Notes

For the transformation of code-elements like JS, VB or some "special elements" like @Formulas a set of code-translation-filter will be used:

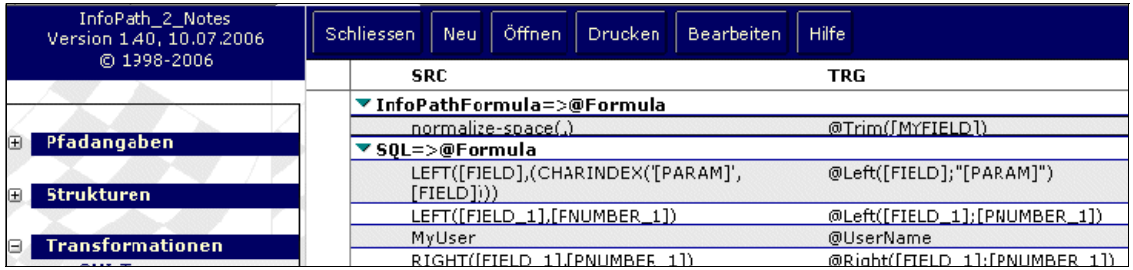

Figure A-24 Settings for translating code elements into @Formulas

So in this case the expression "normalize-space(.)" will be replaced by "@Trim(FIELDNAME)".

The result of these transformations will be pasted in the corresponding location in the DXL-tree - so a Default-value will remain a default-value and a Input-validation will become a input-validation

A.4.5 Installation

The detailed installation instruction is provided with the distribution of the product and is not covered in extensive detail here. The intent is to provide only an overview of what components are involved in setting up the tool.

GMI InfoPath_2_Notes is a single Notes database (.nsf).

To Install GMI InfoPath_2_Notes just copy the database somewhere in your notes-data directory and sign the database.

A.4.6 Configuration

Open the database and go to "Configuration" - "all config documents" area and open the "Config"-document.

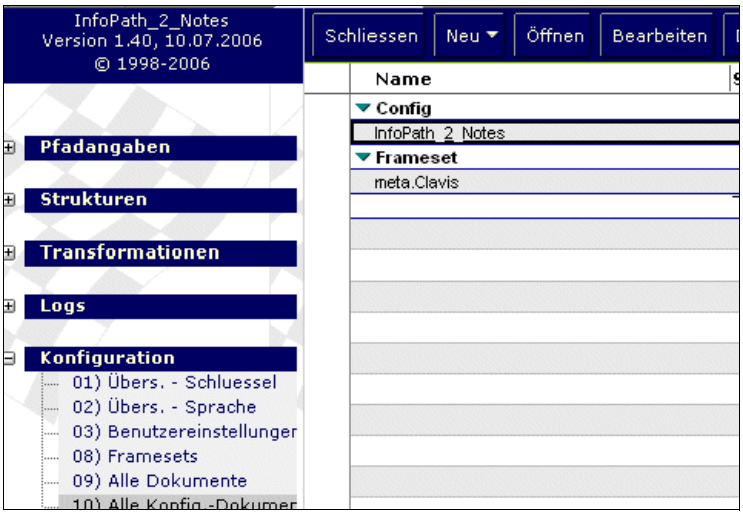

Figure A-25 GMI Infopath_2_Notes settings menu

Here you have to enter the licence-key provided on your invoice.

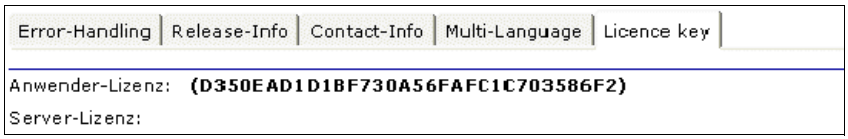

Figure A-26 The license key is the one setting that is mandatory

Now the installation has been completed successfully!

A.5 Tools which may be helpful for a UNIX migration

The following tools described are especially helpful if your migration from Exchange will result in a migration from Microsoft Exchange to Domino running on a UNIX or Linux environment. Specifically, if you will be migrating into a UNIX environment, these tools may be very useful:

- A.6, “Nash!Com Domino on Unix/Linux Start Script”
- A.7, “Nash!Com Trace & Lowercase Conversion Extension” on page 765

A.6 Nash!Com Domino on Unix/Linux Start Script

For companies wishing to migrate not only to Notes and Domino, but who wish to also take advantages of the stability and scaleability provided by running Domino on the UNIX platform, this tool may be very helpful.

When Lotus Domino is deployed on a Unix operating systems, including Linux , Domino does not come with a standard start and stop script, contrary to the expectation of some Unix administrators. Nash!Com Domino Start Script is a specific tool which addresses this issue.

A.6.1 Overview

The Domino on Unix/Linux Start Script is written by Daniel Nashed from Nash!Com and is available free of charge upon request from Nash!Com, homepage: http://www.nashcom.de/nshweb/pages/startscript.htm

Daniel Nashed can also be reached directly at mailto:move2lotus@nashcom.de

The Domino cross platform start/stop and diagnostic script has been written to unify and simplify running Domino on Linux and Unix. The start script is designed to be one stop shopping for all kind of operations done at the Unix prompt. The script can start and stop the server, provides an interactive console and run NSD in different flavors.The script ensures that the environment is always setup correctly and supports multiple partitions.

A.6.2 Value Add

Nash!Com Domino on Unix/Linux Start Script provides a comfortable and reliable way of running your Domino Server on Unix or Linux operating Platform.

A.6.3 How can this tool can be used in Migration/Coexistence project?

If you are considering to deploy the Linux operating System for your Domino Servers, (perhaps because you no longer wish to incur the cost of Windows licensing fees) this start and stop script will help your administrators to install and running Domino on Linux or AIX or Solaris.

A.6.4 Technical Background

Components of the Script

The script consists of the following:

rc_domino

This shell script has two main purposes

- Have a basic entry point per instance to include it in RC run-level scripts for automatic startup of the Domino partition You should have one script per Domino partition or a symbolic link with a unique name per Domino partition.
- Switch to the right user and call the rc_domino_script.

Notes:

- If the user does not change or you invoke it as root you will not be prompted for a password. Else the shell prompts for the Notes Unix user password.
- The script contains the location of the rc_domino_script. You have to specify the location in DOMINO_START_SCRIPT (default is /opt/lotus/rc_domino_script).

rc_domino_script

This shell script contains

- The configuration per Domino server specified by notes Unix user. You have to add more configurations depending on your Domino partition setup.
- Implementation of the shell logic and helper functions.
- General configuration of the script.

Script Commands

The script can be invoked with a number of command line commands.

start

Starts the Domino server and archives the last OS-level Domino output-file. The output-file is renamed with a time-stamp and compressed using the configured compression tool. Compressing the log file is invoked in background to avoid

slowing down the server start when compressing large log-files. The start operation does clear the console input file and logs information about the Unix user environment and the security limits of the Unix user.

stop

Stops the Domino server via server -q and waits a given grace period (configurable via DOMINO_SHUTDOWN_TIMEOUT -- default 10 minutes). After this time the Domino server is killed via NSD if it cannot be shutdown and processes are still ruining after this time (see "kill" command below) The Java controller remains active if configured.

stopjc

In case you configured to use the Java controller (USE_JAVA_CONTROLLER) this command shuts down the controller component. When starting the server and the controller is running it will be shutdown before starting the server. There is currently no way to restart Domino with a running Java Controller from the Domino console. The work-around is to stop and restart the controller.

restart

Stops the Domino server and restarts it using "stop" and "start" command with all implications and specially the time-out values for "stop".

status

Checks if the Domino server is running and prints a message. Return code of the script:

- 0 = server is not running
- 3 = server is running

monitor

Attaches to the output and the input files of a running Domino server and allows a kind of live console from a telnet/ssh session using the input and output files. ctrl+c terminates the live console.

archivelog

Archives the current server text log-file. The file is copied, compressed and the current log file is set to an empty file without losing the current file-handles of the server process. There might be a very short log file interruption between copying the file and setting it to an empty file. The new log file contains a log-line showing the archived log file name.

info

Generates a sysinfo style NSD (nsd -info).

nsd

Generates a NSD without memcheck (nsd -nomemcheck).

fullnsd

Generates a full NSD including call-stacks and memcheck

kill

Terminates the Domino server (nsd -kill)

setenv

Sets the Domino server environment. You need to invoke the script in a way that the environment variables are inherited into the current shell.

A.6.5 Installation

1. Copy the scripts into your Domino binary directory and ensure the variable DOMINO_START_SCRIPT (default is /opt/lotus/rc_domino_script) matches the location of your main start script.
2. Ensure that your Unix user name matches the one in the configuration part of the Domino server.
3. Ensure to setup the following script variables per Domino partition:

Table A-2 Main variables that should be configured in the script

Script Variable	Explanation	default value
LOTUS	Domino binary directory	/opt/ibm/lotus
DOMINO_DATA_PATH	Domino data directory	/local/notesdata

4. For Aix and Solaris change first line of the scripts from "#!/bin/sh" to "#!/bin/ksh". Domino on Linux used sh instead of ksh. The implementation of the shells differs in some ways on different platforms.

A.6.6 Configuration

This script is not intended to set all the OS-level tuning. Tuning your OS-level environment should be always done on OS-level directly.Tuning your OS-level environment in the start script would imply having root permissions to start the Domino server. This script is designed to run with the standard notes user for each partition.

All configuration can be moved into one or multiple external files, either one per partition or a general config file, separated from the script logic

A.7 Nash!Com Trace & Lowercase Conversion Extension

Nash!Com Trace & Lowercase Conversion Extension is a Lotus Domino Server plug-in that helps migrating from Windows operating system to UNIX based ones like Linux and AIX. You can learn more about this at
http://www.nashcom.de/nshweb/pages/nshextlo.htm

A.7.1 Overview

Domino uses functionality provided by the operating system it resides on to perform tasks such as a listing of a directory or finding a database by its filename. So, if the operating platform is case sensitive for filenames, Domino also behaves that way. Windows is a case insensitive platform, so a file named MigrationTeamroom.nsf and migrationteamroom.nsf as well as MIGRATIONteamroom.NSF is considered the same file. This is *not so* on UNIX based operating systems such as Solaris or Linux.

When moving Domino Servers from Windows to UNIX one might run into huge problems with databases who's filenames consist of mixed case spelling (for example *MigrationTeamroom.nsf*). Most problems occur in the following areas

- agents try to open databases
- server replication
- mail delivery (when the person document contains wrong casing)
- opening mail-files (when the location document contains wrong casing)
- opening databases from the workspace (when the icon has been added with different casing when the database was already in the cache)
- when opened via HTTP,...

The main problem is that this behavior is not controllable/supportable in day to day operation. You cannot be 100% sure that you find all places to correct the casing and specially migrating from another platform where casing is ignored. And in some cases you also run external/3rd-party applications which you cannot control at all.

For some customers this might not be an issue, especially if you don't have a large number of databases, but for some can became a major problem when facing migration of a Domino Server to other platforms.

In addition the behavior of two databases with different casing would be still inconsistent because once one of the databases has been opened, further

requests (also for the database with other casing) would hit the open database in cache and ignore casing. So you could never open both databases.

A.7.2 Value add

This solution addresses this problem by translating all calls to create and open databases to lower-case. After converting all files and directories to lower-case on the file-systems the routine will prevent this problem by translating all incoming open or create requests to lower-case.

In case of an error opening a database most servertasks and also server core services do not report their process name and which database they tried to open. Mostly you see only the message like "File not found" on the server-console which is not really helpful to narrow the problem. This option helps to find problems and also to trace open of all databases.

The solution for Linux is available free of charge. Implementations on commercial level for Solaris and AIX are available from info@nashcom.de

A.7.3 How can this tool can be used in Migration/Coexistence project?

This tool is not directly relevant for the data migration aspect of a Microsoft Exchange to Lotus Domino project, but becomes *extremely valuable* if that migration from Exchange also results in a switch to the UNIX platform. Again your decision to switch to UNIX or Linux may be influenced by the decision to reduce costs and no longer pay for Microsoft Windows Licensing. This tool is appreciated most by administrators who have familiarity administering a Microsoft server, but are new to the case sensitive nature of the UNIX platform.

A.7.4 Technical Background

The tool is implemented via Notes C-API Extension Manager technology and monitors the following Extension Manager Events

- EM_NSFDBOPENEXTENDED
  EM_NSFDBCREATE
  EM_NSFDBCREATEANDCOPY

All three calls are monitored with the *EM_BEFORE* for translation. The open event also is monitored in the *EM_AFTER* step to trace error messages of database open requests. This routine uses the internal LMBCS routine and therefore also supports international characters.

A.7.5 Installation:

Perform the following functions to install this tool:

- Copy into binary directory and modify notes.ini
- in the Notes.ini file on the Domino Server add nshextlo to the extmgr_addins line.

  So, if your extmgr_addins entry in the notes.ini looks like this:

  ```
  extmgr_addins=toool1, tool2
  ```

  it should be changed after the installation to:

  ```
  extmgr_addins=toool1, tool2, nshextlo
  ```

A.7.6 Configuration

Configuration is based on the following parameters.

A.7.6.1 notes.ini

- Bit flag which can be used to enable/disable different functions:

  ```
  nshextloOptions=1
  ```

Log all database requests returning an error with

- calling process/task
- filepath
- status / error
- open options

Example:

Example: A-2 NSH Lovercase Translation Log Example

```
NshExtLo: DBOpen: (adminp) : '/local/notesdata/names.nsf' OPT:0x0 ST:0
USER: 'Gregory Engels/ITSO/DE
```

nshextloOptions=2

Same as Option 1 but log all databases not just databases with error codes.

nshextloOptions=4

Translate Upper case to Lower case filenames. The translation will be logged on the console/ in log.nsf.

nshextloOptions=8

enables verbose logging. In most cases verbose logging is not needed and could cause a high number of additional log messages.

Example: A-3 Log File with nshextloOptions=8

```
NshExtLo: translating to lowercase '/local/notesdata/DB.nsf
```

B

Migration Procedures - abbreviated overview

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

The following Appendix reviews the steps taken in migrating users at the server level. In particular, it discusses the steps of migration, including setting an autoforward and hiding the GAL once a user migration is complete.

Finally, this appendix is intended to build upon specific data provided in earlier chapters - particularly those discussed in Part 4, “Migration Process - tools and procedures” on page 337. Please also refer to Chapter 4, “Overview of the Migration Procedures” on page 93.

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Detailed overview of procedure for migrating Users

The following Procedures can be used for migrating users from Exchange to Domino. The physical migration of a user mailbox may be only a click of a button However, additional procedures should be undertaken to complete the process.

Note: Specific technical details for a migration procedure is documented in Part 4, “Migration Process - tools and procedures” on page 337. This section is merely intended to serve as an overview of the steps and key considerations.

1. Utilizing the Migration plan select the users for migration
   a. Inform user of migration

      Do this many times, request the user clean up his mailbox. If you were in the process of moving to a new home - you wouldn’t take the trash with you, right? In the case of a migration, why take your non-business and unwanted emails to your new system?

Tip: While it sounds obvious - make sure users who are about to be migrated have cleaned out their mail files and emptied the trash from their mail file. This will have a significant impact to reduce the number of messages requiring migration.

2. Register the User in Domino either using Domino administration -> People and Groups -> Tools > register -> Migrate.
3. After selecting the system to be exchange and choosing the relevant profile
4. Select the users to migrate.

   At this moment in time, do not migrate the mailbox (i.e. select option do not convert mail)

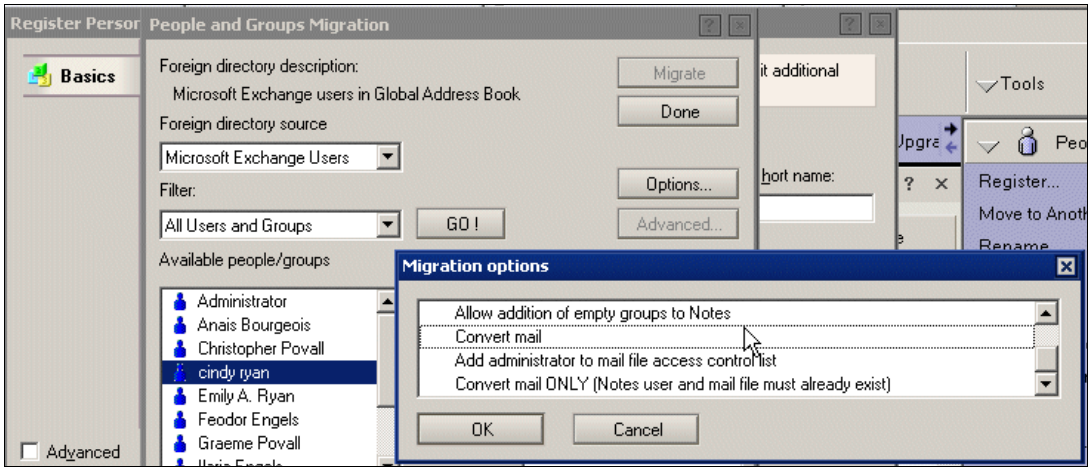

Figure B-1 Migration options on User registration

Alternatively, if you are using the CMT, select ADD users > Registration > register

5. Register users in Domino,

   If using Domino migration tools deselect the option to convert mail and select add admin to ACL (this is necessary to be able to add migrated mail documents later

6. Install mail client for user being migrated - (Outlook Connector or Full Notes clients) As an option, you can also enable Sametime for Instant Messaging.
7. Set an Autoforward on the exchange account - the following steps describe how....

Setting an Autoforward on the Exchange Account

Note: This is an important step for a successful migration If non migrated users still in exchange reply to mail or select a recipient from local contacts the replyto address will be the old exchange address, setting an autoforward will ensure that all mail is received in his new mailbox on Domino

a. If a directory synchronization solution has been installed then a synchronization needs to be run to put the domino account into Exchange and the following step to add a contact to exchange is not required

b. Add a Contact to Exchange

i. Open the Active Directory Users and Computers right click the Organization.

ii. Select New

iii. Select Organizational Unit

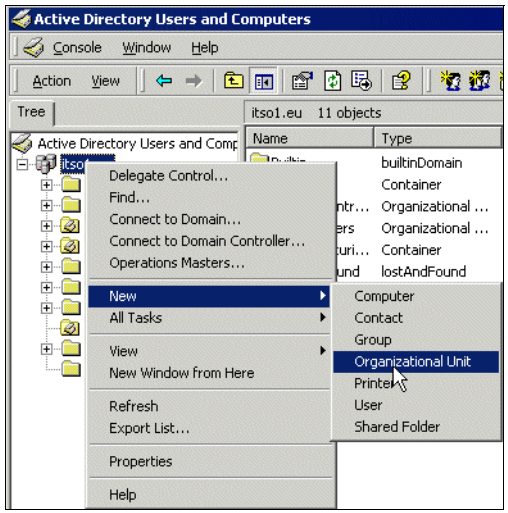

Figure B-2 Adding a new organizational unit

iv. Enter a name, for example, we used `mytest` as can be seen in the following Figure B-3

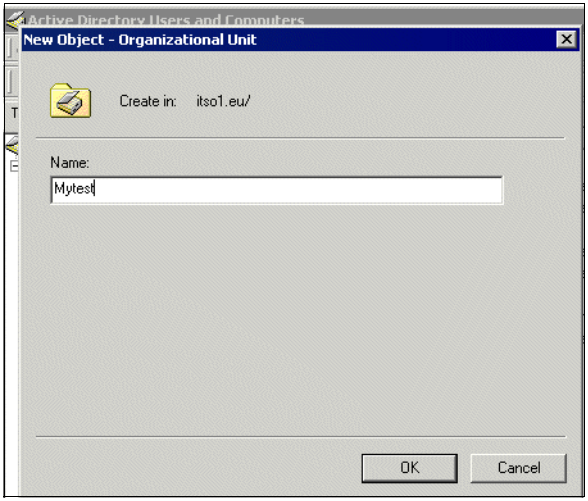

Figure B-3 Creating a new folder for custom contacts

v. Select the newly created Organizational Unit folder

vi. Right Click

vii. Select New -> Contact

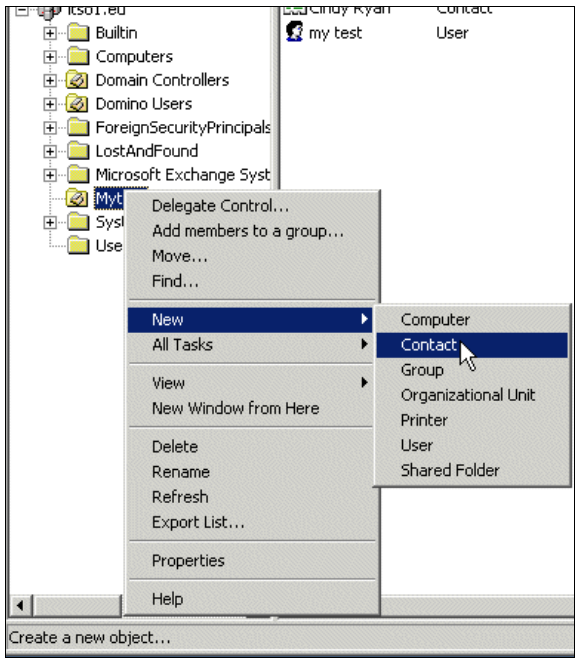

Figure B-4 Creating a new contact

viii. Enter details of the person you are migrating and give a meaningful display name

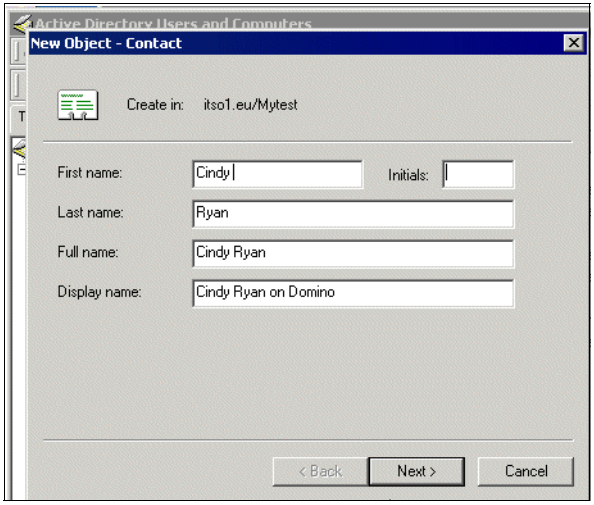

Figure B-5 Creating a new contact properties

ix. Click Next

x. Ensure that 'create an exchange e-mail address' is ticked

xi. Click Modify

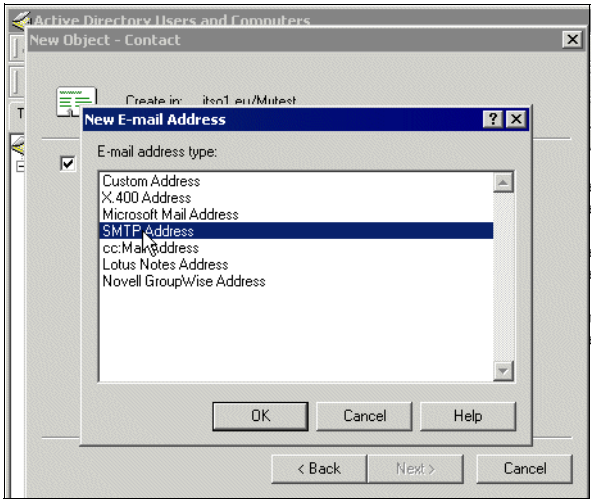

Figure B-6 Create new contact email address options

- Click SMTP address

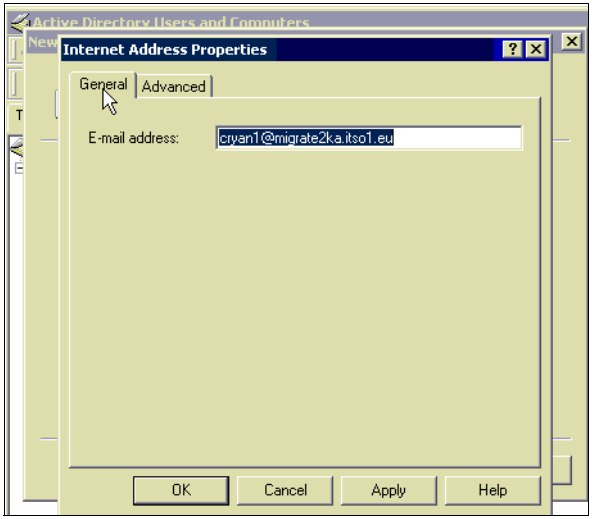

Figure B-7 Address input

- Enter the secondary domino smtp address (i.e. localpart+@+domino server FQDN) in our example this will be cryan1@migrate2ka.itso1.eu as shown in Figure B-7
- There is no need to modify anything on the advanced tab
- Click OK
- Click Next
- Click Finish

Add the Autoforward

In Active directory users and computers

1. Select View
2. Select Exchange Advances features

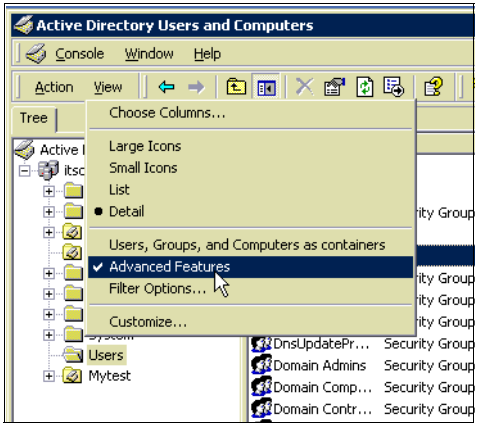

Figure B-8 enable viewing of exchange advance features

3. Select the user account
4. Right Click -> Properties
5. Select the Exchange General tab

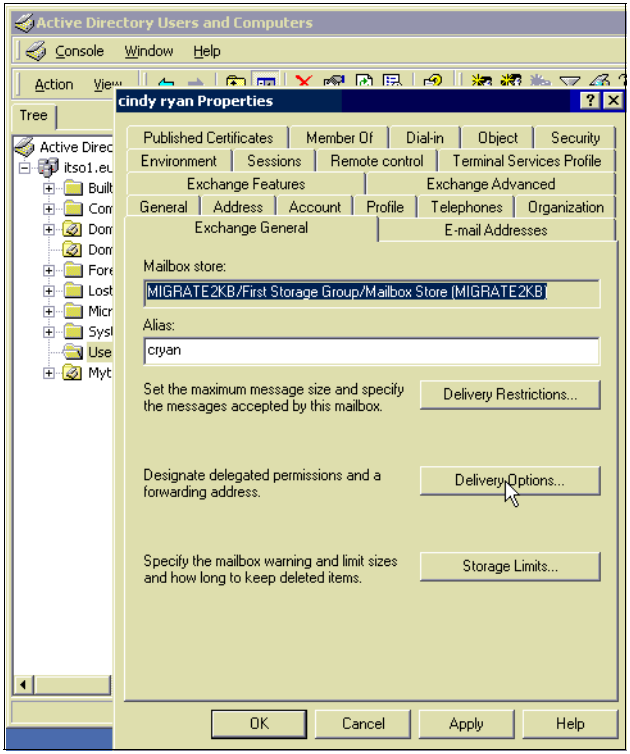

Figure B-9 Exchange advance tab

6. select Delivery options

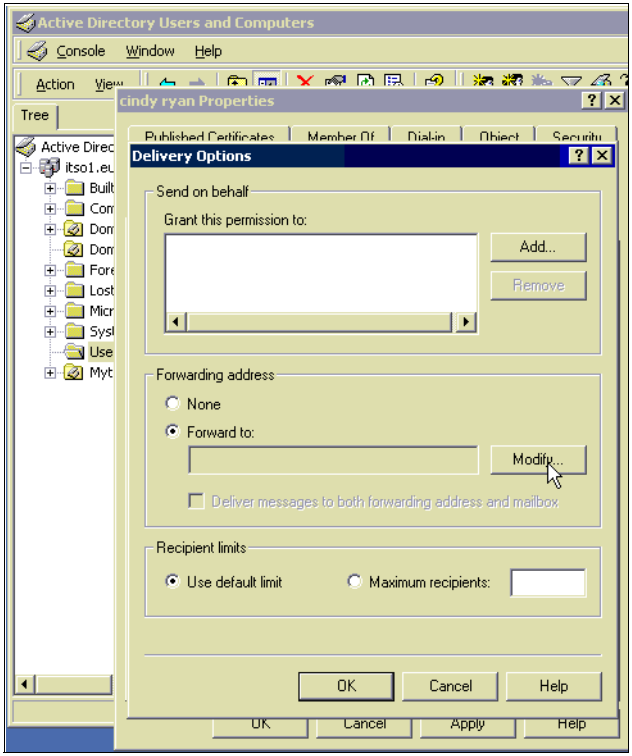

Figure B-10 Delivery Options

7. Click the **Forward** radio button
8. Click **Modify** (as shown in Figure B-10)
   a. You will be presented with the address box to add an address

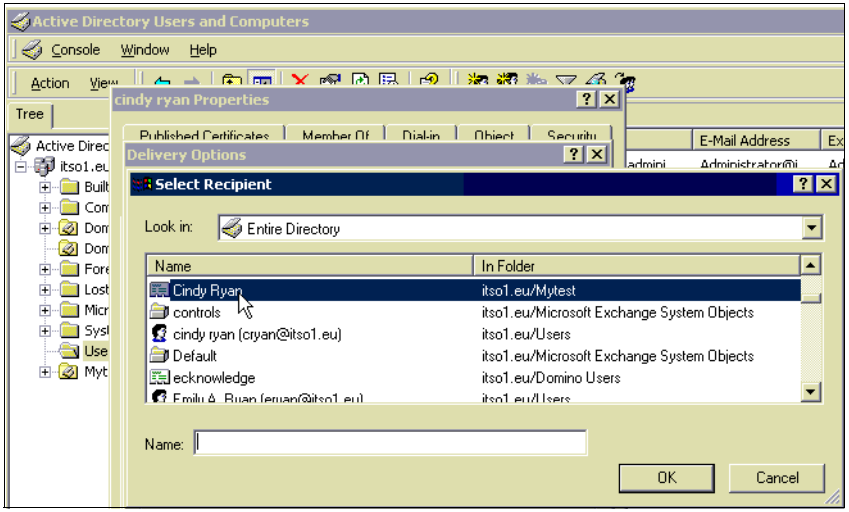

Figure B-11 Selecting a forwarding address

b. Select the forwarding account (should be at name domain/OU. In our example it is cindy ryan itso1.ey/mytest as seen in Figure B-11

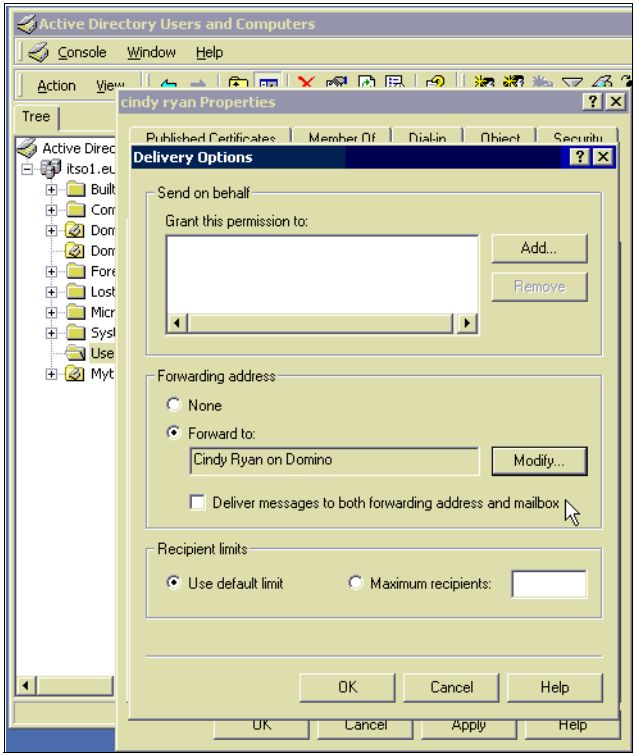

Figure B-12 Selecting the forwarding address from Active Directory

c. Select OK

d. Select OK

From now on all email for the user will be forwarded to the Domino account. The user can be migrated any time from this point onwards

Considerations - Migrating the mail account using CMT

Note: Full instructions on using the CMT to migrate users can be found in Chapter 13, “Server Level Migration process using CMT from Binary Tree” on page 387

The following instructions are a brief summary of the migration of the users’ data to Domino and assumes that users have already been registered (either using CMT or DUS)

a. Open CMT

b. Add users

c. Select import from foreign directory and click run wizard

d. Enter the target domino server if different from default

e. Select the tick boxes, migrate to notes folders, migrate rich text, distribution lists, resolve names.

f. Click ok on the next screen, and ensure select users from exchange is selected and click ok

g. Select the user(s) you are migrating and add users

h. Click left hand pane [REGISTRATION] to see user list,

i. Select user(s) you want to migrate and check that the information is correct in the doc (server name and mail file)

   i. if migrating to a different server than to the registered home server, then you will need to change the entry in CMT

j. select the top PANE [SERVER MIGRATION]

k. select the user(s) to migrate and click ok.

l. Users will now be migrated.

m. Check migration and mailflow changes are successful

Considerations - Migrating the mail account using DUS

Note: Again specific instructions on using the DUS to migrate users can be found in Chapter 11, “Server level migration Using Domino Upgrade Services” on page 339.

The following instructions are a summary of the steps to undertake to migrate a user:

a. Open administrator and click the people and Groups tab

b. Select Register

c. Select Migrate person

d. Select Exchange as the source

e. Select the user accounts to migrate

f. Click Migrate

g. Click **Register All**

h. The accounts will now be migrated

i. Check migration and mailflow changes are successful

Hide the account from the GAL

Hide the account from GAL.

1. From active directory users and computers with Exchange advance features enabled
   a. Select the user account
   b. Right Click -> Properties
   c. Select exchange advanced Features

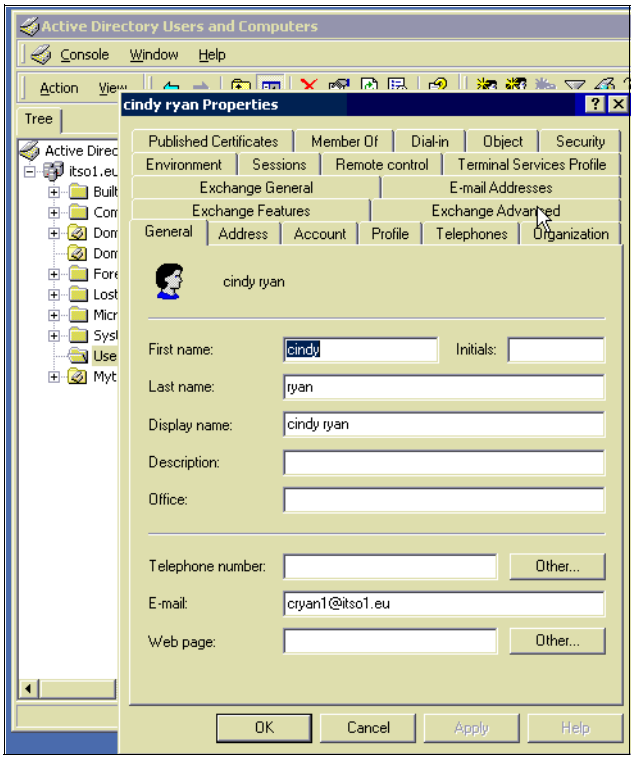

Figure B-13 Exchange Advanced features

   d. Select Hide account from Exchange

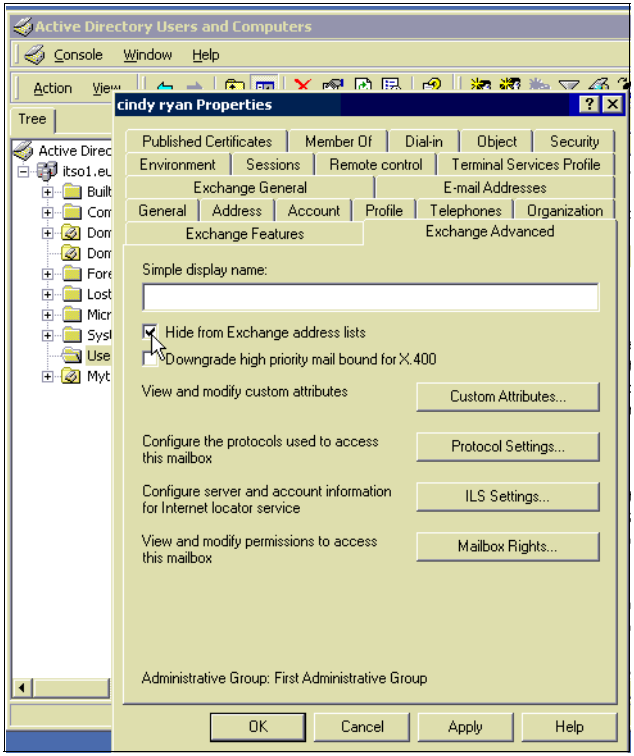

Figure B-14 select hide account

e. Click OK

The account is now hidden from all address lookups

- If using Exchange connectors for directory synchronization Run a synchronize now and replicate directory between exchange servers
- Provide users with desktop support (via sametime)
- In some migrations a removal of the account would be required once a successful migration has been acknowledged.

Pleas also refer back to Chapter 4, “Overview of the Migration Procedures” on page 93.

C

Integrating Domino with Sharepoint Portal

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

Note: This appendix is intended as a helpful guide to one possible approach. It is not necessarily a supported approach or configuration, and is intended to provide a helpful guidance for possible integration.

Many customers are now exploring the use of portal technologies as a way to manage the deployment of Domino Web Access.

The objective of this chapter is to provide some instructions on deploying Domino Web access via Sharepoint Portal.

In additon to this appendix, we recommend specific Redbooks, and tehcnical articles on IBM/Lotus Developerworks (http://www.lotus.com/ldd) and best

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practics on deploying Domino web applications. Finally, many IBM Business Partners provide specific web components that allow you to deploy different aspects of Domino Web Mail in a similar way to Domino Websphere Portlets.

C.1 Domino Web access in sharepoint portal

As mentioned in the introduction, many IBM Business Partners provide custom web components to integrate Domino Notes mail into either a standalone web application, or a more integrated coporate portal, Alternatively, given the required in-house development skills, it is possible to develop your own web components. A simpler and more straight-forward aproach is to deploy Domino Web Access and utilize the supplied WAS plug-ins to provide Single Sign On (SSO) and the Domino Web redirector database to provide secure, reliable web access to a user's mail file.

The following steps discuss how to configure Single Sign On (SSO) and provide access to a Domino Mail file via a Sharepoint portal.

Note: It is assumed that in all instances, the Sharepoint Site is secured and default access has been disabled. If this is not the case, for SSO to work, Anonymous Access must be disabled for the Sharepoint web site in IIS

Step 1 - Install the WAS plug-ins

1. The Websphere Application Server (WAS) Plugins can be found in the following domino Directory :-

   `*\Program Files\Lotus\Domino\data\domino\plugins\was6\w32`

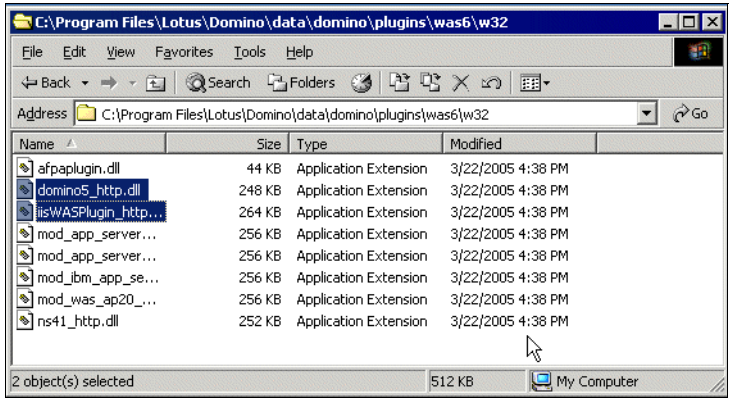

Figure C-1 WAS plugins

2. Create the following directories on the Windows sharepoint server
   - **`C:\WebSphere\AppServer\bin`**
   - **`C:\WebSphere\AppServer\config`**

- **C:\WebSphere\AppServer\etc**
- **C:\WebSphere\AppServer\logs**

- copy the file iisWASplugin_http.dll to C:\Websphere\AppServer\bin
- copy the file plugin_common.dll to C:\Websphere\AppServer\bin
- copy the file \Lotus\Domino\Data\domino\plugins\plugin-cfg.xml to c:\WebSphere\AppServer\config

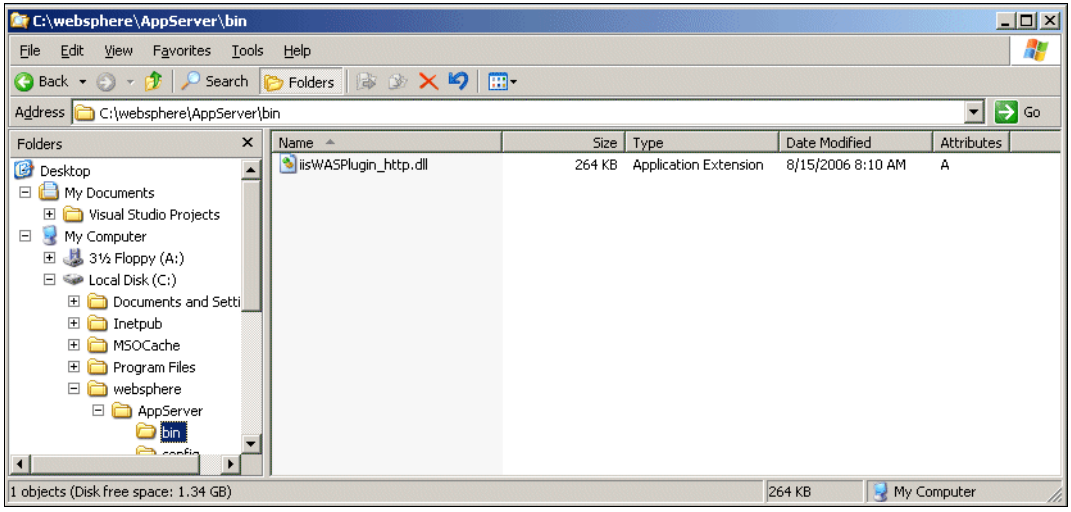

Figure C-2 WAS plugins

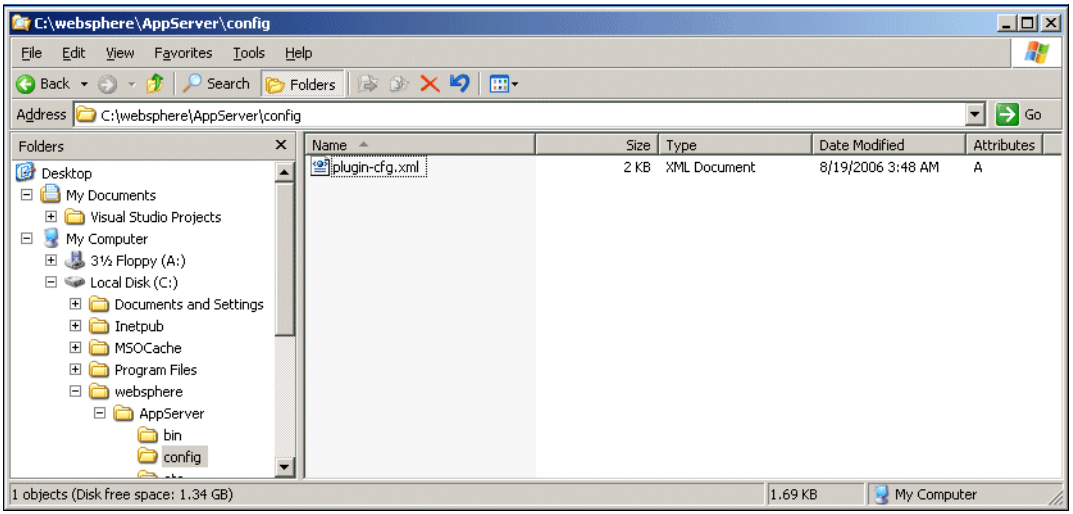

Figure C-3 WAS config plugin

3. Configure the Plugin-cfg.xml
   - Wordpad c:\WebSphere\Appserver\config\plugin-cfg.xml
   - Change Hostname to the hostname of the domino server
   - Add the following after <UniGroup Name=default_host_URIs”>

     <Uri Name="/*.nsf*"/>

     <Uri Name="*.NSF*"/>

     <Uri Name="*/icons/*"/>

     <Uri Name="*/domjava/*"/>

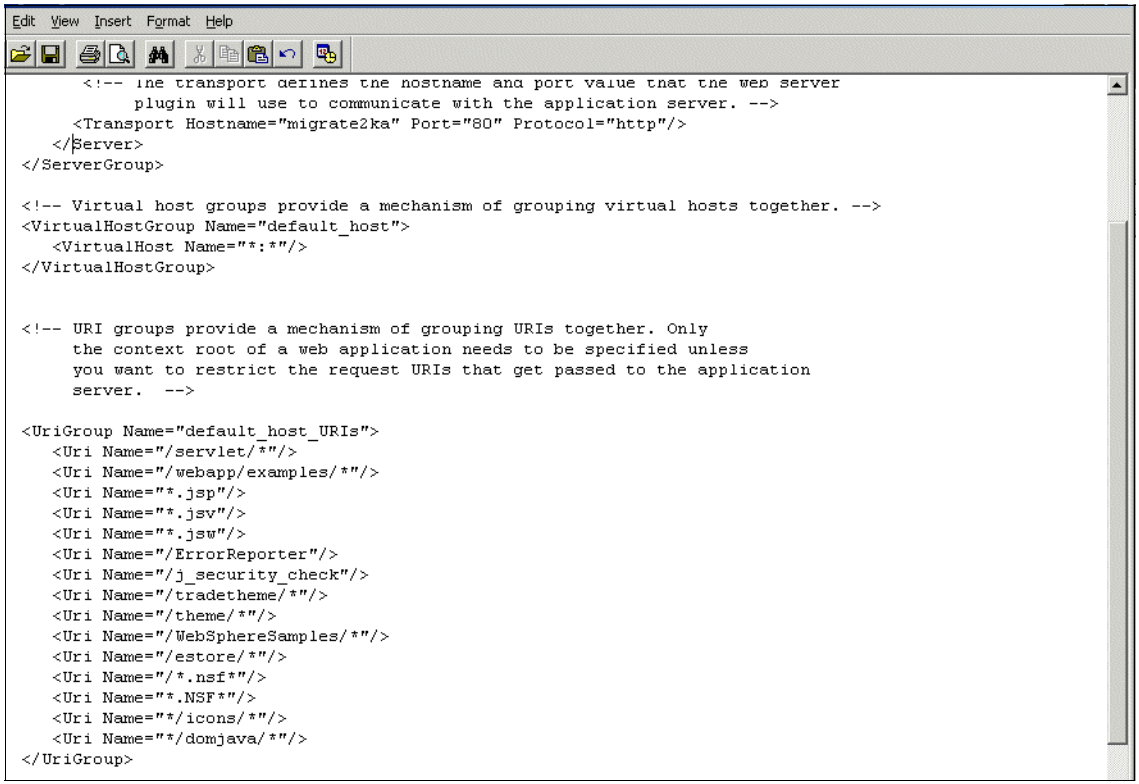

Figure C-4 Configuring Plugin-cfg.xml

4. Next, update the registry
   - Regedit

     Add the following entries to the registry under

     _HKEY_LOCAL_MACHINE

     > SOFTWARE

     >IBM (If IBM does not exists create right click on SOFTWARE New Key)

     - Right Click IBM
     - Click New
     - Click Key

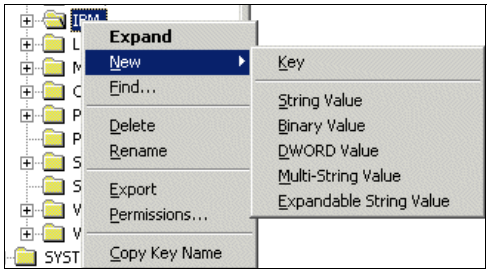

Figure C-5 Creating the WebSphere Key

- Enter Websphere Application Server
- Right Click Websphere Application Server
- Click New
- Click Key

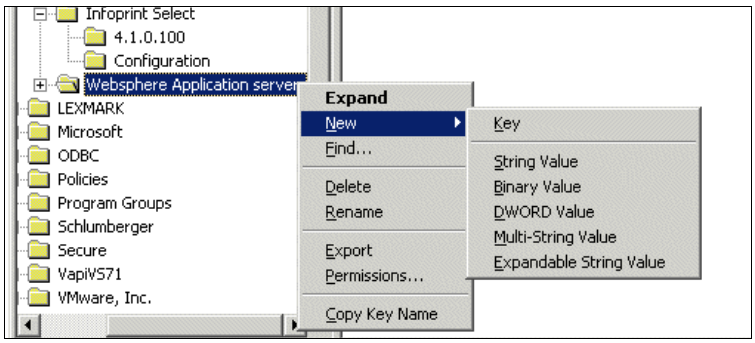

Figure C-6 Creating the WebSphere version key

- Enter 5.0

  The version number may change depending on the version of Websphere installed. e.g. 5.1.0.1

  The following string values need to be added.
- **BinPath** with a value of C:\websphere\AppServer\bin
- **InstallLocation** with a value of C:\websphere\AppServer
- **LibPath** witha a value ofC:\websphere\AppServer\lib
- **MajorVersion** with value of 5 (again dependant on the release)
- **Plug-in Config** with a value of C:\websphere\AppServer\config\plugin-cfg.xml

  To add a string the following instructions can be followed

- Right Click the version number created before
- Select new
- Select String Value

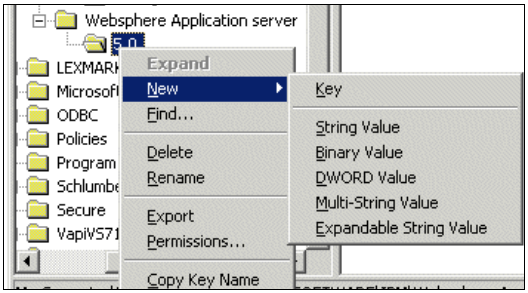

Figure C-7 Adding a string

- Enter the string name e.g BinPath
- Right Click the string (binpath)
- Select Modify

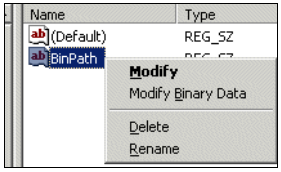

Figure C-8 Modifying the string

- enter the string value e.g C:\websphere\AppServer\bin

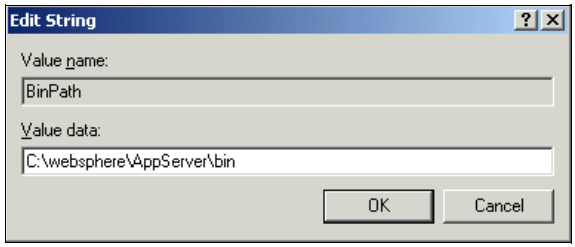

Figure C-9 Adding the String value

- Do the same for each of the strings mentioned above
- Finally, the registry should look like the following

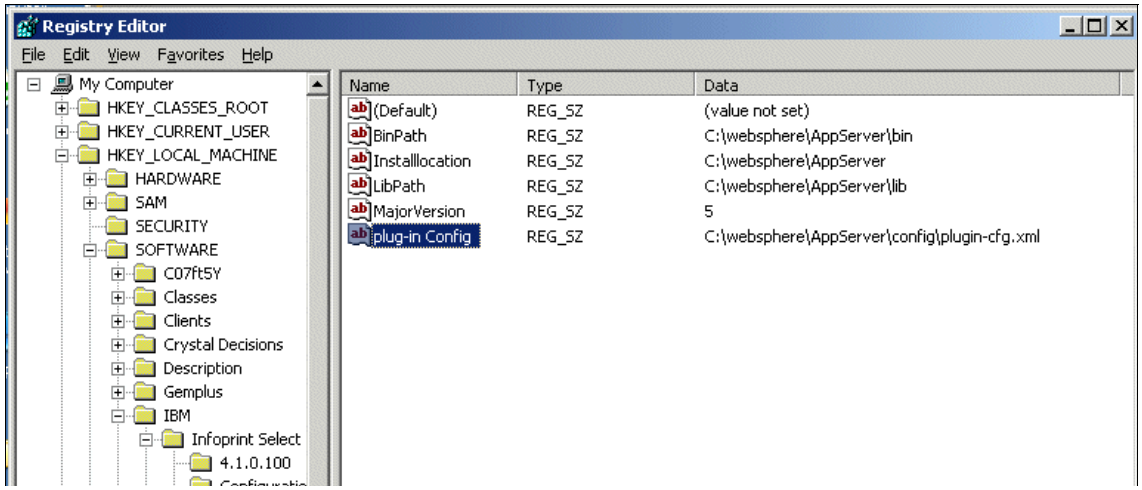

Figure C-10 The completed registry

5. Configure IIS
    - Open the IIS manager

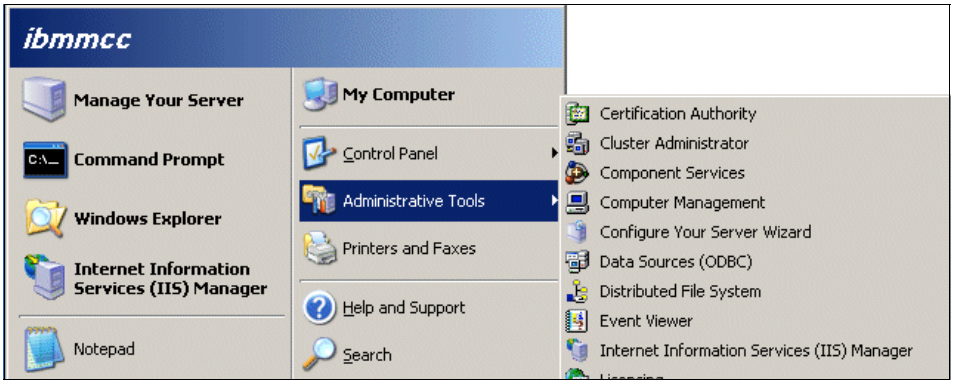

Figure C-11 Start IIS manager

- Navigate to the Default Website
- Right Click the default Web Site
- Select New
- Select Virtual Directory

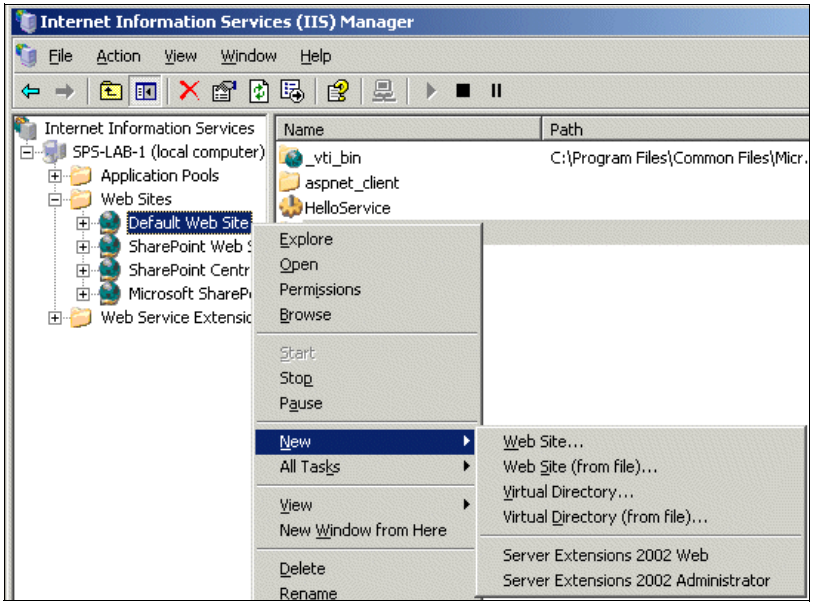

Figure C-12 Default Web site add new virtual directory

- You will be presented with the Virtual directory creation wizard as shown in Figure C-13 on page 794
- Click Next

Figure C-13 Virtual Directory creation wizard

- Enter SePlugins as the Alias
- Click Next

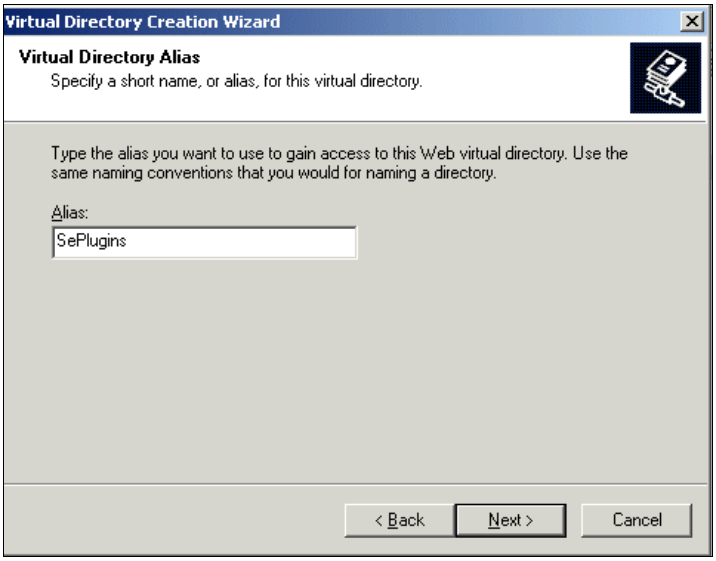

Figure C-14 Entering a virtual directory Alias

- Enter the path for Website contents path this should be Default web C:\Websphere\AppServer\Bin
- Click Next

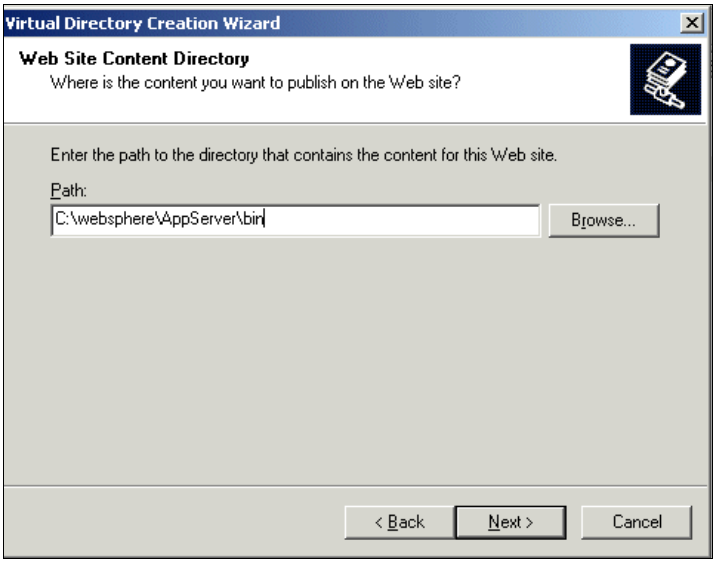

Figure C-15 Enter the content path

- Select Run Scripts and permissions in the the permissions box as shown in Figure C-16
- Click Next

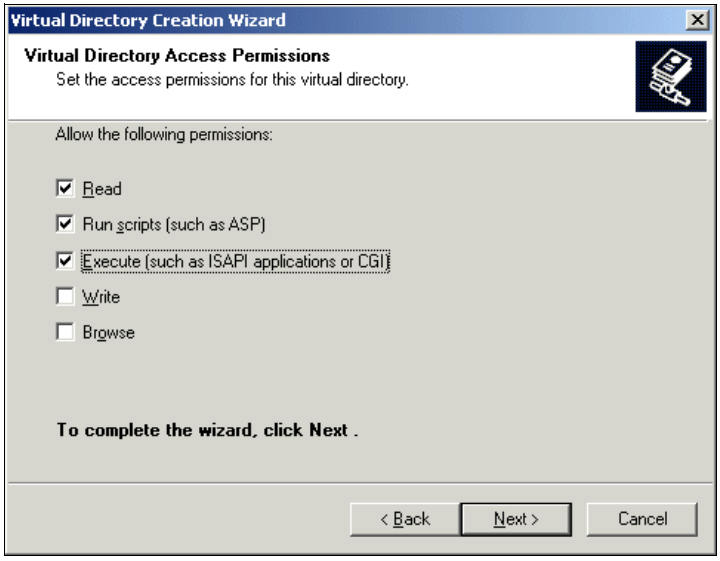

Figure C-16 SePlugins Permissions

- Click Finish

6. Next Right Click in Default Web Site

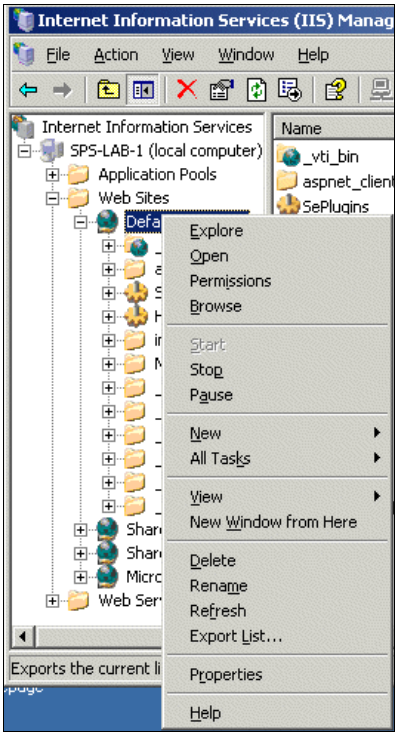

Figure C-17 Options in Right click

- Select Properties
- Click ISAPI Filters tab

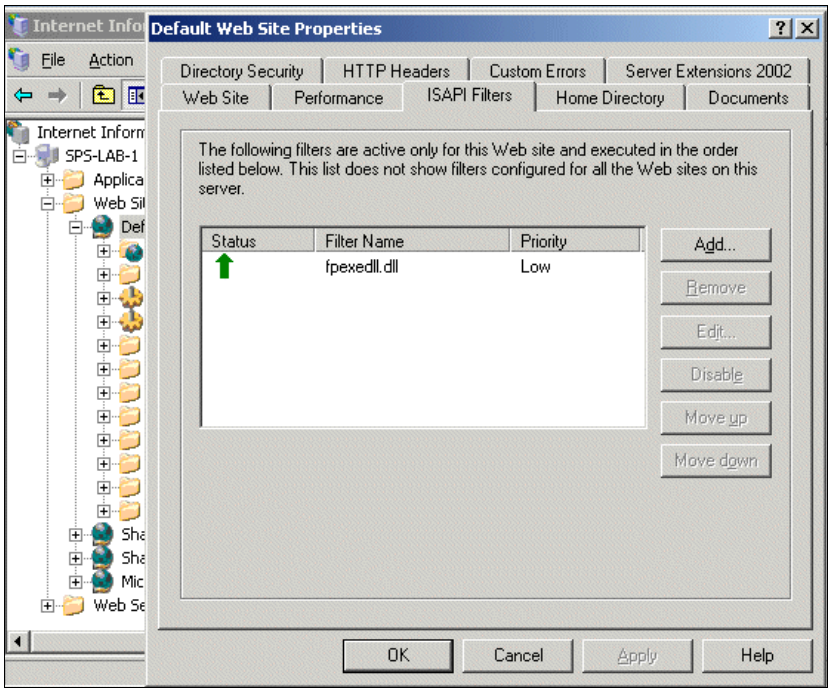

Figure C-18 ISAPI Filters

- Click Add
- Enter **iisWASPlugins** for the filter name
- Enter C:\websphere\AppServer\bin\iisWASPlugin_http.dll for the executable. NB you can use browse to search for the file if you wish

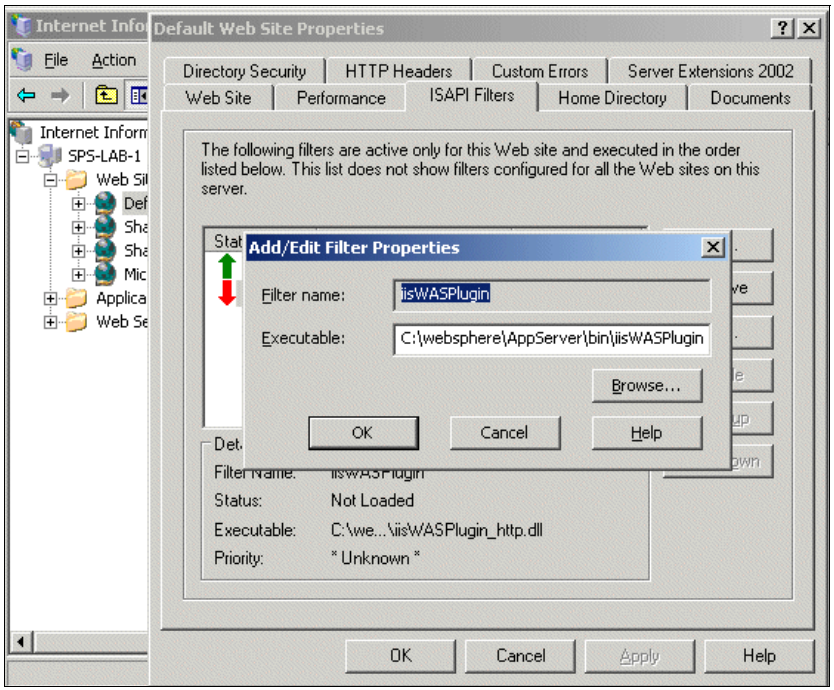

Figure C-19 WAS Plugin Filter

- Click OK
- Click OK

7. Next add a WebExtension
   - from IIS manager select Web Service Extensions
   - Right Click
   - Select Add new web service extension

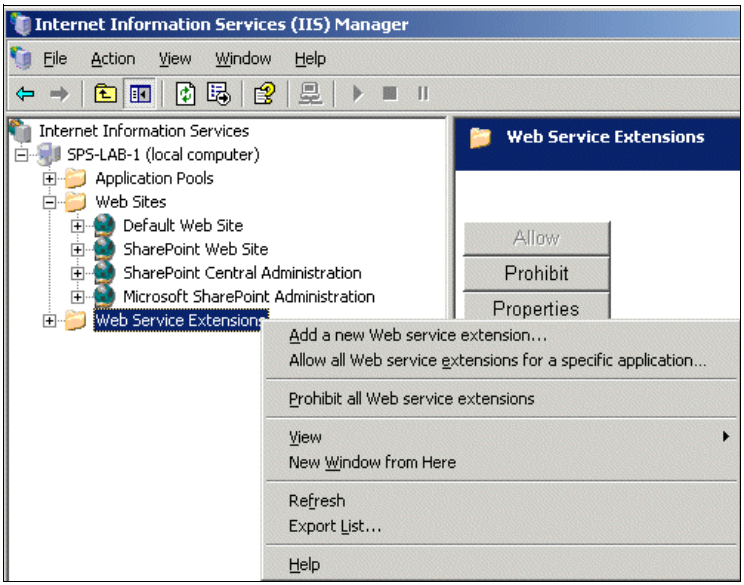

Figure C-20 Create a new Web extension

- Call the extension **iisWASPlugins**
- Add the following Dll's to the required files

  C:\websphere\AppServer\bin\iisWasPlugin_http.dll

  C:\websphere\AppServer\bin\plugin_common.dll

- Click > Set extension services to Allow

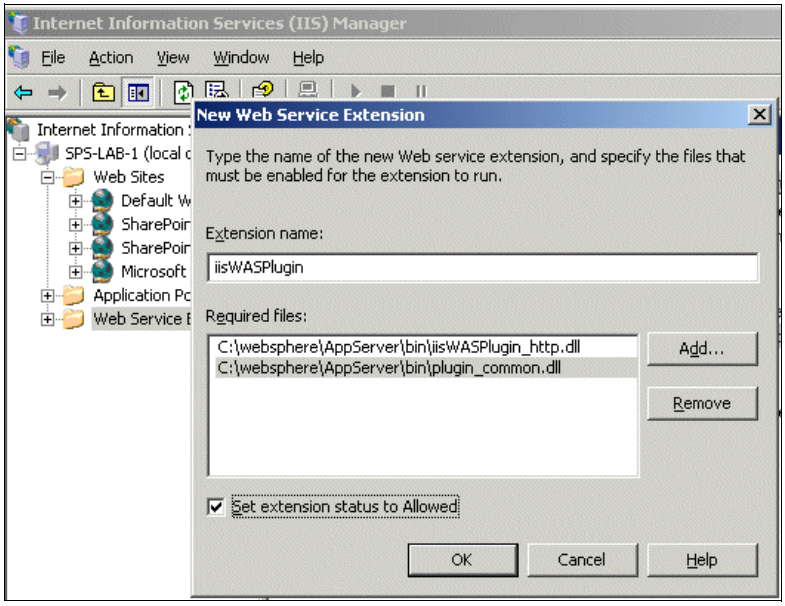

Figure C-21 Configuring the Web extension

- Click OK

> **Note:** do not do the following step if you are configuring IIS on the same physical machine as sharepoint server otherwise Sharepoint will fail to load

- Right Click Web Sites
- Select the Services Tab
- Select > Run WWW services in IIS 5.0 isolation mode

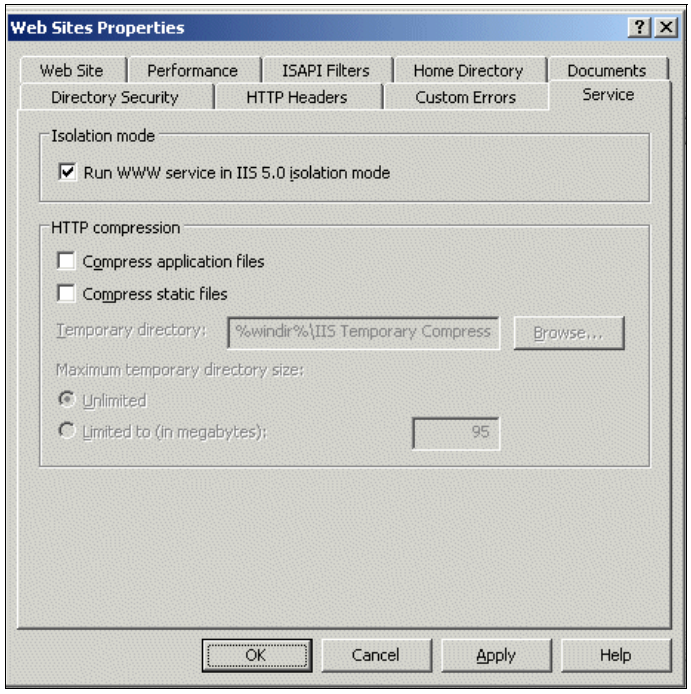

Figure C-22 IIS 6.0 run in iis 5.0 isolation mode

- Click OK
- Restart IIS

8. Add the path extensions for the Domino Web Access
   - Start the Sharepoint central Administration tool

     Start > Programs > Administration Tools > Sharepoint Central Administration

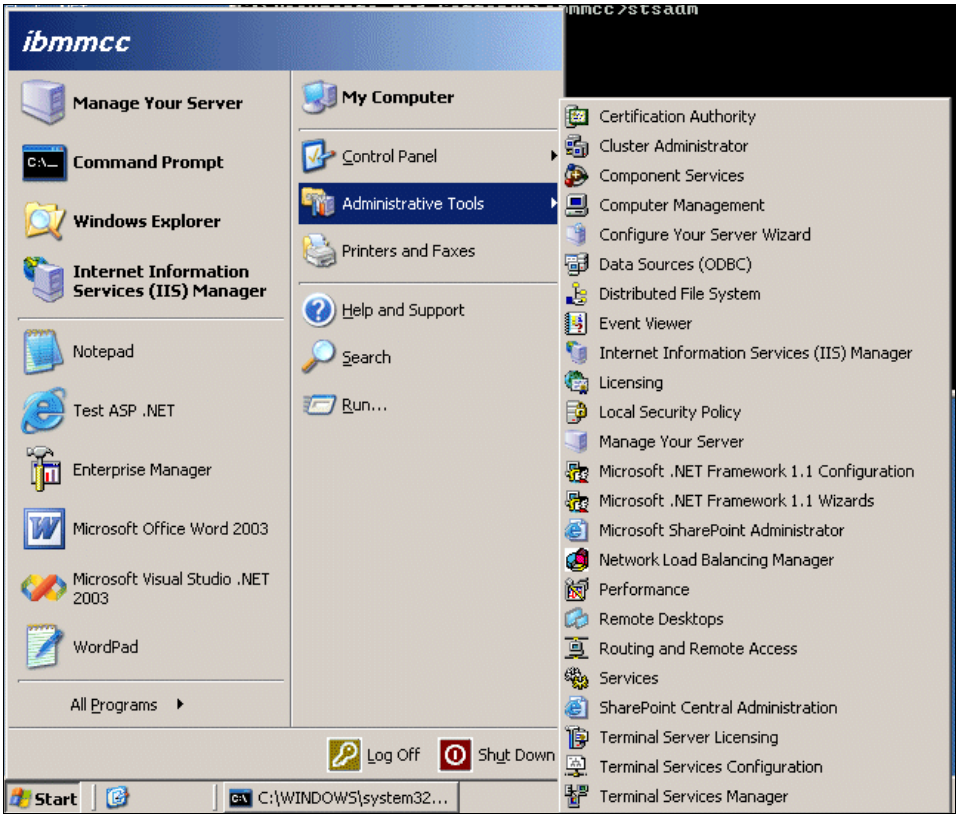

Figure C-23 Start Sharepoint Administration

- Select Configure Virtual Server Settings under Virtual server configuration

Figure C-24 Configure Virtual server settings

- Select the Virtual server to configure. In our website this was <sharepoint web site>

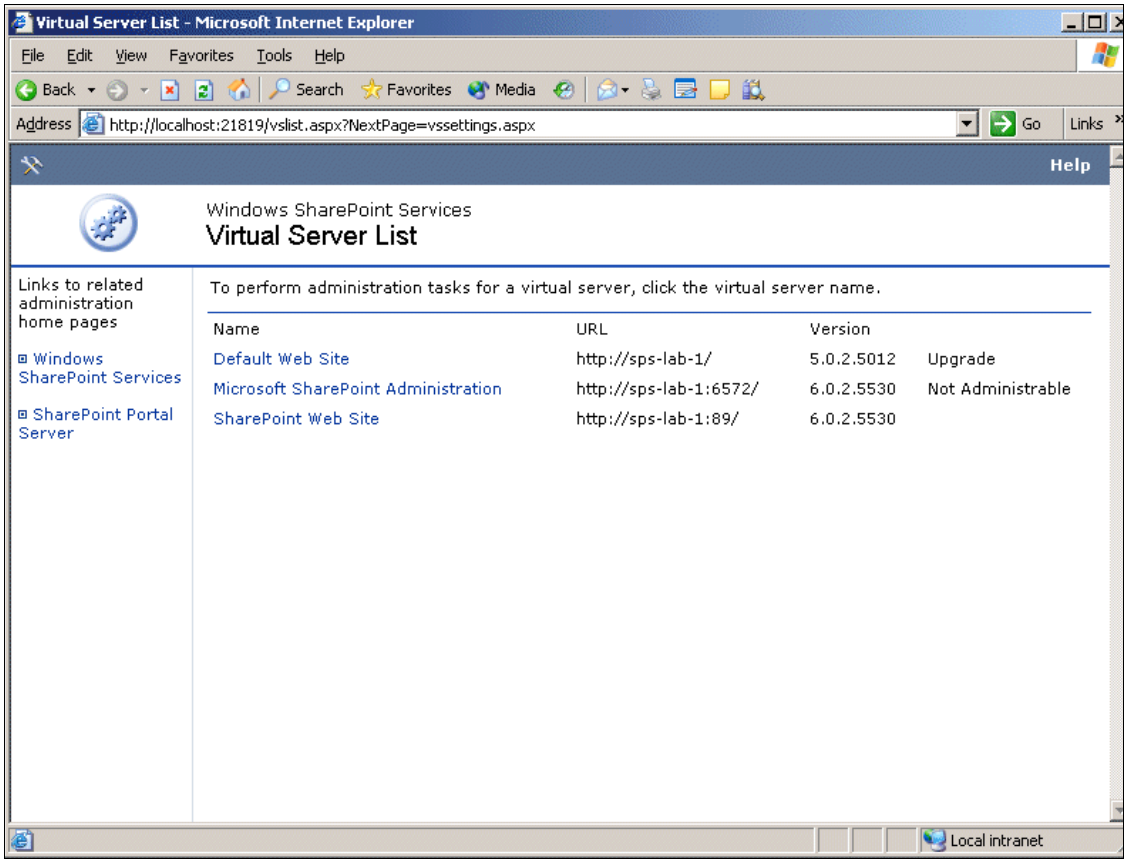

Figure C-25 Select virtual Web site

- Under <Virtual Server Management> Select <define managed path

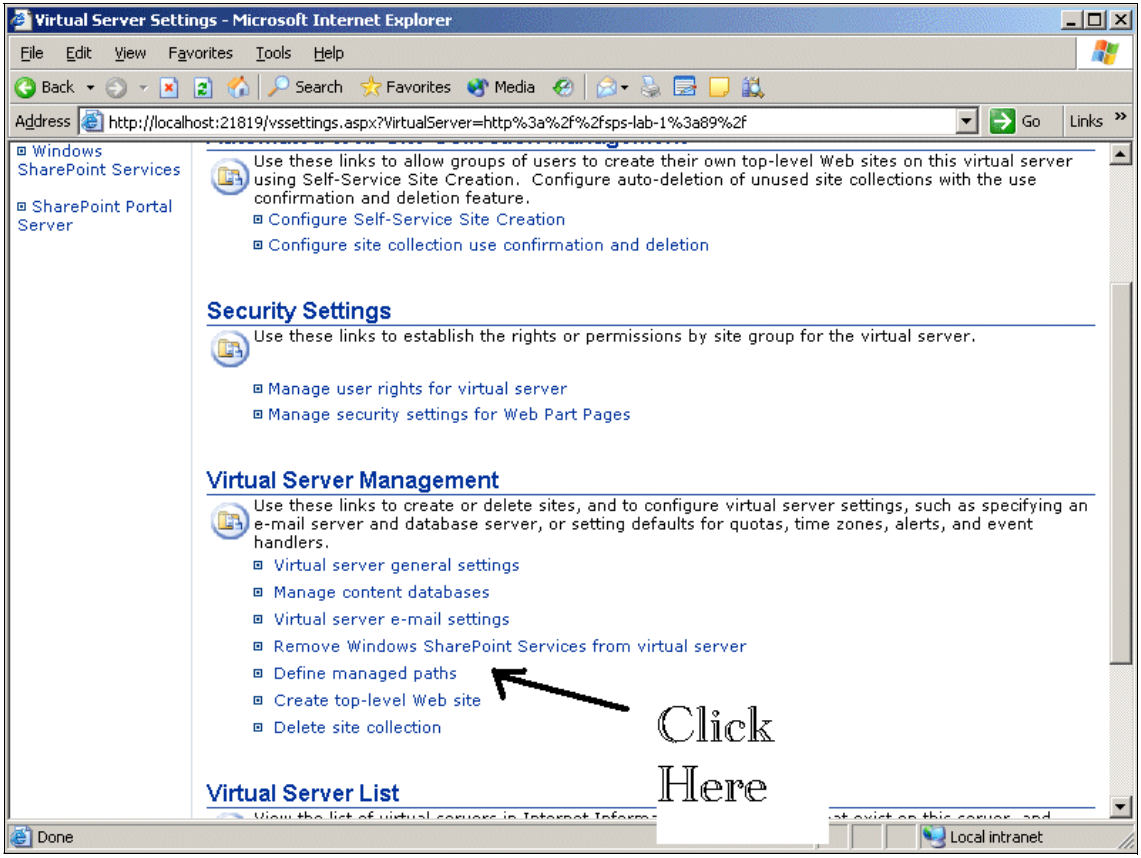

Figure C-26 Select managed path

- under Add a new path
- Enter http://<server name:port>/mail
- e.g http://sps1-lab-1:89/mail
- Click exclude Path
- Click OK

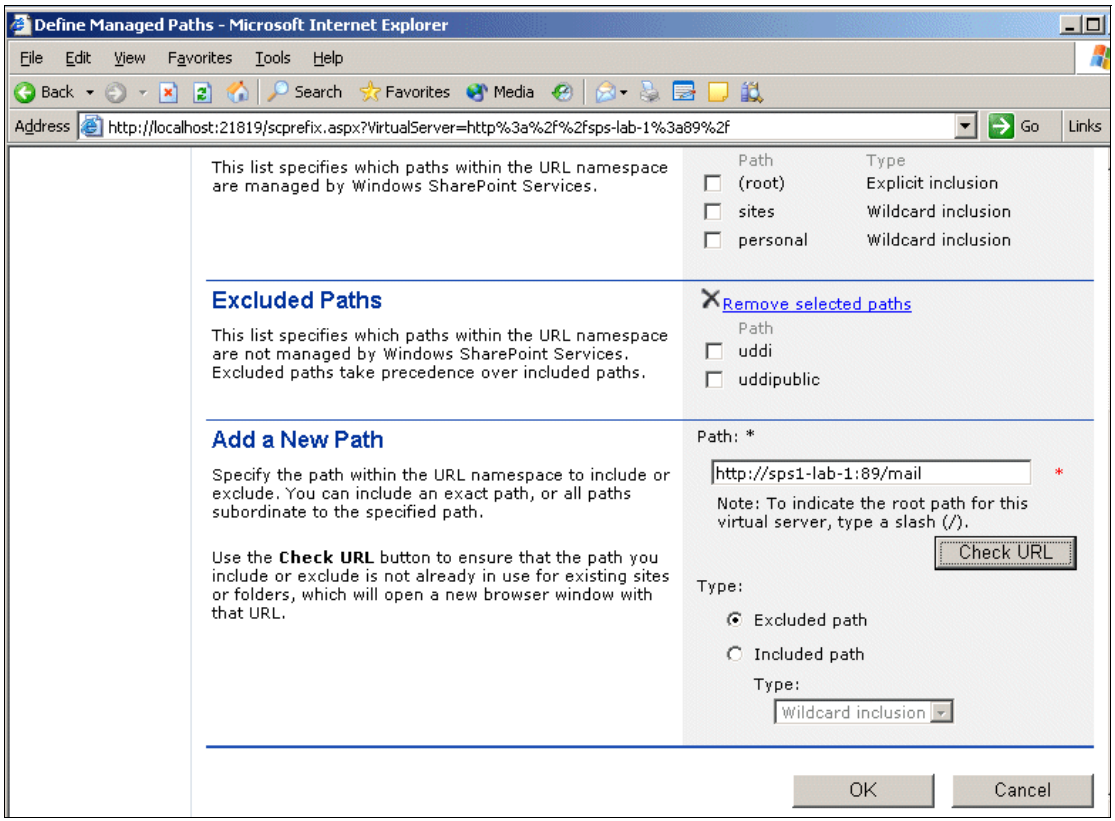

Figure C-27 Defining an exclude path

- Repeat for the following

  /inotes

  /domjava

The command line to do this is as follows:-

stsadm -o addpath -url http://localhost/mail -type exclusion

stsadm -o addpath -url http://localhost/inotes -type exclusion

stsadm -o addpath -url http://localhost/domjava -type exclusion

9. Add users credentials to the person document.

   You need to add the Domain login credentials to the user accounts. If you use the ADSYNCH to add users from Active Directory they are automatically added.

– open the person document

– In the username field add the domain/userid e.g GLP/SPOVALL

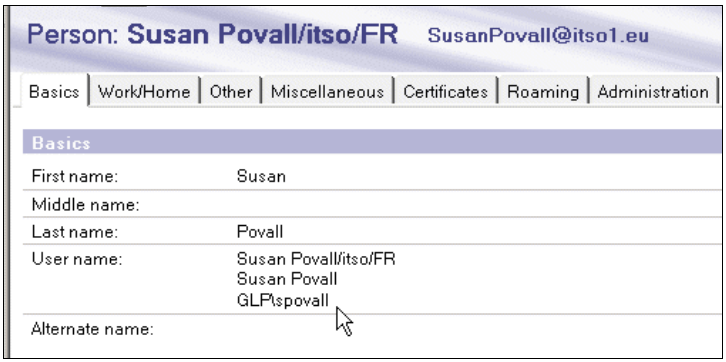

Figure C-28 Add Windows credentails to Domino account

10. Set up Web redirection.

As we pass the credentials to Domino, Domino can now match to a user record. Domino therefore knows the mailfile for the user. It would be a tedious task to configure a unique mail web part for each user containing the location of the mailfile. Fortunatly, Domino comes with a web redirector that we can use to automaticlly open a person's mailfile based on passed credentials.

The current one shipped with domino has limited capability, Unlike an earlier release, it does not allow the administrator to define the mail component that should be open (e.g. inbox, calendar, address book etc). However the version 641 available at:
http://www-10.lotus.com/ldd/sandbox.nsf/140e61e7f55c607685256ead0064d6c4?OpenForm&ParentUNID=F4B19C0C3327DF5385256A8F0063BDF4.

Unzip and copy the WebMailRedirect641.ntf to the Domino server data directory.

– Create the Inbox redirector database

- from the domino administration client File > Database > New
- Select the server for the database (eg. migrate2003b/itso/fr)
- Give the database a name (e.g mail redirector)
- Give the database a file name (eg redirmail.nsf)
- Select the server where you copied the template to
- Select WebMailRedirect641.ntf as the template.

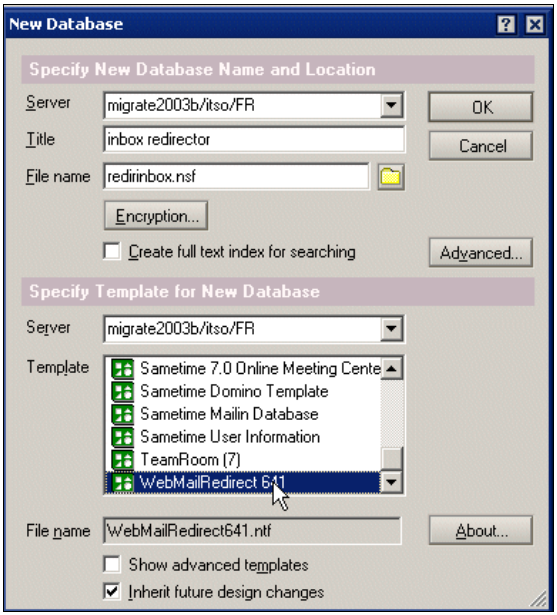

Figure C-29 Create redirector database

- Click OK

  Next configure the database
- Click Setup
- Click Server Settings and select dynamic if you have multiple servers and Fixed if you have a single server .
- If fixed enter the domino server name

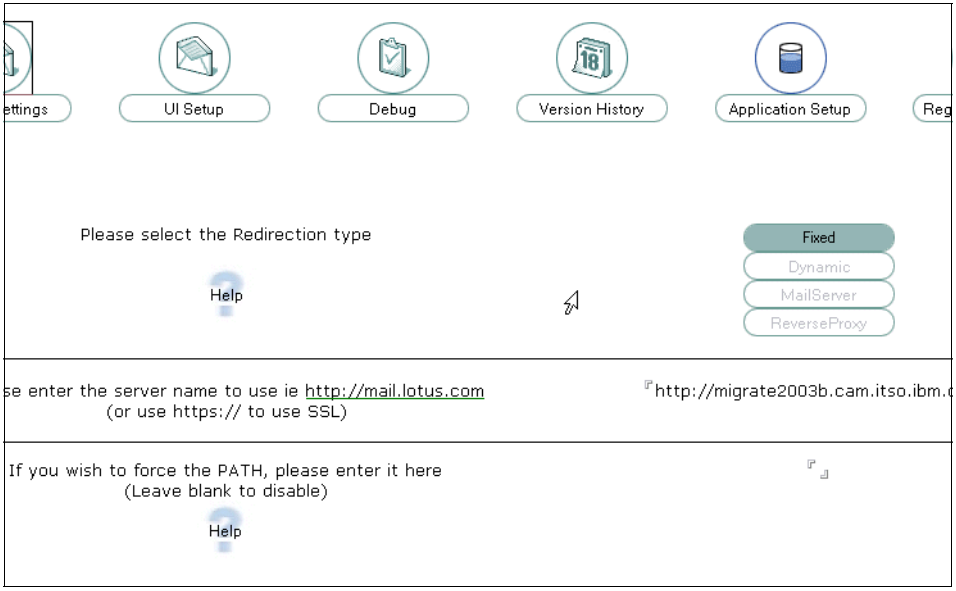

Figure C-30 Redirector server settings

- next Click UI setup
- Set the timeout to 0
- Disable personal profiles
- Click the twisty next to Disable for Global profiles
- Select iNotes inbox portal

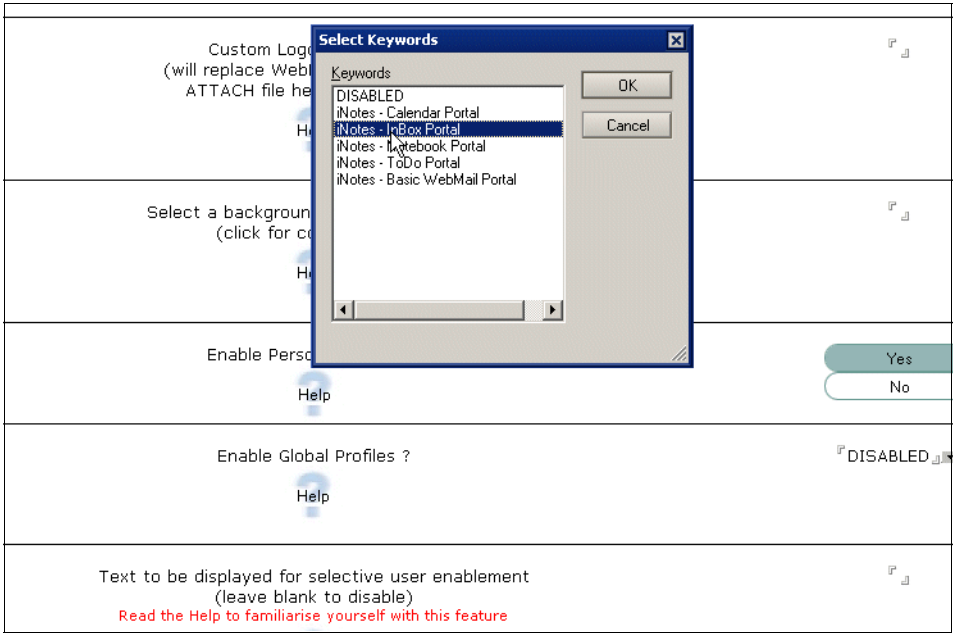

Figure C-31 Select the default view

- The configuration should look like as shown in Figure C-32 on page 811

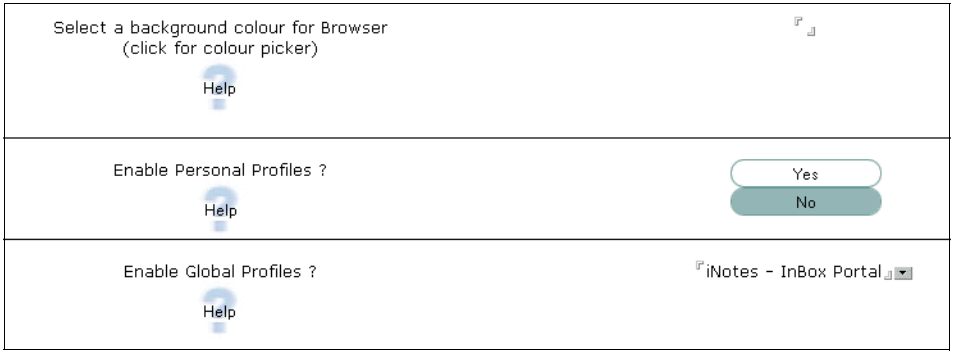

Figure C-32 Completed ui setup

- Click Application setup
- select Click to Auto Set ACL settings
- Click Save and Exit
- Create new redirector database for Calendar
- Optionaly create additional redirct databases for ToDo's and Notes

Tip: For a full inotes view leave the uisetup as defaults

-

- Add web part to Sharepoint

  Add additional web parts to your sharepoint site for Mail and Calendar.

  – launch your browser

  – enter the URL of your site (in our example we created a new site thus our url was http://sps-lab-1:89/sites/mail/newsite

  – Click Modify Shared page

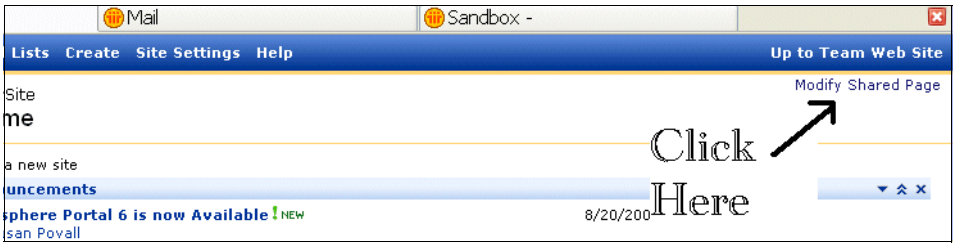

Figure C-33 Modify page

  – Under modify shared page click Search

  – Enter “Page Viewer” in the search box

  – select page viewer web part and click add as shown in Figure C-34 on page 813

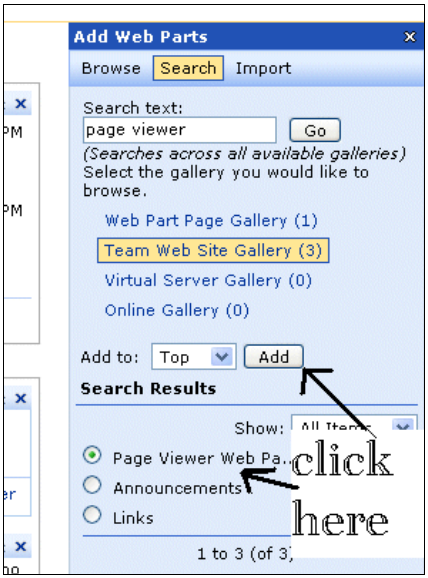

Figure C-34 Add Web page viewer

- Click OK
- Exit the modify page (click the little x)
- Select open the tool pane form the new web part

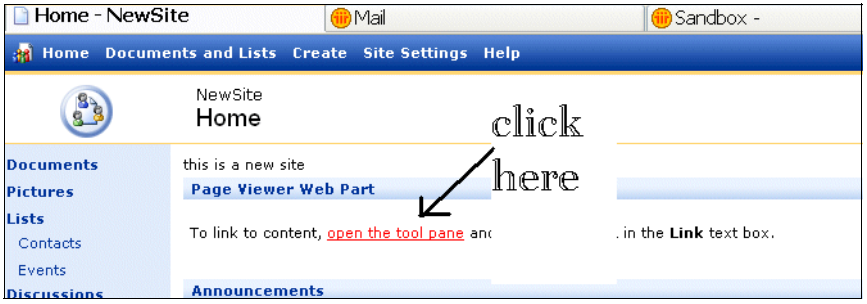

Figure C-35 Configure the Web Part

- Enter the full FQDN of the domino server followed by /<redircordb.nsf> in our example this would be http://migrate2003b.cam.itso.ibm.com/redir.nsf

Figure C-36 Configure the Web Part

- adjust the size to your site preferences
- Click OK
- the web part should resolve to the new url
- clear all cache from the the web browser and when prompted Log in as a valid domino user in our example this was spovall

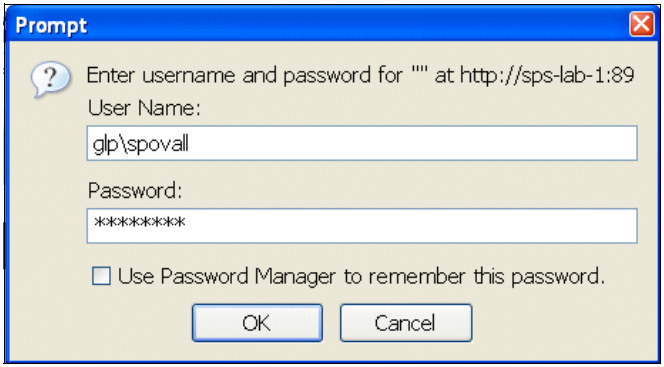

Figure C-37 User login prompt to sharepoint portal

– the redirector message will be displayed in the web part window whilst the mial file is accessed and the view built

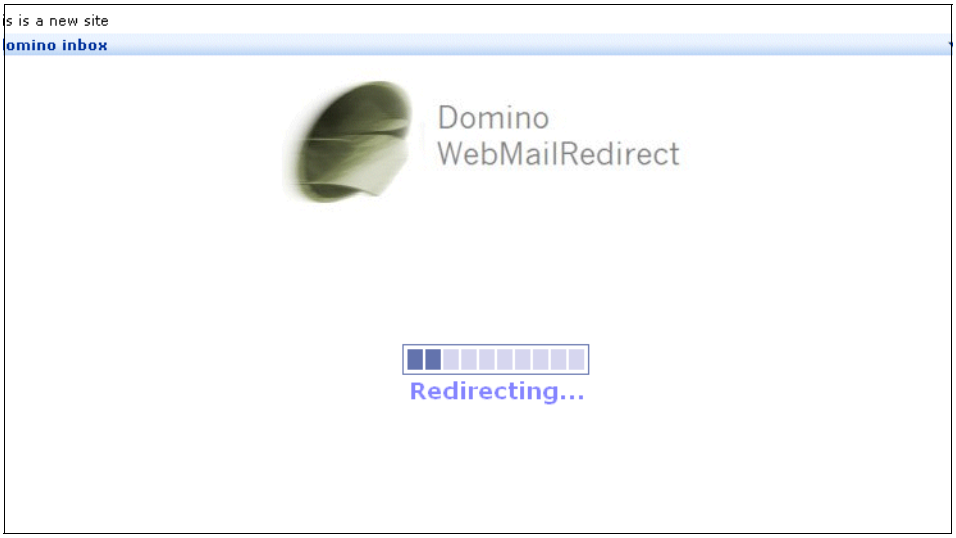

Figure C-38 Redirector message

– after a short while the mail file will be open in the web part

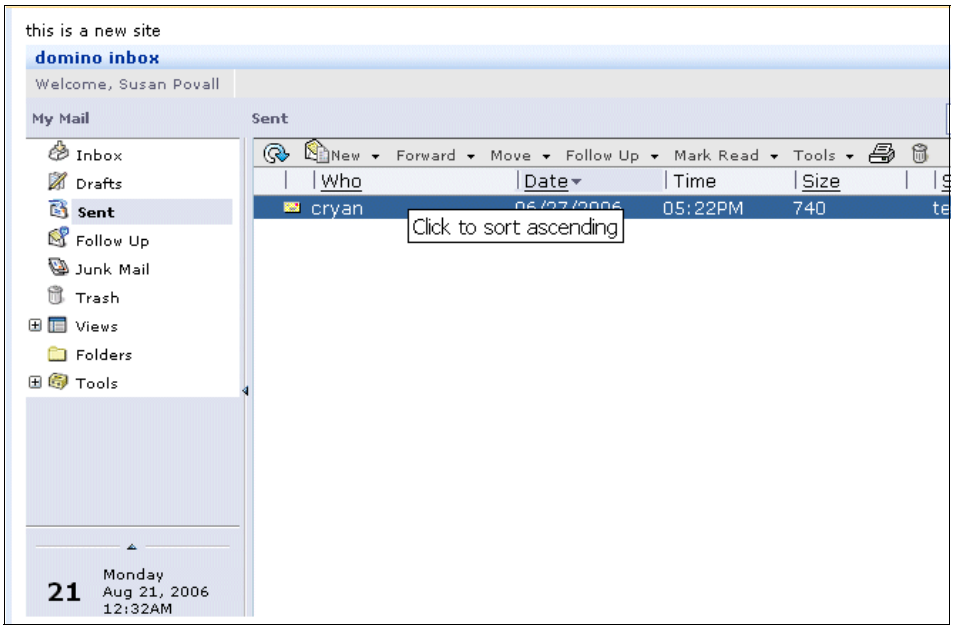

Figure C-39 Domino inbox accesed in sharepoint

In Summary we have reviewed how to setup single signon between sharepoint and Domino. further utilsing the webredirctor we are able to create individual web parts for differnet aspects of the domino mail. Web based applications can also be accesed in this way by entering the full url to access the required view or form or by creating web srevices. Other rebooks cover this topics in detail.

D

Tips for performing a successful migration

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This appendix helps you identify and resolves some potential issues during the process of migrating from Exchange to Domino.

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List of issues and solutions

Table D-1 lists a few situations that you can encounter during the migration process that require some simple troubleshooting.

Table D-1 Troubleshooting tips

issues	Solution
If you need to migrate a user more than once…	The Domino Migration Tool is designed as a "run once" utility, which registers users and creates associated mail files on the Domino server. You can migrate a user more than once, but remember that if you migrate to the same Domino mail file, the existing data is not replaced, just appended. If you need to "re-migrate" a user, delete the existing Domino mail file from the Domino server, then perform the migration for that user again. You are informed that the user is already registered on the Domino server and prompted to update the existing user. Do this, complete the migration, and a new mail file is created for the migrated user on the Domino server.
If the address conversion for a user's mail file fails…	While running the address conversion utility, you might see the message, `Address conversion failed for this user`. It's crucial that the server name and address book be up to date before running the address conversion. Update the name and address book following the instructions previously outlined, then perform the address conversion again.
If after migration, a user's mail file displays addresses (such as in the Chair item or From item) in Microsoft Exchange format…	If addresses are displaying in Exchange format, you might have forgotten to perform the address conversion on this mail file. To be on the safe side, perform the address conversion on all the migrated mail files on the Domino server. Also, it is possible that you have not yet migrated the user whose address is displaying in Exchange format. After that user has been registered on the Domino server and the associated mail file migrated, run the address conversion utility again.

issues	Solution
If the Domino Migration Tool fails while users are in the process of being migrated…	If the migration process fails, which can happen if the server connection is lost, it is best to start the process again, beginning with the user in transit during migration. If the migration process fails while migrating a user, that user and any others in the Registration Queue, are saved in preparation for registration and migration. Because the user was in transit when the failure occurred and might be partially migrated, it is best to delete that user's mail file from the server when the server connection is restored. Then, resume the migration process by selecting Register All in the Register Person dialog.

E

Exchange Connector installation checklist

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

In this appendix we provide a checklist to be used to retain information that is required during the installation of the Exchange Connector.

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General setup information

To install and configure the Exchange connector for Lotus Notes you will need at a minimum the following information:

- Domino Version _____
- Notes Client Version _____
- The Domino server name _____.

  Note: In a multi-server environment, your registration server and mail server might not be the same.
- The name of the Domino Administrator ID file is _____.
- The password for the Domino Administrators id _____
- Mail File Template name _____
- Domino Certifier location _____
- Domino Certifier Password _____
- The Exchange Administration account name _____
- The Exchange Administration Password _____
- The Exchange server name is _____
- The Exchange Organization name is _____
- The Exchange Site name is _____
- The WinNT domain name is _____.

F

Installing Domino

Note: This Redbook is still in “draft” mode and is still undergoing final technical and grammatical review. While in draft mode, the paper may contain minor editing comments, minor omissions, technical inaccuracies or spelling errors. The intention in publishing this draft is to provide the information as quickly as possible, and to provide the greatest value to the technical community. Expected final publish date = late - October 2006. For latest draft, check:
http://www.redbooks.ibm.com/redpieces/abstracts/sg247777.html

This appendix serves as a quick reference for optionally installing Domino.In the case that you are migrating from Exchange and are not familiar with installing Domino Servers, this can be used as a quick reference guide.

Important: This appendix is simply a quick reference for optionally installing Domino. Refer to the product documentation available at the IBM Web site for comprehensive instructions:

http://www.lotus.com/ldd/notesua.nsf/0b345eb9d127270b8525665d006bc355/8313e8d10f025dee8525698100541f6d?OpenDocument

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Installing Domino

Complete the following steps:

1. To install Domino Enterprise Server Version 7.x launch the setup file.
2. Click **Next**, as shown in Figure F-1.

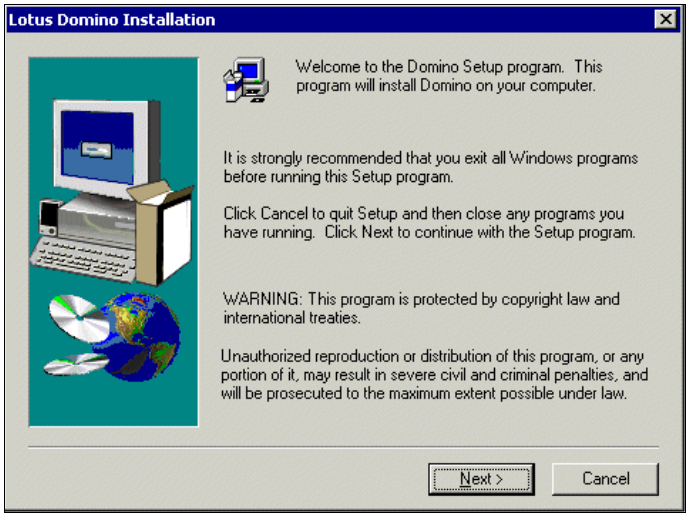

Figure F-1 Domino Setup Welcome window

3. Click **Yes** to accept license terms, as shown in Figure F-2.

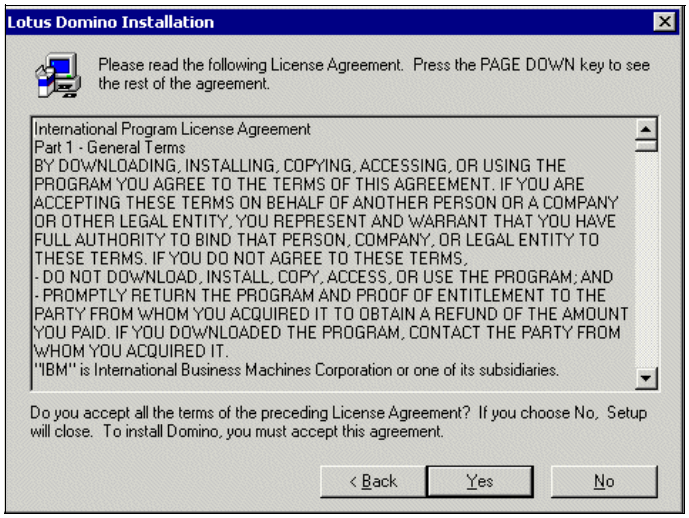

Figure F-2 License agreement

4. Fill in your Name and Company and then click **Next**, as shown in Figure F-3.

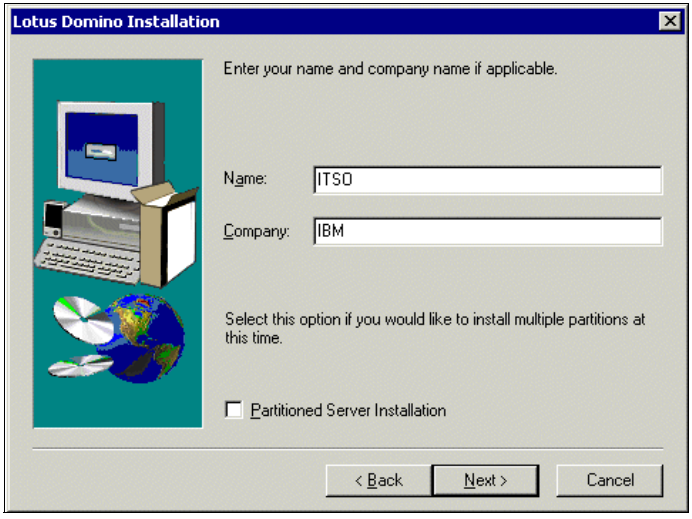

Figure F-3 Enter your name and company

5. Select the installation directory and click **Next**, as shown in Figure F-4.

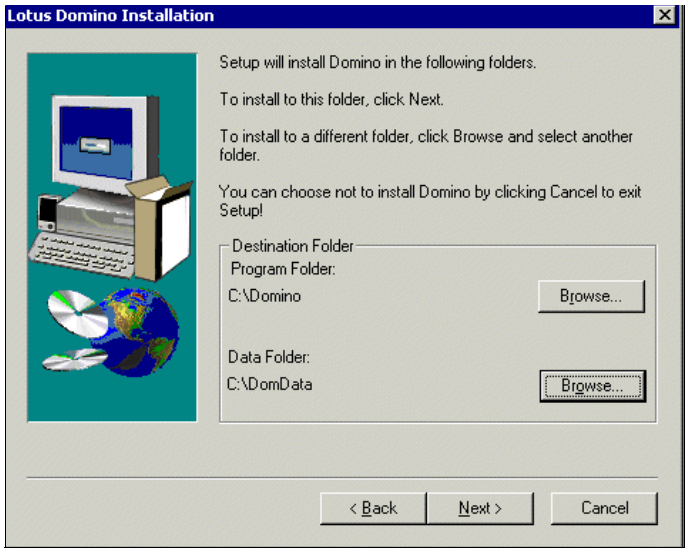

Figure F-4 Installation folder

6. Select **Domino Enterprise Server**, as shown in Figure F-5. If needed, you can customize services by clicking the **Customize** button. Click **Next**.

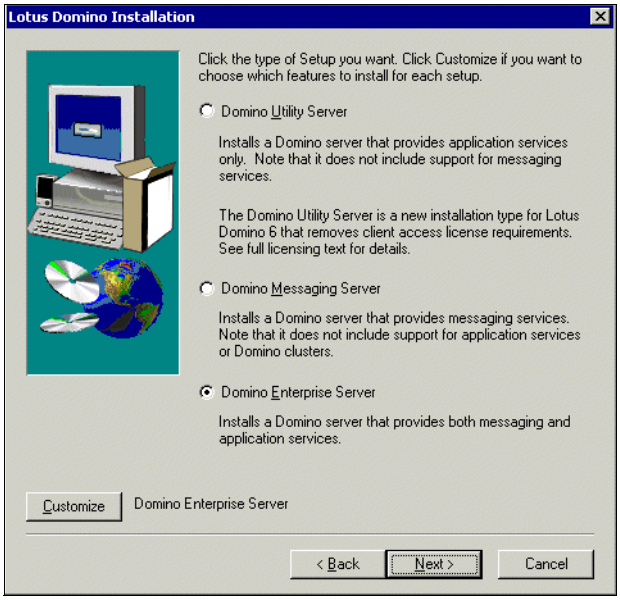

Figure F-5 Server Setup window

7. The installation is complete, as shown in Figure F-6. Click **Finish** and then start Domino server to begin the setup.

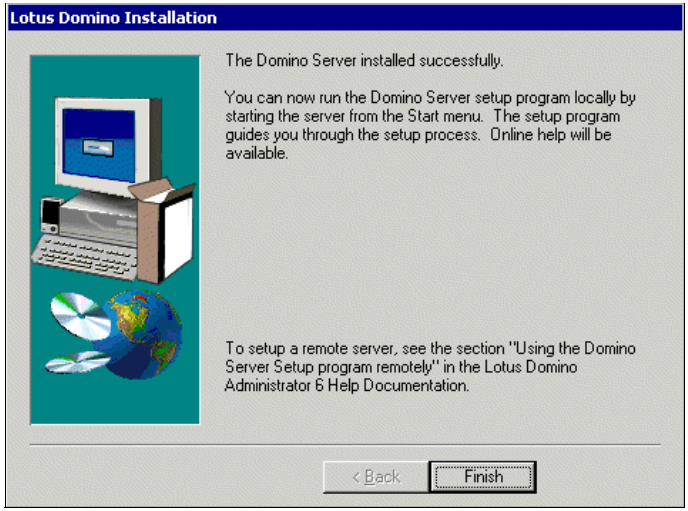

Figure F-6 Successful installation window

8. The window will change to show “Welcome to Domino Server Setup,” as shown in Figure F-7. Click **Next**.

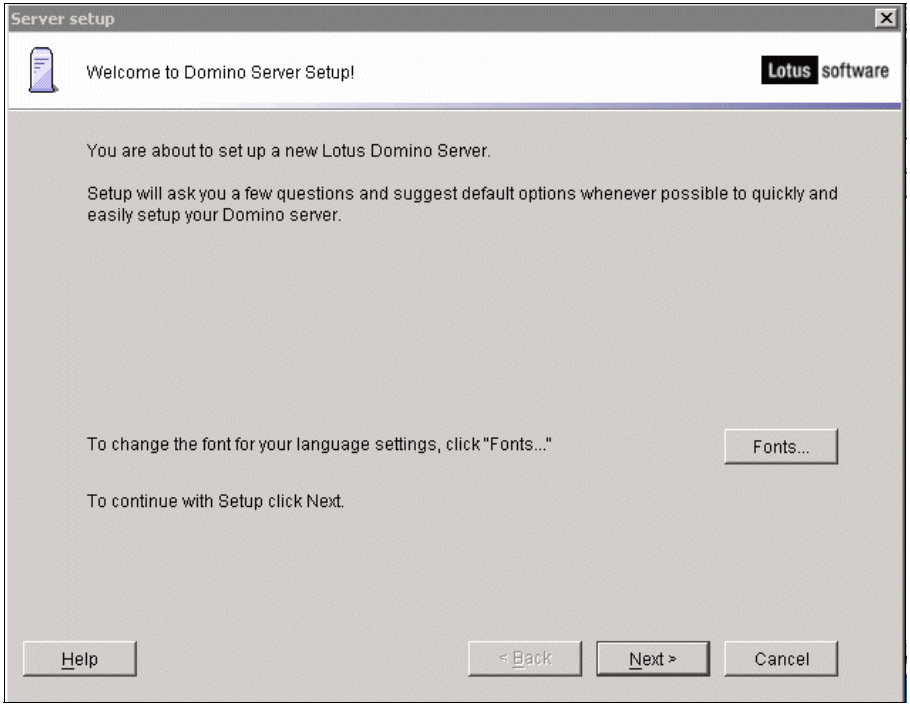

Figure F-7 Domino setup window

9. In the First or additional server window, select **Set up the first server or a stand-alone server**, as shown in Figure F-8. Click **Next**.

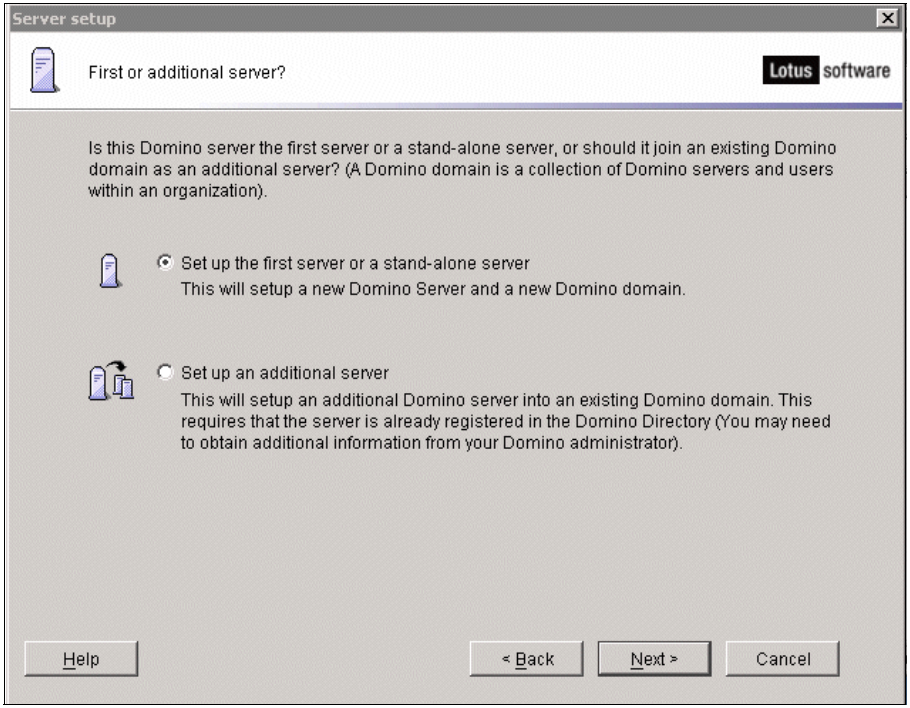

Figure F-8 Set up single server

10. In the Provide a server name and title window, enter your values (you can leave the title blank because it is not a required field), as shown in Figure F-9. Click **Next**.

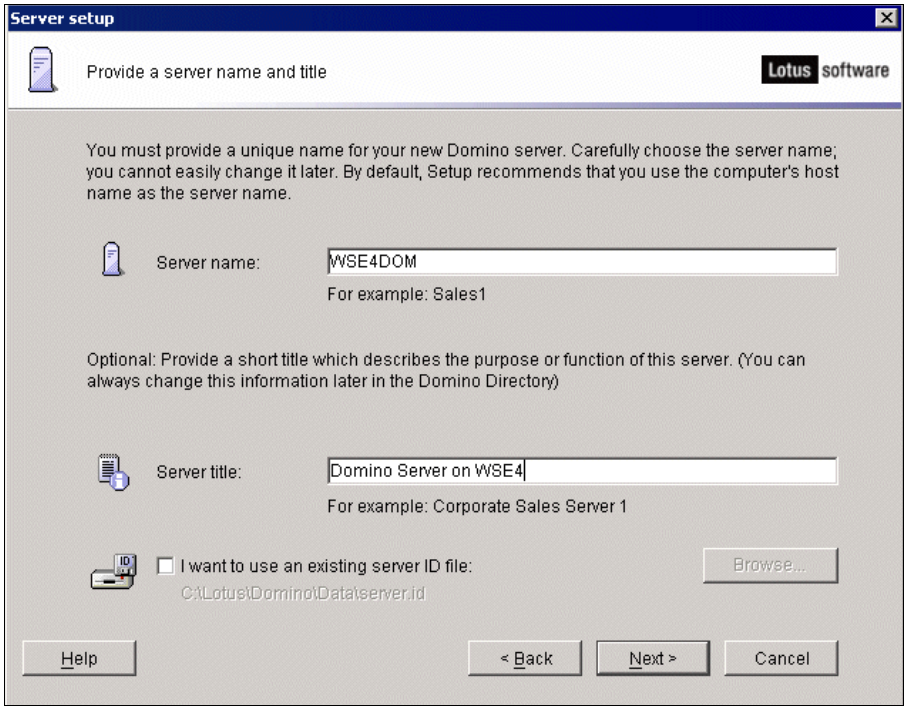

Figure F-9 Domino Server name and title

11. In the Choose your organization name window, enter your values (in this example, `ibm`) and provide a suitable password for the Organization Certifier, as shown in Figure F-10. Keep this password somewhere safe, because you will need it later. Click **Next**.

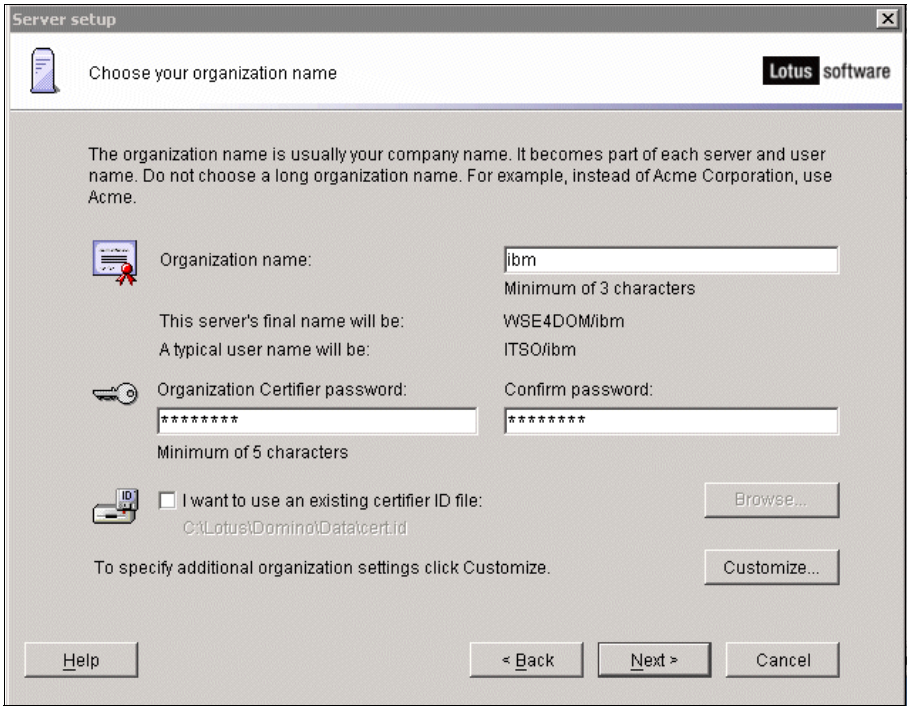

Figure F-10 Organization and Certifier password

12. Enter the Domino domain name and click **Next**, as shown in Figure F-11.

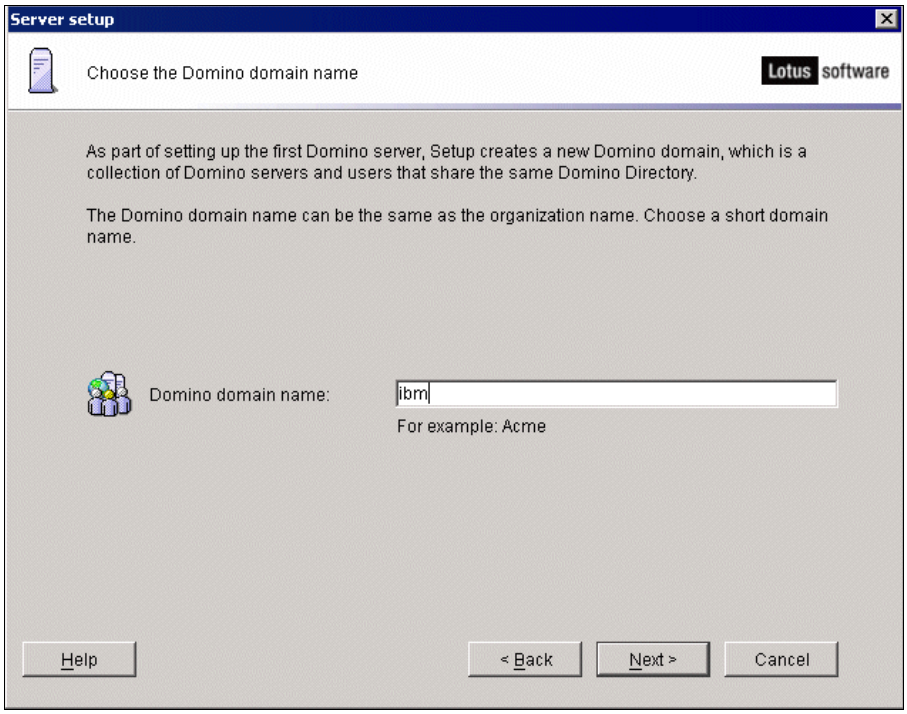

Figure F-11 Enter the Domino domain name

13. In the Specify an Administrator name and password window, enter the name `Domino Admin` with a suitable password, as shown in Figure F-12. As before, keep this password somewhere safe.

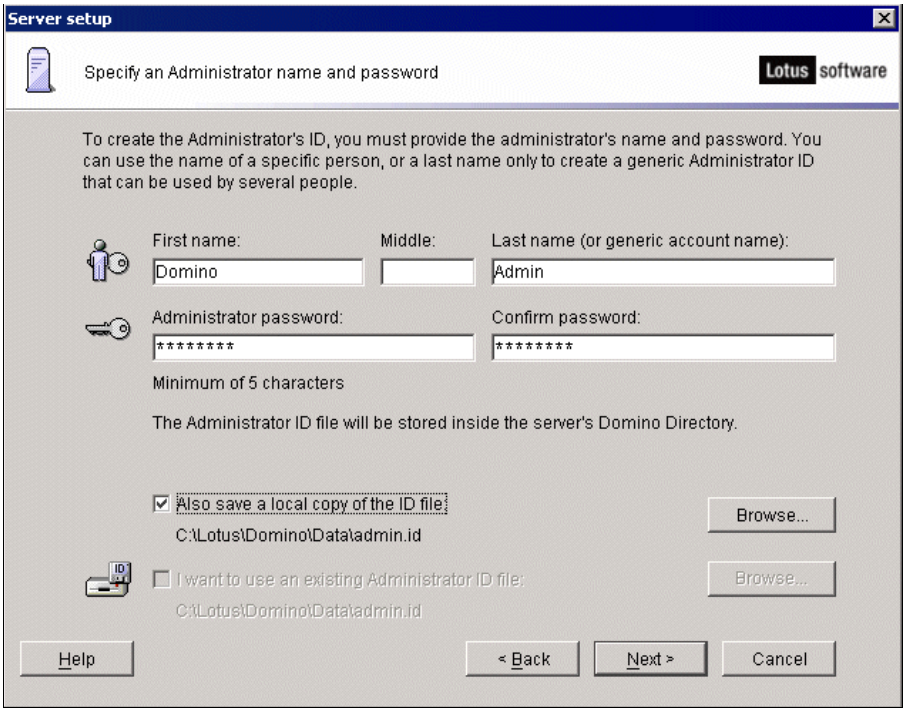

Figure F-12 Domino Administrator name and password

14. When choosing which Internet services Domino should run, select all three options, as shown in Figure F-13, and click **Next**.

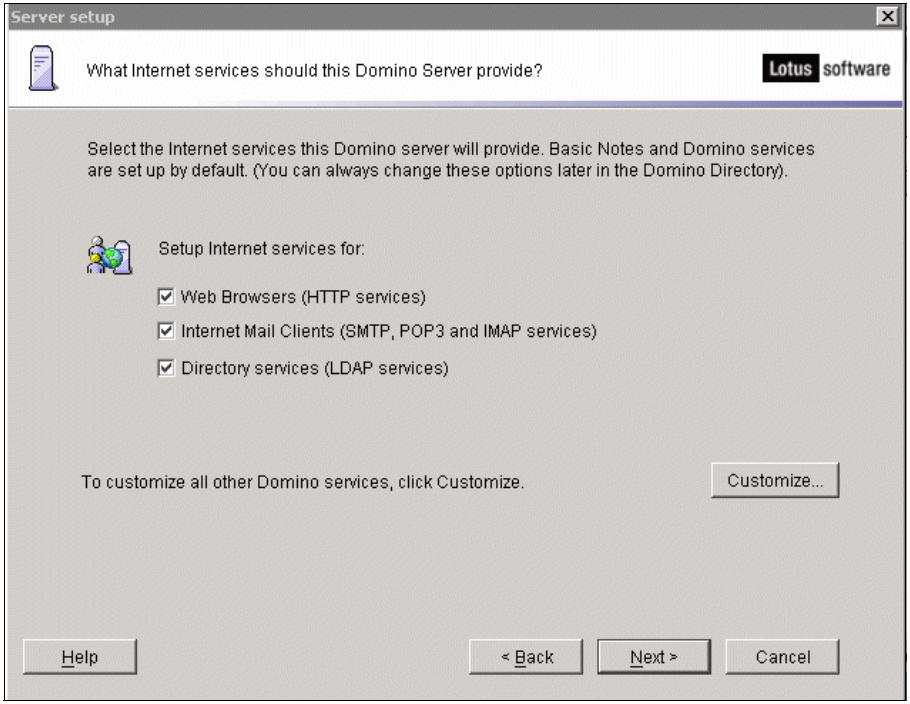

Figure F-13 Domino services setup

15. The Domino network settings window shows that all available ports have been enabled and that setup has determined what the fully qualified domain name of the server should be, as shown in Figure F-14.

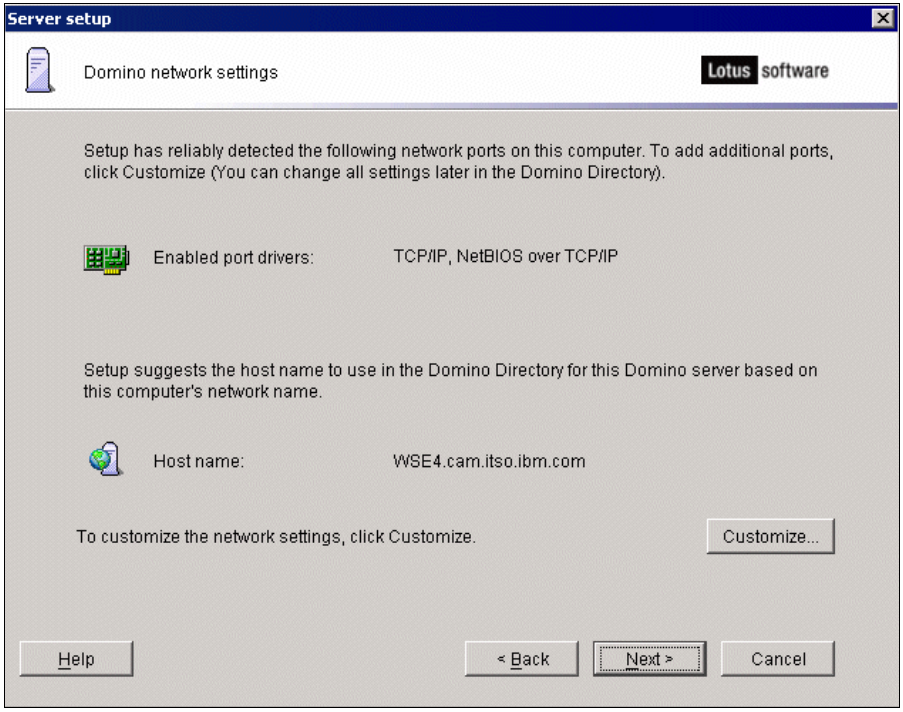

Figure F-14 Domino network setup

16. In the Secure your Domino Server window, select **Prohibit Anonymous access to all databases and templates** and **Add LocalDomainAdmins group to all databases and templates**, as shown in Figure F-15. Click **Next**.

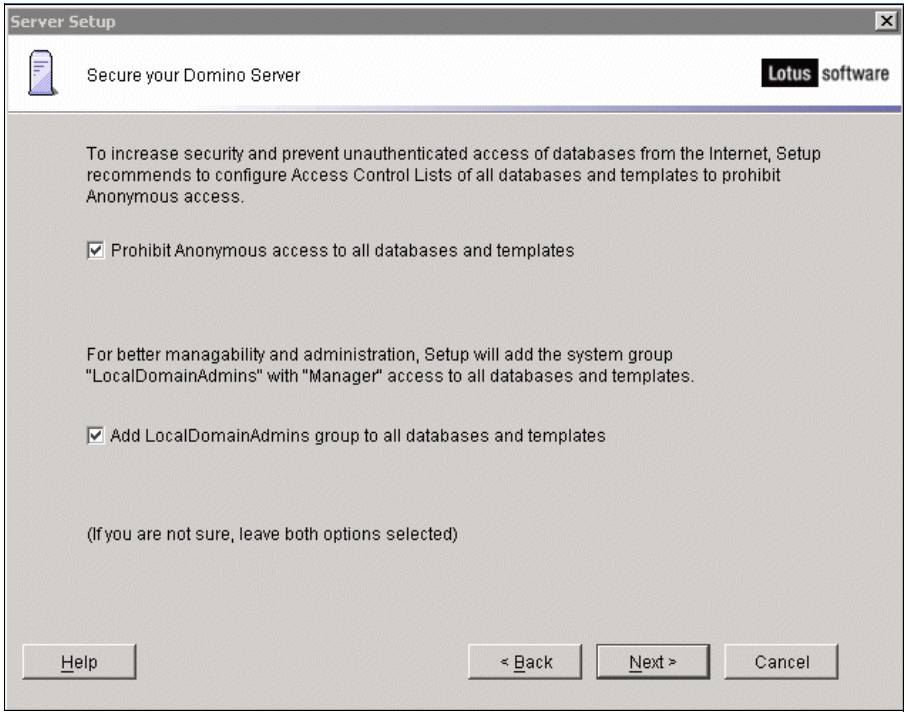

Figure F-15 Domino Server security setup

17. The final window asks you to review and confirm the setup options. Click **Setup**.

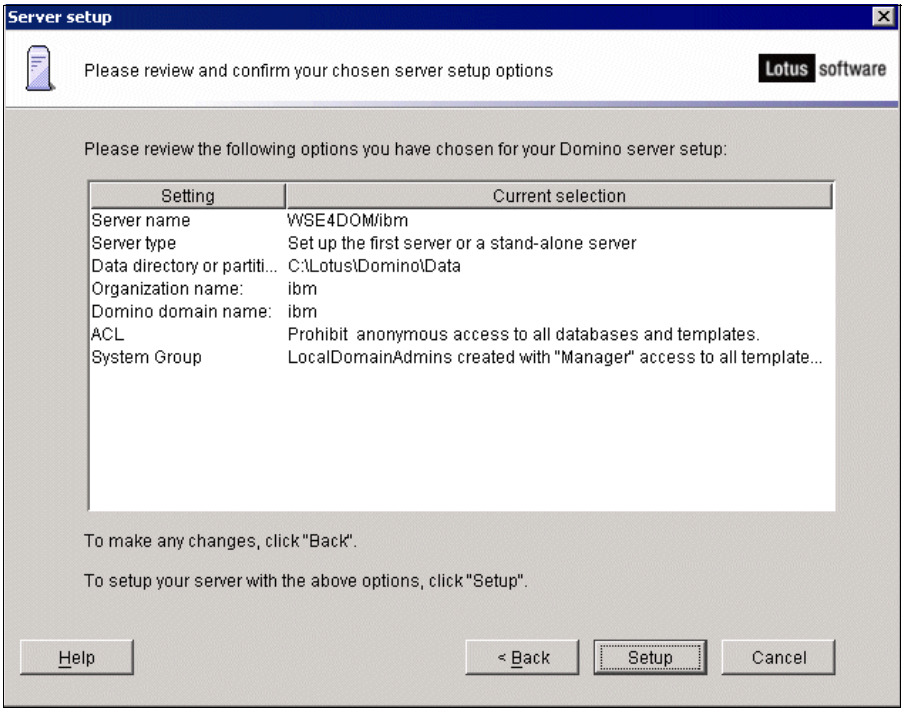

Figure F-16 Domino final setup window

When setup finishes, start the Domino server. For Windows environments, we recommend that you start the Domino server as a Windows service the first time you are prompted.

Install Domino Administrator and Lotus Notes Client

The Notes Client is required to administer and configure the Domino server. In this example, we install the Notes Client to the same machine as the Domino server. When installed to separate directories, the client and server can coexist; however, this is not advised in a production environment.

Complete the following steps:

1. From the Notes Client install CD, select **Notes Administration client** and run **`setup.exe`**. Click **Next** in the Welcome window, as shown in Figure F-17 on page 838.

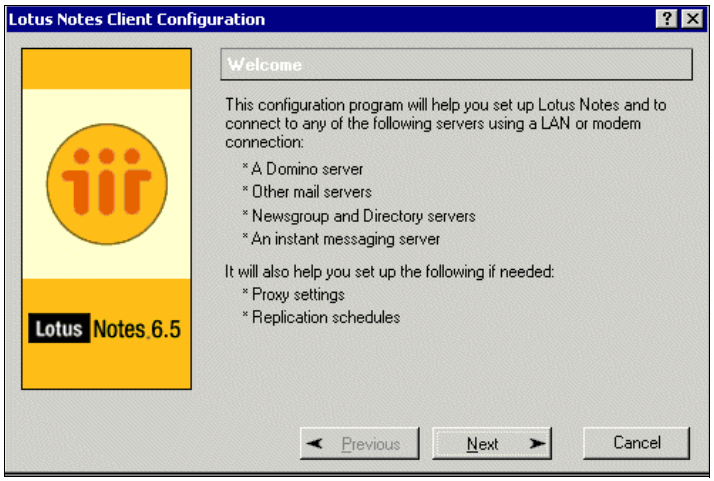

Figure F-17 Client Configuration Welcome window

2. Accept the license agreement and click **Next**.
3. Select a directory and click **Next**, as shown in Figure F-18.

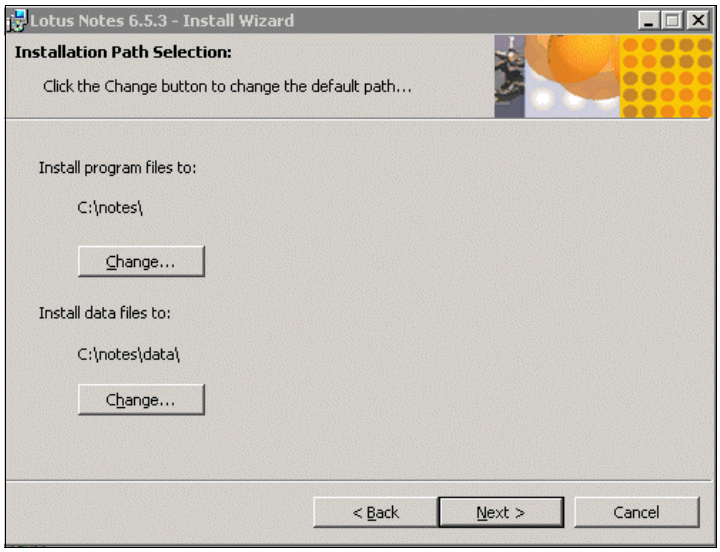

Figure F-18 Notes installation directory

4. Now, select the client to install and click **Next**, as shown in Figure F-19.

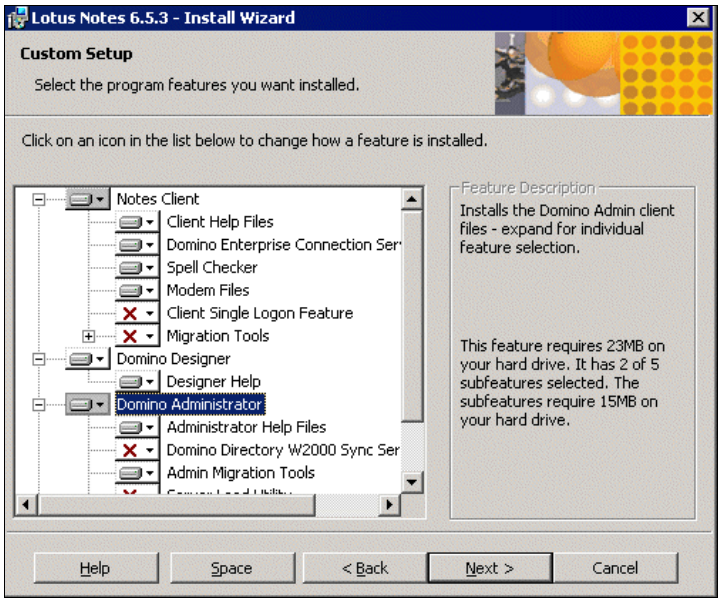

Figure F-19 Select client type

5. When prompted for a user name, enter the name of the Domino Administrator you created (in this example, `Domino Admin`) and the host name for the Domino server, as shown in Figure F-20. Click **Next**.

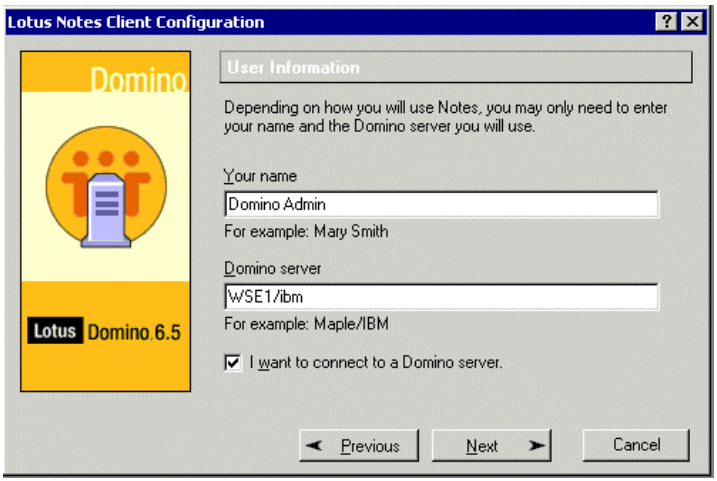

Figure F-20 User Information window

6. Clear the **Setup instant messaging** option and click **Next**, as shown in Figure F-21.

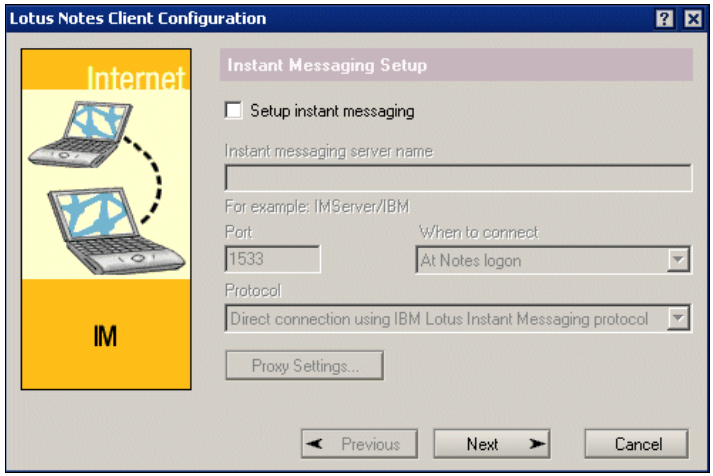

Figure F-21 Clear the Setup instant messaging option

7. On the Additional Services window, clear all options and click **Finish**, as shown in Figure F-22.

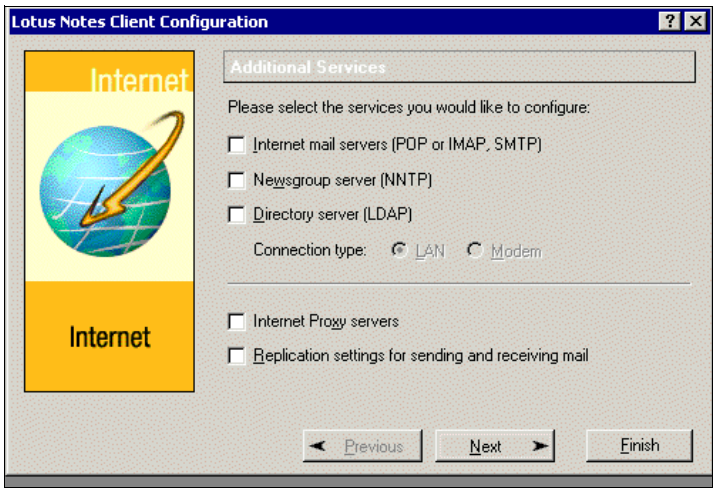

Figure F-22 Notes Client setup final window

8. The Notes Client will now connect to the server and perform some local setup activities. Note that this will take a couple of minutes to complete before displaying the window shown in Figure F-23.

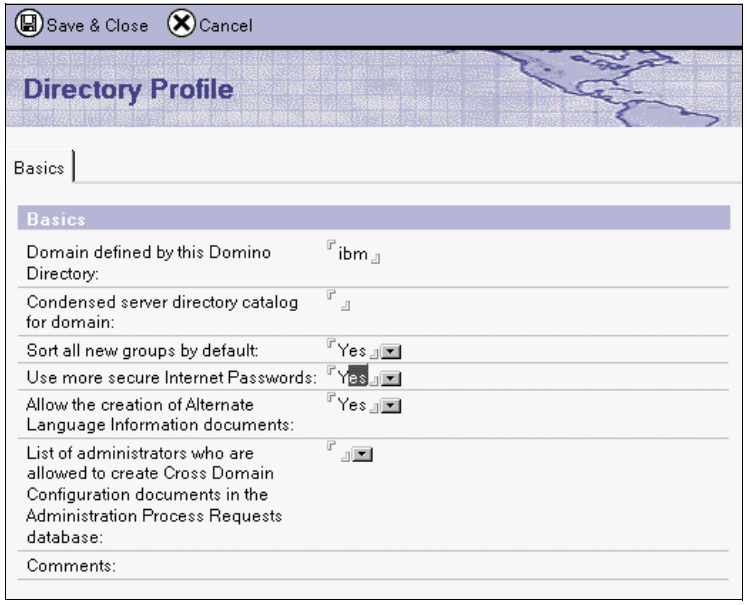

Figure F-23 Directory Profile setup

9. Set the field values, as shown in Figure F-23, and click **Save & Close**.

Related publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this redbook.

IBM Redbooks

For information on ordering these publications, see “How to get IBM Redbooks” on page 844. Note that some of the documents referenced here may be available in softcopy only.

- *????full title???????,* xxxx-xxxx
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- Description2

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Index

A

Access Control List (ACL) 355
Active Directory 91
address conversion 361, 363, 818
Advanced office workstation 28
Assembling the project team 48
Automated application synchronization 80
Automated directory synchronization 78
Automatic Deployment Tool 91

B

Backup and disaster recovery 92
Basic office workstation 28
Benefits of this approach 82
Business requirements 51

C

Calendar migration results 486
Client selection
  available options 69
  cost considerations 74
  decision points 76
  Linux 74
  Macintosh 74
  offline usage 74
  performance 75
  platform 74
  requirements 69
  security 75
  TCO 74
  user training requirements 73
Clients 69
CMT 84–85, 643
  add users from Domino 412
  add users from foreign directory source 412
  benefits 403
  choosing items to migrate 415
  configuring input parameters 415
  configuring settings 407
  distribution lists 416
  end date 418
  end-user migration 462
  end-user settings 407
  Exchange User Selection 423
  groups 416
  MAPI profile 410, 444
  migrating calendar 415
  migrating distribution lists 426
  migrating mail 415
  migrating server data 433
  migrating shared mail boxes 410, 444
  migration details 434
  migration document 464
  migration email 458
  migration process 405
  migration steps 405
  Outlook and Exchange settings 408
  prerequisites 403
  registering users 431
  registration settings 430
  Reset Message Classes to Default 412
  running the migration 435
  running the user import 424
  selecting users for migration 428
  selecting users to import 422
  setting the trigger for user data migration 447
  setting up licenses 404
  Source mail system selection 407
  specifying details for the migration 429
  specifying range of dates 417
  start date 418
  starting the migration 433
  target mail system selection 407
  Top level folder settings 412
  troubleshooting the migration 433
CMT for Public Folders
  a migrated Public Folder 658
  contacts 658
  custom fields 662, 664
  custom form in Domino 665
  customized Public Folder forms 662
  described 644
  Domino configuration 646
  Domino database, after migration 658

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importing Public Folder names 649
Importing Public Folders 653
importing standard forms 653
migrate permissions 651
migrated document 667
migration results 658
migration settings document 645
setting up 644
specifying types of messages for migration 647
Coexistence 83
application access 79
application synchronization 80
Calendaring and scheduling support 79
directory synchronization 78
messaging 78
public folders 597
strategy 77
Coexistence strategy 77
Communication plan
creating 53
topics 53
Communications 53
Connecting to an Exchange server 343
Converting Exchange addresses to Notes Canonical format 360
Creating a communication plan 53
Creating a PST from a Public Folder 685
Creating a Public Folder 581, 586
Creating a risk management plan 64
Creating a training plan 62
Creating the Administrator profile in Outlook 343

D

Data importance 81
Data migration 80
Data retention 81
Defining the project scope 50
Directory assistance 127, 188
Disaster recovery policy 61
Distributing client software 91
Documenting the current messaging environment 54, 821
Documenting the Exchange environment 55
Domino
amount of servers needed 68
choosing the platform 68
CPU scalability 67
memory utilization 67
scalability 66
Server Configuration Document 300
server types 67
sizing 65
SMTP mail traffic 286
topology 66
Transaction logging 67
Domino Access for Microsoft Outlook 69
Domino Address Book 362–363
Domino address book
Person Document 362
Domino Administrator
client 350
Id 355
Domino Designer 601
changing the name of a view 638
creating a form 665
modifying a view 636
modifying columns 637
Domino Server 818
Domino server 350, 818, 824
existing Domino mail file 818
following tasks 365
migrated mail files 818
migrated user 818
Domino Web Access 69
DUS 84–85, 705
adding administrator to ACLs of mail files 355
connecting to an Exchange server 343
converting mail 355
mail files 355
migration preparations 341
migration setup 341
passwords 355
starting 341

E

ecKnowledge 597
admnistrators account 607
automatic mapping of fields 621
column mapping 618
Composer 611
connecting to the Exchange server 600
connection between systems 611
creating the connections 612
creating the Domino connection 616
customizing the Domino database 636
data comparison 629

designing the Domino application 601
Domino considerations 600
Domino database, after migration 632
Domino database, before migration 602
Exchange considerations 599
execution control 623
filtering fields 622
getting data from Exchange 599
installing on a Domino server 599
key manager 604
manual mapping of fields 621
migration results using a blank database 634
Oracle 605
post-installation tasks 610
product keys 609
profile 599
profiles 600
running as a service 610
running the coexistence 628
samples 608
SAP 605
scheduling 625
setting up 602
setup type 605
source data in Outlook 601
source Public folder 614
specifying the form and fields 615
SQL 605
starting the Composer 629
system catalog 607
Encrypted documents 59
Exchange
Administration procedures 62
antivirus 59
applications 58
backup software 59
calendaring and scheduling 57
contacts 81
creating a mailbox 697
e-mail 57
instant messaging 59
Personal address books 81
Personal folders 81
Public folders 58, 81
Service Level Agreements 61
User Directory 58
Exchange administrators 49
Exchange client topology 56
Exchange Connector
as a service 221
gathering information about Domino 175
gathering information about Exchange 175
multiple Exchange servers 214
Notes configuration utility 197
operating 222
preparing for the installation 111, 174
starting 220
verifying directory synchronization 223–224
Exchange Connector installation
installing Notes 195
registering a person 178
registering connector with Notes 176
Exchange server
Administrator mail profile 343
Administrator profile 344
mail file 355–356
Migrating users 350
Exchange server topology 55
Exchange services 57

H

Hardware inventory 59
Help Desk 61
How the migration process works 341

I

IBM Tivoli Configuration Manager 91
Installing Exchange as a Foreign Directory Source 350
InstallPump 91
Instantaneous rollout 90
IPM.Post.Account form 615

K

Key Manager for ecKnowledge 604
Key steps involved in the Proof of Concept / Pilot deployment 83

L

Linux 74

M

mail file 355, 818
Mail rules 57
Manual application synchronization 80
Manual directory synchronization 78

MAPI profile 410, 423, 435, 444, 650
Microsoft Domino Connector for Exchange 78
Microsoft Excel 672
Microsoft Exchange Connectivity Controller 221
Microsoft Exchange Connector for Lotus Notes 221
Microsoft Exchange Internet Mail Service 272
Microsoft SMS 91
Migrated Domino mail file
address fields 363
valid Notes Canonical addresses 365
Migrated mail file
address conversion 365
address fields 363
Migrating Exchange users and their data to Domino 342
Migrating users from the Exchange server to Domino 350
Migration 341
abandoning old data 80
calendaring data 81
deciding on data to be migrated 81
messaging data 81
public folders 597, 643
strategy 77
user data 81
Migration process 405
coexistence process 84
existing Domino user 361
overview 83
single step 83
migration process 818–819
Migration project
administration procedures 62
aquiring the necessary information 85
backup and disaster recovery 92
basic requirements for the new system 51
categorizing the requirements 52
client selection 69
closure 92
commitment 47
communication plan 53
creating a schedule 50
current environment 52, 54
dealing with resistance 49
deciding on the coexistence level 78
designing the new environment 65
documenting the business requirements 50
documenting the expectations 54
expectations 89
high-level goals 48
initial kickoff meeting 48
Instantaneous rollout 90
key steps 44
management support 47
managing risk 64
network 60
new environment 52
planning the servers 65
requirements 51
roles 49
schedule 50
scope 50
setting boundaries 50
setting the expectations 54
sponsor 47
Staged rollout 90
support structure 61
team 48
team members 49
training plan
62
vision 48
Migration project overview 43
Migration results
All day event 489
calendar data 486
Calendar View 487
CMT 469, 474–475, 477, 480, 488, 491, 498
Contacts 492
DUS 469, 473, 475, 477, 480, 488, 491, 498
HTML messages 471
mail messages 471
Tasks 497
URLs 484
Migration strategy 77
Migration tools 84
CMT 84–85
DUS 84–85
Mixed Environment 83
Monitoring the Exchange Connector 226
Moving data from public folders 671
Multiple Exchange servers 214

N

Name and Address Book (NAB) 365
Network infrastructure 60
Notes 69

client installation 195
ID files 75
security 75
user information 198
Notes client 350
Notes installation directory 838

O

On 646
Organization and certifier password 831
Outlook client
icon 343
Outlook Contact Information 679

P

PAB 57
Password protecting a PST 687
Prerequisites for performing the migration 342
Preserving Exchange data for use in DAMO or Notes 341
Project manager 49
Project schedule 50
PST 57, 685
Public folders
administering 581
archiving 685
basics 579
CMT 643
coexistence 597
copying content 703
creating 581, 586
creating a PST 685
explained 579
manual migration 670
migrating Public Folder data in a mailbox 671, 696
migration 597, 643
permissions 581–582
PST 685
sending Contacts as vCards 682
structure 580
subfolders 581, 583

Q

Quotas 81

R

Recovery planning 92
Redbooks Web site 844
Contact us xviii
Registering a person 178
Removing Exchange
considerations 716, 718
multi-server site 725
overview 716
planning 717
public folders 719
removing connectors 721
removing the server 720
single server, single site 717
Removing the Microsoft Exchange environment 715
Requirements 51
Risk management 64
Roles 49

S

Schedule 50
Sealing 59
Security 59
Selecting the client 69
Sending Contacts as vCards 682
server name 818
Setting the expectations 54
Setting up ecKnowledge 602
Signing 59
SMTP Coexistence
configuring Domino SMTP 286
configuring outgoing mail from Domino 293
Establishing SMTP message routing 298
Global domain document 287
sending mail via SMTP 301
SMTP coexistence
configuring Exchange Internet Mail Service 272
configuring IMS 272
Domino SMTP 271
Exchange 271
pre-configuration 272
prerequisites 272
scenario 270
Specifying an Exchange Administrator mail profile 343
Sponsor 47
SSL 76

Staged rollout 90
Starting the Exchange Connector 220
Steps to convert addresses to Notes Canonical format 365
string WTD 361–362
Support 60
system expertise 28

T

Tasks 497
Team members 48
Technical workstation 28
TFS Gateway 78
To Do entries 497
Training plan 62
  gathering requirements 62
  planning for delivery 63
Training resources 64
Transactional workstation 28

U

user Id 350
User information window 839
Using a spreadsheet to massage data 672, 713

V

vCard 680
Voting 57

W

Web browser authentication 76
Working with a blank database 632

X

X.509 certificates 76

Z

ZenWorks 91

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