Domino 7 Upgrade Guide

Note: Before using this information and the product it supports, read the information in "Notices" at the end of this document.

First Edition (January, 2006)

This edition applies to IBM® Lotus® Domino® 7 Administrator (product number L-GHUS-5RWNHM), and to all subsequent releases and modifications, until otherwise indicated in new editions.

Contents

Chapter 1. Upgrading to Lotus Notes/Lotus Domino 7

Most organizations do not move to Lotus Notes/Domino 7 all at once; rather, they phase in Lotus Notes/Domino 7. There is a period of time in which the old systems (including earlier releases and other mail/groupware products) coexist with Lotus Notes/Domino 7. Lotus created Lotus Notes/Domino 7 with this coexistence phase in mind -- key system databases, such as the Domino Directory and the Administration Requests database, were designed for backward compatibility. In addition, features such as native Simple Message Transfer Protocol (SMTP) and Multipurpose Internet Mail Extensions (MIME) support in the Domino router do not require infrastructure changes. Existing routing paths and addressing work as they did in Domino R5 and Domino 6.

To help you structure your upgrade process and rollout, see the following information:

- Preparing to upgrade to Lotus Notes/Domino 7
- Planning the upgrade
- The upgrade roadmap
- New Domino server and Domino Administrator client features
- Notes and Domino 7 Interoperability issues

Using this guide

This guide is intended to be read by everyone involved in the upgrade process, and especially by the upgrade team. While end users probably do not need to read the guide, some information in it may be useful to them. Consider creating a short list of useful upgrade information and distributing it to your end users.

This guide contains information on planning your upgrade, the steps necessary for each part of the upgrade, and information about operating in a mixed-release environment.

For information about Lotus Domino Designer 7 and Lotus Notes 7 features, see the topic ″What's New?″ in Lotus Domino Designer 7 Help and Lotus Notes 7 Help. Or, go to http://www.lotus.com/ldd/doc to download or view the Help databases.

For information about Lotus Domino 7 server and Domino Administrator client features, see the topic ″What's New in IBM Lotus Domino 7.0?″ in the Domino Administrator 7 Help. Or, go to http://www.lotus.com/ldd/doc to download or view the Help databases.

Preparing to upgrade to Lotus Notes/Domino 7

Before upgrading to Lotus Notes/Domino 7, be sure to read the *Release Notes*, available as a database (README.NSF) for downloading or viewing at http://www.lotus.com/ldd/doc. The *Release Notes* contain critical technical information, documentation, interoperability issues, and updates that were not available in time to be included in the rest of the documentation.

Operating system changes

Lotus Notes 7 supports the following operating systems:

- Microsoft Windows(R) 2000 Professional, and Windows XP Professional
- Windows XP Tablet PC Edition (Digital Ink Input is not supported in the Notes 7 client.)

Lotus Domino Administrator and Lotus Domino Designer 7 support the following operating systems:

- Microsoft Windows(R) 2000 Professional, and Windows XP Professional

Lotus Domino 7 supports the following operating systems:
- IBM AIX(R) 5.2 and 5.3
- Microsoft Windows 2000 Server; Microsoft Windows 2000 Advanced Server
- Windows 2003 Server Standard Edition; Windows 2003 Server Enterprise Edition
- IBM i5/OSTM V5R3 (Formerly iSeries or OS/400)
- IBM z/OS Version 1, Release 5 and above (Formerly zSeries or OS/390)
- Sun(TM) Solaris(R) 9 and Sun UltraSPARC(R) and newer
- SLES 8 and 9 Linux on x86, and Linux on zSeries (31-bit) and Linux on zSeries (64 bit)
- Red Hat Enterprise Linux 4.0

Note: For the most current information about supported operating systems, see the Release Notes.

Web browsers

The Domino Web Administrator supports the following Web browsers:
- Microsoft Explorer 6.0 on Windows 2000 or Windows XP
- Mozilla Browser 1.7.6 on Microsoft Windows XP Professional, Microsoft Windows 2000, IBM AIX, Solaris, Linux REL 3.0 and Novell Linux Desktop 9
- Mozilla Browser on Windows 2000, or on Linux 7.x

For the most current information about supported browsers, see the Release Notes.

Hardware requirements

Be sure to consult the *Release Notes* for hardware requirements for Lotus Notes/Domino 7. You may need to add capacity to servers or workstations to run Lotus Notes/Domino 7. In addition, features such as transaction logging have additional requirements such as separate drives.

Supported upgrade path

You can upgrade to Notes/Domino 7 directly from Notes/Domino R5 or Notes/Domino 6.

Planning the upgrade

The upgrade of a Domino system needs to be an organized process to minimize work and to avoid disrupting users. Upgrades of single servers (that is, a server that is not part of a cluster), for example, should take place at times when few users are connected -- such as weekends or late at night.

Track your procedures, difficulties, solutions, and questions so that you can refer to this information in later upgrade stages. Use a Notes database or a Domino Web site to provide ″best practices″ for upgrading the rest of your organization.

Upgrade to Lotus Notes/Domino 7 in the following order:
- Domino Administration server and Domino Directory
- Domino Administrator client
- Hub servers
- Mail servers
- Application servers
- Notes clients
- Applications and databases

By upgrading servers before clients, and servers and clients before applications, you minimize disruption to users and to business activities. Users do not see Lotus Notes/Domino 7 features until their clients can utilize them, and they do not take advantage of Lotus Notes/Domino 7 features until their servers can handle them. In addition, this order allows administrators to become accustomed to the new Domino Administrator client before assisting users with upgrading.

Domino Administration server and Domino Directory

Upgrade your first server and the Domino Directory at the same time. If the Domino Directory resides on a designated administration server, upgrade the administration server, then when prompted to upgrade the Domino Directory, do so. Otherwise, for whichever server you choose to upgrade first, make sure to also upgrade the Domino Directory to the Domino 7 design.

The Domino Directory template is backward compatible. After you upgrade to the Domino 7 Domino Directory, you can replicate the directory design to Domino 6 and Domino R5 servers. However, to administer the Domino 7 Domino Directory, upgrade or install the Domino 7 Administrator client.

Domino Administrator client

Install the Lotus Domino 7 server and any Lotus Notes 7 clients -- including the Domino Administrator -- on separate machines. When you install a Domino 7 server, the Setup program does not install the Lotus Notes client or Domino Administrator.

Hub servers

Hub servers handle significant mail and replication traffic and benefit greatly from the improved performance and administration in Lotus Domino 7. When you take a hub server off-line to upgrade it, be aware of the disruption it may cause to your network. Although users may not access a hub server directly, they can be affected when you take a hub server off-line.

At the same time you upgrade the hub servers for your organization, upgrade the administration clients that administer your Domino servers.

Mail servers

After upgrading your hub servers, use the knowledge gained from that process when you upgrade your organization's mail servers. Upgrading mail servers takes longer than upgrading hubs and involves more people, but the experience gained from working with the hubs should streamline this process.

Wait to upgrade users' mail files to the Domino 7 mail template until Notes users move to Lotus Notes 7. For your users who access mail only from POP (Post Office Protocol) or IMAP (Internet Message Access Protocol) clients such as Microsoft Outlook(R), you can upgrade their mail files to the Domino 7 template immediately.

Application servers

Your applications, and the servers they run on, are often the heart of your business, so upgrade them after your team is thoroughly familiar with the procedures, issues, and techniques required for moving to Lotus Notes/Domino 7. Carefully test your applications on Lotus Domino 7 before upgrading your production environment -- while complete backward compatibility is the goal for Lotus Domino 7, issues may arise with applications that use undocumented features or workarounds.

Consider whether to upgrade the format of your applications to Domino 7 -- gaining performance improvements as well as other improvements to Domino 7.

Notes clients

Roll out Lotus Notes 7 to users after upgrading the servers those users access. Lotus Notes 7 upgrades Notes 6 clients automatically. Lotus Notes 6 users will find the Lotus Notes 7 user interface familiar, but with some new features.

Applications and databases

After you upgrade Domino servers and Notes clients, begin upgrading applications and databases. This involves replacing the designs of standard databases (such as mail files, discussion databases, and document libraries) with Notes/Domino 7 templates. Because Notes 6 and earlier clients cannot use Notes/Domino 7 and later features, make sure your users have upgraded before implementing the new templates or features in your databases and applications.

Database format does not replicate; therefore, you can upgrade a replica to the new format on Domino 7 and let it replicate with a Domino 6 or Domino R5 replica on a Domino 6 or Domino R5 server. However, after you upgrade a server or client, new replicas and copies of databases created on that server or client use the Domino 7 format by default. During the time your infrastructure has mixed releases, you may want to keep some databases in Domino 6 or Domino R5 format. After your system has completed its transition to Lotus Notes/Domino 7, upgrade any remaining Domino 6 or Domino R5 databases to gain the performance and reliability enhancements that the new format offers.

Note: Domino 7 and Domino 6 use the same database format, on-disk-structure (ODS) 43. Domino R5 uses ODS 41.

If all servers are upgraded to Domino 7, the Notes clients can access an NSF that is an ODS level not supported by that client. If the database is copied or replicated using a local copy of the Notes client, the database is converted to the format understood by the client. However, some data or feature loss is to be expected. You will encounter problems if the servers are from multiple releases, or if you perform a file system level copy of an NSF that has a higher level ODS to a client that does not support that ODS.

Testing applications before upgrading

Lotus Notes/Domino R5 and Notes/Domino 6 applications should function unchanged under Lotus Notes/Domino 7. However, it is essential that you test important applications in a lab environment before upgrading mission-critical production applications in a production setting. Sophisticated applications require careful testing because potential issues may be subtle or not easily evaluated.

Create a list of the key features and functions in your applications and evaluate their functionality under Lotus Notes/Domino 7. Apply any Notes/Domino 7 templates and the Notes/Domino 7 format to applications. Be careful to document and test the following:

- Custom changes you have made to standard templates. Notes/Domino 7 templates may incorporate the functionality you added, making custom changes unnecessary, or may have changed how the feature you are using works.
- Reuse of template code. If you duplicated standard template code, such as LotusScript(R) or @commands, in your applications, be aware that changes in how this code functions in templates will also be reflected in how your application works.
- Use of undocumented features or settings. You may have used Notes/Domino features, commands, or NOTES.INI parameters that are undocumented and unsupported. While these features, commands or NOTES.INI parameters may have worked in earlier releases, they might not work in Lotus Notes/Domino 7.
- Creative workarounds. You may have implemented coding or design changes to overcome a limitation in earlier releases. These workarounds may no longer be necessary in Lotus Notes/Domino 7, or functionality changes could change how the workarounds operate.

Be certain to test your applications thoroughly under conditions that mirror production use of the applications. This includes third-party software interaction as well as load testing which matches your production environment. You can use the Server.Load load generation tool to create simulated workloads on the Domino server. Server.Load is an installation option included with the Domino Administrator installation options.

For information about Server.Load, see the topic ″Server.Load″ in the Domino Administrator 7.0 documentation.

Document your test procedures and results, and make them available to your upgrade team. If you document best practices as part of your upgrade process, incorporate the test procedures and results into your documentation.

Steps for documenting applications

Documenting applications organizes essential information about the application before you begin testing. If you have not already documented your application, complete these steps.

1. (Optional) Create a database to store testing information. This helps you keep track of progress, especially if you have many applications to test. If other people need to use this database at several sites, create a design template that they can use.
2. Document the type of application and its purpose. For example, determine whether this is a discussion, mail-in, or IBM Lotus Workflow(TM) application. If it is a mail-in application, document the name that the Domino Directory uses. If it is a Lotus Workflow application, document the databases that this application uses.
3. Document any external databases or files that this application uses. For example, determine whether this application accesses data stored in an external database or file using @DbCommand or @DbLookup.
4. Document any Notes databases that this application references. If the application references databases created with system templates -- for example, the Domino Directory -- document whether the formulas in the application reference hidden views. Many system design templates are changed in Lotus Notes/Domino 7; therefore, some views may no longer exist. To prevent problems, do not design applications that rely on hidden views in system design templates.
5. Document any Notes API programs that this application uses or any API programs that modify this application.
6. Document any external OLE applications that this application uses.
7. Document the servers that this application replicates with.
8. Repeat Steps 2 through 7 for every application you need to document.

Use a test environment

A test environment is an ideal place to experiment with new Notes/Domino 7 features and functionality -- it provides real-world conditions without risk to your applications or impact on your business. Before rolling out a new Notes/Domino 7 feature set or code, use it in your test environment to prove its stability and to ensure that it functions as intended. Notes/Domino 7 features are generally not available to earlier clients, so evaluate their usability and impact on earlier releases before rolling them out to your applications and users.

Back up key applications before upgrading them. If there are problems during the upgrade, or if you encounter issues after upgrading, you can replace the application with the backed-up version.

Note: After upgrading the design of an application, you must rebuild the views in that database. You can do this by opening the database in a Notes client and pressing CTRL + SHIFT + F9, or at the Domino server console, type the command:

```
load updall databaseName.nsf -r
```

and press ENTER.

Steps for testing applications

Your testing strategy may vary depending on the number of applications your organization needs to test.

1. If you have not done so already, install Lotus Domino Designer on your workstation.
2. Create documents using each form in the application, including hidden forms. Make sure that you can enter information into each field in the form, that buttons work correctly, and that the text on the form displays correctly.
3. Open in each view the documents you just created. Make sure that they display correctly and that formulas calculate correctly. Make sure hidden views work correctly.
4. Display the documents you just created. Make sure that they display correctly and that formulas calculate correctly.
5. If the application uses external databases or files, modify data in the external database or file and make sure the application updates the formulas correctly.
6. If the application uses formulas that reference hidden views in system databases -- for example, the Domino Directory -- make sure these formulas work correctly.
7. If the application uses external OLE applications, create forms that use the OLE application and launch the objects.
8. Test any agents after recompiling them to make sure they work correctly.
9. Check the security of the database. For example, check the access control list; encryption keys; roles; and the readers and authors access.
10. If the application uses selective replication formulas, test these formulas to make sure they work correctly. For example, check the replica database to make sure the documents you selected replicated properly.
11. Repeat Steps 2 through 11 for every application you need to test.

The upgrade roadmap

The following task list includes typical tasks for upgrading an existing Lotus Notes/Domino system to a new version of Lotus Notes/Domino. Upgrading a mission-critical system requires careful planning. As you perform the tasks, track the problems that arise and their solutions, then compile them into a ″best practices″ database or Web site that you can share with your organization. Note that you may not find all of the following tasks applicable to your organization.

1. Review the Lotus Domino Administrator 7 Help and the *Release Notes* to familiarize yourself with changes and to determine which new features you want to implement.
2. Create a prioritized list of all servers and clients, then create a schedule for upgrading them.

   For more information about planning your upgrade, see the topic ″Planning the upgrade″ earlier in this chapter.
3. Identify servers and clients that need upgraded hardware, operating system software, and network software. Refer to the *Release Notes* for the latest system and platform requirements.
4. Obtain approval for any necessary hardware and software. Before you upgrade the servers or clients, install the new hardware or software. You may want to consider consolidation of servers and functionality.
5. Determine the distribution method for Lotus Domino 7 server and Lotus Notes 7 client software. Remote site coordinators require server software. If users upgrade their own clients, the users require client software.
6. Determine the method for upgrading Notes clients and mail file templates. You have several options for upgrading both the client and mail file template, including Upgrade-by-mail.

   For more information about Upgrade-by-mail and other options, see the chapter ″Upgrading a Notes Client.″
7. Create an upgrade schedule. The schedule includes a list of upgrade tasks, who will complete the tasks, and when the tasks will be completed.

8. Set up a testing environment that includes Domino 7 and Domino R5 or Domino 6 servers and clients. Use the environment to test your custom applications and new features that you want to implement. Separate the test environment for your current Lotus Notes/Domino production environment to avoid potential problems.
9. Create an application testing plan. This plan includes which applications to test and designates testers.

   For more information about testing applications, see the topic ″Testing applications before upgrading″ earlier in this chapter.
10. Test applications in the test environment to ensure that they function properly. Review system templates that you customized to determine whether or not the customizations are necessary in Lotus Notes/Domino 7. Test the Domino Directory for authentication and access to existing applications.
11. Create a list of applications that you want to upgrade. Use the information found during testing to create this list.
12. When you complete your testing, notify your organization's Domino administrators and database managers of your upgrade plans.
13. Upgrade the first Domino server, Domino Directory, and the Domino Administrator client.

    For more information about upgrading Domino servers, see the chapter ″Upgrading Domino Servers.″
14. Replicate the Domino 7 Domino Directory throughout your domain. The Domino 7 directory design is compatible with both Domino R5 and Domino 6 servers.

    For more information about upgrading the Domino Directory, see the chapter ″Upgrading the Domino Directory.″
15. Upgrade the remaining servers in your domain. Use your server upgrade order in your upgrade schedule. At this time, make sure to monitor servers and to troubleshoot any problems that arise.
16. Use desktop policy settings documents and mail policy settings documents to upgrade the mail template configuration, to set up new features in Notes messaging, and to set calendar and scheduling preferences for Notes client users.
17. Notify users of the Notes client upgrade.
18. Upgrade Notes clients. Use the order you specified in the upgrade schedule. Make sure to monitor clients and to troubleshoot any problems that arise.

    For more information about upgrading Notes clients, see the chapter ″Upgrading Notes Clients.″
19. Notify users of the mail file template upgrade.
20. Upgrade mail file templates. Make sure to monitor the mail databases and to troubleshoot any problems that arise.

    For more information about upgrading mail file templates, see the chapter ″Upgrading Notes Mail Files.″
21. Upgrade the applications identified in your testing. This includes upgrading the database format to the Domino 7 format (ODS 43) and rebuilding views.

    For more information about upgrading applications, see the chapter ″Upgrading Databases and Applications.″
22. Implement new features.

New Domino server and client features

For information about Lotus Domino Designer 7 and Lotus Notes 7 features, see the topic ″What's New?″ in Lotus Domino Designer 7 Help and Lotus Notes 7 Help. Or, go to http://www.lotus.com/ldd/doc to download or view the Help databases.

For information about Lotus Domino 7 server and Domino Administrator client features, see the topic "What's New in IBM Lotus Domino 7.0?" in the Domino Administrator 7 Help. Or, go to http://www.lotus.com/ldd/doc to download or view the Help databases.

Notes and Domino 7 Interoperability issues

The following are known interoperability issues and general guidelines to help you manage a mixed-release environment.

Note: To view a list of server and template dependencies for Notes 7.0 client features, see the topic Notes Client features and their Domino server and template dependencies.

Clients

- Upgrade Lotus Notes clients to Notes 7 before upgrading mail file databases to the Notes 7 mail file template.

  For more information about the Notes client and mail template interoperability, see the chapter "Upgrading Notes Mail Files."

Resource Reservations Database

- The Domino 7 Resource Reservations database requires that you upgrade the Resource Reservations database design to Domino 7, and then enable the Rooms and Resources Manager (RnRMgr) task. The Notes Domino R5 and Notes Domino Resource Reservation databases do not work on Domino 7 servers.

Calendaring and Scheduling

- In Domino 7 there is a new feature that allows you to specify what action should be performed on a user's meeting invitations. If a user is on a pre-Domino 7 server but has upgraded their Notes client and template to Domino 7, the "Automatically Accept even if time is not available" option in Calendaring and Scheduling does not work. The meeting invitation is either not processed or it is declined. The "Automatically Accept even if time is not available" option can be set from the Notes client, using Tools -- Preferences -- Calendar & To Do -- Autoprocess. In a mixed release clustered environment, if a user is on a Domino 7 server and Notes client, but fails over to a Domino 6 server in the cluster, the user will encounter this issue.
- In Domino 7, there is a new feature that allows Message Marking when you are the recipient of a message. Recipient message marking identifies messages that are important to you based on the recipients in the To and cc fields. If an email recipient is on a pre-Domino 7 server but has upgraded their Notes client and template to Domino 7, Message Marking does not work. The message recipient is on a pre-Domino 7 server; therefore, message marking is not set in the recipient's preferences. This typically occurs in a mixed release environment with a Domino 6 server in a cluster and where the recipient has failed over to that server. The Message Marking option is set using -- Tools -- Preferences -- Mail -- Message Marking -- Recipients.

Archiving

- In Domino 7, when users create archive criteria, they can choose to select documents "older than" (that is, by create date) some number of days/months/years. The database from which the documents are to be archived must reside on a Domino 7 client or server. If the database does not reside on a Notes Domino 7 client or server, the "older than" archive criteria is not applied, but all other archiving criteria does apply. No error message is generated if the "older than" criteria fails.
- Domino 7 supports a new IP standard, IPv6. To connect Domino R5 or Domino 6 servers to an IPv6-enabled Domino server, create an old A-type record in the Lotus Domino 7 server's DNS.

  For information about IPv6, see the topic "IPv6 and Lotus Domino" in the Domino Administrator 7.0 documentation.

Notes/Domino 7 does not support flat names and flat IDs

- Domino 7 does not support flat name and flat ID usage, renewal, or registration. As you upgrade to Domino 7.0, convert all flat names to hierarchical names. IBM Lotus will continue to support flat names in Release 6 at the level at which they have been supported. There are no plans to extend existing functionality that requires hierarchical names to flat names, and new features continue to be added that depend solely on hierarchical naming. Future functional releases of Notes and Domino will have limited interoperability with users and servers with flat names and ID files.

  Continuing to use flat names prevents you from using many of the new features in Lotus Notes and Lotus Domino 6 and 7, including the Domino Administration Process, which simplifies many administrative tasks. Using flat names makes it difficult to exchange information securely with users and servers in a different organization. With flat names, each user or server in one organization must be individually certified by the certifier ID in the other organization. Organizations that use flat names often use several certifier IDs and each user ID and server ID can include a separate certificate generated by each flat certifier ID.

For more information on converting flat names, see the topic ″Converting flat names to hierarchical names″ in the Domino Administrator 7 Help.

Chapter 2. Upgrading a Domino server to Domino 7

You do not need to uninstall Lotus Domino R5 or Domino 6 before upgrading to Domino 7. Review this information before upgrading:

- Before you upgrade a Domino server
- Preparing to upgrade a clustered Domino server
- Backing up files on a Domino server
- Preparing to upgrade a Domino Administration server
- Shutting down the Domino server

Follow these steps for upgrading servers:

- Upgrading a non-English version of Notes Domino
- Upgrading a Domino server to Domino 7 on Microsoft Windows
- Upgrading a Domino server to Domino 7 on UNIX

Preparing to upgrade a clustered Domino server

To prepare your clustered Domino R5 or Domino 6 servers for the upgrade to Domino 7, restrict the server that you are upgrading to prevent new users from accessing the server. Restricting a server only prevents new attempts to connect to the server, but it does not restrict existing connections until the connection ″times-out″ or the connection is closed due to lack of usage. The reason that only ″new users″ cannot access the server is because restricting a server will only prevent any new attempt to connect to the server. Any existing connection will remain. Therefore, be aware that current connections will still exist until they either time-out due to non-usage or the connection is closed due to lack of usage.

Note: When you upgrade a server that is in a cluster, the Cluster Database Directory is upgraded automatically. However, the title of this database is not changed from the existing title. The documentation refers to this title as ″Cluster Directory (7),″ but the title on your server might be ″Cluster Directory (6)″ or whatever title you are using. You can change the title to match the documentation or leave it as it is.

CAUTION:

After upgrading a cluster server on which you are using Domino workload balancing, you might have to adjust the relationship between the expansion factor and the availability index so that the cluster server fails over when it reaches the workload at which you want it to fail over. For information, see the topic ″Limiting the workload of a server″ in the book Administering Domino Clusters.

After you have completed these tasks, you can begin backing up your files.

Backing up files on a Domino server

Back up important Domino server files in case you encounter errors during upgrading. If necessary, you can use the backed-up copies to restore your files. Back up files on all servers before you upgrade.

1. Back up the contents of any directories or databases pointed to by links (DIR files) from your data directory.
2. Back up the NOTES.INI file for the server. On a Domino R5 or Domino 6 server, the default location for this file is the data directory.
3. Back up any other Notes databases (NSF files) or Notes templates (NTF files).
4. (Optional) When you upgrade a Domino server running the LDAP service, the Lotus Domino 7 installation program deletes the Domino 5 or Domino 6 SCHEMA50.NTF template and schema database, SCHEMA50.NSF. Lotus Domino 7 replaces the database with a new one created with a new

template, SCHEMA.NTF. If you want to keep the Domino 5 or Domino 6 schema database, rename it before you upgrade, then move the file to a directory outside of the Notes data directory path.

5. Continue to one of the following tasks:

   If you are upgrading an administration server, see the topic ″Preparing to upgrade a Domino Administration server″ later in this chapter.

   For all other servers, see the topic ″Shutting down the Domino server″ later in this chapter.

Preparing to upgrade a Domino Administration server

Upgrade your administration server and Domino Directory before upgrading other servers in your domain. To upgrade a Domino Administration server, purge the Administration Requests database of all pending requests, then shut down the Domino Administration Process.

Note: You do not need to process all the requests in the Administration Requests database to upgrade the database, but process as many as possible for a faster upgrade.

To clear the Administration Requests database

1. Open the Domino server console.
2. Enter:

   ```
   tell adminp process all
   ```

   and press ENTER.

   Note: You might need to issue this command more than once, as some Administration Requests create others.
3. After the Administration Process finishes processing requests, replicate the Administration Requests database to at least one other server in your domain.
4. After replicating the database, repeat Step 2 to completely purge the database of pending requests received from other servers.
5. After you purge the Administration Requests database, you can shut down the Domino Administration Process.

To shut down the Domino Administration Process

Shut down the Administration Process to prevent requests from being processed by the server.

1. At the Domino server console, enter:

   ```
   tell adminp quit
   ```

   and press ENTER.
2. After you shut down the Domino Administration Process, you can shut down the Domino server.

   For more information, see the topic ″Shutting down the Domino server″ later in this chapter.

Enabling automatic server setup for UNIX

Automatic server setup is a UNIX-only feature for single local Domino servers. When automatic server setup is used for server upgrades, the server is restarted automatically after the upgrade installation is complete.

Automatic server setup does not apply to partitioned servers or to remote servers.

By default, automatic server setup is set to manual so that the server restart does not automatically run for server upgrades. You have to enable the feature.

You can enable this feature both through the user interface and the script file containing all of the user configuration parameters for UNIX script installation. In the UNIX kit directory, the sample script file is SCRIPT.DAT.

Enabling automatic server setup from the script file

To enable the automatic server setup feature from the script file, complete the following steps:

1. Open your script file.
2. Locate the variable,

   ```
   start_server_setup =
   ```

   Note: The default is start_server_setup = 0, which is the manual setting. When the manual setting (0) is active, you must manually initiate the server restart.
3. Enter one of these values according to when you want automatic setup to run:
   - start_server_setup = 0 -- Manual Server Setup - Does not launch server setup or restart the server after installation. The installation will complete and you will then have to launch server setup or restart the server manually.
   - start_server_setup = 1 -- Local Server Setup - To launch server setup after a new server installation or to restart the server after a server upgrade.
   - start_server_setup = 2 -- Remote Server Setup - To launch server setup in listen mode for new server installations. You will then be able to connect to the server with the Remote Server Setup tool.

Enabling automatic server setup from the user interface

To enable the automatic server setup feature from the UNIX user interface, complete the following steps.

1. Navigate to the option ″Select server setup method.″

   Note: The default is Manual Server Setup. When the manual setting is active, you must manually initiate the server restart.
2. Press the Spacebar until you see the setting you want to use. You can use one of the following settings:
   - Manual Server Setup - Does not launch server setup or restart the server after installation. The installation will complete and you will then have to launch server setup or restart the server manually.
   - Local Server Setup - To launch server setup after a new server installation or to restart the server after a server upgrade.
   - Remote Server Setup - To launch server setup in listen mode for new server installations. You will then be able to connect to the server with the Remote Server Setup tool.
3. Press Tab to accept the setting.

Shutting down the Domino server

Before you upgrade to Lotus Domino 7, shut down the server.

1. At the Domino server console, enter the following command:

   ```
   quit
   ```

   then press ENTER.
2. After you shut down the server, begin the upgrade process to Domino 7.

Note: If you are upgrading a server that has language packs installed on it, see the topic Upgrading a non-English version of Notes Domino.

Upgrading a non-English version of Notes Domino

If you have language packs installed on the Domino server, review the information in this topic before beginning any Domino server or Language Pack Installer upgrade procedure.

You can upgrade to the Domino 7 Language Pack on a Domino server without uninstalling the older Domino Language Pack software if you have the Domino 7 English install files available to be read during the install. Those files must be available in a location that you can browse to. While the Language Pack install is running, the installer prompts you to specify the location of the Domino 7 English install files. After you specify the path for those files, the installer begins installing both the Domino server files and the Language Pack files.

To become familiar with language pack installation process before you actually upgrade, see the topic "Using Language Pack Installer with Domino" in the Domino Administrator documentation. If you want to become familiar with the Domino server upgrade process before upgrading the Domino server and the Language Pack Installer, see the topic Upgrading a Domino server to Domino 7 on Microsoft Windows or Upgrading a Domino server to Domino 7 on UNIX.

Perform the installation steps in this sequence:

1. Begin the Language Pack 7 upgrade process. For instructions, see the Language Pack Installer documentation and Readme file that shipped with the Language Pack software. Choose to upgrade both the Domino server and the Language Pack files.
2. Enter information when prompted to do so during the install. Be sure to specify the location of the Domino 7 English install files when prompted.

Upgrading a Domino server to Domino 7 on Microsoft Windows

You do not need to uninstall Lotus Domino 5 or Domino 6 before installing Domino 7.

If you are upgrading a non-English version of Domino, see the topic Upgrading a non-English version of Notes Domino prior to beginning the upgrade.

Domino automatically upgrades MAIL.BOX to the Domino 7 database format and design. Any messages in MAIL.BOX are preserved.

Follow these steps for upgrading servers:

1. Back up important Domino files.
2. For all Domino Administration servers, prepare the server for upgrading.

   For more information, see the topic "Preparing to upgrade a Domino Administration server" earlier in this chapter.
3. Shut down the Domino server as well as all applications running on that server.
4. Install the Lotus Domino 7 software.
5. During installation, select the server type.
6. After you install Lotus Domino 7, do one of the following:
   - If you backed up your NOTES.INI file, replace the NOTES.INI file created during installation with the backup copy before you start the server. Then, start the server. The server will be set up automatically.
   - If you did not back up the NOTES.INI file, start the Domino server to begin setup.

   For more details, see the book *Installing Domino Server*s.

   Note: The Domino server installation does not include the Domino 7 Administrator client. You must perform a second installation using the client setup program to install the Domino Administrator. Install the Domino Administrator on a separate computer.

7. After you start the server, if prompted to upgrade the Domino 5 or Domino 6 Domino Directory to the Domino 7 Domino Directory template, do so. If you are prompted at the Domino server console, type Y at the command prompt to upgrade the directory.

   After you upgrade to the Domino 7 Domino Directory template, shut down the server to compact the database and rebuild the views.

   For more information about compacting and rebuilding views in the Domino Directory, see the chapter ″Upgrading the Domino Directory.″
8. Complete these post-upgrade tasks:

   If you upgraded a Domino Administration server, see the topic ″Post-upgrade tasks for Domino Administration servers″ later in this chapter.

   If you upgraded a Domino mail server, see the topic ″Post-upgrade tasks for Domino mail servers″ later in this chapter.

Consider conducting a pilot project to test your plans for upgrading your servers before you begin moving your organization to Lotus Notes/Domino 7. A pilot project lets you refine your plans and deal with any issues that arise on a smaller scale.

For more information, see the chapter ″Planning the Move to Lotus Notes/Domino 7.″

Upgrading a Domino server to Domino 7 on UNIX

Before you upgrade to Lotus Domino 7, back up all important files and store the files in a directory outside of the Lotus Domino directory.

If you are upgrading a non-English version of Domino, see the topic Upgrading a non-English version of Notes Domino prior to beginning the upgrade.

Upgrading a UNIX system

When you upgrade a UNIX system, you have several installation options available to that platform only:

- Domino supports multiple Domino installations on a single UNIX machine. You can run one earlier version of the Domino server on a computer with multiple Domino 7 servers as long as each Domino server has a unique location.

  In earlier releases, Domino was installed in the opt/lotus location. You can specify any location for Domino 7 installation. If you choose another location and set the environment variable NUI_YESOPTLOTUS=1 before you install Lotus Domino 7, the variable creates a soft link to the location opt/lotus and backs up the previous Domino installation. Note that if you have an earlier version of Domino on the machine, the soft link to opt/lotus replaces the soft link of any earlier release.
- When upgrading a UNIX system to Lotus Domino 7, you can choose to install to the data directories only. This option upgrades existing server partitions on a UNIX system.
- With a UNIX system, you can use a script file to install Lotus Domino 7 on more than one server in the domain.
- When upgrading a UNIX system, you can use the automatic server setup option to automatically restart your UNIX server after performing the upgrade installation.

  For more information about enabling the automatic server startup (and restart) feature, see the topic ″Enabling automatic server setup for UNIX″ in this chapter.

  For more information about installing Lotus Domino 7 on UNIX systems, see the book *Installing Domino Server*s.

Upgrading a Lotus Domino server

Domino automatically upgrades MAIL.BOX to the Domino 7 database format and design. Any messages in MAIL.BOX are preserved.

Follow these steps to install the Lotus Domino 7 software on your servers.

1. Back up important Domino files.

   For more information, see the topic ″Backing up files on a Domino server″ earlier in this chapter.
2. For all Domino Administration servers, prepare the server for upgrading.

   For more information, see the topic ″Preparing to upgrade a Domino Administration server″ earlier in this chapter.
3. Shut down the Domino server you are upgrading as well as all applications running on that server.
4. Install the Lotus Domino 7 software. By default, Domino is installed in the directory /opt/ibm/lotus. If you install Lotus Domino in the same directory as the previous version, you do not need to make any changes to the server configuration. If you install Lotus Domino in a new directory, the program prompts you to configure the server.
5. During installation, select the server type.
6. After you install Lotus Domino 7, do one of the following:
   - If you backed up your NOTES.INI file, replace the NOTES.INI file created during installation with the backup copy before you start the server. Then, start the server. The server will be set up automatically.
   - If you did not back up the NOTES.INI file, start the Domino server to begin setup.

   For more details, see the book *Installing Domino Server*s.

   Note: The Domino server installation does not include the Domino 7 Administrator client. You must perform a second installation using the client setup program to install the Domino Administrator. Install the Domino Administrator on a separate computer.
7. After you start the server, if prompted to upgrade the Domino 5 or Domino 6 Domino Directory to the Domino 7 Domino Directory template, do so. If you are prompted at the Domino server console, type Y at the command prompt to upgrade the directory.

   After you upgrade to the Domino 7 Domino Directory template, shut down the server to compact the database and rebuild the views.

   For more information about compacting and rebuilding views in the Domino Directory, see the chapter ″Upgrading the Domino Directory.″
8. Complete the post-upgrade tasks:

   If you upgraded a Domino Administration server, see the topic ″Post-upgrade tasks for Domino Administration servers″ later in this chapter.

   If you upgraded a Domino mail server, see the topic ″Post-upgrade tasks for Domino mail servers″ later in this chapter.

   For all other servers, see the topic ″Post-upgrade tasks for Domino servers″ later in this chapter.

Post-upgrade tasks for Domino Administration servers

After you upgrade a Domino Administration server, you do the following:

1. Upgrade the Domino Administrator client to administer your Domino 7 servers and Domino 7 Domino Directory.

   For more information, see the topic ″Upgrading the Domino Administrator client″ later in this chapter.
2. If you have not done so already, shut down the server, then do the following:
   - If you are upgrading from Domino 5 to Domino 7, compact the directory to the Domino 7 database format because of the change to the ODS. If you are upgrading from Domino 6 to Domino 7, compacting the Domino Directory is not required.
   - Rebuild the views in the Domino Directory.
   - Replicate the new directory to other servers in the domain.

     Note: Replication does not replicate the new database format, only the new design elements.

For more information about compacting the directory, rebuilding views, and upgrading directory services, see the chapter "Upgrading the Domino Directory."

3. Upgrade the Administration Request database to the Domino 7 template.

   For more information, see the topic "Upgrading the Administration Requests template" later in this chapter.
4. If you restricted the Administration server from a cluster, remove the server_restricted setting from the NOTES.INI file.
5. Upgrade the remaining Domino servers in your domain.
6. Disable the DOMWS task if you do not use it.

Upgrading the Administration Requests template

After upgrading the administration server and Domino Directory, upgrade the design of the Administration Requests database on that server to the Domino 7 template. The Domino 7 Administration Requests template is designed for backward compatibility with the Domino R5 and Domino 6 Administration Processes and for use in mixed-release environments. You should replicate the new design to the Administration Requests databases on your organization's other servers.

If you do not upgrade the design of the Administration Requests database, new Domino 7 administration requests may not be recognized when the Administration Process runs those requests. If you see "Unrecognized Request" in the Administration Requests database instead of the name of an administration request, you are using an older Administration Request template and you need to upgrade the design of the Administration Requests database.

To upgrade the design of the Administration Requests database

1. From the Domino Administrator, choose File - Database - Open.
2. In the Server field, type the name of the upgraded administration server.
3. Select the Administration Requests database (ADMIN4.NSF) and click Open.
4. If this is the first time you have opened the Administration Requests database, you see the "About This Database" document. Press ESC to close the document.
5. Choose File - Database - Replace Design.
6. Click Template Server.
7. In the Server field, enter the name of a Domino 7 server and click OK.
8. Select the Administration Requests (Release 6) template (ADMIN4.NTF) and click Replace.
9. When the Domino Administrator displays a warning about replacing the design, click Yes.
10. Close the Administration Requests database.
11. Replicate the new design to the other servers in your organization.

Upgrading the Domino Administrator client

After you upgrade the Domino Directory to the Domino 7 Domino Directory template, upgrade to the Domino 7 Administrator client to administer the Domino 7 directory.

In Lotus Notes/Domino 7, you install the Domino Administrator separately from the server. Features and enhancements added in Lotus Notes/Domino 6 make running a Domino Administrator client and Domino server on the same computer unnecessary. However, Lotus continues to support installing the Domino Administrator on the same computer as a Domino server if you follow these guidelines:

- Install the Domino Administrator client and Domino server in separate program directories and specify separate data directories for the client and server.
- Use a separate user ID file for the Domino Administrator client for added security. You cannot use the server ID file to access both the client and the server.

- Access the server databases using only the server console. Do not access those databases locally using the client.

  Note: If you access local databases that run transaction logging locally with the Domino Administrator client, you disrupt the transaction logging process. If that process is disrupted, the next time you restart the server, restart recovery is impossible for those databases. You must reset transaction logging for those databases. Any backups taken using transaction logging are invalid.

Before you install the Domino Administrator client and Domino server on the same computer, be aware of the following performance and security issues:

- The Domino Administrator uses resource-intensive processes to monitor and to administer servers. Installing the Domino Administrator on the same computer as a server uses server resources and reduces server performance.
- Installing the client and server on the same computer stores the user and certifier ID files on one computer. If you do not have copies of these ID files stored elsewhere and the computer fails, then you cannot access either ID file. If you install the client and server on separate computers, copy the files locally to the client computer.

Upgrading the Web Administrator client

When you upgrade a Domino server to Lotus Domino 7, the upgrade program deletes your Domino 6 Web Administration database (WEBADMIN.NSF) and creates a new Web Administrator database based on the Domino 7 template (WEBADMIN.NTF).

Post-upgrade tasks for Activity Trends after upgrading from Domino R5

When you upgrade the Domino Administrator R5 to Domino 7, Activity Trends does not appear in the Server - Performance panel. Use this procedure to ensure that Activity Trends is installed correctly.

1. Upgrade the Domino Administrator R5 client to Domino Administrator 7.0.
2. Open the Domino Administrator 7 client. After logging in, an error message displays the text "Error in EVENTS4.NSF Monitoring Configuration is missing Activity Trends Statistics. Activity Trends features will be disabled." Exit the message box.
3. Click Server - Performance. The left panel contains only the Statistics Chart section. The Activity Trends section is missing.
4. Wait 20 minutes while the background Events task updates EVENTS4.NSF.
5. Close the Domino Administrator client.
6. Launch the Domino Administrator 7 client again.
7. Click Server - Performance. Verify that the left panel now contains the Statistics Charts and Activity Trends sections.

Note: If you did not wait the full 20 minutes (Step 4) and then quit the Domino Administrator, you may need to reset a NOTES.INI variable. Add this NOTES.INI setting to the NOTES.INI file, EventSetup=0, and then repeat Step 2 through Step 7.

Disabling the DOMWS task on Domino servers

In Domino 7.0, the DOMWS Convert AddIn task loads by default.

If the HTTP task is enabled, the DOMWS Convert AddIn task is also started automatically. When the task loads, the following messages display on the server console:

```
DOMWS Convert AddIn Initializing
DOMWS Convert AddIn Initialization Complete
```

This task is necessary only if you are using the Common PIM portlets that are part of WebSphere Portal 5.1X. To disable this task, set the NOTES.INI variable, HTTPNoDomWSAppSpace=1, in the NOTES.INI file, and then disable XML Services using the steps below:

1. From the Domino Administrator client, open the Server document for the Domino application server.
2. Click Edit Document.
3. Click Internet Protocols - Domino Web Engine.
4. Uncheck the XML Services box.
5. Save the changes and close the Server document.

Internet mail addresses in Lotus Domino 7

When looking up an address for Internet mail in the Domino Directory in Lotus Domino 7, Lotus Domino checks the $Users view for an exclusive match of the address. If it finds the complete Internet address of the recipient (for example, jdoe@acme.com) in either the Short name or Internet Address field, Lotus Domino delivers the message to the mail file of that person. Lotus Domino also delivers messages based on a match of the local part of the address (for example, jane_doe) with any of the fields in the Person document. For example, if the message is addressed to jane_doe@acme.com, and Lotus Domino finds a Person document with the entry ″Jane Doe″ in the User Name field, Lotus Domino delivers the message to Jane Doe's mail file.

Note: Lotus Domino converts double underscores (__) into underscores, underscores into spaces, and periods into spaces. In this example, jane_doe would become jane doe. The lookup is not case-sensitive -- jane doe matches the entry Jane Doe in a Person document.

You can use the Internet Address field in the Domino 7 Person document and the tool that populates this field to standardize Internet addresses in your organization to provide a single place for locating and changing Internet addresses.

For more information about the tool that populates the Internet Address field in Person documents, see the topic ″Populating the Internet Address field in Person documents″ in the Domino Administrator documentation.

Setting message format preference for users

In the Domino Directory Person document, you can set a user's message preference in the field ″Format preference for incoming mail″ on the Mail tab. There are three choices:

- Prefers MIME. Messages in Notes rich text format are converted to MIME when delivered to the user's mail file. This is the preferred setting for users who access mail using POP3 or IMAP.

  Note: Lotus Domino 7 stores all inbound Internet mail in MIME format.
- Prefers Notes rich text. Messages in MIME format are converted to Notes rich text when delivered to the user's mail file.
- Keep in Sender's format. Mail is delivered to the user's mail file in the format specified by the sender. Lotus Domino does not convert the format. This is the preferred setting for users who access mail using a Notes 5 or 6 client.

For more information about these settings see the topics ″Setting up the Person document for an IMAP user″ and ″Setting up the Person document for a POP3 user″ in the Domino Administrator 7.0 online documentation.

Post-upgrade tasks for Domino mail servers

After you upgrade a Domino mail server, do the following:

1. If you have not done so already, upgrade to the Domino 7 Administrator.

   For more information, see the topic "Upgrading the Domino Administrator client" earlier in this chapter.
2. If you have not done so already, shut down the server, then do the following:
   - If you are upgrading from Domino 5 to Domino 7, compact the directory to the Domino 7 database format because of the change to the ODS. If you are upgrading from Domino 6 to Domino 7, compacting the Domino Directory is not required.
   - Rebuild the views in the Domino Directory.
   - Replicate the new Domino Directory to other servers in the domain.

     Note: Replication does not replicate the new database format, only the template.

   For more information about compacting the directory, rebuilding views, and upgrading directory services, see the chapter "Upgrading the Domino Directory."
3. Update the NOTES.INI file. Remove or comment out any obsolete NOTES.INI settings and variables from the file.
4. If you have a shared mail database, verify that the database was upgraded properly. When you upgrade a Domino mail server, the upgrade process automatically upgrades the shared mail database. However, if the database was not upgraded properly, you must manually upgrade the database.
5. (Optional) The Lotus Domino 6 and Domino 7 SMTP Inbound relay controls resolve conflicts differently than the Lotus Domino 5 inbound relay controls. If you do not want to use the Domino 6 or Domino 7 inbound relay controls, you can set the SMTPRelayAllowHostsandDomains NOTES.INI setting to preserve the Domino 5 inbound relay controls on your upgraded SMTP servers.

   For more information about this change and how to preserve the Domino 5 inbound relay controls, see the topic "Configuring Domino 5 SMTP inbound relay controls" later in this chapter.
6. If the server you upgraded was NNTP-enabled, remove the NNTP documents from the Domino Directory.

   For more information, see the topic "Removing NNTP documents from the Domino Directory" later in this chapter.
7. If you removed the server from a cluster, add the server back to the cluster.
8. Upgrade your remaining Domino servers.

Upgrading shared mail databases

This topic applies to upgrades from Domino R5 to Domino 7. You do not need to complete this procedure if you are upgrading from Domino 6 to Domino 7.

When you upgrade Domino mail servers hosting shared mail databases, Lotus Domino 7 maintains existing shared mail databases, but does not use them for new mail. You must configure shared mail to receive mail.

Note: The existing shared mail databases remain on the server, but are inactive and no longer receive mail. You can continue to read mail from these shared mail databases.

To configure the new shared mail databases to receive mail, edit the Shared Mail tab of the Server document, then restart the server to apply the changes.

To configure and close existing shared mail databases

Existing shared mail databases are not automatically listed in the shared mail configuration. You can configure these databases as closed. Configuring and closing the databases is optional. If you do not close the databases, they will be listed as not configured when you enter the command "show SCOS" at the Domino server console.

To configure and close an existing shared mail database, follow these steps.

1. Open the Shared Mail tab of the Server document.
2. Enter the directory path of the shared mail database that you want to close in an empty directory row.
3. Enter 1 in the Number of Files column.
4. Enter 0 in the Maximum Directory Size column.
5. Select Closed in the Delivery Status column.
6. Select Online in the Availability column.
7. Click Save and Close.

Configuring Domino 5 SMTP inbound relay controls

If a Domino SMTP server is accessible from the Internet, people outside your organization can relay mail through it to destinations in external Internet domains. This may result not only in one of your servers burdened with extra traffic, but also mail appearing to originate in your domain, possibly even spam. To prevent the Domino server from providing an open relay, Lotus Domino 5 introduced relay controls. Using Allow and Deny destination lists, these controls determine the relay destinations to which a server can or cannot send mail and the sources from which the server can and cannot accept relays.

Because you configure the valid relay destinations separately from the valid relay sources, conflicts between the two sets of restrictions can occur. When such conflicts occur, Lotus Domino requires instructions for resolving the conflict. In Lotus Domino 5, Deny entries took precedence over Allow entries; in Lotus Domino 6 and Domino 7, Allow entries take precedence over Deny entries.

For example, you allow relays from the following host and deny them to the following domain:

Allow from hosts: 9.95.91.51

Deny to domains: yahoo.com

On a Domino 5 server, because the Deny entry takes precedence, the named host, 9.95.91.51, cannot relay to denied destinations. In the example, the Domino 5 server cannot relay to any address in the yahoo.com domain.

On a Domino 7 server, in the event of a conflict between entries, Allow entries take precedence. By giving a specific host "Allow" access, you allow that host to relay to any destination. In the example, the host 9.95.91.51 can relay to the yahoo.com domain even though the domain is explicitly denied as a relay destination.

Similarly, the following configuration denies relays from a specified host and allows them to a specified domain:

Deny from hosts: myhost.iris.com

Allow to domains: hotmail.com

On a Domino 5 server, the Deny entry takes precedence, so that the named host, myhost.iris.com, is not a valid relay source. The named host cannot relay to any domain, even to allowed domains.

On a Domino 6 or Domino 7 server, the Allow entry takes precedence. In the preceding example, myhost.iris.com is NOT allowed to relay to any domain EXCEPT to the explicitly allowed domain hotmail.com.

The differences between how Domino 5 and Domino 6 or Domino 7 resolve conflicts apply to conflicts occurring between entries in the source and destination lists only. The rules for resolving conflicts between the list of allowed and denied sources or the allowed and denied destinations are the same for both Lotus Domino 5 and Lotus Domino 6 or 7: Deny entries take precedence. If you have the following configuration:

Deny to domains: yahoo.com

Allow to domains: hotmail.com, eurosport.com, yahoo.com, netscape.com

the server rejects relays to addresses in the yahoo.com domain.

To preserve the Domino 5 behavior for resolving conflicts in the relay controls

When you upgrade the Domino 5 SMTP mail server, you have the option to not accept this change if you do not want to reconfigure your upgraded mail servers. Lotus Domino 7 provides the NOTES.INI setting SMTPRelayAllowHostsandDomains to allow the server to follow the Domino 5 behavior. Set this setting to 1 to allow the Deny entries to take precedence. The default value for this setting is 0.

Post-upgrade tasks for Domino servers

There are no additional post-upgrade tasks when using mail journaling, but you do need to be aware that the mail journaling database inherits its forms from the mail template. When the design task runs according to the schedule set in the NOTES.INI file, the design of the mail journaling database MAILJRN.NSF is updated using the mail template. If you do not have the design task set to run via the NOTES.INI file, you would need to update the design manually.

After you upgrade a Domino server, do the following:

1. If you have not done so already, upgrade to the Domino 7 Administrator.

   For more information, see the topic "Upgrading the Domino Administrator client" earlier in this chapter.
2. If you have not done so already, shut down the server, then do the following:
   - If you are upgrading from Domino 5 to Domino 7, compact the directory to the Domino 7 database format because of the change to the ODS. If you are upgrading from Domino 6 to Domino 7, compacting the Domino Directory is not required.
   - Rebuild the views in the Domino Directory.
   - Replicate the new Domino Directory to other servers in the domain.

     Note: Replication does not replicate the new database format, only the template.

   For more information about compacting the directory, rebuilding views, and upgrading directory services, see the chapter "Upgrading the Domino Directory."
3. Update the NOTES.INI file. Remove or comment out any obsolete NOTES.INI settings or variables.
4. If the server you upgraded was NNTP-enabled, remove the NNTP documents from the Domino Directory.

   For more information, see the topic "Removing NNTP documents from the Domino Directory" later in this chapter.
5. If you upgrade a Domino 5 registration server that did not have a Certification Log, create a log.

   For more information about creating the Certification Log, see the topic "Domino 5 registration servers and the Certification Log" later in this chapter.
6. If you ran the Domino SNMP agent in a previous release of Lotus Domino, upgrade the agent.

For more information about upgrading the Domino SNMP Agent, see the topic ″Upgrading the Domino SNMP Agent″ later in this chapter.

7. If you removed the server from a cluster, add the server back to the cluster.
8. Upgrade your remaining Domino servers.

Removing NNTP documents from the Domino Directory

Lotus Domino 6 and Domino 7 servers do not support Network News Transfer Protocol (NNTP); however, the Lotus Notes 6 client continues to support NNTP. When you upgrade a Domino NNTP-enabled server, the upgrade process removes the NNTP executables, the NNTP value from the Server Tasks setting of the NOTES.INI file, and the News tabs from the Server document. However, the upgrade process does not remove the NNTP documents from the Domino Directory. You can delete any NNTP Connection documents, including connection documents that accept newsfeeds, that push out newsfeeds, and that create a dial-up or LAN connection for NNTP purposes.

Note: If you maintain a mixed-release environment with servers that are NNTP-enabled, do not delete any newsgroup databases because those databases are required to read newsletters.

Domino 5 registration servers and the Certification Log

The Certification Log records registration and user name information for a domain. In Domino 5, the Certification Log was optional. In Domino 7, the log is required. If you upgrade a Domino 5 registration server without a Certification Log, then you need to create a log manually. If you upgrade a Domino 5 server with a Certification Log, Domino 7 upgrades the log automatically.

After you create the log, replicate it to other registration servers in your domain and to every server with a Domino Directory that is used for user management.

To create a Certification Log

1. From the Domino Administrator, choose File - Database - New.
2. In the Server field, select the name of the server on which to create the log.
3. Enter Certification Log as the database title.
4. Enter CERTLOG.NSF as the database file name.
5. Choose a server that has the Certification Log template.
6. Click Show Advanced Templates, select Certification Log as the template, and then click OK.
7. Choose File - Database - Access Control, and assign Editor access to all administrators who register users and servers and recertify IDs.

Upgrading the Domino SNMP Agent

If you used the Domino SNMP Agent with a previous release of Lotus Domino, read the instructions in this section before using SNMP with Lotus Domino 7.

To upgrade the Domino SNMP Agent on the AIX, Linux, and Solaris platforms, configure the Domino 7 SNMP Agent, and then uninstall the previous SNMP agent. To upgrade the Domino SNMP Agent on a Windows platform, uninstall the previous SNMP agent, and then configure the Domino 7 SNMP Agent.

If you enabled the Server Start, Server Stop, or Reboot System options that were previously configured in the LSNMPCFG.NSF database, re-enable the options in the SNMP tab of the server's Configuration Settings document in the Domino Directory. After this is done, you can delete the LSNMPCFG.NSF database because the Domino SNMP Agent no longer uses it.

Follow these steps to uninstall a previous release of the Domino SNMP Agent. Check the appropriate sections below for your server platform.

Microsoft Windows

The configuration steps automatically remove the old LNSNMP service. After this is done, delete the NVMIBDLL.DLL file in your SYSTEM directory.

IBM AIX

1. Stop the LNSNMP process.
2. As the root user, enter the following command at the server console:

   ```
   /etc/lnsnmp.rc stop
   ```

3. Delete the /etc/notesview directory, as well as its subdirectories and contents. The /etc/lnsnmp.rc script will be replaced when you follow the configuration steps.

Linux

No action is necessary because the Domino SNMP Agent was not previously-available for Linux.

Solaris

1. Stop the LNSNMP process
2. As the root user, enter the following command at the server console:

   ```
   /etc/init.d/nvinit stop
   ```

3. If you are using the PEER Agent(s), stop them. As the root user, enter the following command at the server console:

   ```
   /etc/init.d/peerinit stop
   ```

4. Delete the following files:

   ```
   /etc/rc2.d/S77lnsnmp
   /etc/rc1.d/K77lnsnmp
   /etc/rc2.d/S76peer.snmpd
   /etc/rc1.d/K76peer.snmpd
   Then delete the following files:
   /etc/init.d/nvinit
   /etc/init.d/peerinit
   ```

5. Delete the /etc/notesview directory as well as its subdirectories and contents.

z/OS

No action is necessary.

For more information about configuring the Domino SNMP Agent, see the topic ″Configuring the Domino SNMP Agent″ in the Domino Administrator 7.0 documentation.

Chapter 3. Upgrading the Domino Directory

After you upgrade to IBM Lotus Domino 7, the server prompts you to upgrade the design of the Domino 5 or Domino 6 Domino Directory with the Domino 7 Directory template (PUBNAMES.NTF) if you haven't already. Upgrade the directory design to the Domino 7 Directory template to properly administer the Domino 7 server.

The new Domino Directory template works with the Domino 7 Administrator client to streamline directory and server administration. The Domino Directory is backward-compatible and can be used in mixed-release environments. Be sure the Administration server for the Domino Directory is the first server in the domain you upgrade to Domino 7, so that it is the server that first creates the Schema database. After you upgrade the Domino Administration server and the design of your address book to the Domino 7 Directory template, you can replicate the directory to other servers in the domain. Make sure to upgrade your administrator client to Domino 7. With the Domino 7 Administrator client, upgrade the database format of the Domino Directory by compacting the database, then rebuild the views.

Note: Be aware that upgrading the Domino Directory design replaces the template design. The Domino 7 design overwrites any customizations made to the Domino Directory. Before you upgrade to the Domino 7 design, you may want to create a backup of the Domino Directory to preserve your custom changes. After you upgrade, test the Domino Directory to see if your custom changes are still necessary. If so, you can modify the Domino 7 directory template.

For more information about upgrading customized directories or address books, see the topic "Customized Address Books or Directories" later in this chapter.

To upgrade to the Domino Directory template

1. After you complete the upgrade, start the Domino server.
2. From the Domino server console, when Domino asks if you want to upgrade the Domino Directory design to the Domino 7 template, enter

   ```
   Y
   ```

   This replaces the old Domino Directory template with the Domino 7 Directory template.
3. Verify that there are no errors or problems. Then, quit the server. Enter

   ```
   quit
   ```

   and press ENTER.

To compact the Domino Directory after upgrading

Compacting the Domino Directory upgrades the database format to the Domino 7 format. Each of the following commands uses the file name NAMES.NSF. If your Domino Directory has a file name other than NAMES.NSF, substitute the correct file name.

From the Domino server console, compact the Domino Directory to the new database format.

- On Microsoft Windows (Intel platforms), enter the following command:

  ```
  load compact names.nsf
  ```

  and press ENTER.

  You can also compact the Domino Directory from the operating system command line. Change to the Domino program directory (c:\Program Files\Lotus\Domino), then enter the following command:

  ```
  ncompact names.nsf
  ```

  and press ENTER.

- On UNIX platforms, enter the following command:

  ```
  compact names.nsf
  ```

  and press ENTER.

To rebuild views in the Domino Directory

Rebuild the ($ServerAccess) and ($Users) views in the Domino Directory to give clients access to the server.

Note: In the Domino 6 and Domino 7 Directory, the ($ServerAccess) and ($Users) views are designated for transaction logging. If you enable transaction logging for the Domino Directory, future restarts after a server failure will be faster.

1. From the command line of your operating system, enter the following commands based on your operating system.
   - On Microsoft Windows NT (Intel platforms), enter the following command:

     ```
     nupdall names.nsf -t "($ServerAccess)" -r
     ```

     and press ENTER. Then enter:

     ```
     nupdall names.nsf -t "($Users)" -r
     ```

     and press ENTER.
   - On UNIX platforms, enter the following command:

     ```
     updall names.nsf -t /($ServerAccess) -r
     ```

     and press ENTER. Then enter:

     ```
     updall names.nsf -t /($Users) -r
     ```

     and press ENTER.
2. After you rebuild views in the Domino Directory, start the Domino server.

Updating views in databases on the upgraded Domino server

Updating database views gives users faster access to the Domino Directory and other databases on the server. The amount of time Updall takes to run depends on the number of databases on the server, the size of the databases, and the complexity of the views in those databases.

At the Domino server console, enter the following command:

```
load updall
```

and press ENTER.

Replicating the Domino Directory design to other servers

After you upgrade a server to Lotus Domino 7, you can replicate the Domino Directory design to your organization's other servers, including Domino 5 and Domino 6 servers.

If you disabled replication for the Domino Directory, remember to enable it again.

Note: After replicating the new template to other servers, you must rebuild the views in the Domino Directories on those servers. Replicate the template and rebuild the views for pre-Domino 6 servers on a weekend or during other times when server load is low.

Using the Domino Directory template in a mixed-release environment

The Domino 7 Directory template can be used in a mixed-release environment that contains Domino 6 and Domino 5. After upgrading your first server to Lotus Domino 7, you can replicate the new template to the other servers in your organization.

Customized Directories

If you customized the Domino 5 or Domino 6 Directory, perform the following steps to upgrade the Directory to the Domino 7 Directory.

1. Back up the design of your Domino Directory.
2. Upgrade the address book to the Domino 7 Directory template.
3. Inspect the upgraded Domino Directory to determine which of your customized changes you still need.
4. To retain the customizations that you added, create a subform for your customizations and include that subform in another subform especially designed to work with your customizations.

   For more information about customizing the Domino Directory, see the book *Administering the Domino System*.

Note: You must add individual Domino 5 or Domino 6 customizations to the Domino 7 Directory design elements. Do not attempt to add the Domino 7 changes to your Domino 5 or Domino 6 design because the Domino Directory will not function properly.

Condensed Directory Catalogs and upgraded Domino servers

If you receive the server console error message:

```
REBUILD required - version for "...\domino\data\dc.ntf out of date"
```

after upgrading a Lotus Domino 5 server running a server-based condensed Directory Catalog, you need to rebuild the Directory Catalog full-text index. To do so, enter the following command on the server console:

```
load updall dc.nsf-x
```

in which dc.nsf is the name of the condensed Directory Catalog. You perform this procedure only once.

Directory use with mixed-language locales

When a Domino directory - whether based on pubnames.ntf or a Condensed Directory Catalog - is built for use with a particular language and locale (for example, French), and is then viewed by a client that honors a different language and locale (for example, German), the sort-order of names in the directory's views will most likely be incorrect.

When building a directory, it is important that the directory is built in the same locale as where it is intended to be used. For example, a directory built on a server running the French locale must only be accessed by a client running the French locale.

While this can potentially affect every type of Domino-based directory, it is most noticeable in the case of Condensed Directory Catalogs (CDCs) and in the implementation of a Domino Central Directory. It is recommended that users have a CDC and/or a Domino Central Directory for each locale used in the organization's domain.

For more information about condensed directory catalogs, see the *Domino 7 Administrator Help*.

LDAP service and Domino Administration servers

In Lotus Domino 7, the LDAP service runs automatically on the Domino Administration server for the Domino Directory domain. The Domino administration server maintains the LDAP schema and runs the directory tree verification process for all LDAP services in the domain.

If you prefer to not have the LDAP service running on the administration server, you can do the following:

- Prevent the LDAP service from processing LDAP client requests
- Disable the LDAP service for the domain

  For more information about preventing the LDAP server from processing requests or disabling the LDAP service, see the book *Administering the Domino System*.

LDAP Schema changes in Lotus Domino 7

The following is a list of changes to the Domino LDAP Schema in Lotus Domino 7.

- There is a new Domino LDAP Schema database created from the template SCHEMA.NTF. This database replaces the Domino 5 LDAP Schema database created from the template SCHEMA50.NTF. A new process called the schema daemon, spawned by the LDAP service, creates the new Schema database on the administration server for the Domino Directory. The schema daemon replicates the databases to all Lotus Domino 6 servers in a domain that run the LDAP service, ensuring a consistent schema throughout a domain. In this release, the Schema database is also a tool you can use to extend the schema.

  If you upgrade a Domino 5 server that runs the LDAP service to Lotus Domino 7, the installation program deletes the Domino 5 SCHEMA50.NTF template, and the LDAP service deletes the Domino 5 SCHEMA50.NSF database. To retain these files, rename them before you upgrade.

  Note: If you previously extended the schema in Domino 5 using the Domino Designer, you will not lose your changes. The schema changes appear in the new SCHEMA.NSF database.
- The first time Domino loads the LDAP service on the administration server of the Domino domain, Domino creates a new Domino LDAP Schema database. While Domino creates the schema documents and builds the views in this database, certain schema elements such as object classes, attribute types, or syntaxes may be unavailable. To avoid potential problems, allow at least 15 minutes after the LDAP service starts for Domino to finish creating all default schema documents before you extend the schema.

  Note: The delay that occurs while Domino creates the schema documents and builds the database views occurs only once when Domino loads the LDAP service for the first time.
- In Lotus Domino 5, the LDAP service converted a search base of country ("c=*xx*") to root ("") by default. This conversion accommodates releases of Microsoft Outlook Express earlier than 5.5, which supply a default country search base when users do not specify a search base. In Lotus Domino 5, you can use the NOTES.INI setting LDAP_CountryCheck=1 to prevent the LDAP service from making this conversion.

  By default, the Domino 7 LDAP service does not convert a search base of country to root. Use the NOTES.INI setting LDAPPre55Outlook=1 to revert to the Domino 5 LDAP service behavior of converting a search base of country to root to accommodate releases of Microsoft Outlook Express earlier than 5.5. The LDAP_CountryCheck setting was made obsolete in Lotus Domino 6.
- The behavior of the Tell LDAP ReloadSchema command changed in Lotus Domino 6. When you issue this command on the Domino Directory administration server that runs the LDAP service, the schema daemon updates the LDAP service in-memory schema with any new schema changes defined with Domino Directory forms or with the Domino LDAP Schema database. The schema daemon then publishes the updated schema into its local Schema database, and then replicates the Schema database to others servers in the domain that run the LDAP service.

When you issue this command from a subordinate server in the domain that runs the LDAP service, the schema daemon on the subordinate server replicates the Schema database from the administration server, if it detects changes on the administration server replica that it hasn't yet received. The schema daemon then loads any updated schema now published in its local Schema database into memory.

You do not restart the LDAP task in order to incorporate newly created schema elements. When the schema is extended, you should instead run the Tell LDAP ReloadSchema to process the new schema elements.

For more information about the Domino LDAP Schema, see the book *Administering the Domino System*.

Chapter 4. Upgrading Notes clients

Note: For the most up-to-date information about upgrading Notes clients, see the chapter ″Upgrading Notes clients″ in the *Upgrade Guide*, and review the Release Notes for topics pertaining to upgrading the Notes client.

Lotus Notes 7 supports the following options for upgrading Notes clients:

- Upgrade-by-mail
- IBM Lotus Notes Smart Upgrade
- Administrative installation

You also have the option of using third-party tools for upgrading the Notes client.

Upgrade-by-mail is an e-mail notification system that notifies users to upgrade their Notes clients and mail file templates to the Notes/Domino 7 design. Upgrade-by-mail requires that you copy all installation files to a network file server or a shared directory that users can access. In the upgrade notification, you specify the path to SETUP.EXE. The notification message includes buttons that users click to launch the Lotus Notes 7 installation program and to replace the design of their Notes mail file. Use Upgrade-by-mail to upgrade Notes 5 and Notes 6 users to Lotus Notes 7.

Note: Upgrade-by-mail is not available for Domino Web Access (iNotes Web Access) users. Upgrade-by-mail applies only to Notes Client users.

Lotus Notes Smart Upgrade works with the Lotus Notes 7 update kits or incremental installers that you download from the Lotus Developer Domain (http://www.lotus.com/ldd/smartupgrade).

Like Upgrade-by-mail, Lotus Notes Smart Upgrade sends a notification to users to upgrade their Notes clients. Lotus Notes Smart Upgrade lets you set a grace period in which users must upgrade their clients. When you upgrade from Lotus Notes 6 to later releases, use Lotus Notes Smart Upgrade.

Administrative installation is a feature of the Microsoft Windows Installer that copies the installation kit to a file server that users access through a network connection. Users launch the installation program from the file server to install Lotus Notes 7 locally on their client machines. You can use administrative installation to copy the installation files to a network file server, then use Upgrade-by-mail or Lotus Notes Smart Upgrade to notify users.

The following table compares the Upgrade-by-mail, Lotus Notes Smart Upgrade, and administrative installation.

Option	Advantages	Disadvantages
Upgrade-by-mail	• Upgrades Notes 5 and Notes 6 clients and mail file templates	• Administrator cannot determine when upgrades occur
Lotus Notes Smart Upgrade	• Establishes a grace period in which users must upgrade their clients	• Can be used only with Lotus Notes 6 and later releases

Option	Advantages	Disadvantages
Administrative installation	• Uses the command line option /A to create an administrative image of the Lotus Notes 7 installation on a network file server • Can be customized with transforms to create a silent, automated installation, a shared installation, and so on	• Requires the Windows Installer service, which is part of the Windows XP and 2000 operating systems and is available for, but not part of, Windows 95, 98, and NT 4.0

For more information about transforms and silent installation, see the book *Administering the Domino System*.

All the upgrade options require users to have a network connection. For mobile users, users with low bandwidth connection or no connection, these options may not apply. To upgrade these users, you could send Lotus Notes 7 CDs to them.

Notes Client features and their Domino server and template dependencies

Some of the Notes client features have Domino server dependencies, template dependencies, both types of dependencies or no dependencies. Use this table to determine whether a Notes Client 7 feature will work on a pre-Domino 7 server and whether the feature requires the Domino 7 template.

If there is no dependency on the Domino server for a Notes client feature, you can use the Notes 7 Client with an older Domino server such as Domino 6. If there is a template dependency, you must install the listed template to use the Notes client feature.

Note: If you replace the design of a core template, for example, Rooms and Resources, any scheduled agents will stop working. Correct the problem by resetting the schedule information for the agent.

* If a server dependency contains Yes with an asterisk (*), the Notes client feature in question may work if PUBNAMES.NTF is on a Domino 7 server that replicates with a Domino 6 server. The Notes client feature may work due to replication.

	Domino 7.0 server dependency?	If yes, explanation	7.0 template dependency?	If yes, template name and explanation
Notes Client Feature				
Instant Messaging Integration: IM thread support	No		No	
Instant Messaging Integration: Web conferencing	No		No	
Instant Messaging Integration: Additional preferences	No		No	
Instant Messaging Integration: Recognition of Notes URLs	No		No	

	Domino 7.0 server dependency?	If yes, explanation	7.0 template dependency?	If yes, template name and explanation
Instant Messaging Integration: Contact list enhancements - show online people only, show short names, show list sorted.	No		No	
Client: Verification prompt before shutting down the Notes client	No		No	
Client: Close all open windows	No		No	
Client: Show Encrypt/Signed in status bar	No		No	
Archiving: Improve usability	No		No	
Client: Async View opening	No		No	
Client: Auto Save (form specific)	No		No	
Client: Save open window state on shutdown	No		No	
Client: Ability to log status bar messages	No		No	
Smart Tags: Notes Smart Tags in Microsoft Office - Send memo to, open contact note, Invite to C&S meeting	No		No	
Notes Application Plugin	No		No	
Mail: Sort by Subject	No		Yes	Mail7.ntf, Mail7ex.ntf, Columns properties were changed.
Mail: Follow Up enhancements	No		Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.
Mail: Warn user if no subject	No		Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.
Mail: Mail threads in Memo form	No		Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.
C&S: Ability to minimize C&S mini-view	No		Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.

	Domino 7.0 server dependency?	If yes, explanation	7.0 template dependency?	If yes, template name and explanation
C&S: IM Awareness	No		Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.
C&S: Improved Meetings view -new views and formatting of those views	No		Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.
C&S: Additional subtab for C&S Preferences	No		Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.
Rooms&Resources: Automatic reminder notices to chair	No		Yes	Rescr7.ntf. Template design elements were added/changed.
Rooms&Resources: Preferred room/resource/site	No		Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.
Rooms&Resources: Improved UI	No		Yes	Rescr7.ntf. Template design elements were added/changed.
Rooms&Resources: Simple form for Quick Reservation, Transfer Reservation	No		Yes	Rescr7.ntf. Template design elements were added/changed.
Instant Messaging Integration: Name Awareness in Mail, C&S, Teamroom, Discussion and Rooms/Reservations	No		Yes	Mail7.ntf, Mail7ex.ntf, Teamrm7.ntf, Resrc7.ntf design elements were changed throughout these templates.
Instant Messaging Integration: Save Chat Transcripts	No		Yes	Mail7.ntf
Welcome Page-Workplace enhancements	No		Yes	Bookmark.ntf design elements were changed.
Mail Rules: Formula rewrite to improve performance	No		Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.
Mail Rules: blacklist/whitelist tag item	No		Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.
Mail Rules: Stop Processing action	No		Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.
Archiving enhancements: Maximum retention time	No		Yes	Names.nsf (Pubnames.ntf)

	Domino 7.0 server dependency?	If yes, explanation	7.0 template dependency?	If yes, template name and explanation
Templates: Mozilla browser support for Web-enabled Rooms&Resources template	No		Yes	Resrc7.ntf design elements were added/changed.
Client policy lock-down support	No		Yes	Names.nsf (Pubnames.ntf)
Archiving enhancements: Create date support	No		Yes	Names.nsf (Pubnames.ntf)
Mail: Mail Policy support	Yes	New server side monitor and process for applying changes to user mail files	Yes	Mail7.ntf, Mail7ex.ntf, Pubnames.ntf Template design elements were added/changed.
Mail: Awareness Indicators (flag for to/cc)	Yes - But OK if mail is local.	The column formula for the column containing the icon indicating that the email contains the user's name in the To field. Requires a new functionality that is only available in Domino 7. For a server-based mail replica, the same column only has the correct value when using Domino 7 or later. It is hidden if the value is not computable by the server.	Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.
Archiving enhancements: Create date support	Yes - But OK if mail is local and archiving is done using the client.		Yes	Names.nsf (Pubnames.ntf)
C&S: Cleanup capability	Yes - But OK if mail is local and archiving is done locally.	C&S cleanup calls into the archiving code; Domino 7 archiving has new functionality that allows/enables this.	Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.

	Domino 7.0 server dependency?	If yes, explanation	7.0 template dependency?	If yes, template name and explanation
C&S: Autoprocess option to autoaccept, even if there is a conflict	Yes	Router code changes Router change	Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed. Mail7 template - Preferences change
Rooms&Resources: High Availability of Rooms&Resources database	Yes	New server side manager task	Yes	Rescr7.ntf. Template design elements were added/changed.
Rooms&Resources: Limit reservations	Yes	Router change	Yes	Rescr7.ntf. Template design elements were added/changed.
Instant Messaging Integration: Secure meetings	Yes	Router change	Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.
Instant Messaging Integration: Restrict meeting attendance list	Yes	Router change	Yes	Mail7.ntf, Mail7ex.ntf, Template design elements were added/changed.
Web server accessibility: Support for <TH> tags in headers - Header within table for accessibility	No/Yes	No for accessibility using Notes client, but yes for accessibility using Notes client as browser	No	
iCal. Outlook support	Yes	iCal Conversion in Router	Yes	Mail7 template
Roaming user enhancement: Suppress roaming user upgrade prompts	Yes	Activated via the administrator client and needs a 7.0 server with adminp running	N/A	
Domino Designer feature				
Designer usability improvements	No		N/A	
Programmable right click View menus	No		N/A	
UI Indicator for LotusScript debugger state	No		N/A	
Java Debugger Support: Design element enablement	No		N/A	
Java Debugger support: Client preferences dialog	No		N/A	
Web service design element creation and editing	No		N/A	

	Domino 7.0 server dependency?	If yes, explanation	7.0 template dependency?	If yes, template name and explanation
Shared column definition formulas	No		N/A	
Autosave option on form	No		N/A	
DB2 Query View support	Yes	DB2	N/A	
DB2 Access View support: basic support, additional usability changes	Yes	DB2	N/A	
Agent profiling support	No/Yes	Domino 7 not required to tag the agent for profiling, but do need Domino 7 to run the profiling.	N/A	

Before you upgrade the Notes client

Before you begin upgrading Lotus Notes clients, make sure that you or your users do the following:

- If the computer on which you are upgrading runs anti-virus software, close the application.
- To successfully install, upgrade, and use Lotus Notes 7, users must be allowed both Write and Modify permissions to the Program directory, Data directory, and all associated subdirectories.
- If you are upgrading Lotus Notes on a Windows 2000, or XP computer, you must have administrator rights to the system. On a Windows 2000 computer, log in as an administrator or set administrator-level privileges for All Users. This can be done from the command line.
- Windows 2000 and XP users should log on to their computers with administrative rights to install Lotus Notes 7. For cases in which administrative rights are not available, enable the setting "Always install with elevated privileges." The setting "Always install with elevated privileges" is a Windows setting that is part of Window's User Policies. Refer to your Microsoft Windows documentation for details. Refer to the *Release Notes* for the most current information on permissions required when installing as a non-administrator.
- Options for installing the Lotus Notes client on Restricted or Standard/Power User computers are described in the Microsoft Windows 2000, Windows XP, and Windows Installer documentation.
- Review options for customizing the Notes client installation and set up.

Using Upgrade-by-mail

Upgrade-by-mail is a feature that sends an e-mail notification to specified users to upgrade their Notes clients and optionally, their mail file templates. You can also use Upgrade-by-mail to notify Microsoft Exchange and Microsoft Outlook Express users that their mail files have been migrated to Notes mail.

Note: Upgrade-by-mail is not available for Domino Web Access (iNotes Web Access) users. Upgrade-by-mail applies only to Notes Client users.

For more information about sending an upgrade notification to migrated mail users, see the chapter "Migrating Personal Mail Data."

The upgrade notification contains two buttons that users click to upgrade their clients and mail files. The Install Notes button launches a Notes client installation program from a directory on a network drive to

which users have access. The Upgrade Mail File button replaces the user's current mail template with a locally stored Notes/Domino 7 mail template or another specified template, such as a customized mail template. Users must upgrade their Notes clients to install the Notes/Domino 7 mail file template locally, before they upgrade their mail files.

Using the Upgrade Mail File button is optional. You must complete the Mail Template Information section in the upgrade-by-mail notification to enable the Upgrade Mail File button. If you do not complete this section, Upgrade-by-mail does not display the button on the e-mail notification.

Before you use Upgrade-by-mail

Before you begin, complete the following tasks:

- Back up Notes client files.
- Create an installation directory on a Domino server or a file server to which all users have network access, then copy all Notes installation directories and files to this folder.

Note: To use Upgrade-by-mail to upgrade mail file templates, users must have at least Designer access to their mail databases. If users do not have this level of access, use the mail conversion utility to update mail file templates.

Backing up Notes client files

Back up important Notes client files in case an error occurs during the upgrade process. If you experience problems, you can restore these files with the backed-up versions. Back up the Notes data directory on your server (for example, on Domino 6, the default data directory was C:\Program Files\lotus\notes\data). This directory includes DESKTOP.DSK, all ID files (including the server ID and certifier IDs), LOG.NSF, NAMES.NSF, MAIL.BOX, and any other Public Address Books or Domino Directories located on the server.

Back up the following files for each Notes client:

File	Default Location
NOTES.INI (Notes Preferences on the Macintosh)	For Notes 5 users, Notes data directory. c:\notes\data. For Notes 6 and 7 users, C:\Program Files\lotus\notes\data.
BOOKMARK.NSF	Notes data directory. Contains saved bookmark and Welcome page information. In Notes 5, c:\notes\data\bookmark.nsf. In Notes 6 and 7, C:\Program Files\lotus\notes\data\bookmark.nsf.
BUSYTIME.NSF	Notes data directory. Contains local free time information. In Notes 5, c:\notes\data\busytime.nsf. In Notes 6 and 7, C:\Program Files\lotus\notes\data\busytime.nsf.
HEADLINE.NSF	Notes data directory. Contains database subscriptions information. In Notes 5, c:\notes\data\headline.nsf. In Notes 6 and 7, C:\Program Files\lotus\notes\data\busytime.nsf.
INSTALL.LOG LotusInstall.log	Notes Program directory User's MyDocuments folder, for example, C:\Documents and Settings\ User\MyDocuments\LotusInstall.Log.
DESKTOP5.DSK (Notes 5) DESKTOP6.NDK (Notes 6)	Notes data directory. In Notes 5, c:\notes\data. In Notes 6 and 7, C:\Program Files\lotus\notes\data.
Personal Address Book (NAMES.NSF by default)	Notes data directory. In Notes 5, c:\notes\data. In Notes 6 and 7, C:\Program Files\lotus\notes\data.

File	Default Location
PERWEB.NSF	Notes data directory. Personal Web Navigator database that contains the user's Web browser information, for example, c:\notes\data\perweb.nsf
User ID files (for example, JSMITH.ID)	Notes data directory. In Notes 5 c:\notes\data. In Notes 6 and 7, C:\Program Files\lotus\notes\data.
Local databases (NSF)	Notes data directory. In Notes 5, c:\notes\data. In Notes 6 and 7, C:\Program Files\lotus\notes\data.
Local database directory links (DIR)	Notes data directory. c:\notes\data. In Notes 6 and 7, C:\Program Files\lotus\notes\data.
Any customized Notes database templates (NTF)	Notes data directory. In Notes 5, c:\notes\data. In Notes 6 and 7, C:\Program Files\lotus\notes\data.
USER.DIC (Personal dictionary entries for spelling checker)	Notes data directory. In Notes 5, c:\notes\data. In Notes 6 and 7, C:\Program Files\lotus\notes\data.

Creating the upgrade notification for Upgrade-by-mail

The following procedure describes how to upgrade from Lotus Notes 5 or Notes 6 to Lotus Notes 7.

1. In the Domino Administrator, select the server bookmarks, then select the server on which your users' mail files reside.
2. Click the Messaging tab.
3. Open the "Mail users" view, select the users whom you want to upgrade, and then click "Send Upgrade Notifications."
4. On the Basics tab, select the "Upgrade Notes Client & Mail Template to Notes 6 or higher" option.
5. On the Client Versions tab, enter a build number to prevent upgrades of Notes clients running the specified build or a later build. By default, the build number is determined by the @Version function.
6. On the Software Distributions tab, in the Notes Install Kit Paths section, enter the directory path in the "Root path for Install kits" field using the following format:
7. \\server_name\shared_drive_name\installation_folder_name
8. In the "Path for Windows 95, 98, NT, 2000" and "Path for Macintosh PPC" fields, enter the file path to the installation file following the format above, but include SETUP.EXE in the path.
9. If you want users to upgrade their mail file templates, complete the Mail Template Information section. Enter the template name of the existing mail files. The default field value is a wild card character (*).

   Note: Complete the Mail Template Information section to include an Upgrade Mail button in the upgrade notification sent to users.
10. By default the new mail template name appears in the New Mail template file name field. If you renamed the template or used a custom mail template, enter the new name. Note that the new template must exist in your users' Notes data directory.
11. By default the "Ignore 200 category limit" check box is selected. This option overrides a default that limits the creation of folders in a database to 200 folders. If you want no more than 200 folders created, deselect the check box.
12. If you are upgrading IMAP clients, select the "Mail file to be used by IMAP mail clients" check box.
13. (Optional) If you want to automatically upgrade custom folders to the Inbox design, select the "Upgrade custom folders" check box.
14. (Optional) To prompt the user before upgrading custom folders, select the "Prompt before upgrading custom folders" check box.
15. (Optional) If you want to provide additional information to your users, complete the Additional Information field.

16. (Optional) Select whether or not to be notified after users have upgraded their mail file templates.
17. Click Send when done.

Installing the Lotus Notes 7 software with Upgrade-by-mail

The upgrade notification includes two buttons. The Install Notes button runs the Notes client installation program. The following procedure is intended for Notes client users.

1. Click the Install Notes button.
2. Follow the prompts on the Setup screens to properly install the software.
3. Start Notes.

Notes sets up and upgrades the software automatically if you install Lotus Notes 7 in the same directory as the previous release of Lotus Notes. If you install the Lotus Notes 7 software in a different directory, Lotus Notes prompts you to complete the configuration process. If you install Lotus Notes in a different directory, be aware that the Setup program places the NOTES.INI file in the Notes program directory.

Upgrading the mail file template with Upgrade-by-mail

After users install Lotus Notes 7, they must return to the upgrade notification to upgrade the mail file template.

1. Click Upgrade Mail File.
2. When prompted for a password, enter your Notes password.
3. Lotus Notes upgrades the template automatically.

Using IBM Lotus Notes Smart Upgrade

IBM Lotus Notes Smart Upgrade notifies users to update their Notes 6 and more recent clients to later releases. Lotus Notes Smart Upgrade uses policy and settings documents to help manage updates. You create policy documents in the Domino Directory to distribute standard settings and configurations across groups, departments, or entire organizations.

Prerequisites

To use Smart Upgrade as a means of upgrading Notes clients, you must meet the following prerequisites:

- Notes Client 6.0 or greater already installed.
- Connectivity to a Domino server, Release 6.0 or greater.
- Smart Upgrade database created, configured, deployed and enabled.
- The user's Location documents must specify the correct home server on the Servers tab of the document. If the wrong home server is specified, then Lotus Notes Smart Upgrade does not begin the upgrade process.

To use Lotus Notes Smart Upgrade, follow this procedure:

1. Create a database using the Smart Upgrade Kits template to host Notes client update kits.
2. Update the Configurations Settings document in the Domino Directory with a link to the Lotus Notes Smart Upgrade database. Domino's intelligent locator uses the replica ID of the Smart Upgrade database in the database link and does the following in this order 1.) looks for a local replica of that database, and if found, uses it. 2.) Looks for a replica of that database on any cluster mates if the server is in a cluster, and if found, uses it. 3) uses the database on the server specified in the database link in the server configuration document.
3. Download an update kit, also known as an incremental installer, from the Lotus Developer Domain Web site (http://www.lotus.com/ldd/smartupgrade).
4. Create a Kit document in the Lotus Notes Smart Upgrade database and attach a Notes client kit or an All Client kit to the Kit document, or designate a shared network drive in the Kit document.

5. Create or modify a desktop policy settings document where you specify the updated release to deploy and the date on which the grace period for updating a Notes client ends.
6. Create or modify a master policy to assign users or groups to the desktop policy settings document.
7. Depending on the master policy created, edit Person documents to assign users to the master policy and/or set the Lotus Notes Smart Upgrade desktop policy settings document for one or more groups.

Note: The Smart Upgrade Kits are available in global English only. In a non-English environment, the Notes Client Web Kit can be substituted for the Smart Upgrade Kit.

How Smart Upgrade performs an upgrade

Note: The Smart Upgrade Kits are available in global English only. In a non-English environment, the Notes Client Web Kit can be substituted for the Smart Upgrade Kit.

If the Smart Upgrade Timer on the Notes client expires, the next time that users log in to their Domino 6 home server or its cluster mate, Lotus Notes Smart Upgrade does the following:

1. Compares the release number of the user's Notes client to the release number specified in the Source version field of the Kit document in the Lotus Notes Smart Upgrade database. The Notes client sends a match pattern to the server including the Notes client's current version, the platform and the localization. With Domino/Notes release 6.5.5 and more recent, the Install Type is also sent. The server then looks for a matching kit.
2. If the server finds a match, it sends a flag back to the Notes client indicating an upgrade kit may exist.
3. The Notes client searches the Smart Upgrade database for a match for its current Notes client version, platform and localization. With Domino/Notes release 6.5.5 or more recent, the Notes client also checks the Install Type.

   Note: Smart Upgrade kits utilize a Readers field; therefore, the Notes client only sees kits for the user specified in the Allowed Users and Servers field.
4. If the user's Deploy version field on the desktop policy settings document is populated with a version number, Notes compares that version number to the version number specified in the Destination version field of the Kit document.

   Note: Specifying the upgrade kit release number in the Deploy version field of the desktop policy settings document is optional. If that field is blank, but an update kit is available, Lotus Notes Smart Upgrade skips Step 4 and uses the release number of the update kit to continue the upgrade process.
5. If a match is found, and users are specified or are members of a specified group, Lotus Notes Smart Upgrade displays a Smart Upgrade dialog box that prompts the users to upgrade their Notes client.
6. Users can update their clients when prompted or delay the upgrade for a specified period of time. If the user has a policy that specifies an Upgrade deadline and that date has expired, the Smart Upgrade dialog box displays an "Update Now" button that forces users to update their Notes client with no options for further delay. If the setting "Remind me every hour after upgrade deadline has passed" is set in the policy settings document, users can delay the Smart Upgrade in one hour increments before being prompted again.

Smart Upgrade server failover to another clustered server

Smart Upgrade server failover is available with clustered servers. To use this feature, paste the database link for the Smart Upgrade database into a Configuration Settings document on a clustered server. When the Notes client user logs on, the user's home server's Configuration Settings document is checked to access the link to the Smart Upgrade database. Smart Upgrade then checks that server for the database link to the Smart Upgrade database. If the server containing the Smart Upgrade database is available, it uses that Smart Upgrade database. If the server containing the Smart Upgrade database is not available,

Smart Upgrade searches, by database replica ID and database name, for a replica server within the cluster and tries to open the database on a replica server. If it locates and opens the database, that Smart Upgrade database on that replica server is used.

When a Notes client user receives the Smart Upgrade prompt and clicks OK to initiate the upgrade, the name of the server containing the Smart Upgrade database and its Replica ID are written to the NOTES.INI settings SmartUpgradeDBpath={server name}!!{database file name} and SmartUpgradeReplicID=xxxxxxx. Smart Upgrade looks for the user's home mail server. If the user's home mail server is not accessible, Smart Upgrade uses the previously-saved NOTES.INI variable SmartUpgradeReplicID= and path to search for the replicated Smart Upgrade database within the clustered servers. If the user's home mail server is accessible, the Smart Upgrade database on that server is used.

If all attempts to run the Smart Upgrade fail, the user receives a message indicating that no Smart Upgrade database is available.

Creating a Lotus Notes Smart Upgrade database

Use the Smart Upgrade Kits template (SMUPGRADE.NTF) to create the Lotus Notes Smart Upgrade database that will store the upgrade kits. The database must reside on at least one server in the domain. After the Lotus Notes Smart Upgrade database is added to the database catalog, other servers can locate the database. If you replicate the Lotus Notes Smart Upgrade database to other servers in the domain, users will have more choices in the database catalog and possibly fewer network problems accessing the update kits.

Note: The Smart Upgrade Kits are available in global English only. In a non-English environment, the Notes Client Web Kit can be substituted for the Smart Upgrade Kit.

1. In the Domino Administrator client, choose File - Database - New.
2. In the New Database dialog box, enter the server name and database title.
3. Enter a file name in the File Name field.
4. Click Template Server, and then choose the server on which the database will reside.
5. Select the "Show advanced templates" check box.
6. Select "Smart Upgrade Kits" from the box of template names, then click OK.
7. After you create the Lotus Notes Smart Upgrade database, create a database link in your Configuration Settings document in the Domino Directory.

Smart Upgrade Tracking Reports database

The Smart Upgrade Tracking Reports database is a repository for storing Smart Upgrade Tracking Reports that contain detail information about the status of all attempts to run Smart Upgrade on Notes clients in a domain. Use the Smart Upgrade Tracking Reports database to determine whether the Notes clients are upgrading successfully when using Smart Upgrade, or to determine which users are experiencing problems. If there are instances where Smart Upgrade fails, use the information in the report to assist in determining the problem without having to visit the user's desktop. You can also use the reports to determine whether there is a repeating problem on multiple clients which could be related to the configuration of the Smart Upgrade database containing the kit information.

During the server setup of a domain's first server, Domino creates a mail-in database named Lotus Notes/Domino Smart Upgrade Tracking Reports database (LNDSUTR.NSF) using the database template LNDSUTR.NTF. Domino also creates the corresponding mail-in database document for the Smart Upgrade Tracking Reports database. Notes automatically creates Smart Upgrade Tracking reports each time Smart Upgrade runs on a client in your domain. Reports of successful upgrades are sent to the Smart Upgrade Tracking Reports database the first time the Notes client is started after the successful upgrade. Reports of unsuccessful upgrades are sent immediately after the upgrade fails or cancels.

If you prefer, you can manually set up the Smart Upgrade Tracking Reports database by using LNDSUTR.NTF, and you can then create the corresponding mail-in database document.

Enable Smart Upgrade Tracking on the desktop policy settings document's Smart Upgrade tab. The Notes client then uses the information that you enter there to mail a Smart Upgrade Tracking Report each time Smart Upgrade is run on Notes clients in your domain. Reports are saved in the Smart Upgrade Tracking Reports database for the length of time specified in the ″Number of days to keep Smart Upgrade Tracking Report files″ field in the desktop policy settings document when the setting ″Remove Smart Upgrade Tracking files after a specified number of days″ is enabled.

You can view reported information by Status, that is, sorted according to whether the Smart Upgrade succeeded, failed, or was canceled. You can also view reports by date, by Notes/Domino version, by operating system version, or by user.

Using Smart Upgrade Tracking after upgrading to Domino 7

If you upgrade to Domino 7 and you have not set up or used Smart Upgrade Tracking in the past, you need to manually create the Smart Upgrade Tracking Reports database and the mail-in database document. You then need to modify the desktop policy settings document to enable Smart Upgrade Tracking for the users whose upgrades you want to track.

For instructions about creating the Smart Upgrade Tracking Reports database, see the topic Creating a Smart Upgrade Tracking Reports database.

For instructions about creating the mail-in database document, see the topic ″Creating a Mail-In Database document for a new database″ in the Domino Administrator 7.0 documentation.

Creating a Smart Upgrade Tracking Reports database

Use this procedure to manually create the Lotus Notes/Domino Smart Upgrade Tracking Reports database.

1. From the Domino Administrator client, choose File - Database - New.
2. In the New Database dialog box, enter the server name and database title.
3. Enter a file name in the File Name field.
4. Click Template Server, and then choose the server on which the database will reside.
5. Select the Show advanced templates check box.
6. Select Lotus Notes/Domino Smart Upgrade Tracking Reports (LNDSUTR.NTF) from the list of template names, and then click OK.

Controlling the number of concurrent Smart Upgrade downloads

Use this procedure to enable or disable the Smart Upgrade Governor and to control the number of concurrent Smart Upgrade attempts, that is, to control the number of times Smart Upgrade can be run while the Smart Upgrade Governor is enabled. When Smart Upgrade Governor is enabled, specify the maximum number of Smart Upgrade attempts by specifying a value in the field ″Maximum Concurrent Downloads″ on the Server Configuration document.

1. From the Domino Administrator, click Configuration - Server - Configurations.
2. Select the Server Configuration document you want to open, and then click Edit Configuration.
3. Click the Smart Upgrade tab. In the field ″Limit Concurrent Smart Upgrade,″ enable the Smart Upgrade Governor.
4. In the field ″Maximum Concurrent Downloads,″ enter a value for the maximum concurrent number of Smart Upgrade attempts that can be made while the Smart Upgrade Governor is enabled.
5. Save and close the Configuration Settings document.

Creating a database link to the Smart Upgrade Database

In the Domino Directory, the Configuration Settings document contains a Lotus Notes Smart Upgrade Database Link field in which you paste the database link to the Smart Upgrade database. Domino's intelligent locator uses the replica ID of the Smart Upgrade database in the database link and does the following in this order: 1) Looks for a local replica of that database, and if found, uses it. 2) Looks for a replica of that database on any cluster mates if the server is in a cluster, and if found, uses it. 3) Uses the database on the server specified in the database link in the Server Configuration document.

During this procedure, you enable the Smart Upgrade Governor feature that allows you to limit the number of concurrent Smart Upgrade attempts.

1. In the Domino Administrator, open the Lotus Notes Smart Upgrade database that you created.
2. Choose Edit - Copy as link - Database link.
3. Open the Domino Directory, then open the Server - Configurations view.
4. Select the server, and then click "Edit Configuration" to edit an existing Configuration Settings document.

   Note: Lotus Notes Smart Upgrade first checks for the Lotus Notes Smart Upgrade database link in the Configuration Settings document of the home server specified in the Notes client Location document. If that Configuration Settings document does not contain a Lotus Notes Smart Upgrade database link, Lotus Notes Smart Upgrade next checks the * - [All Servers] Configuration Settings document for the database link.
5. On the Smart Upgrade tab of the document, paste the database link in the "Smart Upgrade Database link" field.
6. (Optional) In the field "Limit Concurrent Smart Upgrade," enable the Smart Upgrade Governor. When Smart Upgrade Governor is enabled, you can limit the number of times that Smart Upgrade attempts are made by specifying a value in the field "Maximum Concurrent Downloads."

   Note: Smart Upgrade Governor requires Notes client and Domino server Release 6.0.5/6.5.4 or greater. Use this feature to prevent an excessive load on the server if Smart Upgrade is invoked numerous times on the same server.
7. In the field "Maximum Concurrent Downloads," enter a value for the maximum concurrent number of Smart Upgrade attempts that can be made while the Smart Upgrade Governor is enabled.
8. Save and close the Configuration Settings document.
9. With the Lotus Notes Smart Upgrade database set up, you can begin adding update kits to the database.

Adding update kits to the Lotus Notes Smart Upgrade database

You can download update kits as they become available from Lotus developerWorks http://www.lotus.com/ldd/smartupgrade. After downloading a kit, make the kit available to users by creating a Kit document in the Lotus Notes Smart Upgrade database and then either attaching the kit to the Kit document or storing the kit in a directory on a shared network drive that users can access. You specify the location of the kit in the Smart Upgrade Kit document when setting up Smart Upgrade for users. You can provide upgrade kits for upgrading just the Notes client or for upgrading all clients.

When you attach kits to a Smart Upgrade Kit document, attach only one kit per document.

Smart Upgrade kit recognition

Smart Upgrade in Domino 6.5.5 and more recent contains the Smart Upgrade kit recognition feature. Smart Upgrade can determine whether to install a Notes client only kit or an All clients kit for each particular user. The installer sets the value of the InstallType= setting in the NOTES.INI file each time a Notes client or All client installation or upgrade is performed. Smart Upgrade compares the Install Type value in the Smart Upgrade Kit document to the InstallType field in the NOTES.INI file and installs the update kit that matches the Install Type specified in the NOTES.INI file. Smart Upgrade recognition

makes it easy to upgrade users who have more than one computer with different client install types, that is, a user can have one computer running Notes client only and another computer running All clients. You can use Smart Upgrade to upgrade both computers for this user.

Pre-Domino 6.5.5 clients can have only one Smart Upgrade kit per user, per source version. If you attempt to configure multiple source kits, that is Notes client only and All clients for a release of Domino that is pre-Domino 6.5.5, an error message appears indicating that duplicate kits have been found for that user in the Smart Upgrade database and Smart Upgrade will fail.

Smart Upgrade recognition upgrades one install type, for example, Notes client only to a newer release of the same install type. You cannot use Smart Upgrade to install a Notes client only install and then use it later to perform an All clients install for the same user on the same computer. If you want to change install types, you must manually upgrade the client to the desired install type.

If you are using a Macintosh operating system, the Install Type field is not modifiable and is set to Notes client only.

The following values can be used with the NOTES.INI InstallType= setting:

- InstallType=2 -- All client install
- InstallType=6 -- Notes client only install

Note: The Smart Upgrade Kits are available in global English only. In a non-English environment, the Notes Client Web Kit can be substituted for the Smart Upgrade Kit.

Adding the update kit

1. In the Domino Administrator client, open the Lotus Notes Smart Upgrade database that you created.
2. Click New Kit to create a Kit document.
3. On the Basics tab, complete the following fields:

In this field	Do this
Kit description	Enter a brief description of the kit. After completing this document, this kit description is used to identify the Smart Upgrade Kit document.
Enable this kit for use	Select the Enabled check box to make the kit available to authorized users.
Source versions	Enter your current Notes client release, or you can enter a series of Notes clients releases. See the topic Expression rules for use with the Smart Upgrade Kit document for information on acceptable formats for entering the source version. **Note:** To find the current Notes client release number, check the About Notes document. To open the document, choose Help - About Notes.
Operating system	Enter or select the operating system for which the kit is intended.
Localization	Enter or select the language of the Notes Client.
Release 6.5.4/6.0.5 or previous	This field displays only if you are using Microsoft Windows (Win32). If you are using Notes Domino release 6.5.4, 6.0.5, or previous, click this check box. Smart Upgrade does not recognize whether All client install or Notes client install applies for these releases. Install Type field only appears if this box is not selected.
Install Type	Choose one: • Notes client only -- Smart Upgrade will install only the Notes client kit. • All client (Notes client, Admin client, Designer) -- Smart Upgrade will install the All Client kit.

In this field	Do this
Destination version	Enter the release number of the update kit. The value of this field must match the value in the Deploy Versions field of the desktop policy settings document.
Restart Notes after update	Click the Restart check box to restart the user's updated Notes client when the upgrade is complete.
Location	Choose one of these to specify the location of the upgrade kit: • Attached to this note -- Choose this option and then, in the "Attach update kit here" field, attach the update kit or full installation kit. Attach the EXE file that you downloaded to the document without decompressing the file. If you are using Domino 6.5.5 or more recent, you can attach either a Notes client only kit or an All clients kit. • On a shared network drive -- Choose this option and then, in the "Full path to update kit" field, enter the file path to the file SETUP.EXE. When you use the shared network drive option, decompress the file, then copy all files in the installation kit to the directory specified. Follow this convention: \\networkfileservername\shareddirectoryname\setup.exe • Shared network drive and attached kit with failover -- Choose this option and then select the file to attach that contains the Smart Upgrade Kit and enter the full file path name to the file, SETUP.EXE. The "Shared network drive and attached kit with failover" option provides both fields of information to users. The Smart Upgrade process checks whether a "Full Path Kit" is available. If the Full Path Kit is available, it is used; if it is not available, the attachment kit is used.
Optional arguments for shared network drive kit	Enter optional arguments if you are specifying a shared network kit. For information regarding optional arguments, see the subtopic "Using optional arguments when running Smart Upgrade."
Message text	Enter the message that will appear when Lotus Notes Smart Upgrade prompts users to upgrade their Notes clients.
Optional arguments for attached kit	Enter optional arguments if you are using an attached kit. For information regarding optional arguments, see the subtopic "Using optional arguments when running Smart Upgrade."

4. Complete these fields on the Administration tab:

In this field	Do this
Allowed Users & Servers	Enter or select the users or servers allowed to upgrade their Notes clients. To include all users in your organization, enter a value using the following format: */OrgUnit/Organization/CountryCode **Note:** When you enter a value in this field, also add LocalDomainServers to this field because this is a "Readers" field. If LocalDomainServers is not included in the entries in this field, the kit will not replicate to other Domino servers in the domain.
Owners	Enter or select the persons who own this document.
Administrators	Enter or select the persons who administer the document.
Comments	(Optional) Enter comments such as the update history for this document.

5. Click Save and Close.
6. Create a desktop policy to deploy the update.

Expression rules for use with the Smart Upgrade Kit document

Domino compares the release number of the user's Notes client to the release number specified in the Source Version field of the Kit document in the Lotus Notes Smart Upgrade database. You can use any of the expression rules shown in the table below, when entering the release number in the Source Version field of the Kit document.

Note: Use the expression rules in this table only in the Source version field of the Smart Upgrade Kit document.

Character	Description
Any character, for example, C	Matches any single non-special character. In this example, it matches C
\C	Matches the single character even if it is a special character. In this example, it matches C
?	Matches any single character
{ABN}	Matches any character in the set (A,B,N)
{!ABN}	Matches any character not in the set (A,B,N)
{A-FH-K}	Matches any character in the set (A...F,H...K)
+C	Matches any number of occurrences of the pattern C
*	Matches any string (shorthand for ?)
!	Complements logical meaning of this template
|	Performs logical ″or″ of two templates
&	Performs logical ″and″ of two templates

Examples

Domino compares the release number of the user's Notes client to the release number specified in the Source Version field of the Kit document in the Lotus Notes Smart Upgrade database. You can use any of the expression rules shown in the table below when entering the release number in the Source version field of the Kit document.

Each matching pattern in the following string matches the source version string:

″Build V604_10072003NP″

Pattern	Explanation of match
Build V604_10072003NP	″Build V604_10072003NP″
*	wild card match
Build V604_1+072+03NP	″+0″ matches ″00″
??????V604???????????	? matches any character
+? V604_10072003NP	″+?″ matches ″Build ″
Build V604_+{0-9N}NP	″+{0-9N}″ matches tail ″10072003NP″
*V604_+{0-7}NP	″_+{0-7}″ matches string ″10072003″
*V604_10072003+{N-P}	″{N-P}″ matches ″NP″
+{A-Za-z} V604_+{0-7}NP	″+{A-Za-z}″ matches ″Build″
Build V604_+{0-7}NP	″0-7″ matches ″10072003″
Build V604_10072003+{!0-9 }	″+{!0-9 }″ matches any string not containing a digit
Build V604_+{!A-Z}NP	″_+{!A-Z}″ matches any string that does not contain any letters A through Z, inclusive.

Running a silent upgrade using optional arguments

You can use optional arguments when launching Smart Upgrade. Smart Upgrade can launch any type of executable; therefore, the command line arguments in the Smart Upgrade Kit document are specific to the executable file referenced in the document, not to the Smart Upgrade itself.

Use optional arguments with Smart Upgrade Kits on a shared network drive or with a Smart Upgrade Kit attached to a Kit document. Optional arguments are commonly used to run a silent Smart Upgrade requiring no user input during the upgrade, or to launch an upgrade that is ″almost silent″ requiring almost no input from users. See the examples that follow.

Samples of the optional command line arguments and their descriptions are shown in the table below.

Optional command line arguments	**Description and use**	**Attached kit example**	**Shared network drive example**
-a	Passes all arguments to the file that is being launched.	-a /v″/qb+″	Does not apply
/a	Administrative installation.	-a /a	/a
/s **Note:** Always place a blank space immediately after the /s.	For attached kit, does not display the dialog box that prompts the user to input the location to which the files are to be installed. By default, the files are placed in the user's <TempDir>\LotusNotesInstall For shared network drive, does not display the Install Shield initialization box.	-a /s	/s
/v	Passes arguments to MSIexec. All arguments entered to the right of the argument /v apply to MSIexec.	-a /v″xxxx″ Where xxxx = any optional argument.	/v″xxxx″ Where xxxx = any optional argument.
/q	Sets the interface level. For example, /qn indicates no user interface displays during the upgrade.	-a /v″qn″	/v″/qn″
/qb+	Displays the basic user interface and a message box at the end of the upgrade.	-a /v″qb+″	/v″qb+″
/px	Web Kit installations. Sets a path to the default program directory and the default data directory. Hides the Location to Save Files dialog box and the Remove Installation Files dialog box. Displays a message box at the end of the upgrade.		Web Kit installation -px -a /s /v″/qb+″
-d	Specifies that files are extracted to a temporary directory, from which they are deleted when the update is complete. The argument -d must be the first argument in the series of arguments.	-d -a /s /v″/qn″	Does not apply.

Example of a silent install when using a Smart Upgrade Kit on a shared network drive

Shared network kits use arguments to initiate a silent install that bypasses the Lotus Notes Install dialog boxes and uses installation options selected during the previous install. Enter the arguments in the field Optional arguments for shared network drive kit.

- Use this format to display a progress bar during the upgrade, in addition to displaying the message indicating that the upgrade is complete or it has failed. Use the b parameter as follows:

  ```
  /s /v"/qb+"
  ```

  Note the following about this example:

  – /s initiates a silent install. Always enter a space after the /s.

  – /v indicates that the "/qb+" parameters are passed to MsiExec. The /qb+ instructs MsiExec to run in silent mode but to display a progress bar during the upgrade, and then to display a message when the install is complete.

Example of a silent install when referencing Web kits in the Smart Upgrade Kit document

This example applies to silent installs where you are referencing Web kits in the Smart Upgrade Kit document. Enter the arguments in the field Optional arguments for attached kit.

- Use this format to run a silent upgrade from a Web kit:

  ```
  -s -a /s /v"/qn"
  ```

  Note the following about this example:

  – Attached kits use the -s argument to make the unpackaging of the detached kit on the user's computer silent.

  – Attached kits use the -a argument to indicate that additional arguments are to be passed to the Lotus Notes installer after the unpackaging is complete. A silent install requires no user input because it bypasses the Lotus Notes Install windows. Silent installs use installation options selected during the previous install.

  – Always enter a space after the /s.

Creating a Lotus Notes Smart Upgrade desktop policy settings document

Use desktop policy settings document to enable Lotus Notes Smart Upgrade to function automatically, to deploy different releases of the Notes client to different groups of users, to upgrade Notes clients through several updates at one time, to automatically create and use a Smart Upgrade Tracking Reports database, and to control when updates occur in order to preserve server performance. The desktop policy settings document is applied continually during authentication and is enforced by dynamic configuration. The policy settings document is applied to the users' client configuration whenever a change to the document occurs.

For more information about the desktop policy settings document, see the topic "Creating a desktop policy settings document" in the Domino Administrator 7.0 documentation.

If you have not already done so, create a master policy document.

Creating a master policy document for Lotus Notes Smart Upgrade

You create or modify a master policy document to determine which users and groups will be assigned the Lotus Notes Smart Upgrade desktop policy settings document. There are two types of master policies: organizational and explicit. Organizational policies are based on your organizational hierarchy and are assigned automatically to the users within an organization. If you want all users in your organization to upgrade their Notes clients, create an organizational policy. Explicit policies are assigned to specific users and groups. If you want only specific users and groups to upgrade their Notes clients, create an explicit policy.

A user who is not assigned to the Lotus Notes Smart Upgrade desktop policy settings document may still update the Notes client because Smart Upgrade works as described here. When the Notes client Smart Upgrade timer expires, the next time the user's Notes client authenticates with their home server or cluster mate of their home server, the server compares the Notes client release information with the available update kit release information it has cached. If the server finds a match, it signals to the Notes client that a possible match exists.

The Notes Client then directly checks the Smart Upgrade database for an available kit. If a user is assigned a master policy where a specific Notes client version is specified, the Notes client only proceeds with Smart Upgrade if a kit exists that will upgrade this particular Notes client to the version specified in the policy. If no master policy exists and the Notes client finds a matching upgrade kit(s) for their current version of Notes, Smart Upgrade also proceeds.

Note: You can limit which kits specific users can see by populating the Allowed Users and Servers field on the Smart Upgrade Kit document. A server can signal to a Notes client that a kit is potentially available, but the Notes client may not locate an available kit because the user's name has not been entered in the Allowed Users and Servers field. In this scenario, the Smart Upgrade timer on the Notes client is incremented by one day.

1. For more information about policies, see the chapter "Using Policies" in the book *Administering the Domino System*.
2. On the People and Groups tab of the Domino Directory, open the Policies view.
3. If you are creating a master policy, click Add Policy. If you are modifying an existing master policy, select the policy to modify, and then click Edit Policy.
4. If you are creating a master policy, do the following:
   - On the Basics tab, enter the policy name, then choose either Explicit or Organizational as the policy type.
   - Provide a description for the policy.
5. In the Desktop field, select the Lotus Notes Smart Upgrade policy to associate the master policy with the Lotus Notes Smart Upgrade desktop policy settings document.
6. Click Save and Close.
7. If you created an explicit policy, you can assign the master policy to users and groups. If you created an organizational policy, then the process is complete.

Assigning the Lotus Notes Smart Upgrade master policy to users and groups

If you created an explicit master policy, then you must assign the policy to users and/or groups. To assign a master policy to a user, edit the Person document. To assign a master policy to a group, use the Set Policy Options dialog box.

To assign a master policy to a user:

1. In the Domino Administrator, open the Persons view on the People and Groups tab.
2. Select the person to whom you want to assign the Lotus Notes Smart Upgrade master policy.
3. Click Edit Person.
4. In the Person document, click the Administration tab.
5. In the Policy field, select the name of the Lotus Notes Smart Upgrade master policy.
6. Click Save and Close.

To assign a master policy to a group:

1. In the Domino Administrator, open the Groups view on the People and Groups tab.
2. Select the group to which you want to assign the Lotus Notes Smart Upgrade master policy.
3. On the Tools pane, select Groups - Set Policy.

4. In the Set Policy Options dialog box, select the Lotus Notes Smart Upgrade master policy, and then click OK.

Note: You can assign only one master policy per group; however, you can assign several policy settings documents to a master policy.

Notes users and Lotus Notes Smart Upgrade

The following is general information about Notes users and Lotus Notes Smart Upgrade.

- Users' Location documents must specify the correct home server on the Servers tab of the Location document. If the wrong home server is specified, Lotus Notes Smart Upgrade will not begin the upgrade process.
- The Windows Installer allows you to specify administrator-level privileges for Lotus Notes 7. This allows users with Windows 2000 Professional and Windows XP Professional operating systems to install Lotus Notes 7 without administrator access.
- At any time during the grace period, users can choose File - Tools - Notes Smart Upgrade to begin the upgrade process.

Maintaining Lotus Notes Smart Upgrade

After you have completed the procedure for setting up the Lotus Notes Smart Upgrade database and Lotus Notes Smart Upgrade policies, perform the following tasks to maintain Lotus Notes Smart Upgrade:

- Download new update kits as they become available on Lotus Developer Domain http://www.lotus.com/ldd/smartupgrade and add the new kits to the Lotus Notes Smart Upgrade database.
- Disable the previous update kits and enable the latest update kit. To disable a kit, clear the Enable check box on the Basics tab of the Lotus Notes Smart Upgrade document.
- Edit the Lotus Notes Smart Upgrade desktop policy settings document with the new release number and grace period.

Upgrading shared installation

Shared installation saves disk space by installing a single copy of the Lotus Notes program files on a network file server to be shared by multiple users. It copies only data files, such as DESKTOP.DSK, BOOKMARK.NTF, and local databases, locally to the client computer. Prior to Lotus Notes 6, shared installation was an option available from the Lotus Notes installation wizard. In Lotus Notes 6 and later, you create shared installation using a transform file applied to an administrative image.

To upgrade a shared installation, delete the old administrative image, then perform an administrative installation to create a new administrative image in the same location as the previous image. Administrative installation installs all program files on the server; however, by default, the components of the administrative installation are not shared. To modify the administrative image, create a transform that indicates which components are shared. You can create the transform using InstallShield Tuner for Windows Installer, which is available with Lotus Notes/Domino 7. Copy the transform to the server directory in which the administrative image resides.

Shared installation is a Windows-only feature. To upgrade shared installation to Lotus Notes 7, client computers require the Windows Installer service, which is part of the Microsoft Windows 2000 and Windows XP operating systems.

Note: Administrative installation does not copy the SETUP.EXE file to the network file server. When you upgrade shared installation, you must make sure that each Windows client has the Windows Installer service installed because shared installation will not install the Windows Installer service.

If you have more than one existing administrative image for different sets of users, you can replace the old images with one administrative image and multiple transforms. Transforms are applied to the Windows Installer package (MSI file) included in the administrative image to create different shared installations. For instance, if you had different shared installations for your Notes users and Notes developers, you can replace both existing images with one administrative image and two transforms. The first transform installs only the Notes client, while the second transform installs both the Notes and Domino Designer clients.

Deploying Notes client settings with policies

After users upgrade to Lotus Notes 6 or 7, you can use policies to configure Notes client settings for users. These settings include customized Welcome pages, standard bookmarks, and workstation Execution Control Lists (ECLs). Policies replace Setup Profiles used in earlier releases. Before implementing policies, disable any Setup Profiles in your organization's Person documents.

For more information about policies, see the book *Administering the Domino System*.

Setting default workstation security

Before upgrading Notes, the domain administrator may want to set the Administration Execution Control List (ECL) in the Domino Directory. The Administration ECL sets the default security on the Notes client when users start Notes for the first time after they upgrade. Workstation security defines which group's applications can execute on a Notes client. If a group is not specified in the ECL for a client, Notes warns the user when an application created by the group attempts to run on that client.

For information about setting the Administration ECL, see the book *Administering the Domino System*.

Setting your Personal Address Book preferences

When you upgrade to Lotus Notes 6 or 7, Notes automatically upgrades the design of your Personal Address Book. The first time you open your Personal Address Book after upgrading, Notes asks you to enter your preferences into the Personal Address Book profile. To enter your preferences, do the following:

1. Select an Address Book owner. Generally this is the person whose Notes client has been upgraded and who is the primary user of the address book.
2. Select whether to sort alphabetically new groups that you create.
3. Select whether to allow LDAP queries of the address book to elicit detailed information. This option lets you search your address book by categories such as country or phone number when looking up users during mail addressing.
4. Choose a background for the Business Cards in your address book. You can scroll through the backgrounds by clicking the right and left arrow buttons.
5. Choose a style for the Business Cards in your address book. You can scroll through the styles by clicking the right and left arrow buttons.
6. Click Save and Close.

Using calendar and scheduling features with Internet mail

In an environment that routes mail over NRPC and SMTP, the Domino router automatically routes meeting invitations, appointments, and other calendar and scheduling information over NRPC when possible. When mail is routed over SMTP -- for example, if you send a meeting invitation to someone over the Internet -- calendar and scheduling items are converted to text messages. NRPC is required to use the workflow features in Notes calendar and scheduling items.

Chapter 5. Upgrading Notes mail files

After upgrading to Lotus Notes 7, upgrade user mail file templates to the Notes 7 design or to another mail template. If you do not upgrade each user's mail file template, the Notes client user will not have access to the newest mail features. You have three options for upgrading mail file templates:

Upgrade type	Upgrades
Upgrade-by-mail	The Notes client and the Notes mail file template
Mail conversion utility	Mail file templates using the mail convert task
Seamless mail upgrade	Automatically upgrades the mail file template after users upgrade their Lotus Notes clients to Notes 7

Note: The Notes client user can upgrade their own mail file template by using the Replace Design feature. To do so, the user must open their mail file, and then choose File - Database - Replace Design. From the Replace Database Design dialog box, the user selects the template server from the list of servers, clicks the check box Show advanced templates, selects the template that contains the new design, and then clicks Replace. The mail file template design upgrades to the newest design.

When you upgrade users' mail files, you can specify any mail template, including:

- Notes 7 mail file template (MAIL7.NTF)
- Domino Web Access (7) (DWA7.ntf)
- A customized mail template

Note: The Domino Web Access (7) template is supported by the Notes 7 client and the Domino Web Access 7 client.

Tip: You can use both Upgrade-by-mail and the mail conversion utility to upgrade users. Use Upgrade-by-mail to notify users to upgrade their Notes clients, but do not complete the mail file portion of the notification. After users upgrade their Lotus Notes clients, use the mail conversion utility to upgrade their mail file templates. This ensures that all clients are upgraded to Notes 7 before you upgrade the Notes mail file template.

The following table compares the mail conversion utility, Upgrade-by-mail, and seamless mail upgrade.

Option	Advantages	Considerations
Mail conversion utility	• Administrators determine when to upgrade mail file templates • Upgrade options available for upgrading one or more mail files, mail files located in a subdirectory, and so on • Upgrades Notes 5 and Notes 6 mail file templates to the Notes 7 design	• You must ensure that Notes clients are upgraded before upgrading mail file templates
Upgrade-by-mail	• Upgrades Notes 5 and Notes 6 mail file templates to the Notes 7 design • Can be used to notify users when mail files have been migrated from Microsoft Exchange and Microsoft Outlook Express	• Requires users to have at least Designer access to mail files for template upgrades

Option	Advantages	Considerations
Seamless mail upgrade	• Can specify different mail file templates for different Lotus Notes client versions • Can also upgrade custom mail folders • Does not require users to have Designer access to mail databases	• Requires that users be assigned to either a policy or Setup Profile. Users not assigned to one or the other are not upgraded. • If seamless mail upgrade fails, it prompts users to upgrade their mail files manually. Users can ignore this prompt and select the ″Do not display this message again″ option.

Upgrading mail files with the mail conversion utility

When you upgrade users' mail files to the Notes 7 mail template or to the Domino Web Access (7) template, you can upgrade one file at a time or use the mail conversion utility to automate upgrading the design. Be sure that you have already upgraded the Domino server that hosts the mail files and the Notes clients that access those files, or users will not be able to use the features in the new design. Upgrade mail files at a time when users won't be accessing them -- for example, early mornings or over a weekend. Notify users that their mail files will be unavailable during the upgrade.

You can also use the mail conversion utility to convert a mail design from one language to another language and to migrate from Microsoft Exchange.

For more information about using the mail conversion utility for Microsoft Exchange migration, see the topic Migrating from Microsoft Exchange using the mail conversion utility.

To use the mail conversion utility

Note: Before using the mail conversion utility, make sure that all clients are upgraded to Lotus Notes 7.

1. If users have customized their mail files, instruct them to back up these customizations. For example, users can make a copy of their mail file that includes only the database design. This allows users to apply changes they made to their Notes 5 or Notes 6 mail file to the new Notes 7 mail template, if necessary.
2. Start the Domino server on which you want to customize mail files.
3. Shut down the router. Enter:

   ```
   tell router quit
   ```

   and press ENTER to prevent Domino from routing mail to the mail files while they are being upgraded. Mail is stored in MAIL.BOX while you upgrade the mail files. After you upgrade the mail files and load the router task again, the router processes and delivers the mail in MAIL.BOX.
4. Load the mail conversion utility. Type

   ```
   load convert [arguments]
   ```

   and press ENTER.

   The mail conversion utility command uses arguments to specify options. It has the form:

   ```
   load convert   -? /? -a -c -d -e -f -g -h -i -l -m  -n -o -proxy -r -s -u
   -w -x mailfilepath existingtemplatename newtemplatefilename
   ```

   Mailfilepath specifies which mail file or files to upgrade.

   Existingtemplatename specifies a certain mail file design to upgrade (for example, only mail files using Notes 7 design). This property is found in the Template Name field on the Database Properties - Design tab.

Newtemplatefilename specifies the template with which to upgrade the mail files.

Options	Description
-a Admin Name	Enables sending mail to the administrator when the convert tool completes.
-c	Converts categories to folders.
-d	Do not convert categories to folders.
-e or -e-	Enables or disables NSF support for IMAP. Converts the file or files for IMAP use in Notes 7.
-f <file name>	Reads the list of databases to process from a text file.
-g″Language Name″	Replaces the mail file design with user's preferred language.
-h	Adds the IMAP specific items to optimize fetches.
-i	Converts categories to folders, even if there are more than 200 categories.
-l <file name>	Generates a list of mail files by reading people's mail files from the Domino Directory. Writes the list to a text file.
-m	Enables or disables folder references which are needed for IMAP. Converts the file or files for IMAP use in Notes 7.
-n	Shows the databases that match the file name and template name criteria, without actually updating anything.
-o	Removes IMAP-specific items.
-proxy	Enables a display status and error messages in a console window.
-r	Enables recursive search of databases. Converts mail files in subdirectories of the specified directory.
-s	Ignores the preserve flag for folders when replacing the design but always preserve them.
-u	Enables the upgrade of folders to the same design as the $inbox design.
-w <dir path>	Enables fix up of names in Notes in all mail files on the server to allow for Microsoft Exchange Mail Migration.
-x	Enables exclusive design element keys: <NAME><CLASS><LANGUAGE>
-? /?	Displays help information. Displays command line help.

5. When you have finished upgrading mail files to the Notes 7 template on this server, load the router. Enter:

   ```
   load router
   ```

   and press ENTER.
6. Notify users that you upgraded their mail files to the Notes 7 design.

Mail conversion utility tasks

You can use the mail conversion utility to upgrade one or more mail databases. The following table describes the tasks that the mail conversion utility can perform.

Task	Description
Upgrading a single mail database	This example finds the mail database USER.NSF in the \MAIL subdirectory of the Notes data directory. The mail conversion utility replaces the current mail template -- regardless of which template the mail file uses -- with MAIL7.NTF, the Notes 7 mail template. `load convert mail\user.nsf * mail7.ntf`
Upgrading all mail databases in a directory	This example finds all databases located in the \MAIL subdirectory of the Notes data directory that use StdR6Mail, the Notes 6 mail template, and replaces their design template with MAIL7.NTF, the Notes 7 mail template. `load convert mail\*.nsf StdR6Mail mail7.ntf`
Upgrading all mail databases in a directory and in its subdirectories	This example finds all databases located in the \MAIL subdirectory of the Notes data directory and all subdirectories of the \MAIL directory (for example, C:\NOTES\DATA\MAIL\GROUP1, C:\NOTES\DATA\MAIL\GROUP2, and C:\NOTES\DATA\MAIL\GROUP3) and upgrades them to the Notes 7 mail template, MAIL7.NTF. `load convert -r mail\*.nsf * mail7.ntf`
Upgrading all mail databases listed in a text file	You can create a text file listing databases you want to upgrade and use it with the mail conversion utility to upgrade only those databases. For example, you can create the text file MAILLIST.TXT to list all the mail databases you want to upgrade and save it in the directory C:\TEMP. This example finds all databases listed in MAILLIST.TXT, determines whether the databases use a design template name that matches Mail*, (mail6.ntf for example), and replaces the designs of the matching databases with MAIL7.NTF), the Notes 7 mail template. `load convert -f c:\temp\maillist.txt mail*.ntf mail7.ntf`
Creating a text file that lists all mail databases in a directory	You can use the mail conversion utility to create a text file that lists all primary mail databases on the server (it does not list replica mail databases). This example creates a text file, MAILLIST.TXT, in the C:\TEMP directory. MAILLIST.TXT contains a list of primary mail databases on the server but excludes replica mail databases. After you create the text file using this option, you can use the file to upgrade the mail databases listed in it. See ″Upgrading all mail databases listed in a text file″ in this table. `load convert -l c:\temp\maillist.txt`
Converting mail files for use with IMAP in Notes 5	If you use a Notes 5 mail file with IMAP, run the mail conversion utility to enable IMAP-specific features in the mail file. This example readies the mail database USER.NSF in the \MAIL subdirectory of the Notes data directory for use with IMAP. `load convert -m mail\user.nsf`
Converting mail files for use with IMAP in Notes 6	If you use a Notes 6 mail file with IMAP, run the mail conversion utility to enable IMAP-specific features in the mail file. This example readies the mail database USER.NSF in the \MAIL subdirectory of the Notes data directory for use with IMAP. `load convert -e mail\user.nsf`
Upgrading custom folder design	You can use the mail conversion utility to upgrade custom folder design to the Inbox design. This example upgrades the custom folder design of all mail databases in the \Mail subdirectory of the Notes data directory to the Inbox design. `load convert -u mail\*`

Task	Description
Upgrading folder design of folders without the Preserve bit	The -s argument ignores any folder or view with the Preserve bit deselected. This bit corresponds to the ″Do not allow refresh/replace to modify″ option in the design properties. System folders and other design elements from the original template used to create the mail file do not have this bit set, even if the database is set to inherit from design. System folders, such as the Inbox, are not updated if you run the mail conversion utility with the -s argument. This affects mail files being upgraded to Lotus Notes 6 because required script libraries have been removed and action buttons have been upgraded. `load convert -s mail\*`
Changing the English mail design to a German mail design	`load convert -g"German" TestMail.nsf * mail7_en_de.ntf`
Upgrade all previous users' mail designs listed in the file maillist.txt to Domino 7 mail design	`load convert -u -f maillisttxt * mail7.ntf`
Performs address fixup for all Microsoft Exchange migrated mail databases in <dir path> and its subdirectories	`load convert -w <db path>`
Performs address fixup on the given Exchange migrated mail database.	`load convert -w <mail db path>`
Generates a text list containing all Exchange migrated mail databases from the primary mail directory, excluding replicas. This feature is of lesser-importance than address fixup but it is necessary in the event that the subsequent option is required.	`load convert -w -l <text list path>`
Performs address fix-up on all Exchange-migrated mail databases listed in the given text list file. Provides flexibility in allowing the administrator to manage the databases that need address fix-up.	`load convert -w -f <text list file>`

Note: When you use a wildcard character, such as an asterisk (*), to specify which files to upgrade to the Notes 7 mail template, be sure that all databases in the directory (and, if specified, subdirectories) are mail files. When you use a wildcard character, Lotus Domino replaces the design of all databases specified by the wildcard character with the specified template, such as the Notes 7 mail template. If you replace the design of a non-mail database with the Notes 7 mail template by mistake, you can use the mail conversion utility to restore the original design and then specify the correct template.

Using seamless mail upgrade

Seamless mail upgrade automatically upgrades mail file templates after users upgrade their Lotus Notes clients to Notes 7. When users first start the Lotus Notes client after upgrading, Lotus Notes begins upgrading the design of local databases like the Personal Address Book. At this time, the client also sends a call to the users' home server to upgrade the mail file template.

The server looks for an assigned Desktop policy settings document or Setup Profile document for the users. If one is found and the Mail Template Information section is complete, then seamless mail upgrade starts the mail conversion utility to upgrade the template.

Setting up seamless mail upgrade

When the Domino server receives the call to upgrade a mail file template, the server checks for a Desktop policy settings document assigned to the user. The Desktop policy settings document contains a ″Mail Template Information″ section. In this section, you can specify which mail file template to apply according to the Lotus Notes client version.

To set up seamless mail upgrade in the Desktop policy settings document

1. In the Domino Administrator, open the Settings view on the People and Groups tab.
2. If you are creating a Desktop policy settings document, click Add Settings, then choose Setup. If you are modifying a desktop settings document, select the document, then click Edit Settings.
3. Under the Mail template information heading, complete the fields described in the following table.

In this field	Do this
Prompt user before upgrading mail file	Select this check box to inform users before upgrading their mail files. If prompted, users can choose to defer the template upgrade.
Old design template name for your mail files	Enter the name of the mail template that you want to upgrade. For example, if you want to upgrade the Lotus Notes 6 mail template, enter MAIL6.NTF. If you are upgrading users with different templates, specify an asterisk (*).
New mail template file name	Enter or select the name of the mail file template to apply. The standard Notes 7 mail file template name is MAIL7.NTF. If you do not want to implement seamless mail upgrade, do not complete this field.
Ignore 200 category limit	Select this option to override the default that limits the creation of folders in a database to 200.
Mail file to be used by IMAP mail clients	Select this option if you are upgrading IMAP mail clients.
Upgrade the design of custom folders	Select this check box to upgrade the design of custom folders to the Inbox design.
Prompt before upgrading folder design	Select this check box to inform users before upgrading their mail folder design. If prompted, users can choose to defer the folder upgrade.
Notify these administrators of mail upgrade status	Enter the names of administrators who must be notified of the upgrade.

4. Click Save and Close.
5. If you have not already done so, create a master policy and associate the Desktop policy settings document to the policy. Then, assign users and groups to the master policy.

Lotus Notes 7 mail files and mixed-release environments

If you have a mail file on a Domino 7 server with a Notes 7 template and a replica of that file on a Domino 5 or Domino 6 server that uses a template from an earlier release, you must ensure that the designs of the mail files do not replicate. A mail file with a Notes 7 design on a Domino 5 or Domino 6 server does not work properly, and you want to ensure that the older Notes 5 design does not overwrite the Notes 7 design on the Domino 7 server. To prevent the mail templates of the two replicas from replicating, do the following for each mail file:

1. Open the mail file replica.
2. Choose File - Replication - Settings.
3. Click the Advanced tab.

4. Under ″Replicate incoming,″ clear the ″Forms, views, etc.″ and ″Agents″ check boxes.
5. Click OK.
6. Repeat Steps 1 to 5 for each replica.

Note: This procedure does not work for clustered servers and databases -- cluster replication ignores selective replication.

Lotus Notes 7 mail file template interoperability

The following table describes Lotus Notes client version and mail file template interoperability.

Notes client release	Notes 5 mail template	Notes 6 mail template	Notes 7 mail template
Notes 5	Fully functional	Functional with the following exceptions: • Support for mail and To Do functionality available in Lotus Notes 5; does not support Notes 6 mail and To Do functionality • Users can view calendar entries, but cannot delete, edit, or act upon them • Display calendar views supported in Lotus Notes 5; cannot display Notes 6 calendar views • No support for soft deletions • No access to preferences	Unsupported configuration. Very few features work for R5 clients using a Mail 7 template.
Notes 6	Fully functional	Fully functional	Unsupported configuration. Many Notes 7 features are not functional on a Notes 6 client.
Notes 7	Fully functional	Fully functional	Fully functional

Upgrading Domino Web Access clients

To upgrade Domino Web Access (iNotes) clients, use the mail conversion utility at the Domino console to apply the Domino Web Access template to users' mail files. You cannot upgrade Domino Web Access using upgrade-by-mail.

Notes users can also update their mail file by selecting File-Database-Replace Design from the Notes client.

Lotus Notes/Domino 7 provides a Domino Web Access (7) template (DWA7.NTF) that supports Notes 7 mail files, and an iNotes Web Access (R6) template (iNotes6.NTF) that supports Notes 6 mail files. Both of these templates support the Notes client, the Domino Web Access client, and WebMail.

DWA7 is not backwards compatible with prior server versions. However, the mailfile will automatically load the version that is compatible. In mixed server environments, for example, if you have a DWA7 replica on a Domino 6.5.4 server, when you access your mail from the 6.5.4 server, your mailfile will load the iNotes6 mail template.

Note: The iNotes Web Access (R5) mail template (iNotes5.NTF) is no longer available in Domino 7, so you can no longer create new users with iNotes 5 as their mail template. However, existing users whose

mail file is based on iNotes 5 will be able to continue using the iNotes 5 user interface. If you upgrade your server but want to continue using iNotes5.NTF, you should leave it on the server so that it will be available.

Upgrading from a custom template to a Domino Web Access template

If your organization uses a customized mail template, do the following to upgrade to Domino Web Access:

1. Back up the custom mail template.
2. Create replicas of the mail file databases on a Domino 7 server that does not use the custom template.
3. Disable design replication on those files to prevent overwriting of the customized design template.
4. Replace the design of the new mail replicas using the mail conversion utility.

Note: The Domino Web Access client supports limited customization.

Upgrading to the Notes 7 folder design

You have two options for upgrading to the Notes 7 folder design:

- Specify the -u argument for the mail conversion utility
- Use the Upgrade Folder Design agent

If you use the mail conversion utility to upgrade mail files with the Notes 7 mail template (MAIL7.NTF), but you do not use the -u argument, the new folder design is not applied to existing folders because folders are not part of the template design.

The Upgrade Folder Design agent is available in the Notes 7 mail template (MAIL7.NTF). With the agent, you can choose to upgrade one or more shared or private folders to the following standard folder designs: All Documents, Inbox, Alarms, Trash, Rules, or Calendar.

Note: The "Database - Upgrade Design" does not upgrade folders created by users; therefore, the Upgrade Folder Design feature is used for this procedure.

Users can upgrade their folder design following this procedure:

1. From the Lotus Notes 7 client, open the mail file database.
2. Choose Actions - Upgrade Folder Design.
3. Do one of the following:
   - To upgrade all of your folders at once to the latest version of the design used to create the folders, click Automatic Upgrade. For example, if Folder1 has the Inbox style assigned and Folder2 has the Trash style assigned, Automatic Upgrade upgrades Folder1 to the new design of Inbox and Folder2 to the new design of Trash.
   - To upgrade folders individually, click Manual Upgrade. Select a folder design, such as Inbox, then select the folders to upgrade to that design. Click OK. Repeat as necessary.
   - To postpone upgrading the folder design until you have examined the design of your folders, click Cancel.

Note: If you created folders using another style, such as Calendar, and you upgrade the folder to another design, such as Inbox, you will lose functionality provided by that original folder style.
CAUTION:
Using the Upgrade Folder Design action when you have a large number of folders with long names (2000 folders with fifty character names) results in the following error:

```
Notes Error: Adding entry will cause text list to exceed 64K. Entry not added.
```

Chapter 6. Upgrading databases and applications

Lotus Notes/Domino 5 and Lotus Notes/Domino 6 applications created with system templates that ship with Lotus Notes/Domino run without modification on a Domino 7 server and with the new database format, that is, the On-Disk Structure (ODS). Any known incompatibility issues are documented in this guide and in the *Release Notes.* Test your applications on a Domino 7 server before deploying them. If you encounter a problem or incompatibility that is not documented, you can check the IBM Lotus knowledge base at http://www.ibm.com/software/lotus/support.

Upgrading databases and applications includes compacting the databases to upgrade the database format (ODS) for Notes/Domino R5 and upgrading database templates. When you upgrade to Lotus Notes/Domino 7 templates and features, be aware that Notes R5 clients cannot use these features. Using Lotus Notes/Domino 7 templates and features in a mixed-release environment can cause complications by preventing R5 clients from using the full functionality of the application.

Lotus internal testing, and testing done with ISV partners, demonstrates that upgrade concerns and issues for applications are generally minor or nonexistent. However, each application is different. Test all mission-critical, revenue-generating, or complex applications on Lotus Notes/Domino 7 before deploying them.

There are three choices for upgrading databases and applications in the Lotus Notes/Domino 7 environment:

1. Upgrade an application server to Lotus Domino 7, but leave databases in Domino 5 format (ODS 41). (Domino 6 and Domino 7 have ODS 43.)

   All clients can access the databases.
2. Upgrade the server and database format to Domino 7, but leave the database design and features at Domino 5 or Domino 6. Database design is the underlying structure of the database. It includes the forms, views, and the access control. It does not include any content.

   All clients can access the databases. Compact the database to the new database format (ODS).
3. Upgrade the server, database format, database design, and database features to Domino 7.

   Notes 5 and Notes 6 clients cannot use the Notes 7 features. You may need to make changes to the application to use new features. Compact the database to the new database format, upgrade to the Notes 7 design, and add new Notes 7 features as desired.

Upgrading databases to Lotus Notes/Domino 7

After upgrading a server to Lotus Domino 7, you can upgrade the databases on that server to the Domino 7 On Disk Structure (ODS) and design (template). These two steps -- upgrading ODS and upgrading database design -- are independent of each other. Because the ODS does not replicate, you can leave the design of a database based on a Domino 5 template and upgrade the ODS on that server to the Domino 7 ODS. If you decide to upgrade the database design to use Domino 7 templates and features, be aware that Notes 5 clients cannot use Notes/Domino 7 features. Some Domino 7 features and templates require that a database use the Domino 7 ODS.

Before upgrading ODS to Domino 7

- Upgrade the application server to Lotus Domino 7 to allow the server to host Domino 7 databases and use Domino 7-style compaction.
- Run Fixup on databases to prevent most errors that interfere with compaction to the new ODS.

After upgrading ODS to Domino 7

- Consider running Updall -r on the database to rebuild views in the database and to prevent delay when users first try to access it. This task is especially important for databases that are used frequently, are mission-critical, or have large views.

Resource Reservations Database

The Domino 7 Resource Reservations database requires that you upgrade the Resource Reservations database design to Domino 7, and then enable the Rooms and Resources Manager (RnRMgr) task.

Upgrading database format

After you install Lotus Domino 7 on a server, you can upgrade the format of databases on that server. The database format determines which features are available in a database. Some Domino 7 features require the Domino 7 database format.

When you compact a database, the database format is upgraded. Domino 7 databases are theoretically unlimited in size. Lotus has tested and certified databases up to 64 GB.

If you do not want to upgrade database format, you have three options:

- Use the -R option with the Compact command to keep a database in Domino 5 format (ODS 41) or to roll its format back to Domino 5 ODS.

  Note: Domino 6 and Domino 7 use ODS 43.
- Make a database copy or replica and rename the file extension to applications or NS5 for Domino 5 applications.
- Do not run the compact task.

To check a database's ODS version, open the Info tab of the Database Properties box. The following table lists the ODS version and Lotus Notes/Domino releases.

ODS version	Lotus Notes/Domino release
ODS 43	Release 7
ODS 43	Release 6
ODS 41	Release 5

Compacting a database to Domino 7 format from the Domino Administrator

1. Make sure the server hosting the database has been upgraded to Lotus Domino 7.
2. Start the Domino Administrator.
3. Click the Files tab.
4. Select the database(s) to compact to Domino 7 ODS.
5. In the Tools pane at the right, select Database - Compact.
6. Click OK.

Compacting a database to Domino 7 format from the server console

1. Upgrade the application server to Lotus Domino 7.
2. Start the upgraded server.
3. Enter the following command:

   ```
   load compact databaseName.nsf
   ```

and press ENTER, where databaseName.nsf is the file name of the database you want to compact to Domino 7 format.

You can also use an indirect file to list databases that you want to compact from the Domino server console.

For more information about the indirect file, see the topic ″Compacting databases, rebuilding views, and fixing corrupt databases with an indirect file″ later in this chapter.

Compacting databases from a Notes client

If a user compacts a database from a Notes client (for example, from the Info tab of the Database Properties box), the server compacts the database for the client. A Domino 7 server compacts the database using Domino 7 compaction and a Domino 5 server compacts the database using Domino 5 compaction respectively. It is possible for Notes users to compact a Domino 5 database on a Domino 7 server to the new database format. To prevent this, rename Domino 5 databases using the NS5 extension.

Keeping a new database in Domino 5 format

Any Notes client can access a database hosted on a Domino server, regardless of the client or server release or the database format (ODS). However, Notes clients cannot access or use database features from later releases; for example, a Notes 5 client can access a Domino 7 database on a Domino server, but it cannot access or use the Domino 7 features in that database.

If a database is stored on the local drive of a client, only clients of the same release and later can access it. For example, a database in Domino 6 format can be accessed locally by a Notes 6 or Notes 7 client, but not by a Notes 5 client.

Domino servers can only host applications in their release format (ODS) and earlier formats. Since the ODS did not change from Domino 6 to Domino 7 -- both use ODS 43 -- a Domino 6 server can host a Domino 7 database, a Domino 6 database, or a Domino 5 database.

To create an application that can be accessed locally by Notes 5 clients and stored on Domino 5 servers, assign it the extension NS5 in the File name field when you create the database. To keep a database in Domino 5 format so it can be accessed locally by Notes 5 clients or stored on a Domino 5 server, change the database's extension to NS5 at the operating system level before compacting to the Domino 7 format, or create a new replica of the database and use the extension NS5.

Note: When databases are created with an .NSx extension, for example, .NS5, .NS6, etc., Notes adds a flag to the database header that prevents Compact from upgrading the ODS. Simply changing the extension back to .NSF does not allow Compact to upgrade the ODS, as the flag is still contained within the database header.

Creating a replica of a database in Domino 5 or Domino 6 format

1. Choose File - Database - Open.
2. Select the database for which you want a Domino 5 or Domino 6 replica.
3. Click Open.
4. Choose File - Replication - New Replica.
5. In the File name field, give the new replica the extension NS5 or NS6.
6. Click OK.

Rolling back databases to Domino 5 database format

After you upgrade an application or database, you can change its format to an earlier format by using Compact -R, compacting from the Domino Administrator, or by creating a replica or copy of the database

in Domino 5 format. Notes 5 clients can access databases on Domino 6 and Domino 7 servers, but you cannot use a Domino 6 or Domino 7 database on a Domino server running an earlier release of the software.

Database format (ODS) does not replicate, and Domino 5 servers ignore Domino 6 and Domino 7 features, so you can safely replicate a database replica that has been upgraded to a Domino 6 or Domino 7 database format with a replica that has not been upgraded.

Rolling back a Domino 6 or Domino 7 database to Domino 5 format from the Domino Administrator

1. Start the Domino Administrator.
2. Click the Files tab.
3. Select the database(s) to roll back to the Domino 5 format.
4. In the Tools pane at the right, choose Database - Compact.
5. Select "Keep or revert database back to R5 format."
6. Click OK.

Rolling back a Domino 6 or Domino 7 database to Domino 5 format from the server console

1. Change to the Domino server console.
2. Enter the following command:

   ```
   load compact databaseName.nsf -R
   ```

   and press ENTER, where databaseName.nsf is the file name of the database you want to roll back to Domino 5 format.

Domino compacts the database back to Domino 5 format.

Rolling back a Domino 6 or Domino 7 database to Domino 5 format by creating a replica

1. Start the Notes 6 or Notes 7 client.
2. Choose File - Database - Open.
3. In the Server field, type the name of the server that hosts the database you want to roll back, and then click Open.
4. Select the database you want to roll back, and then click Open.
5. Choose File - Replication - New Replica.
6. In the File name field, change the database extension from NSF to NS5.
7. Click OK.

The new replica will be in Domino 5 format and can be placed on any server running Domino 5 or later and accessed locally by any Notes 5 or later client.

Rebuilding views

In Lotus Notes and Lotus Domino, users may experience a delay when accessing upgraded databases for the first time. This delay occurs because all database views rebuild on initial access due to the updated View version in this release. To prevent this delay, run Updall -r on the database to rebuild the views.

Note: You can use an indirect file to specify databases for the Updall task.

Compacting databases, rebuilding views, and fixing corrupt databases with an indirect file

You can use an indirect file to specify one or more databases to compact, to rebuild views, or to fix corrupted views and documents. An indirect file is a text file that lists database file names or directory names and that you can specify for the Compact, Updall, or Fixup task on the Domino console command line. The indirect file allows you to specify more than one database on the command line.

To create the indirect file

1. Use a text editor, such as Notepad, to create the text file.
2. List the file names of the databases in the Data directory that you want to fixup, compact, or rebuild. For example, NAMES.NSF.
   - If the databases reside in a subdirectory of the Data directory, specify the directory and the database file name. For example, c:\lotus\domino\data\events4.nsf
   - If you want to fixup, compact, or rebuild all databases in a subdirectory, specify only the directory name. For example, mail\jsmith.nsf
3. Save the file with the file extension IND.

To specify the indirect file for the fixup, compact, or updall task

At the Domino server console, enter one of the following commands and the indirect file name:

- To run Fixup, enter:

  ```
  load fixup filename.ind
  ```

- To run Updall, enter:

  ```
  load updall filename.ind
  ```

- To run Compact, enter:

  ```
  load compact filename.ind
  ```

Upgrading system templates

In a mixed environment, Domino 7 automatically upgrades system templates to the Domino 7 design when the following conditions exist:

- Replication settings are set to replicate templates.
- The template's replica ID is not changed from one release to another.
- The Design task is running on all servers to allow for the upgrade to the system templates.

Templates in a mixed-release environment

Notes 5 and Notes 6 clients can render some system databases that use Domino 7 templates. Some Domino 7 templates, though, do not render well in pre-Release 7 clients. Templates fall into three categories:

1. Domino 7 templates that are supported with the Notes 5 or Notes 6 client. This applies to most templates, for example, Discussion - Notes & Web (7) (DISCSW7.NTF) and TeamRoom (7) (TEAMRM7.NTF). The Domino 7 application templates were tested in previous releases for basic functionality.
2. Domino 7 templates that are supported but have altered appearance, that is, the templates are functional, but do not appear as they would in a Notes 7 client. This applies to Domino Directory (PUBNAMES.NTF). The Domino Directory template contains special views and forms for older clients.
3. Domino 7 Templates that should not be used in a mixed environment. For example, the Domino Domain Monitor (7) template (DDM.NTF), has code built into it that checks the client version. If you are using an R5 client, a message displays indicating that Notes Domino R5 is not supported. You can use Domino 6 with DDM.

Upgrading Domino Off-Line Services (DOLS) subscriptions

To upgrade a DOLS environment, the administrator must upgrade all DOLS-enabled online subscriptions on the server, then users must update their Domino Sync Manager software and the existing off-line subscriptions on their computer.

To upgrade online subscriptions

Administrators must do the following to upgrade online subscriptions.

1. Upgrade the host server to Domino 7. DOLRES.NTF is automatically upgraded.
2. Open each DOLS subscription, choose File - Database - Properties, and then click the Design tab.
3. Check ″Inherit design from template.″ In the ″Template name″ field, enter DOLRES.NTF.
4. Run the Design Task. The DOLS design elements in the subscription NSFs are upgraded.

To upgrade the Domino Sync Manager and off-line subscriptions

Users must do the following to upgrade the Domino Sync Manager and off-line subscriptions.

1. Install a new subscription from the upgraded server. This automatically upgrades the Domino Sync Manager.
2. Synchronize each off-line subscription to upgrade its design.

   For more information about DOLS, see the book *Administering the Domino System*.

Chapter 7. Upgrading search

This release of Lotus Notes/Domino includes Domain Search, a feature introduced in Lotus Notes/Domino R5, which you can use to index and search an entire domain of Domino databases, including attachments to documents, and files in a file system. Domain Search filters search results according to a user's access to a document that matches the search query. If the user does not have read access to a document, Domain Search does not include that document in the search results.

All Notes/Domino 5 and Notes/Domino 6 search functions and methods are preserved in Lotus Notes/Domino 7. Existing Notes applications that use search through the Notes Search API (Application Programming Interface) work without modification in this release of Notes/Domino.

Upgrade information on search

For more information on upgrading search, see the following topics:

- Changes in search
- Updating server indexes
- Search interoperability issues
- Search Site and Lotus Notes/Domino 7

Changes in search

Since Lotus Notes/Domino 5, search has undergone the following changes:

- Thesaurus and stop words are no longer available.
- Indexes are larger.
- Search is fully double-byte character enabled; you can use it with multiple languages and in multinational organizations.

Updating server indexes

Many databases have indexes allowing users to search their views. After upgrading to Lotus Domino 7, the Domino server indexer automatically detects Domino 5 single-database indexes and replaces them with Domino 7 indexes. When the indexer periodically runs in the background to update single-database indexes, if the domain indexer task is enabled, it also updates the Domain Index.

If users attempt to search a database on a server that is being updated to Domino 7 search, they get an error. They can search the database after the Domino server rebuilds the database index. Single-database indexes on a client are upgraded by a background agent in Lotus Notes 7; if users try to search before the background agent runs, they receive an error. In this case, users can rebuild the index manually.

Note: By default, background agents, like the one that updates the search indexes, are disabled. You must enable background agents.

Administrators can override individual database settings to include or exclude databases from the Domain Index by setting the "Include in multi database indexing" option in the Database Properties box.

Search interoperability issues

In the process of upgrading, you may have an environment that uses the Domino 5 or Domino 6 and Domino 7 search engines. Web clients run Domain Searches through a link to the correct search form in the Domain Catalog. Application designers can set multiple search forms in the catalog and provide multiple links.

Domino servers have a background task that updates indexes. When it encounters an earlier release Notes/Domino index on a Domino 7 server, the task upgrades the index. You can also update an index manually.

To manually update a database index

1. Choose File - Database - Open.
2. Select the database for which you wish to update the index, and then click Open.
3. Click the Discovery button at the top right of the screen.
4. In the Search bar, click More.
5. Click Update Index.

Note: You can index all file attachments in a database using file filters, or index only the text in files for faster indexing.

Search Site and Lotus Notes/Domino 7

Although Search Site is supported by Lotus Notes/Domino 7, most of its features are now included in Domain Search.

If you use Search Site, consider the following:

- A query returns a newsletter of links, with no security filtering of the results. While users cannot open a link to which they do not have access, they do know that their search generated a result on the query entry.
- The results from a search cannot be viewed until all results are completely formatted in the newsletter, which lengthens response time, especially if there are many results from a search.

Search Site is useful when you want to index a subset of databases that are not highly confidential. You can also categorize these databases and use Domain Search to index them, though there is some overhead to this approach.

Domain Search incorporates Search Site features and adds the filtering security based on the Domain Catalog.

Chapter 8. Upgrading Security

Security in Lotus Notes/Domino 7 operates in the same way as in Lotus Notes/Domino 5, but offers additional features for Internet users, servers, and clients.

See information on:

- Web server authentication in a mixed-release environment
- Making root certificates available to clients using SSL and S/MIME
- How ECLs respond when you install or upgrade a Notes client

Internet/intranet authentication in a mixed-release environment

If you're upgrading from Domino 5 to a later release, note the widened scope of the "Internet authentication" setting. In Domino 5, this setting applied only to Web browsers; since Domino 6, the setting applies to all Internet protocols, including LDAP, POP3, and IMAP.

On the Security tab of the Server document, the setting "Internet authentication" provides two choices: "More name variations with lower security" or "Fewer name variations with higher security." Selecting "More name variations" authentication means that users can enter any of the following as a user name when prompted by the browser or other Internet client:

- Last name only
- First name only
- Short name
- Common name
- Full hierarchical name
- Any alias in the User name field
- Internet address
- UID, if using an LDAP directory for authentication

If you select "Fewer name variations," users can enter any of the following as a user name when prompted by the browser:

- Full hierarchical name
- Common name
- Any alias in the User name field
- Internet address
- UID, if using an LDAP directory for authentication

Note: "Fewer name variations" is the default, and recommended, setting for Domino servers.

For more information about Internet authentication, see the Domino 7 Administration Help.

Making root certificates available to clients using SSL or S/MIME

Notes clients that use SSL or S/MIME must have the trusted root certificates from third-party certifying authorities (CA) in their Personal Address Book to authenticate servers using certificates from these CAs. The Domino 7 Domino Directory contains root certificates needed to authenticate the signatures created with these third-party CAs. Copy these certificates from the Domino 7 Domino Directory to any Domino server that needs to authenticate clients over SSL.

To make root certificates available to Notes clients

1. Open the Domino Directory.
2. Go to the Server-Certifiers view.
3. Copy any trusted root certificates from third-party CAs.
4. Open the Domino Directory to which you want to add the root certificates.
5. Paste the certificates into any view in the Domino Directory.

Users can copy these certificates to their Personal Address Books.

For more information, see the book *Administering the Domino System.*

How ECLs respond when you install or upgrade a Notes client

The default settings for the workstation ECL help strengthen the security that ECLs offer. If you're upgrading clients to a new release of Notes or installing a new client, the following table describes how ECLs respond to these changes.

Note: In the table below, the ″Results when there is no administration ECL″ applies under either of the following two circumstances:

- The user is disconnected (that is, there is no server connectivity).
- The server to which the user is connecting has the default ECL and not an administration ECL.

Action	Results when there is no administration ECL	Results when there is a home server with an administration ECL
Install a new client	ECL defaults are assigned based on release of the client that you install. The user's name is automatically added to the ECL.	The workstation ECL is updated with the server's administration ECL
• The workstation ECL is being updated by a refresh or replacement of the administration ECL • ″Allow user to modify″ button is not selected in the administration ECL	Not applicable	The workstation ECL is updated with the server's administration ECL
Upgrade any client to a newer release in which a workstation ECL already exists in the desktop	The workstation ECL maintains its original settings from before it was upgraded.	The workstation ECL maintains its original settings from before it was upgraded.

Note: This table concentrates on the workstation security access options, but the principles are the same for the Java and JavaScript access options.

Examples:

An existing enterprise has clients and servers currently running Release 5.0.1 of Lotus Notes and Domino. Upgrading all existing servers, all existing clients, or all existing clients or servers to Release 7 will not automatically enforce the new ECL settings on any of the existing clients.

In the same enterprise, installing a new Release 7 client will enforce the new ECL settings regardless of the release of the Domino server, as long as the server doesn't have a customized administration ECL.

ID recovery

Starting with Domino 6, ID recovery information is now pulled into the user ID when the user authenticates with the server. Prior to Domino 6, the only way to import ID recovery information into a user ID file was by e-mail.

R5 customers who upgrade to 7.0 may find that, if ID recovery was configured for the certifier prior to upgrading, Notes 7.0 users who were upgraded from R5 will not pull down initial recovery information or updated recovery information until the certifier recovery information is edited and saved.

It is recommended that administrators do one of the following workarounds to make sure that current ID recovery information is propagated to the user population:

- Edit and save the certifier recovery information after the upgrade. This will cause the recovery information to be updated for the certifier in the Directory and pulled into the user ID the next time he/she logs in and authenticates.
- For users with IDs created in R5, use the Admin client feature to export recovery information by mail to the user.

Chapter 9. Converting flat names to hierarchical names

You use the Domino Administration Process to convert flat user and server names to hierarchical names. Convert to hierarchical names to:

- Ensure name uniqueness
- Distribute responsibility for creating IDs and recertifying users and servers
- Use cross-certification, which simplifies access between your organization and others

  For more information about the Domino Administration Process, see the book *Administering the Domino System*.

How the Domino Administration Process converts flat names

You initiate the conversion of flat user or server names to hierarchical names by choosing specific actions in the Domino Directory. The Domino Administration Process then completes the following steps to carry out your request.

Note: You can also use the Domino Administration Process to rename hierarchical users (not servers). You can change users' common names or move their names to a different hierarchical name scheme. The steps the Domino Administration Process follows to change common names of users are the same ones it follows to convert flat names to hierarchical. The steps the Domino Administration Process follows to move names to a different hierarchical name scheme are also the same except that an administrator must first approve the request.

1. Lotus Domino creates an Initiate Rename in Address Book request in the Administration Requests database. This request starts the process of adding the converted or changed name to the Person or Server document in the Domino Directory.
2. The Domino Administration Process completes this request by making one of the following changes in the Domino Directory:
   - If you are converting or changing a user name, the Domino Administration Process adds the new name to the User name field while keeping the old name so mail can still be sent using the original name; adds the hierarchical certificate to the Certified Public Key field; and adds a change request to the Change Request field of the Person document.
   - If you are converting a server name, the Domino Administration Process adds the hierarchical certificate to the Certified Public Key field and adds a change request to the Change Request field of the Server document.
3. Next, one of the following occurs:
   - If you are converting or changing a user name, the next time the user accesses a server, the server looks at the Change request field in the Person document in the Domino Directory and compares the name in the field to the name stored in the user ID. If the names do not match -- because the user name was converted or changed -- the user sees a message asking if the new name is correct.

     If the user selects Yes, Lotus Domino updates the user ID with the hierarchical name and certificate and creates a Rename Person in Address Book document in the server's Administration Requests database; this document is a request to update all remaining occurrences of the user's original name in the Domino Directory. The Domino Administration Process converts or changes the name in the ACLs of the user's local databases if the user is designated as the administration server for those databases. It also updates the name in Readers and Authors fields of local databases if the ACL option Modify all Reader and Author fields is selected. The Domino Administration Process also converts or changes the flat name where it occurs in the user's Personal Address Book if the user has Manager access to the Personal Address Book or is designated as the administration server for it.

     If the user selects No, the user ID is not converted or changed.

- If you are converting a server name, the server periodically checks its own Server document in the Domino Directory to see if its name has changed. The server compares the name listed in the Change request field of the Server document to the name stored in its own server ID.

  If the names do not match -- because the server name was converted -- Lotus Domino automatically updates the server ID with the hierarchical name and certificate and creates a Rename Server in Address Book document in the server's Administration Requests database. This document is a request to update all remaining occurrences of the server's flat name in the Domino Directory.

  Note: The information in the Change request field in the Person and Server documents expires after 21 days by default. The expiration period begins once you initiate the request from the Domino Directory. You can change the default expiration by changing the Name_Change_Expiration_Days setting in the NOTES.INI file. If a user has multiple IDs and switches to an ID not yet converted, Lotus Domino converts that ID if the information in the Change request field has not yet expired.

4. After the Domino Administration Process has executed the Rename Person in Address Book or Rename Server in Address Book request, it creates a Rename in Access Control List request in the Administration Requests database to update the name in the ACLs for databases. After the Rename in Access Control List request replicates to every Administration Requests database in the domain, each server's Domino Administration Process completes the request by converting or changing names in the access control list for all databases that list that server as the administration server.

   Users and servers can continue to access databases that have access control lists containing their original names; they do not have to wait until the Domino Administration Process converts or changes them.

   The Domino Administration Process also creates a Rename in Person documents request to change the name where it occurs in Person documents in the Domino Directory.

5. Next the Domino Administration Process creates a Rename in Reader/Author fields request in the Administration Requests database. After this request replicates to other servers, the Administration Process on each server changes the name from all Readers and Authors fields of each of its databases for which it is an administration server and that have the ACL setting "Modify Reader or Author fields" selected. Because this can be time consuming, the Domino Administration Process carries out this request according to the Delayed Request settings in the Administration Process section of the Server document. The Administration Process does not delete names from Readers or Authors fields of signed or encrypted documents.

Converting when you have multiple Public Address books

If you create replicas of two or more Public Address books on a server, the Domino Administration Process modifies documents only in the primary Domino Directory, the first one listed in the NAMES= NOTES.INI setting file.

The primary Domino Directory must contain the Person or Server document of the user or server you want to convert and the Certifier documents of the hierarchical certifier ID and hierarchical ancestors of the certifier ID. For example, to convert Alan Wilson to Alan Wilson/Finance/Boston/Acme, the primary Domino Directory must have the Person document for Alan Wilson and the Certifier documents for /Finance/Boston/Acme, /Boston/Acme, and /Acme.

For more information on using multiple Domino Directories, see the book *Administering the Domino System*.

Backing up converted IDs

Because Lotus Domino does not automatically convert backup IDs or IDs attached to documents in the Domino Directory, tell users and administrators to make backups of their converted IDs.

Converting flat server names to hierarchical server names

Before converting user names, you must convert server names to hierarchical names. Because the Domino Administration Process must run on a server that has a hierarchical name, you must complete a specific procedure to convert the name of the first server in a domain and then specify this server as the administration server for the Domino Directory. Then you can let the Domino Administration Process complete the work of converting subsequent servers.

When you convert a server name to hierarchical, the server's flat name combines with the certifier name to create the hierarchical name. For example, if a server's flat name is Serverwest and the certifier name is Marketing/Acme, the server's hierarchical name is Serverwest/Marketing/Acme. You must use the server's flat name as the common name component of the hierarchical name. In other words, you cannot change the server name when you convert it to a hierarchical name.

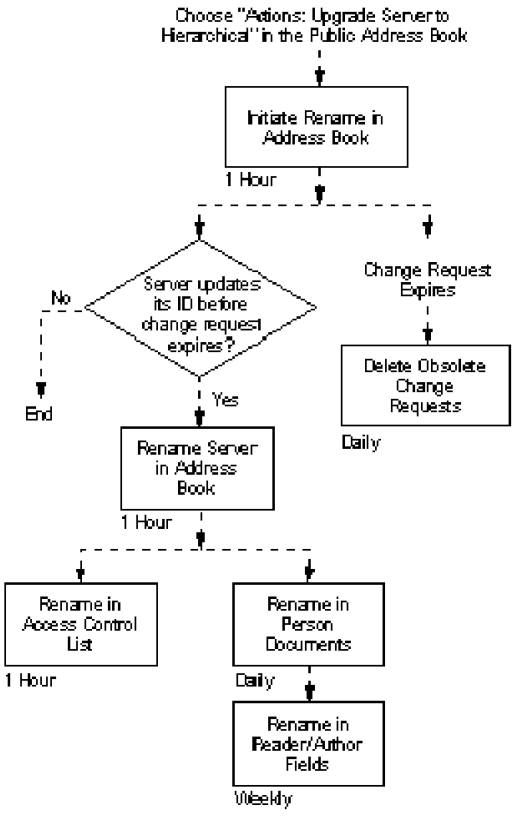
You can convert at the same time all server names that use the same hierarchical certifier. For example, if you have three servers -- Serverwest, Servereast, Servernorth -- that you want to convert to the hierarchical names Serverwest/Marketing/Acme, Servereast/Marketing/Acme, and Servernorth/Marketing/Acme, use the Marketing/Acme hierarchical certifier to convert all the names at the same time.

If hierarchical users and servers access the flat server and they use a different organization name from the one planned for the flat server, you must manually change the names of the hierarchical users and servers to their hierarchical format in the Domino Directory and database ACLs on both the hierarchical server and the flat server you plan to convert. Issue cross-certificates between the two organizations so users and servers can access the server in the other organization.

After you convert flat server names to hierarchical, users with flat names can continue to access the hierarchical servers without any restrictions.

How the Domino Administration Process converts a flat server name to hierarchical

The following flowchart shows the sequence of Administration Process requests that occur when you use the Domino Administration Process to convert a flat server name to a hierarchical name. More detailed information about each request follows the flowchart.



Initiate Rename in Address Book

Triggered by: Selecting a Server document in the Domino Directory and choosing ″Actions - Upgrade Server to Hierarchical.″

Posted on: The server where you choose the upgrade action.

Carried out on: The administration server for the Domino Directory.

Carried out: According to the Interval setting for the Administration Process in the Server document.

Result: The Domino Administration Process adds the hierarchical certificate to the ″Certified public key″ field in the Server document and a change request to the ″Change request″ field.

Rename Server in Address Book

Triggered by: The server updating its ID with the new hierarchical name and certificate when the server detects the name change in the ″Change request″ field of its Server document.

Posted on: The server whose name has changed.

Carried out on: The administration server for the Domino Directory.

Carried out: According to the Interval setting for the Administration Process in the Server document.

Result: Updates all remaining occurrences of the server name in the Domino Directory except in Person documents.

Rename in Person Documents

Triggered by: Completion of the ″Rename Server in Address Book″ request.

Posted on: The administration server for the Domino Directory.

Carried out on: The administration server for the Domino Directory.

Carried out: According to the ″Execute once a day requests at″ setting for the Administration Process in the Server document.

Result: The Domino Administration Process updates occurrences of the name in Domino Directory Person documents.

Rename in Access Control List

Triggered by: Completion of the ″Rename Server in Address Book″ request.

Posted on: The administration server for the Domino Directory.

Carried out on: Each server in the domain.

Carried out: According to the Interval setting for the Administration Process in the Server document.

Result: Each server in the domain updates the server name in ACLs of databases for which it is an administration server.

Rename in Reader/Author Fields

Triggered by: Completion of the ″Rename in Person Documents ″ request on the administration server for the Domino Directory.

Posted on: The administration server for the Domino Directory.

Carried out on: Each server in the domain.

Carried out: According to the ″Delayed Request″ settings for the Administration Process in the Server document.

Result: Each server in the domain updates the name in Reader and Author fields of databases for which it is an administration server and that have the advanced ACL option ″Modify all Reader and Author fields″ selected.

Delete Obsolete Change Requests

Triggered by: Expiration of the period in which a server can accept a new name, by default 21 days. You can use the NOTES.INI setting Name_Change_Expiration_Days to change the expiration period.

Posted on: The administration server for the Domino Directory.

Carried out on: The administration server for the Domino Directory.

Carried out: According to the ″Execute once a day requests at″ setting for the Administration Process in the Server document.

Result: The Domino Administration Process deletes the contents of the Change Request field from the Server document.

Preparing to convert flat names to hierarchical names

Before you convert a server or user name from flat to hierarchical, you must do the following:

1. Upgrade all servers to Lotus Domino 7.
2. Create a Certification Log database (CERTLOG.NSF), which you use to troubleshoot any problems that occur when you convert names.
3. Develop a hierarchical name scheme for your organization.

   For more information about hierarchical naming, see the book *Administering the Domino Server*.
4. Create hierarchical certifier IDs.
5. Prepare the system for the Domino Administration Process. This includes creating the Administration Requests database and replication schedule, giving proper access to administrators and specifying an administration server for the Domino Directory and databases.

   For more information about the Domino Administration Process, see *Administering the Domino System*.
6. Follow a specific set of steps to convert the first flat server to a hierarchical name.

   For more information about converting a flat server, see the topic "Converting the first flat server name to a hierarchical name" later in this chapter.
7. Before converting a flat server name, manually change the name in the ACL of MAIL.BOX if the server name is listed explicitly in the ACL.

Converting the first flat server name to a hierarchical name

The first server upgraded must be the administration server specified for the Domino Directory.

Make sure you complete the steps in the topic "Preparing to convert flat names to hierarchical names" earlier in this chapter.

1. Start the server and Domino Administrator.
2. Click Configuration.
3. In the left-hand pane, click Servers - Server document.
4. If the Certified public key field is empty, copy the certified public key to this field:
   a. Choose File - Tools - Server Administration, Administration - ID File
   b. Select the server ID file, click More Options, and then click Copy Public Key.
   c. Paste the key into the Certified public key field in the Administration section of the Server document and then save the Server document.
5. With the Server document selected, in the All Server Documents view, choose File - Actions - Upgrade Server to Hierarchical.
6. Choose the hierarchical certifier to use and enter the password. Refer to the hierarchical naming chart you created for the hierarchical naming scheme.
7. Enter the date when this certificate will expire for the server.
8. Click OK.
9. After Domino processes your request, click OK.
10. Shut down the server and open the Domino Directory locally on the server machine.
11. Open the Server document of the first server to convert.
12. Delete the contents of the Certified public key field.
13. Open the Administration Requests database.
14. Open the "Initiate Rename in Address Book" request document for the server being converted.
15. Copy the contents of the Certified public key field to the Certified public key field of the Server document.
16. Copy the contents of the Change Request field to the Change Request field of the Server document.
17. Save the Server document.

18. Shut down the Domino Administrator.
19. Restart the server.

Converting the remaining flat server names to hierarchical

Before you can convert a user name, you must convert server names. You must have Author access with the ServerModifier role or Editor access as well as the Create Documents permission to the Domino Directory. You must also have at least Author access with the Create documents permission to the Certification Log.

Make sure you completed all the steps in the topic ″Converting the first flat server name to a hierarchical name″ earlier in this chapter before you perform this task.

1. In the Domino Administrator, open the Domino Directory on a server rather than choosing ″Local.″
2. In the Server view, select the servers you want to convert.
3. Choose Actions - Upgrade Server to Hierarchical.
4. Choose the hierarchical certifier to use, and enter the password. Refer to the hierarchical name scheme that you developed.
5. Enter the date when this certificate will expire for the server.
6. Click OK.
7. After Domino processes the requests, click OK.
8. Repeat Steps 3 through 7 for additional servers whose names you want to convert using a different hierarchical certifier.

Converting flat Notes user names to hierarchical

After you convert flat server names to hierarchical server names, you can convert flat user names.

The user's flat name combines with the certifier name to create the hierarchical name. For example, if a user's flat name is Randi Bowker and the certifier name is Marketing/East/Acme, the user's hierarchical name is Randi Bowker/Marketing/East/Acme.

You can convert multiple user names at a time, provided that you use the same hierarchical certifier to certify all user names. For example, to convert three users -- Randi Bowker, Kara Nguyen, and Bob Murphy -- in the Marketing department of the Acme Corporation, you use the Marketing/East/Acme hierarchical certifier. The resulting hierarchical user names are: Randi Bowker/Marketing/East/Acme, Kara Nguyen/Marketing/East/Acme, and Bob Murphy/Marketing/East/Acme.

If users have administration servers set in their local databases and Personal Address books, Notes 6 users authenticate on their own workstations in order to upgrade the names in these databases. Users of earlier Notes versions must accept the name change on their local workstation.

After user name upgrades occur in a database access control list (ACL) and the name change expiration period (Name_Change_Expiration_Days setting) elapses, users cannot access the database using their flat user names. Similarly, if you manually upgrade user names to hierarchical in database ACLs on servers in another domain, users cannot access the database using their flat user names.

However, if you upgrade a user name to hierarchical and the database ACL lists the user's flat name, the user can continue to access the database, but keep in mind that the security that hierarchical naming provides is not enforced for that database.

How the Domino Administration Process converts flat Notes user names to hierarchical

You can use the Domino Administration Process to convert a flat Notes user name to hierarchical by initiating a person rename action in the Domino Directory. The sequence of Administration Process requests that occurs when you convert a Notes user name to hierarchical is the same that occurs when you change the name of a hierarchical Notes user.

Converting flat user names to hierarchical names

Follow these steps to use the Domino Administration Process to convert flat user names to hierarchical. You must have Author access with the UserModifier role or Editor access and the Create Documents permission access to the Domino Directory. You must also have Author access with the Create Documents permission to the Certification Log.

Make sure you completed the steps in the topics ″Converting the first flat server name to a hierarchical name″ and ″Converting flat server names to hierarchical names″ earlier in this chapter before you perform this task.

1. Make sure all the requests for converting server IDs have completed successfully. Do not continue with this procedure until the server IDs are converted.
2. In the Domino Administrator, open the Domino Directory on a server rather than choosing ″Local.″
3. In the People & Groups view, select the users whose names you want to convert.
4. From the Tools pane, choose People - Rename.
5. Click Upgrade to Hierarchical.
6. Complete the fields of the Choose a Certifier dialog box according to the following table:

Field	Action
Server	• If you are using the CA process, choose the server that has the Domino Directory containing the CA's record, and the copy of the Administration Requests (admin4.nsf) database to be updated with the request for the new certificate. • If you are supplying a certifier ID, select the registration server for the current certifier ID. The registration server is the server that the Domino Administrator contacts to perform the registration tasks.
Supply certifier ID and password	• Choose the certifier ID that certified the user's ID. • Click ″Certifier ID″ if you want to use an ID other than the one displayed. • Enter the password for the certifier ID.
Use the CA process	• Choose this option to use the CA process. • Select a CA configured certifier from the list and click OK.

   Note: You choose either the certifier ID or the CA process, but you do not use both.
7. Enter the date when this certificate will expire for the users.
8. Click OK.
9. After Domino processes the requests, click OK.

After you initiate a request in the Domino Directory to convert a flat name to hierarchical, check the Updates Status view of the Certification Log database (CERTLOG.NSF) for any errors that the Domino Administration Process encountered while processing the request.

After the Domino Administration Process responds to the request, check response documents in the Administration Requests database for any errors it encounters.

Flat names

Notes 7 and Domino 7 do not support flat name and flat ID usage, renewal, or registation. As you upgrade to 7.0, you should convert all flat names to hierarchical names. IBM Lotus will continue to support flat names in Release 6 at the level at which they are currently supported. However, there are no plans to extend existing functionality that requires hierarchical names to flat names, and new features continue to be added that depend solely on hierarchical naming. Furthermore, future functional releases of Notes and Domino will have limited interoperability with users and server with flat names and ID files.

Continuing to use flat names prevents you from using many of the new features in Lotus Notes and Lotus Domino 6 and 7, including the Domino Administration Process, which simplifies many administrative tasks. Using flat names makes it difficult to exchange information securely with users and servers in a different organization. With flat names, each user or server in one organization must be individually certified by the certifier ID in the other organization. Organizations that use flat names often use several certifier IDs and each user ID and server ID can include a separate certificate generated by each flat certifier ID.

For more information on converting flat names, see the topic ″Converting flat names to hierarchical names″ in this chapter.

Communication with organizations that use flat names

To establish authentication between servers at two different organizations when either organization is flat, the client must have a certificate from a certifier that the server trusts and the server must have a certificate from a certifier that the client trusts. One way to do this is to have each organization send a safe copy of its server IDs to the other for flat certification and upon receiving the newly-certified ID turn off the option ″Trust other certificates signed by this certifier.″ Set this option by opening File - Security - User Security and selecting Identity of Others - Authorities.

For example, if two organizations, Alpha and Beta, need to communicate, Alpha’s server Hub-A obtains a certificate from Beta and turns off the ″Trust″ option. Hub-A now has a trusted Alpha certificate and an untrusted Beta certificate. Beta’s server Mail-B obtains a certificate from Alpha and turns off the ″Trust″ option. Mail-B now has a trusted Beta certificate and an untrusted Alpha certificate.

Hub-A presents Beta’s certificate to Mail-B because Mail-B trusts that certificate. Mail-B present Alpha’s certificate to Hub-A because Hub-A trusts that certificate. Authentication proceeds because the servers have certificates from the same certifiers even though they don’t share a trusted certificate.

Optionally, ″trust″ could be turned on for Beta’s certificate on Hub-A, and Hub-A would accept any ID containing a Beta certificate. By doing this, other servers at Alpha do not need to get any new certificates. However, servers at Alpha would be vulnerable to access by fraudulent IDs created by Beta.

Unlike cross-certification used between hierarchical organizations, certifying between flat organizations requires that server IDs be certified individually.

To exchange flat certificates between organizations, each organization should follow the steps described in the topics ″Recertifying flat IDs using Notes mail″ or ″Recertifying flat IDs without Notes mail″ later in this chapter.

Each organization should make sure to turn off the ″Trust other certificates″ option for the certificate received from the other organization.

Note: Hierarchical organizations that want to certify server IDs of flat organizations must create a flat certifier ID with which to do this.

For more information about creating a flat certifier ID, see the topic ″Creating a flat certifier ID″ later in this chapter.

Deleting a flat certificate from an ID

To delete a flat certificate from an ID, follow these steps:

1. In the Notes client, choose File - Security - User Security.
2. Enter the password for the current ID.
3. Click Your Identity - Your Certificates.
4. In the ″Your Notes Certificates″ list box, select the flat certificate that you want to delete.
5. Click ″Other Actions″ and choose ″Delete from ID File.″
6. You may be prompted to confirm your deletion and removal of trust of the flat certificate certifier. Click OK.
7. Click OK to close the User Security dialog box.

Creating flat ID files

You cannot create new flat ID files with Lotus Notes/Domino 7. If your organization continues to use flat ID files with Lotus Notes/Domino 7, you must retain at least one Notes 4.6 client to create new flat ID files. You can renew certificates for existing flat ID files and issue new flat certificates to new hierarchical users who need access to servers with flat IDs. If your organization uses flat ID files, consider upgrading to hierarchical ID files for increased security and flexibility of access control, ID generation and certification, and maintenance.

Recertifying flat IDs without Notes mail

Follow these steps to manually convert an ID to hierarchical naming if its owner and the certification administrator cannot communicate through Notes mail. This process requires that the owner of the ID and the certification administrator take turns processing the request.

To deliver a safe copy of the ID, the owner of the ID must do the following:

1. In the Notes client, choose File - Security - User Security.
2. Enter the password for the current ID.
3. Click Your Identity - Your Certificates.
4. Click ″Other Actions″ and choose ″Export Notes ID (safe copy).″
5. Specify a name and location for the safe copy and click OK. The default name is SAFE.ID.
6. (UNIX users) Do one of the following:
   - Transfer the file to a disk, for example:
     ```
     tar -cvf filename /dev/fd0
     ```
   - Use a network facility such as FTP to transfer the file.
7. Deliver the disk in person or by postal service to the certification administrator.

To recertify the ID, the certification administrator must do the following:

1. Insert the disk into a workstation on which the Domino Administrator is running.
2. In the Domino Administrator, select Configuration - Certification - Certify.
3. Select the certifier to use and click OK.
4. Enter a password for the certifier and click OK.
5. Select the safe copy of the ID file to be recertified and click OK.

6. (Optional) Accept or change the certificate expiration date.
7. Leave ″Trust other certificates signed by this certifier″ selected unless this is a certificate from another organization’s certifier.
8. (Optional) Click Server, select a server, then click OK to change the server in whose Domino Directory Lotus Domino updates the Person or Server document. If the server isn’t local, you must have at least Author access to its Domino Directory.
9. Click Certify.
10. Remove the disk with the recertified safe copy of the ID and deliver the disk to its owner in person or through the postal service.

To merge the new certificate, the owner of the ID must do the following:

1. Insert the disk with the recertified safe copy of the ID in the disk drive. Or copy the safe copy of the recertified ID file to the program directory on the file server; give the copy a name different from the original ID file so the original is not overwritten.
2. Make sure the current ID is the one you want recertified, then in the Notes client, choose File - Security - User Security.
3. Click Your Identity - Your Certificates - Get Certificates and select ″Import (Merge) Notes Certificates).
4. Enter your ID password.
5. Select the recertified safe copy of the ID and click OK.
6. Click Merge.
7. If this is a certificate received from another organization, turn off ″Trust other certificates signed by this certifier.″

   For more information, see the topic ″Communication with organizations that use flat names″ earlier in this chapter.

Chapter 10. Upgrading Domino 7 and DB2

Use these procedures to upgrade from a beta release of Domino 7 and DB2.

Complete the prerequisites, and then complete one of the procedures according to whether or not you have created a DB2 database and whether it contains one or more DB2 enabled Notes databases.

Prerequisites if you are running Domino 7, beta 1, 2, or 3

If you are using Domino 7, beta release 1, 2 or 3, complete these steps:

1. Back up all DB2 enabled Notes databases to NSF storage before recreating the DB2 database.
2. When the back up of the data is complete, open the Server document - DB2 tab. Note the information in the fields on the DB2 tab, and then close the Server document.
3. Stop the Domino server, and then verify that all server tasks have stopped.

Procedure - Upgrading when you have created DB2 enabled Notes databases

Use this procedure if you created a DB2 database and it contains DB2 enabled Notes databases.

If you or any users are using Domino 7 beta release 1, 2 or 3 and you do not have UTF-8 encoding, complete all of the steps in this procedure. If you are using a post beta 3 version of Domino and DB2, or if you are sure that you are using UTF-8 encoding, omit Step 3.

1. Stop the Domino server if it is running.
2. Upgrade to Domino 7 and DB2.
3. To create a new DB2 database with the same name as the DB2 database used in the beta release, ensure that the NOTES.INI entry, DB2INIT=, is set to DB2INIT=CREATE in the server's NOTES.INI file.
4. Start the Domino server. Your upgrade process is complete.

Procedure - Upgrading when you have not created any DB2 enabled Notes databases

Use this procedure if you did not create a DB2 database with DB2 enabled Notes databases.

Complete the following procedure:

- Upgrading from a beta release to Domino 7 and DB2

Upgrading from a beta release to Domino 7 and DB2

To enable the new DB2 features inside of Domino 7, use the "DB2 key" that allows access to Domino 7 with DB2. For Microsoft Windows platforms, use NDB2KEY.DLL; for IBM AIX platforms, use libdb2key_r.a. Add the DB2 key to the default Domino Program directory. On Microsoft Windows, the default Domino Program directory is C:\Program Files\Lotus\Domino; on IBM AIX, the default Domino Program directory is /opt/ibm/lotus/notes/latest/ibmpow. For more information about the DB2 key, contact your IBM representative.

Complete this procedure to upgrade a beta release of Domino and DB2 to Domino 7 and DB2.

Note: It is imperative that when you upgrade to Domino 7, you also upgrade the DB2 Access server. The DB2 Access server upgrade should be done at the same time as the update to the Domino server(s) supported by those DB2 Access servers.

Installing Domino 7 and DB2 over a beta release

If you or any users are using Domino 7 beta release 1, 2 or 3 and you do not have UTF-8 encoding, complete all of the steps in this procedure. If you are using a post beta 3 version of Domino and DB2, or if you are sure that you are using UTF-8 encoding, only complete Steps 6 and 7.

1. Back up all DB2 enabled Notes databases to NSF storage and recreate the DB2 database unless it is encoded as UTF-8. This is necessary because the code page of a DB2 database is set when it is created and cannot be changed.
2. When the back up of the data is complete, open the Server document - DB2 tab. Take note of the information in the fields on the DB2 tab and then close the Server document.
3. From the DB2 Command Line Processor, disable DB2 capabilities on the Domino server by typing:
   ```
   DB2 Stop
   ```

   Note: The command, DB2 Stop, is not available for post beta 3 releases of Domino and DB2.
4. Shut down the Domino server, and then verify that all server tasks have completed.
5. Drop the existing DB2 database by entering this command from the DB2 CLP:
   ```
   drop database <DBname>
   ```
6. Upgrade your DB2 server to DB2 8.2.2 version by installing the newer DB2 release over your older, existing version.
7. Install the new Domino server and Domino Administrator over your existing beta install.

Upgrading the DB2 Access server

1. Uninstall the previously-installed version of the DB2 Access server.
2. (Microsoft Windows) Delete the DB2 Access server path and filename from the Path system variables field on the Environment Variables dialog box. To access the dialog box from the Control Panel, click System - Advanced tab - Environment Variables.
3. Complete Step 1 through Step 6 of the procedure to install the DB2 Access server on the server running DB2. DB2 Access creates a configuration-only Domino Directory on the DB2 server. See the topic ″Installing the DB2 Access server on the DB2 server″ in the Domino Administrator 7.0 documentation.

   Note: In Step 4, you perform the server enablement procedure. You will need to use the information that you manually noted from the Server document - DB2 tab when you upgraded to the Domino 7 and DB2 release.
4. Complete the procedure to enable the Domino server to communicate with the DB2 server. See the topic ″Enabling a Domino server to communicate with a DB2 server″ in the Domino Administrator 7.0 documentation.
5. Start the Domino server.
6. Complete this step after you have installed the new Domino 7 server and entered Yes when prompted to upgrade the Domino Directory. If you mapped any Notes user names and DB2 user names while using the Domino and DB2 beta software, and you are upgrading from a beta release, remap those users. Complete the procedure to map Notes user names and DB2 user names. See the topic ″Mapping DB2 user names to Notes user names″ in the Domino Administrator 7.0 documentation. Map all users who will be utilizing DAVs and QVs.
7. Recreate the DB2 enabled Notes databases from your NSF backups as required.

8. Rebuild your DAVs. Any DB2 enabled Notes databases that were backed up locally and restored to this new database and that contained DAVs can still be used. (From Domino Designer, run Create/Update in DB2 and Populate in DB2 for each DAV. See the Domino Designer documentation for instructions.)

Converting a 32-bit instance to a 64-bit instance on IBM AIX

The information in this topic applies to DB2 8.2.2. If you are using a different version of DB2, see the DB2 Information Center documentation for the most current information. See the chapter Installing - Database Sections - Uninstalling - DB2 Universal Database (Linux and UNIX) - Removing DB2 FixPaks.

The information in this topic does not apply to Linux.

Note: You cannot revert to a Version 7, 32-bit instance after you have migrated to a Version 8, 64-bit instance.

To migrate from a DB2 Version 7 database to a DB2 Version 8, 64-bit system:

1. Install DB2 Version 8 on your 64-bit machine. Do not uninstall the previous version.
2. As the instance owner, run this command to ensure that your database can be migrated:
   ```
   DB2DIR/bin/db2ckmig
   ```
3. Back up your existing DB2 Version 7 database.
4. Stop your DB2 Version 7 instance.
5. Run this command
   ```
   DB2DIR/instance/db2imigr <instance_name>
   ```
6. Migrate your databases.
7. If your existing database is within a DB2 Version 7, 32-bit instance on your 64-bit machine, update the instance to a 64-bit instance. To update your Version 7, 32-bit instance to a Version 7, 64-bit instance, enter this command:
   ```
   db2iupdt
   ```
   For example, when specifying the -w parameter with a value of 64, you would enter:
   ```
   DB2DIR/instance/db2iupdt -w 64 db2inst
   ```
   where DB2DIR represents the DB2 Version 8 installation path on the appropriate platform.
8. Restart your DB2 instance.

Upgrading to DB2 8.2.2 if you have a previous version of DB2 already installed

Use this procedure if you have a version of DB2, other than DB2 8.2.2, already installed. All of the commands in this procedure are UNIX-specific.

Prerequisites

1. Complete these tasks before installing DB2 8.2.2:
   - Read the Known Problems and Workaround section of the Readme file.
   - Ensure that all DB2 processes are stopped.
2. To switch to the root authority, type this command:
   ```
   su - root
   ```

Procedures

1. For each DB2 instance, type these commands:

Note: If you are using hacmp, use the ha_db2stop command instead of db2stop, because db2stop will trigger a failure event.

```
su - instancename  # instancename represents the name of the instance you created
. $HOME/sqllib/db2profile
db2 force applications all
db2 terminate
db2stop
db2licd -end      # run at each physical node
Exit
```

2. Type these commands:

   ```
   su - dasownername
   . $HOME/das/dasprofile
   db2admin stop
   Exit
   ```

3. Run slibclean to unload unused shared libraries from memory:

   ```
   /usr/sbin/slibclean
   ```

4. Stop all instances, including the Fault Monitor, that are using DB2 version 8.
5. Locate the file fixpak ###.tar.Z. (Where ### refers to the number for DB2 8.2.2, FixPak 9)
6. Uncompress fixpak. ###.tar.Z, and then **tar** -xvf .fixpak ###tar.
7. Change directory to fixpak ### .
8. Log in as root, and then run installFixPak.
9. Log in as root, and then type this command to update all instances:

   ```
   INSTHOME/instance/db2iupdt iname
   ```

   - Where *INSTHOME* is the installation directory appropriate to your operating system
   - Where *INAME* represents the instance name

   Note: If the database administrator server instance exists and is a DB2 8 DAS instance, run this command to update the DAS instance:

   ```
   INSTHOME/instance/dasupdt dasname
   ```

   - Where *DASNAME* is the DAS owner name
   - Where *INSTHOME* is the installation directory

10. For each instance, log in as the instance owner and then enter the db2start command to restart each instance.
11. Log in as the DAS owner, and then run this command to restart the administration server:

    ```
    db2admin start
    ```

Troubleshooting the Domino and DB2 upgrade process

For more information about troubleshooting the Domino and DB2 configuration, see the topic ″Domino and DB2 configuration -- Troubleshooting″ in the Domino Administrator 7.0 documentation.

Information that applies only to the upgrade process is in this section of the documentation.

- NSFDB2 created with Domino 7 beta 1 may not work correctly with more recent Domino beta releases.

NSFDB2 created with Domino 7 beta 1 may not work correctly with more recent Domino beta releases

If DB2 services are down, all DB2-enabled Notes databases (NSFDB2 databases) that were created using the beta 1 release of Domino 7 and DB2 display in the Domino Administrator client with NSF icons, not DB2-enabled Notes databases icons. The DB2 enabled Notes database size is also incorrect.

Chapter 11. Overview of Domino Upgrade Services

The address books, message stores, and archives of a messaging system contain a great deal of information. When migrating users from another system to Domino and Notes or to Domino Web Access, it is important not only to maintain reliable messaging services with minimal disruption, but also to maintain access to the information on the old system, by converting that information so that users can access it from a Notes client or Domino Web Access client.

Migration is the process of moving user directory information, mailboxes, mail, and addresses from one system to another. Migration includes importing data from a legacy messaging system and converting it to Notes mail and Domino Directory format. *Importing* refers to the task of moving data from an external directory, post office, or mailbox and making it available for processing into Domino or Notes format. *Converting* refers to the task of processing imported information and changing it to Domino or Notes format.

Domino Upgrade Services include the migration tools for administrators and the upgrade wizards for users. Depending on your environment, and the type of migration you are performing, you may use one or both of these tools.

Domino Upgrade Services, which can be installed as part of the Domino Administrator, can be used by an administrator to:

- Import users from a server-based foreign directory
- Register imported users
- Automatically create Notes mail files for registered users
- Convert messages from mail boxes in the legacy mail system into Notes format

Domino Upgrade Services migrates data from the following messaging and directory systems:

- LDIF (LDAP Data Interchange Format) files
- LDAP-compliant foreign directories
- Microsoft Exchange
- Microsoft Active Directory

Domino Upgrade Services place most of the data from the old system directly into Notes databases on the Domino server. However, in the Notes environment some types of data, such as personal address book information, are typically stored on the Notes client. Domino Upgrade Services use Notes mail messages to send client data to migrated users. Users can then run the upgrade wizard at their workstations to transfer the data stored in the mail message to the appropriate database on the Notes client. The upgrade wizards migrate users' private addresses, private distribution lists, and message archives to local Notes databases.

For more information about the upgrade wizards, see the chapter ″Migrating Personal Mail Data.″

Installing the Domino Administrator and Domino Upgrade Services

The migration tasks require use of the Domino Administrator and Domino Upgrade Services. Installing Domino Upgrade Services with the Domino Administrator client is optional; select the Admin Migration Tools component during installation to install both the migration tools and the upgrade wizards. If you have not installed either the Domino Administrator or Domino Upgrade Services, install the Domino Administrator and be sure to choose ″Admin Migration Tools″ .

Tip: For best performance, run the Domino Administrator on a computer within the same Notes domain as the destination mail server.

Importing users from a foreign directory

Use Domino Upgrade Services to extract information from a foreign directory source and import that information into the Domino Directory. When importing users to the Domino Directory, you must direct the Domino Upgrade Services to an external, or foreign, directory that will serve as the source for names to import. The foreign directory can be an application-specific post office directory, such as a Microsoft Exchange Address Book, or a standard LDAP directory that is not application-specific. Domino Upgrade Services import names and other basic user information from the source directory: secondary names, mail addresses, passwords, and so forth. The information from the source directory is copied to Person documents in the Domino Directory.

The administrator performing the migration should be familiar with the Domino Directory as well as the source directory.

The process of importing users consists of the following tasks:

- Specifying the foreign directory source
- Selecting users to migrate
- Setting migration options

Specifying the foreign directory source

A source directory or address book contains important information about users of the old mail system. Using the Domino Administrator, you select the type of directory and then enter the information needed to connect to it and extract information from it. You can then retrieve some or all users and groups from the foreign directory and select those to be imported to Notes.

Selecting people and groups to migrate

After selecting a directory to import, you can select the users and groups you want to migrate. If you are migrating from multiple systems, you can select users and groups from different foreign directories during a single session.

For example, from the People and Groups Migration dialog box, you can select 10 users to migrate from Windows NT and then select additional users from Active Directory. If you select the Windows NT directory again, the 10 users are still selected.

Depending on the Domino Upgrade Service, you may have a customer or user-supplied filter available. For directories with many users, filters save time and memory when retrieving the whole directory. There are three filter options:

- All users and groups - imports all users and groups
- All users - imports only users
- All groups - imports only groups

Filter format and syntax are specific to the Domino Upgrade Service selected.

Migrating groups

With Domino Upgrade Services, you can migrate groups and their members from a foreign directory. Domino Upgrade Services support migration of two types of group members:

- Local users
- Nested groups within parent groups

Local users have entries in the local directory -- that is, the same directory where the group entry exists. When you select a group to migrate, the local users in the group are always selected for migration, too.

Nested groups are groups that are members of another group. A top-level group may contain a single nested group or even a hierarchy of nested groups. By default, when you migrate a group you also migrate the groups nested within it, and the local users in those groups. A nested group is migrated only if you migrate its parent group.

For more information about migrating nested groups, see the topic ″Migrating nested groups″ later in this chapter.

If you decide that you do not want to add nested groups and their members, you can change the default to prevent them from being added. However, you cannot prevent Domino Upgrade Services from adding local users of the main group.

Migrating groups with duplicate names

When you select one or more groups to migrate, the migration tool searches the Domino Directory to determine whether the name of any selected group duplicates the name of an existing Notes group. If the name of a selected group is the same as that of an existing Notes group, the Existing Group Migration Options dialog box appears, so that you can specify how to process the duplicate group. You can choose one of the following options for migrating a duplicate group:

- Use the existing Notes group
- Create a new group -- do not use the Notes group
- Skip this group -- do not migrate the group for now

Using an existing Notes group to migrate groups with duplicate names: You can migrate a duplicate group to the existing Notes group. Select this option if an existing Notes group is functionally equivalent to a migrating group with the same name. For example, if both the migrating group *Sales Managers* and the existing Notes group *Sales Managers* are used to send e-mail to the organization's regional sales managers, add the migrating group to the existing Notes group.

After you click OK, the migration tool displays the Group Migration Options dialog box, which displays options related to adding members to an existing Notes group, such as whether to add the available members of the migrating group to the Notes group. Because the Notes group already exists, you cannot change its name, type, or description.

Creating a new group to migrate groups with duplicate names: You can create a new Notes group and migrate a duplicate group to it. Select this option if an existing Notes group is used differently from a migrating group with the same name. For example, if a migrating group *Directors* is used to send e-mail to the directors of various projects within an organization, and an existing group with the same name in Notes is used to send mail to the directors of each division in the organization, create a new group with a different name for the migrating group.

After you click OK, the migration tool displays the Group Migration Options dialog box, which displays options related to creating a Notes group and adding members to it, such as the group name, type, and description.

If you choose to create a new Notes group, Notes adds the available members of the migrating group to the new group during registration.

Avoiding the creation of duplicate Group documents: As a precaution against creating duplicate groups, do not select the option ″Use above settings for all currently selected or nested groups.″ The use of this option prevents you from altering the name of a migrating group. As a result, if a migrating group has the same name as an existing Notes group, the Domino Directory would contain two Group documents with this name after registration.

Skipping migration for groups with duplicate names: You can decide not to migrate a duplicate group at all. Select this option to cancel the migration of a group and return to the People and Groups Migration dialog box. The group is not added to the ″People/Groups to migrate list.″

Setting Group Migration Options

From the People and Groups Migration dialog box, you can select groups to migrate from a foreign directory. After you select a group, the Group Migration Options dialog box lets you specify how to migrate the group and its members. The settings that are available depend on whether you are migrating users to a new group or to an existing Notes group. The following fields are available from the Group Migration Options dialog box:

Option/field name	For migrating to an existing group	For migrating to a new group
Add members of this group to the existing Notes group	Yes	--
Create a new Notes group with the following settings	--	Yes
Notes group name	Read-only	Yes
Group type	Read-only	Yes
Description	Read-only	Yes
Add nested groups contained in this group and their members	Yes *	Yes *
Add people contained in nested groups as Notes users	Yes **	Yes **
Use above settings for all currently selected or nested groups (don't prompt again)	Yes	Yes
Cancel	Yes	Yes
Cancel All	Yes	Yes

Note: Read-only fields have values that you cannot edit in the Group Migration Options dialog box. You can edit these fields in the Group document.

* Available if you select the ″Add members of this group to the existing Notes group″ check box or ″Create a new Notes group with the following settings″ check box.

** Available if you clear the ″Add members of this group to the existing Notes group″ check box or the ″Create a new Notes group with the following settings″ check box.

Note: After a migration completes, always review any resulting Group documents to ensure that they contain the expected members.

Add members of this group to the existing Notes group: If you use an existing group to migrate groups with duplicate names, the Group Migration Options dialog box displays the ″Add members of this group to the existing Notes group″ check box, which is selected by default. When the check box is selected, Domino Upgrade Services add members of the migrating group to the existing Notes group. After you click OK to close the dialog box, the ″People/Groups to migrate list″ displays the name of the migrating group, as well as the names of local users in the group. During registration, migrated users are added to the existing Notes group.

Clear the check box if you do not want to add users in the migrating group to the existing Notes group. The names of local users in the migrating group will appear in the ″People/Groups to migrate list.″ During registration, migrated users are not added to the existing Notes group.

Create a new Notes group with the following settings: When the name of a migrating group is unique among the groups in the Domino Directory, the Group Migration Options dialog box displays the option ″Create a new Notes group with the following settings.″

By default, this option is selected and the migration tool creates a new Notes group that has the name of the migrating group, and includes the local users of the original group, as well as any nested groups and their available members. You can edit the default information in the following fields:

- Notes Group Name
- Group Type
- Description

When you create a new Notes group for a migrating group, you can also migrate nested groups that are members of the group. By default, the option Add nested groups contained in this group and their members is selected. If you clear the check box, you migrate local users of the group, but you do not create a new Notes group based on the group. Local users become Notes users, but are no longer members of the group. When you clear the check box, you cannot migrate nested groups that are members of this group. However, you can migrate users who belong to such nested groups by selecting the option Add people contained in nested groups as Notes users.

Specifying a name, group type, and description for migrated groups: When creating a new Notes group from a migrated group, you can specify the name and type of the group, as well as provide an optional description of the group. You cannot modify this information if you are adding the migrating group to an existing Notes group.

Notes Group Name: This field displays the name that the migration tool will assign to an imported group. When creating a new Notes group from an imported group, you can retain the original name or specify a new name. By default, imported groups retain their original names, which appear in the Notes Group Name field. To rename the imported group, enter a new name in this field.

You can edit the group name only if you are creating a new Notes group for a migrating group. You cannot edit this field if the group is an existing Notes group, or if you clear the check box ″Create a new Notes group with the following settings.″

Group type: If you create a new Notes group for a migrating group, you can edit the Group Type. You can create any of the following types of Notes groups:

- Mail only
- Access Control list
- Multi-purpose
- Deny list only

You cannot edit the Group type field if the group is an existing Notes group, or if you clear the check box ″Create a new Notes group with the following settings.″

By default, Domino Upgrade Services create Multi-purpose groups.

Description: This field displays an optional description of the imported group, which the migration tool adds to the Description field of the Notes Group document. By default, if the imported group has description information available, it appears in this field.

You can edit the description only if you are creating a new Notes group for a migrating group. You cannot edit this field if the group is an existing Notes group, or if you clear the check box ″Create a new Notes group with the following settings″.

Migrating nested groups: A group that is a member of another group, is said to be *nested* within that group, and is considered to be a *nested group*. Groups may be nested hierarchically, with each nested group containing one or more additional nested groups. For example, the groups *#IS Managers* may have as a member the group *#admins*, which includes the group *#po admins*, which includes the member *#po backups*, and so forth.

You can only migrate a nested group if you are migrating its parent group. Regardless of whether you add the main group, you can still add users in the nested groups.

There are two options related to migrating nested groups:

- Add nested groups contained in this group and their members
- Add people contained in nested groups as Notes users

"Add nested groups contained in this group and their members" check box: By default, when you migrate a group, the check box "Add nested groups contained in this group and their members" is selected and Domino Upgrade Services add all members of a migrating group, including other nested groups and their local users, to the "People/Groups to migrate list."

For example, if you are migrating a group *#IS Managers*, which includes the group *#admins*, which includes the group *#po admins*, and you select the option "Add nested groups contained in this group and their members," all three groups *(#IS Managers*, *#admins*, and *#po admins*) and all their members are added to the "People/Groups to migrate list."

Clear the check box if you do not want to add nested groups or their users to the "People/Groups to migrate list."

This field is not available if you clear the "Add members of this group to the existing Notes group" check box or the "Create a new Notes group with the following settings" check box.

"Add people contained in nested groups as Notes users" check box: Select this check box if you want to migrate local users in a group's nested groups, without migrating the parent group. By default, the check box is cleared. After you click OK, Domino Upgrade Services add users in all of a group's nested groups to the "People/Groups to migrate list." This field is not available if you select the "Add members of this group to the existing Notes group" check box or the "Create a new Notes group with the following settings" check box.

Migrating groups with common members: In some situations, a user or group in a migrating group hierarchy may be a member of more than one group in the hierarchy. When migrating nested groups, Domino Upgrade Services ignore duplicate occurrences of users or groups. Items are added to Notes only once.

Use above settings for all currently selected or nested groups (don't prompt again): If you have selected multiple groups to import, you may want to use the same set of options for importing each group. Select this check box if you want the settings in the Group Migration Options dialog box -- create a Notes group, import nested groups, and so forth -- to apply to all remaining groups currently selected for import, including any nested groups. The settings do not apply to groups that have already been processed or to groups that you select later.

CAUTION:
Do not use the same settings when migrating groups to a combination of existing groups and new Notes groups. After you set the "Use above settings for all currently selected or nested groups (don't prompt again)" option, Domino Upgrade Services do not display the Group Migration Options dialog box again as it continues processing any remaining selected groups, so you cannot specify how to create or add members to those groups. As a result, Domino Upgrade Services will create any new groups using their original names, which may lead to the creation of duplicate Notes groups.

Canceling migration of a group: From the Group Migration Options dialog box, you can cancel the operation by clicking either of the following buttons:

- Cancel
- Cancel All

Cancel: Click Cancel if you decide not to migrate the group specified in the Notes Group Name field. The migration tool skips the current group and its nested groups and proceeds to the next selected group. Neither the current group nor any of its members are added to the "People/Groups to migrate list."

Cancel All: Click Cancel All if you decide not to migrate the group specified in the Notes Group Name field, any of its nested groups, or any of the other currently selected groups. Domino Upgrade Services close the Group Migration Options dialog box and stops processing groups that remain to be processed. No items in the current group or its child groups are added to the "People/Groups to migrate list."

Adding users to a migration group

Before migrating users, consider creating a Notes group, called *MigratedUsers*, and adding everyone you migrate to this group during registration. Creating such a group provides you with an easy way of identifying migrated users later on, when sending out upgrade notification messages or other information related to the migration.

For more information about sending an upgrade notification message, see the chapter "Migrating Personal Mail Data."

Setting migration options

You can set options on the People and Groups Migration dialog box to specify how information in the source directory is imported into the Domino Directory and Notes mail file. The options you set apply to all users imported from the current directory source during this session.

You can select a different set of options for each directory source you import from during the session.

The items available in the Migration Options list depends on the foreign directory source selected. The following import options are available:

- Generate random passwords for users with no passwords
- Generate random passwords for all users (overwrite existing passwords)
- Add full name provided to the Notes person document
- Allow addition of empty groups to Notes
- Convert mail
- Add administrator to mail file access control list

Generate random passwords for all users (overwrite existing passwords)

Select this option to generate new random passwords for all migrating users, regardless of whether they already have a password available for import from the legacy directory. The migration tool generates passwords that conform to the password quality scale specified in the current registration preferences. If a migrating user already has a password imported from the legacy system, the new password overwrites it.

If you select the option "Generate random passwords for all users (overwrite existing passwords)," the first option "Generate random passwords for users with no passwords" is automatically selected.

Generating random passwords during migration

For user registration to complete successfully, the password specified for the user must meet the minimum password quality requirements set in the registration preferences. If a user's password does not conform to the requirements, you must modify it before you can register the user.

For additional information about the password quality scale, see the book *Administering the Domino System.*

By default, Domino Upgrade Services that import passwords automatically set the Notes password to a user's existing password. Domino Upgrade Services for Active Directory does not import a user's existing password.

Domino Upgrade Services provide the following options to automatically create passwords for migrating users who either do not have passwords or for whom you prefer not to import existing passwords:

- Generate random passwords for users with no passwords
- Generate random passwords for all users (overwrite existing passwords)

Users for whom you create new Notes passwords can change their password using the Notes client. The password they create must conform to the quality scale set at registration.

Giving passwords to new users: To make it easy for you to give migrated users their new passwords the first time they log in to Notes, the Domino Administrator maintains a record of generated passwords. Password information for migrated users is stored in the database NTSynch45.nsf in the Notes Data directory.

You can also maintain a record of generated user passwords by setting a registration option to keep successfully registered users in the queue. Keeping users in the registration queue after registration lets you automatically store password and other registration information for migrated users. After registration, you can select users in the queue and view their password information.

For information about how to keep users in the registration queue, see the topic ″Saving pending registrations in the registration queue″ later in this chapter.

Generate random passwords for users with no passwords

For users who have no existing passwords to import, or whose passwords Domino Upgrade Services cannot import, Domino Upgrade Services provide an option to generate a random password that conforms to the specified password quality scale. The default setting for this option differs for each Domino Upgrade Service. When using this option, passwords are only generated for users if the password field is empty; generated passwords do not overwrite passwords imported from the legacy system.

If you select the option ″Generate random passwords for all users (overwrite existing passwords),″ the option ″Generate random passwords for users with no passwords″ is automatically selected.

Add full names 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 like first and last name -- by which a user is known in Notes. 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, and is the name checked when authenticating a user's right to access Domino resources. In addition to this primary name, the User name field can contain secondary entries, which serve as aliases for the user and can be used in addressing mail.

Domino Upgrade Services import full names for use as secondary Notes names from the following fields in each source directory:

- Microsoft Exchange - Display name
- LDIF - Distinguished name
- LDAP - Distinguished name
- Microsoft Active Directory - Display name

Note: If you migrate information for a user, but do not register the user, the imported full name may become the primary entry in the User name field.

Add administrator to a mail file access control list

By default, when you create a mail file for a user during migration, your administrator ID is temporarily placed 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 Notes, the administrator ID is removed automatically 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.

Note: If you are migrating user mail boxes and choose to retain the default mail file ACL during migration, the administrator ID remains in the ACL as Manager if the mail box conversion fails.

You may need Manager access to the mail file to perform additional tasks. For instance, you may need to convert additional messages for users after you migrate them to Notes and create their Notes mail files. However, under the default mail file ACLs, you do not have the level of access needed because your ID has been removed from the mail file ACLs.

If you anticipate needing to perform such a secondary migration, when you first select users to migrate, select the migration option ″Add administrator to mail file access control list″ from the list on the People and Groups Migration dialog box. This option changes the default mail file ACL so that the administrator retains Manager access to the mail file. The owner of the mail file also remains in the ACL with the default Manager access.

Note: This option adds the administrator ID to the ACL of every mail file you create during the migration process, regardless of whether any messages are migrated.

Allow the addition of empty groups to Notes

Groups selected for import are considered empty if they do not contain any members who can be registered in Notes. By default, Domino Upgrade Services do not import empty groups. A group may be empty because it contains no members -- for example, an obsolete group that was never removed from the address book; or the group may not contain any local users -- for example, an e-mail distribution list that lists only the Internet addresses of users on other mail systems.

Migrating a group whose members are not available -- and that would therefore, be empty -- results in an entry in the Domino Directory that serves no useful purpose. Set this option only if you intend to add users to any empty groups either during registration or after registration completes.

Convert mail

By default, Domino Upgrade Services for Microsoft Exchange converts existing mail files into Notes mail files. During the registration process, if you choose to convert mail, Domino Upgrade Services automatically convert mail files on the old system to Notes mail files.

Mail files are created on the server that is specified in your registration preferences. If the Domino Upgrade Service cannot create a user's mail file for any reason - for example, if 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.

Note: The options ″Convert mail″ and ″Convert mail ONLY″ are mutually exclusive. An error message appears if you select one of these options and the other is already selected.

Registering users and migrating messaging data

After you import users from the old system into the registration queue, they are available for registration. After users are registered in Domino, they can log in and access resources on the Domino server, including mail files. You can register users on a single Domino server or distribute them among multiple servers.

For each user selected for registration, Domino automatically creates a Notes ID using the certifier ID specified and if applicable, migrates the mail data from the legacy messaging server to Notes mail files. Messaging data stored in locations other than the old messaging server is not migrated.

Domino Upgrade Services import some registration information, such as user names and passwords, from the old system. You can specify additional registration information as necessary.

Specifying where to register imported users

When registering imported users, you are not required to place them on a single server or within a single organizational unit. You can specify the registration server, mail server, and certifier ID to use in registering each user in the queue.

Determining the reason for failed registrations

If you attempt to register a user and the registration fails for any reason, the entry remains in the queue, and the status indicates the reason for the failure. You can modify the registration information as necessary and attempt to register the user again later.

Importing passwords

When importing a user for registration, Domino Upgrade Services compare the length and complexity of the user's existing password against the specified password quality scale. If the existing password does not meet or exceed the standards for the given password quality scale, the registration status indicates that the user's password needs to be modified before successful registration can occur.

Domino Upgrade Services for Active Directory does not import passwords from a domain list.

You can modify the passwords of users in the registration queue as necessary. Select the user in the Registration status box, edit the password in the Basics pane, and click Apply to update the status.

Specifying advanced person registration options

After importing users and groups, you can specify options that determine how Notes processes information when registering users.

You can select the following registration options:

- Do not continue on registration errors
- Keep successfully registered people in the queue
- Try to register queued people with error status
- Allow registration of previously registered people

In addition, you can configure the registration process to proceed as follows if the user being registered has the same user name or mail file name as an existing person:

- Skip registration when the name of a new Notes user or mail file matches those of an existing user
- Update an existing person with the information for the migrated user
- Replace an existing mail file with the migrated mail file
- Generate a unique mail file name

Note: If you choose to create a user's mail file in the background using the Administration Process, the option to replace an existing mail file is ignored for migrations that do not involve converting mail.

By default, none of these options is enabled. The options you select apply to all users selected for registration in the current session.

Setting registration defaults

When registering migrating users, you must specify several registration settings. Although some of these settings, such as mail file name or Internet address, are specific to an individual user, there are also a number of public settings, such as mail server or password quality scale, that can be applied to multiple users.

Rather than having to specify the same registration information for each new user, you can specify default settings for public registration information. After you set registration defaults, Domino Upgrade Services automatically apply these defaults to each user they add to the registration queue.

Pay particular attention to the default settings for registration server and mail server. If the computer on which you are running the Domino Administrator is not the Domino server, you must change the default setting of Local for these servers. Depending on your security needs, you may also want to apply a new default setting for the password quality scale required for the users you migrate.

You can create default registration settings using either of the following methods:

- Setting Administrative preferences
- Defining settings through user registration

Setting Administrative preferences

Registration settings that you define through the administration preferences are used as the defaults at the start of each registration session. You can override them by setting new defaults for a session, but they go into effect again the next time you start a new session.

Defining default settings through user registration

If you have already registered users, the public settings used in registering the last user become the defaults for the next user. You can also set registration defaults before you register any users from within the Register Person dialog box, using the following procedure:

1. From the Domino Administrator, click People - Register, and enter the password for the certifier ID to open the Register Person dialog box.

   When you first open the Register Person dialog box, it is set to accept new entries, as indicated by the words "Register Person -- New Entry" on the title bar.
2. Click the Advanced check box at the top of the dialog box to display all of the available selection panes.
3. Select each pane in turn, changing the registration settings on each pane to the desired default values. Leave the name information (First name, Middle name, and Last name fields) on the Basics pane blank.
4. Click "Migrate people" to open the "People and Groups Migration" dialog box and begin migrating users.

   The public registration settings defined during the preceding steps apply to all users you migrate to the registration queue during this session. After you exit the "People and Groups Migration" dialog box, the registration settings revert to those defined in the current administration preferences.

Saving pending registrations in the registration queue

Domino Upgrade Services automatically place users imported for registration in the registration queue (USERREG.NSF). The registration queue stores the registration information set for each user and reports the status of each pending registration.

The names of users currently in the registration queue appear in the Registration status box on the Register Person dialog box. Groups selected for migration do not appear in the registration queue.

Users remain in the queue until registered or specifically removed. If you have users in the registration queue and you are unable to complete the registration, you are prompted to save the users for later registration when you exit the Register Person dialog box. After the interruption, the user data remains intact so you can continue the process where it left off.

Note: If the users in the queue at the time you exit registration are pending registration with different organization certifiers, you must supply each certifier ID and password when you re-open the Register Person dialog box.

You can set a registration option to keep users in the queue after registration.

Applying registration settings to multiple users

You can apply some registration settings to multiple users at one time. The following table shows the settings for each pane of the Register Person dialog box that you can modify when multiple users are selected in the registration queue.

Basics pane	**Registration Server**
	Password options
	Mail System
	Explicit policy
	Let this person roam
	Create a Notes ID for this person
Mail pane	Mail system
	Mail server *
	Mail file owner access
	Create file in background
	Mail file template *
	Mail file replicas
	Set mail database quota
	Set warning threshold
	Create full text index
Address pane	Internet domain
	Address name format and separator
ID Info pane	Certifier ID
	CA Configured Certifier
	Organization Name
	License type
	Certificate expiration date
	ID file location
Groups pane	Assign person to groups
Roaming pane	Put roaming user files on mail server
	Roaming server
	Roaming replicas

Basics pane	Registration Server
	Sub-folder format
	Create roaming files in background (using the Administration Process)
	Create replicas
	Roaming user client clean-up options
Other pane	Setup profile
	Location
	Local administrator
	Comment
	Windows user options
	Preferred language

* The mail server and mail template settings are interdependent. If multiple users are selected and you change one of these settings, the current value of the other setting is applied to all of the selected users.

Creating Notes mail files

In the mail pane of the Register Person dialog box, you specify the type of mail file to create for a user by selecting the appropriate template you also specify whether to create the file now or to let the Administration Process create it later. To create Notes mail files for migrated users, you must create the file now. Notes mail files must be created during the registration process; you cannot choose to create them in the background with the Administration Process.

Setting mail database quotas

When migrating a user's mail file, Domino Upgrade Services ignore the size restrictions specified in the mail database quota field. Imported mail files continue to receive mail after registration, regardless of the specified size restrictions. To enforce size restrictions on a mail file, you must set a limit after the initial user registration and enable enforcement of database limits in the Configuration Settings document for the server. If size checking is enabled, the user cannot receive mail if it would result in the quota being exceeded.

Migrating duplicate messages

Mailboxes in the old mail system may contain duplicate copies of a message, one in each of several folders. After migration, duplicate messages may display in multiple Notes views, corresponding to the folders on the legacy system, but only a single copy of the message is migrated.

Users migrating from other systems should understand how message storage works in Notes. On mail systems that use true folders to store messages, copying a message from the Sent folder to another folder creates a duplicate copy of the message.

A Notes mail file, by contrast, stores messages in a single database that has multiple folder *views*. Each view of the database displays messages based on a set of selection criteria, such as sent messages. However, although a message may display in several views, Notes maintains only a single copy of it in the mail file database.

In particular, users should be careful about deleting messages from the Notes Sent view. Although a message in the Sent view can be displayed in other secondary views, it cannot be moved out of the Sent view. Deleting it from the Sent view removes it from all other views.

Migrating folders and subfolders

Folders in a Notes mail file behave differently from folders in the mailboxes on other systems. In some cases, folder names may be truncated during migration and nested folders are not migrated to the same location in the folder hierarchy as in the source mail file.

Subfolders in the Inbox and Sent folders

The Notes Inbox and Sent mail views cannot contain subfolders. As a result, subfolders in the Inbox or Sent folders of a legacy mailbox are converted to top-level folders in the Notes mail file during migration.

Maximum length for folder names

A Notes folder name cannot exceed 64 characters. During migration, folder names longer than 64 characters are truncated.

Maximum length for subfolder names

Notes mail files support the use of hierarchical, or nested, folders. In the folder hierarchy, the subfolder name includes the name of its parent folders. For example, in the following folder hierarchy:

```
Projects/2005/Q3/July/Letters
```

Notes considers the full name of the Letters subfolder to be 25 characters long, because it includes the names of the Projects, 2005, Q3, and July folders.

If the complete path for a subfolder (that is, the name of the subfolder and all of its parent folders) contains 64 characters or fewer, the folder hierarchy is migrated intact. However, subfolder paths that contain more than 64 characters are shortened during migration. Domino Upgrade Services replicate the path up to 64 characters, truncating the name of the last subfolder created, if necessary. The remaining subfolders are not migrated, but the messages in them are migrated to the last subfolder that was migrated. For example, if a subfolder in the source mail file is nested seven levels deep and the path name for a subfolder nested four levels deep exceeds 64 characters, then the migration tool creates folders 1 through 3, preserving the existing folder hierarchy. Folder 4 is also created in its original place in the hierarchy (nested within folder 3), but its name is truncated. All of the messages contained in the folders nested within folder 4 (folders 5 through 7) are migrated to folder 4.

Verifying that a migration was successful

After a migration completes, perform the following tasks to verify that the migration was successful:

- Check the Pending Registrations box to see if users in the queue were registered successfully
- Search the Miscellaneous Events view of the Notes Log for indications that users could not be registered
- Check the contents of users' Notes mail files
- Test access to mail and mail transfer for migrated users
- Review membership of migrated groups to ensure they contain valid entries

After you determine that the migration was successful, you can prepare users to migrate locally-stored messaging data with the upgrade wizard.

For information about migrating users' personal mail data to Notes, see the chapter "Migrating Personal Mail Data."

Chapter 12. Migrating Microsoft Exchange users

Using the Microsoft Exchange Domino Upgrade Service in the Domino Administrator, you can import Microsoft Exchange users and distribution lists from a selected server and add them to the Domino Directory as Notes users and groups. The migration process:

- Imports users and distribution lists from the Exchange server and creates entries for them in the Domino Directory
- Creates Notes IDs and mail files for imported users
- Migrates the contents of mailboxes (PST files) that are located in a central location, such as on the Microsoft Exchange server. Mail messages, Calendar entries, and Tasks are also migrated.

This section of the migration guide discusses the following topics related to moving users from Microsoft Exchange to Notes:

- Notes equivalents for migrated Microsoft Exchange data
- Preparing to migrate users from Microsoft Exchange
- Importing users and groups from the Microsoft Exchange directory
- Registering users and completing the migration from Exchange
- Upgrading mail files using the mail conversion utility

Notes equivalents for migrated Microsoft Exchange data

The Microsoft Exchange Domino Upgrade Service converts information from the Microsoft Exchange server to Notes, including messages and contact information as shown in the following table:

Microsoft Exchange/Outlook data	**Equivalent Notes data**
Calendar and scheduling information	Calendar view of the Notes Mail file
Contacts	Migrated to the Contacts view in Notes. Can be replicated to the Address book through the Notes client.
Custom message types, including Scheduler messages	Not migrated
Deleted items	Not migrated
Delivery failure messages	Migrated to Notes Inbox
Digital signatures	Not migrated
Distribution lists	Group document in Domino Directory
Encrypted messages	Not migrated
Document links	Migrated
Journals	Not migrated
Message date and priority	Message date and priority
Messages and attachments	Messages and attachments
Microsoft Office documents	Messages with attached Microsoft Office document
Notes	To Do tasks
Outbox folder	Drafts folder
Sent folder	Sent folder
Exchange directory	Person documents in Domino Directory
Private Address Book	Not migrated

Microsoft Exchange/Outlook data	Equivalent Notes data
Public folders	Not migrated
Read and unread status	Not migrated *
Roles and Permissions on Mailboxes and Folders	Not migrated
Sender and recipient information	Sender and recipient information
Tasks	To Do tasks

* The Microsoft Exchange Domino Upgrade Service marks all messages migrated from Microsoft Exchange as *unread* in the Notes mail file.

Modifying gateway names in migrated messages

When migrating messages and directory information from Exchange, Microsoft Exchange Domino Upgrade Service does not automatically convert the names of Exchange gateways in the sender's address to Notes gateway addresses. After they begin using Notes mail, users who reply to messages that were received from an external messaging system and migrated from Exchange may need to manually edit the gateway address of the recipient.

Locating the Microsoft Exchange mail file

The Microsoft Exchange client stores mail messages and Calendar entries in a PST file, but uses different files to store these two items.

Migrating Contacts from the Microsoft Exchange mail file

Contacts are migrated from Exchange to the Domino mail file as part of the user's mail file, and can be viewed in the Contacts view. The user can then replicate the Contacts from the mail file to a personal address book, if that is desired.

The Microsoft Exchange mail box is stored in a PST file, which can be stored either locally or on the Exchange server. The Microsoft Exchange Domino Upgrade Service can migrate information only from PST files that are located on the Exchange server. Users can run the Notes upgrade wizard at their workstation to migrate messages and other items from locally-stored PST files.

Migrating messages from the Outbox and Sent Items folders

All Exchange mailboxes contain the folders Outbox and Sent Items. When you migrate mail for Exchange users, these folders are not added to the Notes mail file. Rather, the messages in these folders are migrated to their corresponding folders in the Notes mail file. Messages in the Sent Items folder are migrated to the Notes Sent folder, and messages in the Outbox folder are migrated to the Drafts folder.

If a user manually copied *received* messages to the Outbox, or saved unsent, *draft* messages to the Sent Items folders (for example, by using a drag-and-drop operation), Microsoft Exchange Domino Upgrade Service migrates the messages, but does not place them in the equivalent Notes Drafts and Sent folders. After migration, users must select the All documents view to see the messages.

Migrating an Exchange folder that has the same name as an existing Notes folder

If a folder in a migrating Exchange mailbox has the same name as a folder view that already exists in the Notes mail file (for example, Discussion Threads), Microsoft Exchange Domino Upgrade Service appends the numeral 1 to the name of the folder name to make it unique (for example, Discussion Threads1). Additional duplicates are numbered sequentially to ensure uniqueness (for example, Discussion Threads2, Discussion Threads3, and so forth).

Preparing to migrate Exchange users

Before migrating users from Microsoft Exchange to Notes, complete the following tasks:

- Determine the order in which you want to convert your Exchange servers to Notes. This should be your migration schedule.
- On your administrative workstation, install the Domino 7 Administrator client and ensure that Microsoft Exchange is installed as a Foreign Directory Source under the Migration Options component.
- Make sure the Domino server to which you will be migrating users and their mail files is 6.5.1 or later.
- Back up Domino information.
- Verify that you have access to the Administrator ID for the Domino server on which you are registering users, as well as the Certifier IDs and passwords for the Domino organizations and organizational units where you are registering users.
- Verify that you have Editor, Designer, or Manager access rights to the Domino Directory on the Registration Server.
- From the administrative workstation, log in to Notes with a Notes ID that has ″Create database access″ on the Mail server.
- On the administrative workstation, close all applications except for Notes, and close any Notes databases.
- (Optional) Set default registration preferences.
- (Optional) Create a Notes group that you can add migrated users to.

  For information about adding migrated users to a group, see the topics Migrating groups, Setting Group Migration Options, and Add members of this group to the existing Notes group.
- Send any pending Microsoft Exchange messages by making sure Synchronization has been performed on each client.
- Perform an Exchange Directory Synchronization to ensure that the Exchange directory being migrated is complete. For more information about Exchange Directory Synchronization, refer to the Microsoft Exchange documentation.
- Make sure the workstation running the Domino Administrator has an Outlook or Exchange client installed and an Administrator mail profile that points to the Exchange server.

  For more information about the administrator mail profile, see the topic ″Specifying an administrator mail profile″ later in this chapter.

Importing the Microsoft Exchange directory

The Microsoft Exchange directory contains information for the Microsoft Exchange users who will be migrated to Notes. Notes uses the information extracted from the directory to configure migrated users for registration.

Importing the Microsoft Exchange directory involves the following:

- Connecting to the Exchange server
- Importing Microsoft Exchange users into the registration queue

After completing these tasks, you will be ready to register the imported users in Notes.

Connecting to the Exchange server

To import users to migrate, locate the Exchange server where users have their mailboxes, and log in to it.

1. From the Domino Administrator, click the People and Groups tab.
2. From the Tools pane, click People - Register.
3. When prompted, enter the certifier ID password, and then click OK.

4. From the Basics pane of the Register Person -- New Entry dialog box, click Registration Server and select the server that registers new users. Click OK.
5. Click Migrate People.
6. From the People and Group Migration dialog box, select Microsoft Exchange Users from the Foreign directory source list.
7. From the Choose Profile dialog box, select the administrator mail profile that connects to the Exchange server and click OK.

   Note: The Microsoft Exchange Domino Upgrade Service fails to load if you do not specify an appropriate mail profile.

   For more information about the administrator mail profile, see the topic "Specifying an administrator mail profile" later in this chapter.

   Note: If you are not logged in to the Windows domain where the Exchange server is located, you are prompted to supply a user name and password for the domain.
8. In the People and Groups Migration dialog box, select a filter, then click Go! to populate the Available people/groups box with entries.

   The Available people/groups box displays the names of contents of the Exchange address list. You are now ready to import users from the address list into the Notes registration queue.

Specifying an administrator mail profile

To migrate users from Exchange, you must connect to the Exchange server that contains the mailboxes you want to migrate. You connect to an Exchange server by selecting the Administrator mail profile for the Exchange server that you want to migrate. The Administrator account, which must have the Service Account Administrator role for the Exchange site and server, gives you full access to all accounts and mailboxes in the Exchange server directory.

The profile you use should connect with Microsoft Exchange server service only; do not use a profile that connects to multiple messaging services. If necessary, create a new profile for use during migration. The profile must be available locally or on a network drive accessible from the workstation where you are running the Domino Administrator.

Importing Microsoft Exchange users into the registration queue

After the Available people/groups box displays the contents of the Microsoft Exchange server directory, select the users to import and the migration options that determine the data to migrate.

1. From the People and Groups Migration dialog box, enable options by selecting items in the Migration Options box. The options you select apply to all Microsoft Exchange users imported during this session.

   For more information about migration options, see the topic "Setting migration options for Microsoft Exchange users" later in this chapter.
2. From the Available people/groups box, select users and groups to migrate, and then click Add. To add all users and groups, click Add All.

   For more information about importing groups, see the topics Migrating groups and Setting Group Migration Options.
3. Click Migrate to place the selected users in the registration queue, and click OK to close the message that indicates the status and number of users queued for registration.
4. Click Done.

   The people queued for registration now appear in the Registration status box. You are now ready to register users.

Setting migration options for Microsoft Exchange users

You can set options to determine what information Microsoft Exchange Domino Upgrade Service imports from the Microsoft Exchange server. The options you specify apply to all users and groups imported from Microsoft Exchange during this session.

For more information about the available migration options, see the chapter ″Overview of Domino Upgrade Services.″

1. From the People and Groups Migration dialog box, click Options.
2. In the Migration Options box, select the options you want. To clear a selection, click the selected option a second time. The following table lists the options available for migrating users from an Exchange server:

Migration option	Default status
Generate random passwords for users with no passwords	On
Generate random passwords for all users (overwrite existing passwords)	Off
Add full name provided to the Notes person document	Off
Allow addition of empty groups to Notes	Off
Convert mail	On
Add Administrator to mail file Access Control List (ACL)	Off
Convert mail ONLY	Off

You set migration options independently for each migration tool, so that if you are migrating users from multiple mail systems, you can apply a different set of options for each system. The options you select apply to all users imported from a given directory during the session.

Registering users and completing the migration from Exchange

After you successfully import users into the registration queue, you are ready to register them and complete the migration. Depending on the options you select, the registration process:

- Creates a Notes Person document and Notes ID for each migrated user
- Creates a Notes mail file

  For more information about the Notes mail file, see the topic ″Creating the Notes mail file″ later in this chapter.
- Migrates messages and Calendar entries from the Microsoft Exchange PST file

You can specify additional Notes registration information for users, including mail server name, group membership, organizational unit, and so forth.

For more information about advanced user registration options, see the book *Administering the Domino System*.

Note: After the registration process has started, you cannot use the Domino Administrator client for any other task until the process completes. If necessary, you can stop the registration process by pressing CTRL + Break.

1. From the Basics view of the Register Person dialog box, view the registration information for each name that appears in the Registration status box to ensure that it is correct.

   Note: The Extended Mail Template (Mail7ex.ntf) must be used for all mail files migrated from Exchange to Domino.

2. (Optional) Click the Options button, and then select the registration options to apply during this session and click OK.
3. (Optional) Specify additional registration information for users as necessary. If you created a ″migration″ group, open the Groups pane and assign users to this group now.
4. From the Registration status box, select users to register, and then click Register. The Domino Administrator attempts to register the selected users in the order in which they were added to the queue, and migrates data from their mailboxes to Notes. Users whom you do not select remain in the queue for later registration.

   The registration process may require a considerable amount of time, depending on the number of users as well as the number and size of the mailboxes being upgraded.

   After the registration completes, a message informs you of the registration status. Failed registrations continue to be listed in the Registration status box with a status message indicating the reason for the failure. Correct registration settings as needed and attempt to register the user again.
5. Verify that the migration was successful.

   For information on how to verify that the migration was successful, see the chapter ″Overview of Domino Upgrade Services.″
6. After migrating all users, use the Mail Convert tool to convert all addresses from Exchange to Notes canonical format:
   a. Perform the following task on the Domino server console to make sure the cache is updated and current:

      tell router q

      load updall <*Domino Directory*> (for example, load updall names.nsf)

      load router
   b. At the Domino server console, type the following command to perform the address conversion on all migrated mail files on the Domino server (in the \mail subdirectory):

      load convert -w mail*nsf

      Note: This tool converts only the addresses of Microsoft Exchange users who exist in the Domino Directory. If you migrate small groups, run the tool each time a group is migrated.
7. After the migration is complete, users can run an upgrade wizard to convert local mail archives and Outlook mail file data that the Domino migration tool did not process.

   For information about how to install and run the upgrade wizard for Outlook mail file data on the Notes client, see the chapter ″Migrating Personal Mail Data.″

Creating the Notes mail file

If you retained the default setting for the migration option ″Convert Mail″ (that is, the option remains selected), when you register migrated users, the Domino Administrator automatically converts their Microsoft Exchange mail files to Notes mail files as part of the registration process. On the Mail pane of the Register Person dialog box, the option ″Create mail file now″ is selected. An error message is displayed if you attempt to change this option to create mail files using the background Domino Administration Process.

Upgrading mail files using the mail conversion utility

Domino's mail conversion utility can be used to upgrade a user's mail file design, convert a mail file design from one language to another language, and to perform a variety of upgrade operations on a given mail file.

For more information about the mail conversion utility, see the topic Upgrading mail files with the mail conversion utility.

Mail conversion utility -- usage and options

Use the following arguments with the load convert command.

```
load convert    -? /? -a -c -d -e -f -g -h -i -l -m  -n -o -proxy -r -s -u -w -x arguments
```

This table lists each argument that you can use with load convert when running the mail conversion utility and also includes a description of each argument.

Options	Description
-a Admin Name	Enables sending mail to the administrator when the convert tool completes.
-c	Converts categories to folders.
-d	Do not convert categories to folders.
-e or -e-	Enables or disables NSF support for IMAP.
-f file name	Reads the list of databases to process from a text file.
-g ″Language Name″	Replaces the mail file design with user's preferred language.
-h	Adds the IMAP specific items to optimize fetches.
-i	Converts categories to folders, even if there are more than 200 categories.
-l <file name>	Generates a list of mail files by reading people's mail files from the Domino Directory. Writes the list to a text file.
-m	Enables or disables folder references which are needed for IMAP.
-n	Shows the databases that match the file name and template name criteria, without actually updating anything.
-o	Removes IMAP-specific items.
-proxy	Enables a display status and error messages in a console window.
-r	Enables recursive search of databases.
-s	Ignores the preserve flag for folders when replacing the design but always preserves them.
-u	Enables the upgrade of folders to the same design as the $inbox design.
-w <dir path>	Enables fix up of names in Notes in all mail files on the server to allow for Microsoft Exchange Mail Migration.
-x	Enables exclusive design element keys: <NAME><CLASS><LANGUAGE>
-? /?	Displays help information. Displays command line help.

Task	Enter this command
Upgrade V6 mail design to V7 mail design:	load convert testmail.nsf StdR6Mail mail7.ntf
Upgrade old mail design and folders to V7 mail design.	load convert -u testmail.nsf * mail7.ntf
Change the English mail design to German mail design.	load convert -g″German″ TestMail.nsf * mail7_en_de.ntf
Generate current mail user's file list on this server and write it to the file maillist.txt.	load convert -l maillist.txt

Task	Enter this command
Upgrade all previous users' mail designs listed in the file maillist.txt to Domino V7 mail design.	load convert -u -f maillist.txt * mail7.ntf
Performs address conversion for all Exchange-migrated mail databases in <dir path> and its sub-directories.	load convert -w *<dir path>* Example: load convert -w mail*.nsf
Performs address conversion on a specified Exchange-migrated mail database.	load convert -w *<mail file path>* Example: load convert -w mail\chair.nsf
Generates a text list containing all Exchange-migrated mail databases from the primary mail directory, excluding any replica mail databases. The command below can then be run using the generated text file.	load convert -w -l *<text list path>* Example: load convert -w-l c:\tmp\mailfilelist.txt
Performs address conversion on all Exchange-migrated mail databases listed in the given text list file. Provides flexibility in allowing the administrator to manage the databases that need address conversion.	load convert -w -f *<text list file>* Example: load convert -w-f c:\tmp\mailfilelist.txt

Chapter 13. Migrating Windows NT users

Using the Windows NT Domino Upgrade Service in the Domino Administrator, you can import users and groups from a selected Windows NT domain and register them as Notes users. The migration process:

- Imports users and groups from the Windows NT domain list and creates Person documents for them in the Domino Directory
- Creates Notes IDs and mail files for imported users

You can choose to create unregistered users, that is users without Notes IDs and mail files. However, if you do, those users cannot access all Domino resources.

Follow this procedure to migrate Windows NT users to the Domino Directory:

- Prepare to import users from Windows NT
- Specify the Windows NT domain to import from
- Set migration options for Windows NT users
- Specify advanced options for Windows NT users
- Import Windows NT users into the Notes registration queue
- Register users and complete the migration from Windows NT

Note that setting migration and advanced options for Windows NT users are optional steps in this procedure.

Preparing to import users from Windows NT

You need to complete a number of tasks to prepare for a successful migration:

- Determine the order in which you want to move users from Windows NT domains to Notes. This should be your migration schedule.
- Verify that you have access to the certifier IDs and passwords for the Domino organizations and organizational units where you are registering users.
- Log into Windows NT as an Administrator or Account Operator of the domains from which you are importing users. To migrate Windows NT users to Notes, the computer on which you run the Domino Administrator must also be running Windows NT.
- If you are creating Notes mail files for imported users, log in to Notes from the administrative workstation using a Notes ID that has "Create database access" on the Mail server.
- On an administrative workstation running Windows NT, install the Domino 7 Administrator client and the Windows NT Domino Upgrade Service. You must perform a custom installation to install the migration tools component.
- Back up Domino information.
- Verify that you have Read/Write/Update access to the Domino Directory on the server used for migration.
- On the administrative workstation, close all applications except for Notes and the Domino Administrator, and close any Notes databases.
- (Optional) Set default registration preferences.
- (Optional) Create a Notes group that you can add migrated users to.

Specifying the Windows NT domain to import from

The following procedure explains how to connect to a Windows NT domain and retrieve the domain list. After you retrieve the domain list, you can import users and groups from it to the registration queue. You must be an Administrator or Account Operator in the Windows NT domain to complete this procedure.

Note: In order to migrate Windows NT users to Notes, the computer where you run the Domino Administrator must be running Windows NT or Windows 2000 Professional connected to your Windows NT domain.

1. From the Domino Administrator, click the People and Groups tab.
2. From the Tools pane, click People - Register.
3. When prompted, enter the certifier ID password and click OK.
4. From the Basics pane of the Register Person - New Entry dialog box, click Registration Server, then select the server that registers new users. Click OK.
5. Click Migrate People.
6. From the People and Group Migration dialog box, select Windows NT Users/Groups from the Foreign directory source list.
7. From the Choose Windows NT Domain dialog box, specify the Windows NT domain to import from, and then click OK.

   You can select a domain from the list, or enter the name of a different domain.

   Note: If a domain controller for the selected Windows NT domain is not available, an error message appears and the Available Users box displays the default list of local user accounts.
8. In the People and Group Migration dialog box, select a filter, and then click Go! to display entries in the Available people/groups box.
9. Continue on to one of the following procedures:

Importing Windows NT users into the Notes registration queue

After the Available people/groups box displays the contents of the Windows NT domain list, select the users to import and the migration options that determine the data to migrate.

1. In the People and Groups Migration dialog box, select the users and groups to migrate from the Available people/groups box, and then click Add. To migrate all users and groups, click Add All.
2. Click Migrate to place the selected users in the registration queue, and then click OK to close the message that indicates the status and number of users queued for registration.
3. Click Done.

   The people queued for registration now appear in the Registration status box. You are now ready to register users.

Setting migration options for Windows NT users

You can set options to determine what information the Windows NT Domino Upgrade Service imports from the Windows NT domain list. The options you specify apply to all users and groups imported from Windows NT during this session.

1. In the People and Groups Migration dialog box, click Options.
2. In the Migration Options box, select the options you want. To clear a selection, click the selected option a second time. The following table lists the options available for migrating users from a Windows NT domain:

Migration option	Default status
Generate random passwords for users with no passwords	On

Migration option	Default status
Generate random passwords for all users (overwrite existing passwords)	Off
Add full name provided to the Notes person document	Off
Allow addition of empty groups to Notes	Off

Note: Existing Windows NT passwords are not imported by the Windows NT Domino Upgrade Service. If you disable the option to generate passwords, you must supply passwords for each user imported to the registration queue before you can register them. You can retrieve automatically generated passwords from the database, NTSYNC45.NSF. If you deselect this option, you must supply each user with a password.

3. Continue with the import procedure by specifying Advanced settings.

You set migration options independently for each Domino Upgrade Service; therefore, if you are migrating users from multiple systems, you can apply a different set of options for each system. The options you select apply to all users imported from a given directory during the session.

Specifying advanced options for importing Windows NT users

In addition to the basic import options set on the People and Groups Migration dialog box, you can set options that determine how the Windows NT Domino Upgrade Service processes names imported from Windows NT. The settings you select apply to all users that you import from the Windows NT domain during this session.

1. In the People and Groups Migration dialog box, click Advanced.
2. From the Windows NT User Upgrade Options dialog box, choose settings for the following, then click OK:
   - Name format for full name parsing
   - Retain unique Windows NT user name as Notes short name

Creating Notes short names from Windows NT user names

You have the option to generate Notes short names for imported users based on their Windows NT user names.

On the Windows NT User Upgrade Options dialog box, select the ″Retain unique NT user name as Notes short name″ check box. The Windows NT user name is added as the primary entry in the short name field of the Person document.

The short name is the default for the mail file name and the user ID file name. If you do not select the short name option, Notes generates a short name from the first character of the user's first name, followed by the first seven characters of the last name, for example *ssalani*, for the user Susan Salani.

Accessing the Windows NT User Upgrade Options dialog box

1. On the Register Person dialog box, click Migrate People.
2. Choose ″Windows NT Users/Groups″ as the foreign directory.
3. Specify a Windows domain, and then click OK.
4. Click Advanced. The Windows NT User Upgrade Options dialog box opens.

Specifying how to convert Windows NT full names into Notes name components

You can specify how the full names of Windows NT users are parsed into Notes name components during migration. You specify a parsing format as follows:

From the Windows NT User Upgrade Options dialog box, select the format from the "Name format for full name parsing" box. The Windows NT Domino Upgrade Service automatically parses imported Windows NT full names into Notes first name and last name components according to the specified parsing format.

In Windows NT, there are two types of names associated with a user account, a unique user name and a full name. The Windows NT user name consists of a string of up to 20 characters and has no required format. The full name is optional and generally represents the user's complete name, formatted according to the conventions of the organization, such as last name followed by first name. For example, in the Windows NT domain list, the user *Susan Salani* might have the user name *ssalani*, and the full name *Salani Susan.*

In Notes, name information is stored as separate first name, middle name, and last name components. For example, the name *Susan Salani* is stored not as a single full name, but as separate first name (Susan) and last name (Salani) components. When you import names from a Windows NT domain list, you need to specify how users' full names will be converted into Notes name components.

In Notes the following formats are available:

Notes name format	**Example**
Firstname Lastname	Susan Salani
Title Firstname Lastname	Dr. Susan Salani
Firstname Middlename Lastname	Susan Rachel Salani
Title Firstname Middlename Lastname	Dr. Susan Rachel Salani
Firstname Lastname1 Lastname2	Susan Mills Salani
Title Firstname Lastname1 Lastname2	Dr. Susan Mills Salani
Title Lastname	Dr. Salani
Lastname Firstname	Salani Susan
Title Lastname Firstname	Dr. Salani Susan
Lastname, Firstname	Salani, Susan
Lastname, Title Firstname	Salani, Dr. Susan
Lastname, Title Firstname Middle Name	Salani, Dr. Susan Rachel
Lastname1 Lastname2, Firstname	Mills Salani, Susan
Lastname1 Lastname2, Title Firstname	Mills Salani, Dr. Susan

Selecting a parsing format

When you import users from a Windows NT domain list, you have the option of selecting the parsing format to use in converting Windows NT full names into the components of a Notes name (First name, Middle name, and Last name). The default parsing format assumes that the full names in the Windows NT domain list are entered in *First name Last name* format, for example, Susan Salani. If the domain list you import uses a different format, select the most compatible parsing format.

If the Windows NT Domino Upgrade Service cannot parse a name correctly -- for example, if the number of name components in the Windows NT full name does not equal the number of name components in the specified parsing format -- the Adjust Windows NT User Name Components dialog box appears. The

dialog box specifies whether the Windows NT full name has too few or too many components to accommodate the parsing format selected. For example, if you specify the format *Title Firstname Lastname* and the full name is *Susan Salani*, the dialog indicates that too few components have been specified. "Susan" is placed in the Title field and "Salani" in the First name field.

On the other hand, if you select the parsing format *Lastname, Firstname,* and the full name is *Susan R. Salani*, the dialog box indicates that there are too many components to accommodate the parsing format selected. Rather than discarding the extra components, and placing just the middle initial in the Firstname field, the Windows NT Domino Upgrade Service places "Susan" in the Last name field, and "R. Salani" in the First name field.

An incompatible parsing format may require considerable editing to create suitable Notes names. If you do not adjust names in the dialog box, the names added to the registration queue may not be suitable for registering users. Always be sure that each imported name has a last name component; Notes requires a valid last name component to register users.

Note: The Windows NT Domino Upgrade Service only checks whether a parsed name is missing components for the format specified; it does not verify that components appear in the correct field, or check for invalid characters. For example, the Windows NT Domino Upgrade Service does not check whether the first name component contains title information.

Importing users who do not have full names

If there is no full name to import from Windows NT, the Windows NT Domino Upgrade Service does not prompt you to make any adjustments. Instead, the Windows NT Domino Upgrade Service automatically adds the Windows NT user name to the Notes Last name field, regardless of the specified parsing format. For example, if you import the user name *ssalani* from the Windows NT domain list, the user added to the registration queue has a last name of *ssalani* and no first name. You can edit the name in the registration queue as needed, adding S or Susan to the First name field and changing the Last name field to *Salani*.

Registering users and completing the migration from Windows NT

After you successfully import users into the registration queue, you are ready to register them and complete the migration. Depending on the options you select, the registration process:

- Creates a Notes Person document and Notes ID for each migrated user
- Creates a Notes mail file for each migrated user

You can specify additional Notes registration information for users, including mail server name, group membership, organizational unit, and so forth.

Note: After the registration process has started, you cannot use the workstation for any other task until the process completes. If necessary, you can stop the registration process by pressing CTRL-Break from the Domino Administrator.

1. From the Basics view of the Register Person dialog box, view the registration information for each name that appears in the Registration status box to ensure that it is correct.
2. (Optional) Click the Options button, and then select the registration options to apply during this session. Click OK.
3. Specify additional registration information for users as necessary. If you created a "migration" group, open the Groups pane and assign users to this group now.
4. From the Registration status box, select users to register, and then click Register. The Domino Administrator attempts to register the selected users in the order in which they were added to the queue. Users whom you do not select remain in the queue for later registration.

   The registration process may require a considerable amount of time, depending on the number of users imported.

After the registration completes, a message informs you of the registration status. Failed registrations continue to be listed in the Registration status box with a status message indicating the reason for the failure. Correct registration settings as needed and attempt to register the user again.

5. Verify that the migration was successful.

Chapter 14. Migrating Microsoft Active Directory users and groups

Using the Active Directory Domino Upgrade Service, you can migrate people and groups from a specified Microsoft Active Directory domain into a Domino Directory and register those people as Notes users. The migration process:

- Imports people and groups from an Active Directory and creates Person documents for each user in the Domino Directory
- Creates Notes IDs and mail files for registered users

Optionally, you can choose to create unregistered users, that is, users without Notes IDs and Notes mail files. However, if you do, those users will have limited access to Domino resources.

The Active Directory Domino Upgrade Service supports migration of people and groups from an Active Directory domain or from a specified container.

The Active Directory Domino Upgrade Service also supports LDAP searches, so you can determine which users and groups to migrate using a search base, field mapping options to define an LDAP search, and any custom LDAP filter using a standard LDAP filter syntax.

To migrate users from an Active Directory, follow this procedure:

- Specify the Active Directory domain to migrate from
- Set the migration options for Active Directory users
- Optionally specify advanced options for importing Active Directory users
- Import Active Directory users into the Notes registration queue and register them

Importing Active Directory names and passwords into the Domino Directory

Before you migrate Active Directory entries into the Domino Directory, note the following:

- When you migrate people from an Active Directory, the Active Directory Domino Upgrade Service parses the Active Directory name components - First name, Last name, and so on - into Notes name components.
- The Active Directory Domino Upgrade Service does not import passwords from an Active Directory into a Notes Person document. By default, the ″Generate random passwords for users with no passwords″ migration option is selected to create passwords for Active Directory person entries. You can retrieve those automatically generated passwords from the database, NTSYNC45.NSF. If you deselect this option, you must supply each user with a password.

Search base, LDAP filters, and containers

The Active Directory Domino Upgrade Service uses one of these three methods for migrating users from an Active Directory to a Domino Directory. The following table describes these options.

Option	Description
Containers	Containers for the Active Directory domain are listed in a filter. When you use a container filter, all users and groups in the container are retrieved, but users and groups from subcontainers are not retrieved.

Option	Description
Search base alone	By default, the search base is the entire Active Directory domain. The Search base is used with the All users, All groups, and All users and groups filters. It retrieves all users and groups, including those in subcontainers.
Search base with LDAP custom filter	LDAP filter syntax is Internet RFC. You can find examples of LDAP filters in the Microsoft Active Directory documentation. The following example retrieves all users and groups whose names start with ″a″ and who belong to the Sales department: `"&(cn=a*)(department=sales)"`

Preparing to migrate Active Directory users and groups

To prepare for a successful migration, complete the following tasks:

- Determine the order in which you want to move users from the Active Directory domains to Lotus Notes. This should be your migration schedule.
- Verify that you have access to the certifier IDs and passwords for the Domino organizations and organizational units where you are registering users.
- Log into Windows 2000 or Windows XP as an Administrator or Account Operator of the domains from which you want to import users. To migrate Active Directory users to Notes, the computer where you run the Domino Administrator must be running Windows 2000 or Windows XP.
- If you are creating Notes mail files for imported users, log in to Notes from the administrative workstation using a Notes ID that has ″Create database access″ on the Mail server.
- On an administrative workstation running Windows 2000 or Windows XP, install the Domino 7 Administrator client and the Active Directory migration tool. You must perform a custom installation to install the migration tools component.

  Note: The Active Directory Domino Upgrade Service requires the Domino Administrator client 6.0 or newer.
- Back up Domino information.
- Verify that you have Read/Write/Update access to the Domino Directory on the server used for migration.
- On the administrative workstation, close all applications except for Notes, and close any Notes databases.
- (Optional) Set default registration preferences.
- (Optional) Create a Notes group that you can add migrated users to.

Specifying the Active Directory domain to migrate from

The following procedure explains how to connect to an Active Directory domain to retrieve the domain list. After you retrieve the domain list, you can select the people and groups to migrate to the Notes registration queue.

Note: To migrate Active Directory users, the computer on which you run the Domino Administrator must run Windows 2000 or XP Professional connected to a Windows 2000 or Windows 2003 Active Directory server. The Active Directory Domino Upgrade Service does not support other Windows operating systems.

1. In the Domino Administrator, click the People and Groups tab.
2. From the Tools pane, choose People - Register.
3. When prompted, enter the certifier ID password, and then click OK.
4. From the Basics pane of the Register Person - New Entry dialog box, select a registration server.

5. (Optional) If you do not want to create Notes IDs and Notes mail files for the migrated users, follow these steps. Note that these options apply to all users that you import during this session.
   - In the Mail System field of the Basics tab, select None.
   - Deselect the ″Create a Notes ID for this person″ check box.
6. On the Basics pane, click Migrate People.
7. In the Foreign Directory Source field of the People and Group Migration dialog box, select Active Directory from the list.
8. In the Active Directory DUS dialog box, select or browse for the Active Directory domain, then click OK.
9. In the Filter field of the People and Group Migration dialog box, select a filter from the list or enter the name of your custom LDAP filter, then click Go! to display entries in the Available people/groups box.
10. Set migration options for Active Directory users.

Setting migration options for Active Directory users

You can set migration options to determine what information the Active Directory Domino Upgrade Service imports from the Active Directory domain list. Note that the Active Directory Domino Upgrade Service does not import user passwords from an Active Directory. The migration options that you choose apply to all users imported during this session.

For more information about migration options, see the chapter ″Overview of Domino Upgrade Services.″

1. In the People and Groups Migration dialog box, click Options, and then select the option settings. The following table lists the defaults for each option.

Option	Default setting
Generate random passwords for users with no passwords	On
Generate random passwords for all users (overwrite existing passwords)	Off
Add full name provided to the Notes person document	Off
Allow addition of empty groups to Notes	Off
Convert mail	Off
Add administrator to mail file access control list	Off
Convert mail ONLY (Notes users and mail file must already exist)	Off

   Note: If you disable the ″Generate random passwords for users with no passwords,″ you must supply passwords for each user imported to the registration queue before you can register them. If the password quality specifies that the user must have a password, it can be generated randomly if that setting is set; otherwise, the administrator must create it. You can retrieve those automatically generated passwords from the database, NTSYNC45.NSF.
2. Click OK.
3. Continue to one of the following topics:

Specifying advanced migration options for Active Directory users

Specifying advanced migration options is optional.

1. In the People and Groups Migration dialog box, click Advanced.
2. (Optional) In the General Options tab of the Active Directory Migration Options dialog box, select a search base.
3. In the ″Register security groups in Notes as″ field, select an option from the following:

- Multi-purpose
- Mail only
- Access Control List only
- Deny List only

4. In the "Register distribution groups in Notes as" field, select an option. These options reflect the ones listed in Step 3.
5. (Optional) By default the "Synchronize mapped attributes for new users and groups" check box is selected. If you do not want to synchronize attributes for new users and groups, clear the check box.
6. Click the Field Mappings tab.
7. In the "Field mapping for object class" list, select an object class.
8. In the list box below, select the Active Directory column, then select an attribute.
9. Beside the Active Directory attribute in the Domino Directory column, enter or select a Domino Directory attribute.
10. If you want to map more than one attribute, click Apply, and then repeat Steps 6 -- 8 as necessary.
11. When done, click OK.
12. Import Active Directory users into the Notes registration queue.

Importing Active Directory users into the Notes registration queue

After setting the migration options and/or the advanced migration options, you can import users from the Active Directory to the Notes registration queue.

1. In the Available people/groups box of the People and Groups Migration dialog box, select the users and groups to migrate, and then click Add. To add all users and groups, click Add All.
2. If you added a group, complete the Group Migration Options dialog box, and then click OK.
3. Click Migrate, then click OK to close the message box that indicates the number and status of the people and groups queued for registration.
4. Click Done. If you imported a group, it is now added to the Domino Directory on the Registration server.
5. Select the person entries in the Registration Queue that you want to register, and then click Register. To register all entries, click Register All.
6. Verify that the migration was successful.

Chapter 15. Migrating users from an LDIF file

Using an LDIF export tool in combination with the LDIF Domino Upgrade Service, you can migrate users from any LDAP-compliant external directory and add them to the Domino Directory.

The LDIF Domino Upgrade Service creates Person documents in the Domino Directory from the person entries in an LDIF file. Optionally, you can create Notes IDs and mail files for migrated users and register them as Notes users. Unregistered users who have no Notes IDs or mail files can be added to Domino as directory entries only. That is, the LDIF Domino Upgrade Service creates Person documents for the users. However, the unregistered users cannot log in to Notes and access Domino resources.

Note: The LDIF Domino Upgrade Service does not process LDIF group entries.

The following topics describe how to migrate users to Notes from LDIF files:

- What is LDIF?
- Understanding how Notes uses information in the LDIF file
- Preparing to import an LDIF file
- Specifying the LDIF file to migrate from
- Registering users migrated from an LDIF file
- Adding imported users as directory entries only

What is LDIF?

LDIF (LDAP Data Interchange Format - RFC 2849) is a data format standard for conveying information from a directory that complies with the Lightweight Directory Access Protocol (LDAP). You can use LDIF files to import users from any LDAP directory to Notes.

Each entry in the LDIF file contains a sequence of lines describing a directory object and its attributes as shown in the following example.

```
dn: cn=Susan Salani, ou=Human Resources, o=Acme Corporation, c=US
objectclass: top
objectclass: person
objectclass: organizationalPerson
objectclass: inetOrgPerson
cn: Susan Salani
cn: Susan R Salani
cn: Sue Salani
sn: Salani
uid: ssalani
telephonenumber: +1 888 555 1212
facsimiletelephonenumber: +1 888 555 1999
mail: ssalani@acme.com
roomnumber: 1111
userpassword: password
```

Understanding how Notes uses information in the LDIF file

The LDIF Domino Upgrade Service validates entries before migrating the user described in the entry. Valid entries must include the following attributes:

- Distinguished name (DN)
- Surname (SN, S, or SurName)
- Object classes

The object class definition top is required for all entries, as is an object class specifying the type of entry (for example, person). Other object classes are optional. Entries in the file must be separated by a blank line. When the migration tool encounters an entry that does not contain all of the mandatory information, it skips it and logs the error in the Notes log.

The LDIF Domino Upgrade Service attempts to migrate entries based on a standard supported LDAP schema. Some schemas may use LDAP attributes that do not have equivalent fields in the Notes Person document. If the LDIF Domino Upgrade Service cannot map an attribute to a Notes equivalent, it skips it and logs the error in the Notes log.

Adding the distinguished name to the Person document

The LDAP distinguished name (DN) represents not only a user's name, but also the user's location in the organizational hierarchy, as defined by attributes which specify the organizational unit, organization, and country. For example, the following distinguished name tells you that the user named Susan Salani is in the Human Resources division of the Acme Corporation, located in the United States:

```
dn: cn=Susan Salani, ou=Human Resources, o=Acme Corporation, c=US
```

This hierarchical structure is similar to the one that Notes uses in forming the primary names of registered users, except that, in Notes, information about a user's organization and organizational unit come from the certifier ID used during registration.

Because the hierarchical information in imported distinguished names may conflict with Notes hierarchical information, by default the LDIF Domino Upgrade Service does not add the distinguished names to the User name field of the Person document when you register users imported from an LDIF file. The LDAP attributes O (Organization), and OU (Organizational Unit), and C (Country) are not mapped to fields in the Person document. Each mapping failure is noted in the Notes log.

If the users you migrate from an LDIF file will become directory entries only, and not registered Notes users, (that is, you will not create Notes IDs and mail files for them), you may want their Person documents to include the original distinguished names in their LDIF entries. The LDIF Domino Upgrade Service can add the original distinguished names from the migrated LDIF entries to the Person document as secondary values in the User name field of the Person document.

The primary entry in the User Name field of the Person document is always derived from the First Name and Last Name components, together with the organizational information taken from the certifier ID.

To add the original distinguished names from migrated LDIF entries as secondary values in the User name field, select the migration option ″Add full name provided to the Notes Person document″ on the People and Groups Migration dialog box.

Processing object classes

The LDIF Domino Upgrade Service supports the migration of any foreign LDAP entry that exists in the Person Object class or any EXTENDED object class that is considered a ″descended″ object class of person (that is, a subclass of the ″person″ object class).

If the LDIF Domino Upgrade Service does not find one of those object classes when importing an LDIF file, the entry is skipped because it does not meet the criteria for being migrated as a person.

The LDIF Domino Upgrade Service supports the importing of Persons only. It does not import groups or schemas.

Generating Notes name components from LDAP attributes

The LDIF Domino Upgrade Service generates Notes name components from values in the following attributes in a user entry:

LDAP attribute	Notes name component generated during migration
GN or GivenName	First name
MiddleName	Middle name
SN, S, or SurName	Last name

Migrated users are successfully added to the registration queue regardless of whether their entries include GivenName (or GN) or MiddleName attributes. However, if an entry does not include a SurName, SN, or S attribute, you must provide last name information for the user before the user is ready for registration.

Other name information in an entry (for example, CN) may be added to the Person document as a secondary name in the User name field.

Processing attributes that have multiple values

The LDIF Domino Upgrade Services does not migrate multiple values for the following attributes:

- First name
- Last name
- Middle initial
- Internet address
- Short name

If an LDIF entry contains multiple values for any of these attributes, only the first value is added to the Person document. In addition, the LDIF Domino Upgrade Service places a message in the Notes log indicating that the attribute already exists.

Adding common names as secondary user name values in the Person document

The LDIF Domino Upgrade Service adds values from the common name (CN) and UID attributes of an LDIF entry as secondary values in the User name field of the Person document.

Importing Internet addresses from an LDIF entry

If a user's entry in a migrated LDIF file includes the mail attribute, the LDIF Domino Upgrade Service imports that address and copies it to the InternetAddress field of the user's Person document when the user is registered. The domain name portion of the user's mail remains intact, that is, exactly as it was in the LDIF file.

Note: The administrator can change the user's Internet address by modifying the entry in the InternetAddress field.

When registering users not migrated from an LDIF file, the Domino Administrator changes the Internet address to reflect the default domain name as displayed in the Internet Domain field on the Basics pane of the User Registration dialog box.

Importing passwords from an LDIF entry

By default, if a record for a user has an associated password, that password is imported as the user's Notes password. The LDIF Domino Upgrade Service provides two options for automatically generating random passwords. By default, the LDIF Domino Upgrade Service generates random passwords only for those entries that do not have associated passwords. You can also choose to create new random passwords that will replace the passwords specified in the imported LDIF file.

Preparing to import an LDIF file

The tasks you perform to prepare an LDIF file for import into Notes depend on how you plan to integrate the users listed in the file into Notes. You can use an LDIF file to register users listed in the file as Notes users.

Before importing people from an LDIF file to Notes, complete the following tasks:

- Consider generating one or more LDIF files for these reasons:
  - If you divide large files into multiple smaller files, you will have greater control over the migration process.
  - If you are registering users and plan to place them in multiple Notes organizational units, create separate LDIF files for each organizational unit.
- Obtain or generate the LDIF file containing the users to be imported.

  For information about the ldapsearch utility, see the book *Administering the Domino System*.
- Decide whether to use the imported entries to create registered Notes users or directory entries only.
- If you are registering users, verify that you have access to the certifier IDs and passwords for the Domino organizations and organizational units where you are registering users.
- Verify that you have Editor, Designer, or Manager access rights to the Domino Directory on the registration server.
- If you are creating mail files for users, log in to Notes with a Notes ID that has "Create database access" on the mail server.
- On your administrative workstation, install the Domino 7 Administrator client and select the LDIF Domino Upgrade Service. You must perform a custom installation to install the migration tools component.
- Back up Domino information.
- On the administrative workstation, close all applications, except for Notes, and close any Notes databases.
- From the administrative workstation, map a drive to the location of the LDIF file you are migrating users from.
- (Optional) Set default registration preferences.

  For more information about default registration preferences, see the book *Administering the Domino System*.
- (Optional) Create a Notes group that you can add migrated users to.

Note: The LDIF import automatically creates notes of type "DominoPerson."

For more information about adding migrated users to a group, see the chapter "Overview of Domino Upgrade Services."

Preparing LDIF files for import into multiple Notes organizational units

Notes security requires that you supply a certifier ID and password for each organizational unit (OU) into which you register users.

Although the distinguished name for an entry in the LDIF file may contain information about a user's OU, this OU is not necessarily the same as the Notes OU, and the LDIF Domino Upgrade Service cannot import OU information when creating Notes hierarchical names. The OU portion of a user's Notes hierarchical name depends on the certifier ID used to register the user. When you launch the LDIF Domino Upgrade Service, you are prompted to supply a certifier ID. Users whom you import during the session are queued for registration into the organizational unit for the specified certifier ID.

If you need to migrate users from an LDIF file into different OUs in the Notes hierarchy, you must create a separate file for each OU where you want to register users. If you exported all of the users from an LDAP directory into a single file, you must extract the entries in the original file into different files for each OU. Then, import each file independently, using the certifier ID for the corresponding organizational unit.

For example, if the Notes hierarchy in the Acme company has a Sales unit and a Finance unit, and the LDIF file you are importing contains entries for users in each of these units, create separate LDIF files named SALES and FINANCE and place the appropriate entries in each. Then import the SALES file using the Sales/Acme certifier ID, and the FINANCE file using the Finance/Acme certifier ID.

Specifying the LDIF file to migrate from

To migrate users from an LDIF file, you need to specify the location of the file. Make sure that the format of the entries in the file follows approved LDIF conventions.

Note: It is recommended that the LDIF files you import be generated by a standard LDAP export utility, such as the ldapsearch utility supplied with the Domino 7 server.

For information about using the ldapsearch utility, see the book *Administering the Domino System*.

1. From the Domino Administrator, click the People and Groups tab.
2. From the Tools pane, click People - Register.
3. When prompted, enter the certifier ID password, and then click OK.
4. From the Basics pane of the Register Person -- New Entry dialog box, click Registration Server and then select the server that registers new users. Click OK.
5. Click Migrate People.
6. From the People and Group Migration dialog box, select LDIF Entries from the Foreign directory source list.
7. In the Select LDIF File dialog box, specify the LDIF file to import or click Browse to open a dialog box that lets you search the file system for an LDIF file, beginning in the Notes Data directory. Click OK.
8. Set migration options by selecting items in the Migration Options box. The options you select apply to all users imported from the file during this session.

   For more information about migration options, see the topic "Setting options for importing users from an LDIF file" later in this chapter.

   Note: If you are not registering the users migrated from the file (not creating Notes IDs or mail files for them), the OU portion of the users' Notes hierarchical name created depends on the certifier ID used to register the users. If you select the option "Add full name provided to the Notes person," LDIF Domino Upgrade Services includes the original LDAP distinguished names, as well as any secondary CN values specified in the LDIF file, as secondary values of the User Name field. By default, this option is selected.
9. Click Migrate, and then click OK to close the message that indicates the number and status of the users queued for registration.
10. Click Done.

The names queued for registration now appear in the Registration status box. You can now register the available users or add users to Domino as directory entries only.

For more information about registering users or adding users to the Domino Directory, see the topics "Registering users migrated from an LDIF file" or "Adding imported users as directory entries only" later in this chapter.

Setting options for importing users from an LDIF file

You can set options to determine what information the LDIF Domino Upgrade Service imports from the LDIF file. The options you specify apply to all users imported from the file during this session.

For more information about the available migration options, see the chapter "Overview of Domino Upgrade Services."

1. In the People and Groups Migration dialog box, click Options.
2. In the Migration Options box, select the options you want. To clear a selection, click the selected option a second time. The following table lists the options for importing users from an LDIF file:

Migration option	Default status
Generate random passwords for users with no passwords	On
Generate random passwords for all users (overwrite existing passwords)	Off
Add full name provided to the Notes person document	Off *

* If you are not registering the users migrated from the file (not creating Notes IDs or mail files for them), the OU portion of the users' Notes hierarchical name depends on the certifier ID used to register the users. If you select the option "Add full name provided to the Notes person," LDIF Domino Upgrade Services includes the original LDAP distinguished names, as well as any secondary CN values specified in the LDIF file, as secondary values of the User Name field. By default, this option is selected.

For more information, see the topic "Adding the distinguished name to the Person document" earlier in this chapter.

Registering users migrated from an LDIF file

After you successfully import users into the registration queue, you are ready to register them and complete the migration. Depending on the options you select, the registration process:

- Creates a Notes Person document and Notes ID for each migrated user
- Creates a Notes mail file

In addition to the information imported from the attributes for each entry, you can specify other Notes registration information for users, including mail server name, group membership, and so forth.

For more information about the available registration settings, see the book *Administering the Domino System*.

If you want to add imported names to the Domino Directory, but not register the imported people as Notes users, see the topic "Adding imported users as directory entries only" later in this chapter.

Note: After the registration process has started, you cannot use the workstation for any other task until the process completes. If necessary, you can stop the registration process by pressing CTRL + Break.

1. From the Basics view of the Register Person dialog box, view the registration information for each name that appears in the Registration status box to ensure that it is correct. Modify information as needed.

Note: The Register Person dialog box displays a subset of the attributes imported from the LDIF file. The LDIF Domino Upgrade Service imports other attributes, such as phone number, manager, and so forth, even though they do not appear here.

2. (Optional) Click the Options button and select the registration options to apply during this session and click OK.
3. (Optional) Specify additional registration information for users as necessary. If you created a 'migration' group, open the Groups pane and assign users to this group now.
4. From the Registration status box, select users to register and click Register.

   The Domino Administrator attempts to register the selected users in the order in which they were added to the queue. Users whom you do not select remain in the queue for later registration.

   The registration process may require a considerable amount of time, depending on the size of the LDIF file being imported.

   After the registration completes, a message informs you of the registration status. Failed registrations continue to be listed in the Registration status box with a status message indicating the reason for the failure. Correct registration settings as needed and attempt to register the user again.
5. Verify that the migration was successful.

   For information on how to verify that the migration was successful, see the chapter "Overview of Domino Upgrade Services."

Adding imported users as directory entries only

You can use the entries in the imported LDIF file to create entries in the Domino Directory only without creating new Notes users. The LDIF Domino Upgrade Service then creates new Person documents for each imported name, but does not generate Notes IDs or mail files. The people represented by the resulting Person documents appear in the Domino Directory, but cannot access Domino resources from a Notes client.

Using entries imported from an LDIF file strictly as directory entries lets you:

- Add user information from external directories to the Domino Directory so it can serve as a master directory. Using Domino's Web server capabilities, you can then make the contents of this master directory available to HTTP search engines.
- Create subscription accounts for a Web site.

Use the following procedure to import users as directory entries only:

Note: After the import process has started, you cannot use the workstation for any other task until the process completes. If necessary, you can stop the process by pressing CTRL-Break.

1. Import users from an LDIF file into the registration queue.

   For more information about importing users from an LDIF file, see the topic "Specifying the LDIF file to migrate from" earlier in this chapter.
2. From the Basics view of the Register Person dialog box, view the registration information for each name that appears in the Registration status box, to ensure that it is correct. Modify information as needed.
3. (Optional) Click the Options button, select registration options to apply during this session, and then click OK.
4. From the Registration status box, select all of the users to be added as directory entries only.
5. Select the Advanced check box, and then select the Mail pane.
6. From the Mail pane, select None in the Mail system box, and then click Apply.
7. Select the ID Info pane, clear the check boxes in the Store user ID section, and click Apply.
8. In the Registration status box, make sure the users you selected in Step 4 are still selected, and click Register.

The Domino Administrator attempts to add the selected users to the Domino Directory in the order in which they were added to the queue. Users whom you do not select remain in the queue for later processing.

The import process may require considerable time, depending on the number of users being imported.

After the process completes, a message appears, informing you of the registration status. Users who could not be imported continue to be listed in the Registration status box with a status message indicating the reason for the failure. Correct the information in the registration profile and attempt to import the user again.

9. Verify that the migration was successful.

   For information on how to verify that the migration was successful, see the chapter "Overview of Domino Upgrade Services."

Using imported users in subscription accounts

You can use the entries from an imported LDIF file to create subscription accounts that let you manage access to the resources Domino publishes to a company Web site. Subscription accounts let you protect certain information on the Web site, making it available only to specified users. To gain access to protected information, users must provide a password to authenticate themselves.

When creating subscription accounts, you can either import existing passwords (from the userpassword attribute in the LDIF file) or instruct the LDIF Domino Upgrade Service to generate passwords by selecting the option provided in the LDIF migration dialog box.

Chapter 16. Migrating entries from an LDAP directory server

You use the LDAP Domino Upgrade Service to migrate users and groups from an LDAP-compliant external directory to the Domino Directory. The LDAP Domino Upgrade Service creates a Person document for each migrated person and a Group document for each migrated group. Optionally, for migrated users, you can create Notes ID files and mail files.

You can also add unregistered users, that is, users without Notes IDs and mail files, to the Domino Directory, but those users cannot log into Notes or gain authenticated access to Domino servers and other Domino resources through Notes.

When you migrate groups, they are added to the Domino Directory, but are not registered like users.

The LDAP Domino Upgrade Service offers advanced options for extending the LDAP schema. These advanced options let you add person and group object classes and member attributes.

To migrate users and groups from an LDAP directory server, follow this procedure:

- Specify an LDAP directory server
- Specify LDAP migration options
- Specify advanced LDAP migration options to extend the LDAP schema
- Add users from an LDAP directory to the Notes registration queue

Alternatively, you can also migrate users from an LDAP directory using an LDIF file. You can populate the LDIF file with entries, then migrate those entries with the file. However, you cannot migrate groups using an LDIF file.

For more information about migrating users with an LDIF file, see the chapter ″Migrating Users from an LDIF File.″

Migrating person entries

Before you migrate people to a Domino Directory, you must specify a certifier to use for migrating person entries, even if you choose not to create Notes IDs and mail files for the entries. The value of the leftmost portion of the original distinguished name is retained as a cn attribute value and the remainder of the distinguished name is determined by the certifier. For example, if the distinguished name for an entry in the original LDAP directory is ″uid=jdoe,o=companyx″, and the name of the Notes certifier is ″o=acme,″ the dn in Domino becomes ″cn=jdoe, o=acme.″

You can preserve the original distinguished names from the LDAP directory as secondary entries in the User Name field in the Domino Directory Person documents. To do this, select the ″Options″ button on the People and Groups Migration dialog box, and then check ″Add full name provided to the Notes Person document.″

If there is more than one entry in the original directory with the same leftmost value in the distinguished name, then the names for the entries will be considered as duplicates in the case where one certifier is applied to them. As a result, only one of the entries will be registered. For example, suppose there are two entries in the original directory with these distinguished names: ″cn=kathy brown, ou=marketing, o=companyx″ and ″cn=kathy brown, ou=sales,o=companyx.″ If you import both of them using the Notes certifier ″o=acme,″ the resulting distinguished names will still be identical -- ″cn=kathy brown, o=acme″ -- and only one will be registered.

Names are also considered duplicates if there is more than one entry in the original directory with the same leftmost value for the distinguished name, but more than one Notes certifiers are supplied. Using the previous example, suppose there are two entries in the original directory with these distinguished names: ″cn=kathy brown, ou=marketing, o=companyx″ and ″cn=kathy brown, ou=sales,o=companyx.″ If you import one of them using the certifier ″companyw″, and the other using the certifier ″acme,″ the administration client will still consider these names to be duplicates, and only one will be registered.

Requirements for the original person entries

A person entry in the original directory must include a distinguished name. By default the LDAP Domino Upgrade Service imports all person entries with at least one of the following object class definitions:

- person
- organizationalPerson
- inetOrgPerson

You can extend the LDAP schema to specify additional person object classes using the Advanced LDAP Migration Options dialog box.

For more information about extending the LDAP schema, see the book *Administering the Domino System*.

If person entries in the original directory do not have surname attributes (sn, s, or surName), you cannot register the entries in Domino until you specify a last name for each entry.

Imported person entries defined as Domino person entries

After you migrate person entries, they are defined by the dominoPerson object class. This is meaningful if you use the LDAP service and LDAP clients search the directory. The dominoPerson object class inherits from inetOrgPerson, organizationalPerson, and person, which means that searches on any of these object classes return attributes from Domino Person entries.

Attribute mapping for person entries

You can only migrate attributes that are defined in the Domino schema. To migrate attributes that do not exist in the Domino schema, you must extend the schema before you migrate. The following table shows how some common LDAP name attributes in the original entries map to fields in Domino Directory Person documents.

LDAP attribute	**Field in Person document**
givenName	First name
sn, s, or surName	Last name
cn	Secondary values in User Name field
uid	Short name
dn	Primary value in the Fullname field

Processing attributes that have multiple values

All attributes containing multiple values are processed, except for attributes that map to the following fields:

- First Name
- Last Name
- Middle Initial
- Short Name
- Internet Address

In the preceding five cases, only the first instance of the attribute is added. All subsequent attributes are ignored, and the following message is logged to the Miscellaneous Events view of the local Notes Log file:

```
LDAP_DUS: Attribute "xxx" already exists, adding first value only
```

Passwords are not imported

The LDAP Domino Upgrade Service does not import passwords from the original LDAP directory. If you attempt to import passwords, the following message is logged to the Miscellaneous Events view of the local Notes Log file:

```
LDAP_DUS: Cannot migrate attribute password. Passwords can be set in the registration dialog
```

mailSystem and altFullNameLanguage attributes not imported

If you are migrating from another Domino LDAP directory, the mailSystem and altFullNameLanguage attributes are not imported. These attributes, which define the mail system and a certified alternate name to use in Domino are created automatically through Notes registration.

Migrating group entries

To be migrated, a group entry in the original directory must include a distinguished name (dn). By default LDAP Domino Upgrade Service imports all group entries with at least one of the following object class definitions:

- groupOfNames
- groupOfUniqueNames
- Group

You can extend the LDAP schema to include additional group object classes using the Advanced LDAP Migration Options dialog box. You can only migrate attributes of groups that are defined by the Domino schema of the registration server. To migrate attributes that don't exist in the Domino schema, you must extend the schema before you migrate.

For more information about extending the LDAP schema, see the book *Administering the Domino System*.

Migrated group entries defined as Domino groups

After you migrate group entries, they are defined by the dominoGroup object class, which inherits from both the groupOfNames and the groupOfUniqueNames object classes. LDAP searches of any of these object classes return attributes from Domino Group entries.

Original names of groups retained by default

When you migrate a group, the original distinguished name for the group is retained in Domino by default. The certifier doesn't control the name as it does for person entries. You can override this default and specify a different name for each group in Domino individually using the Group Migration Options dialog box.

For more information about the Group Migration Options dialog box, see the chapter "Overview of Domino Upgrade Services."

Attribute requirements for members

Members must be defined by the member or uniqueMember attribute. These are LDAP-standard attributes with a syntax type of DN (distinguished name). You can extend the LDAP schema to include addition member attributes.

Specifying an LDAP directory server

The following procedure explains how to connect to the LDAP directory server. To migrate users from a foreign LDAP directory, you must know the host name of the LDAP directory server.

1. From the Domino Administrator, click the People and Groups tab.
2. From the Tools pane, choose People - Register.
3. When prompted, choose the certifier ID and enter the password.
4. In the Basics tab of the Register Person dialog box, click Registration Server, and then select the Domino server that contains the Domino Directory in which you want to register the entries. Click OK.
5. (Optional) If you are importing person entries and do not want Notes IDs and mail files created for the entries, do the following:
   - In the Mail System field of the Basics pane, select None.
   - Deselect the option "Create a Notes ID for this person." Select a certifier from the Certifier Name list to use for the name.
6. Click Migrate people.
7. In the People and Groups Migration dialog box, select LDAP in the Foreign Directory Source field.
8. In the dialog box that opens, complete the fields for selecting the LDAP directory server according to the tables below.

Field	Description
LDAP Hostname	Host name of the LDAP directory server that stores the entries you want to migrate.
LDAP port	Port number to use to connect to the LDAP directory server. The default 389 is the industry standard port for LDAP connections over TCP/IP. The default 636 is the industry standard port for SSL connections over TCP/IP.

Base DN for search	Search base to specify the location in the directory tree at which to begin the import. Many non-Domino LDAP directory servers require a search base, for example:
	`o=Acme (typical SunOne deployment)`
	`o=Acme, c=US (typical IBM Directory Server deployment)`
	`cn=Users,dc=LDAP,dc=Acme,dc=com (typical Active Directory deployment)`

Time Out (seconds)	The maximum number of seconds the client will wait for an answer from the LDAP directory server. Default is 60 seconds. If you don't want to impose a limit, enter 0. **Note:** The LDAP server may also impose a limit on how long it can take to answer clients, and this server limit is never exceeded, regardless of the client setting.
Bind to LDAP anonymously	This option connects to the LDAP directory server anonymously. Note that some LDAP directory servers do not allow anonymous connections or do not allow directory access to anonymous users.
Bind DN for authentication	If you don't bind anonymously, enter a distinguished name, for example: `cn=Directory Administrator,o=Acme` that the server should use to authenticate you. The name must correspond to an entry in the directory and must have the necessary access to search the directory.
Bind DN password	If you enter a Bind DN for authentication, enter the password associated with the distinguished name.
SSL Enabled	Creates a secure connection using the Secure Sockets Layer (SSL) protocol to connect to the LDAP directory server.

Field	Description
SSL Protocol version	Determines which version of the SSL protocol to use: • ″Negotiated″ allows SSL to determine the handshake and protocol to use • ″V2.0 only″ uses SSL V2.0 handshake and protocol only • ″V3.0 handshake″ uses SSL V3.0 handshake and negotiated protocol • ″V3.0 only″ uses SSL V3.0 handshake and protocol only • ″V3.0 and V2.0 handshake″ users SSL V2.0 handshake with negotiated protocol
Accept SSL Certificates	Accepts a certificate from the LDAP directory server.
Verify account server name with remote server's certificate	Requires that the subject line of the remote server's certificate include the LDAP directory server host name. For this option to work properly, the subject line in the remote server's certificate must include the server's DNS host name. Enable this option if you are sure the X.509 certificate of the remote directory server to which your server is connecting contains the remote server's host name in the appropriate format.
Send SSL certificates when asked (outbound only)	Sends certificates to the server if the server requests them. Clear this option if you want to send certificates on request.
Attempt authentication using SSL certificates first	If you select the ″Send SSL certificates when asked (outbound only) option, you can select this option to request the server's certificate to verify that the server's identity is the same as the server's name to which you are connecting. Clear this option if you do not want to perform this check.

9. (Optional) Select ″Display status in log.nsf″ to record in the Notes Log file on the local Domino Administrator client information about how the attributes of imported entries map to Domino. If you select this option, the Log file shows messages such as the following:

   ```
   LDAP_DUS: Attribute: ldap attribute, mapped to Notes attribute: notes attribute
   LDAP_DUS: Attribute ldap attribute did not map to Notes attribute
   ```

10. Click OK. If you selected ″Bind to LDAP anonymously,″ a warning message appears. Click Yes to continue. Optionally, you can select ″Do not show this warning again″ before clicking Yes.
11. In the Filter fields of the People and Groups Migration dialog box, select a filter from the list.
12. Click Go! to display the LDAP directory entries in the Available people/groups box.
13. (Optional) If in Step 12 you selected ″All users and groups,″ you can click ″Show only groups″ or ″Show only people.″
14. Set options for migrating users from an LDAP directory.

Setting options for migrating users from an LDAP directory

You can set options to determine what information the LDAP Domino Upgrade Service migrates from the foreign LDAP directory. The options you specify apply to all users imported from the LDAP directory during this session. Note that the LDAP Domino Upgrade Service does not import passwords.

1. In the People and Groups Migration dialog box, click Options, then select migration options. The following table shows the options available to you and their default settings.

Option	Default setting
Generate random passwords for users with no passwords	On
Generate random passwords for all users (overwrite existing passwords)	Off
Add full name provided to the Notes person document	On
Allow addition of empty groups to Notes	On

2. Click OK.
3. Continue to one of the following:

   To set advanced LDAP migration options, see the topic ″Specifying advanced LDAP migration options″ later in this chapter.

   To import users into the Notes registration queue, see the topic ″Adding users from an LDAP directory to the Notes registration queue″ later in this chapter.

Specifying advanced LDAP migration options

You can specify advanced migration options to search for extended person and/or group object classes as well as extended member attributes. By default, the LDAP Domino Upgrade Service searches the specified foreign LDAP directory using the following set of common person and group object classes and group member attributes:

- Person: person, inetOrgperson, organizationalPerson
- Group: groupOfNames, groupOfUniqueNames, Group
- Member: Member, uniqueMember

The foreign LDAP directory may contain entries whose object class types differ from the standard LDAP object class types. From the Advanced LDAP Migration Options dialog box, you can define customized lists of people and group object classes.

Group entries in the LDAP Domino Upgrade Service are created when you select a group to migrate. Based on the options that you choose in the Group object classes section of the Advanced LDAP Migration Options dialog box, the members contained in those groups may also be migrated. If the schema in the foreign LDAP directory has been extended, and the member attribute name has been extended to something other than the default of ″Member″ or ″uniqueMember,″ you can specify extended member attributes in the ″Member attributes″ section of the dialog box.

Follow this procedure to create new person and group object classes or to add member attributes.

1. In the People and Groups Migration dialog box, click Advanced.
2. If you want to migrate entries whose person or group object classes have been extended in the foreign LDAP directory, follow these steps:
   - In the Advanced LDAP Migration Options dialog box, select the ″Extended person object class″ and/or the ″Extended group object class″ check box.
   - In the text field beside the check box, enter the customized object class.
   - (Optional) To add more than one extended object class, repeat Step 2, and then click ″Add To List″ for each entry.
3. If you want to migrate group entries whose member attributes have been extended in the foreign LDAP directory, follow these steps:
   - Select the ″Extended member attribute″ check box.
   - In the text field beside the check box, enter the customized member attribute.
   - (Optional) To add more than one extended member attribute, repeat Step 3, then click ″Add To List″ after each entry.
4. Select additional options. The following table describes each option.

Option	Description
Foreign member attributes	Adds foreign group members who do not exist in the specified foreign LDAP directory to the migrated group member list.

Option	Description
Save advanced settings for future queries	Saves the extended person or group object classes and the extended member attributes as default search criteria for future migration requests.
Reset dialog warnings	Enables the dialog warnings that you disable. If you selected the ″Do not show this warning again″ check box in the ″Anonymous Bind Warning″ and ″Advanced Dialog Warning″ boxes, then you disabled the warnings.

5. Click OK.
6. Add users from the LDAP directory to the Notes registration queue..

Adding users from an LDAP directory to the Notes registration queue

After setting migration options and advanced LDAP migration options, you can import users into the Notes registration queue.

1. In the Available people/groups box of the People and Group Migration dialog box, select the users and groups you want to add to the Notes registration queue, then click Add. To migrate all entries in the Available people/groups box, click Add All.
2. If you added a group, complete the Group Migration Options dialog box, then click OK. For more information about the group migration options, see the topic ″Setting Group Migration Options.″
3. Click Migrate, then click OK to close the message box that indicates the number and status of the people and groups queued for registration.
4. Click Done. If you migrated a group, it is now added to the Domino Directory on the Registration server.
5. Select the person entries in the Registration Queue that you want to register, and then click Register. To register all person entries, click Register All.

   For more information about registering users, see the book *Administering the Domino System*.

LDAP special character handling

Note: For clarity, punctuation marks discussed in the text are followed by their proper names in parentheses.

Domino 7 includes a set of fixes for the conversion of a distinguished name (DN) between LDAP syntax and Notes syntax. A simple example of a conversion from LDAP to Notes is CN=Mary Smith,OU=West,O=Acme -> CN=Mary Smith/OU=West/O=Acme. More complex DNs get tricky to convert back and forth correctly, and previous Domino releases did not handle all of them correctly or consistently.

For example, the LDAP DN CN=This\+That,OU=West,O=Acme should be converted to the Notes DN CN=This″+″That/OU=West/O=Acme. However, previous revisions did not correctly escape the + (plus) character with double-quotes, resulting in a Notes DN (CN=This+That/OU=Westford/O=Acme) that appears to have a multi-valued RDN.

The representation of an LDAP DN is defined in RFC 2253. Notes DNs are (more loosely) defined in the topic ″Hierachical naming for servers and users″ in the Installation section of the Lotus Domino Administrator 7 Help. Conversions between the two are described below.

These fixes are not enabled by default in Domino 7. Administrators must enable them by including the line DN_PARSE_REV=2 in the server's NOTES.INI file and then restarting the Domino server.

Important: The fixes for special character handling should only be implemented when you are satisfied that no backward compatibility issues exist. These are described in more detail below.

Common DN conversion scenarios

The most common contexts in Domino where name conversion occurs are the Domino LDAP server, name lookups to LDAP directories configured in DA (i.e., NAMELookup->LDAP gateway), and LTPA single sign-on authentication. The Domino LDAP server must convert an LDAP DN it receives from a client to its Notes equivalent in order to save it in the Domino directory database (that is, the Add operation) or compare it to other names in the directory. It must also convert from Notes to LDAP when returning search results. When the Domino server or some server task (for example, the mail router) searches for directory information in an LDAP directory, the gateway must convert results to Notes DNs. This is typically done when searching for mail recipients, authentication credentials, and ACL groups. LTPA tokens typically have the name encoded in LDAP syntax, so when receiving a token for authentication, Domino must convert the DN to Notes. If Notes is the generator of an LTPA token, it typically converts the person's DN from Notes to LDAP and stores it in the token.

Also, when dealing with multi-directory scenarios that include person or group entries that reside in both Domino and LDAP directories, it's important to understand in what contexts a Notes DN is expected, and in what contexts an LDAP DN is expected. The general rule is that Notes DNs are used in Domino database fields (for example, the Fullname field or any other names field) or ACLs, and LDAP DNs are used in LDAP directory attributes. In scenarios like this, DN conversion between Notes and LDAP is necessary. For instance, when entering the DN of an entry that resides in an LDAP directory into the ACL of a Domino database (or secondary value of Fullname), you need to convert it to its Notes DN equivalent. Or, when using the Notes DN mapping feature in Directory Assistance, you should convert the Notes DN to its LDAP equivalent and use that value in the specified attribute of the LDAP directory.

Converting DNs between LDAP and Notes

The fundamental transformation that must be made is substituting the , (comma) character used to separate name components in an LDAP DN with the / (forward-slash) character used for the same purpose in a Notes DN (as in the first example above), and vice versa. Most other characters in the DN are used as is.

However, as defined in RFC 2253, certain characters must be escaped with a \ (back-slash) character when used in a name component attribute value (attrValue). For example, the comma character must be escaped since it is also used as a name component separator. So, a correct LDAP representation is CN=Warren\+ Rabbit,OU=East,O=Acme, not CN=Warren + Rabbit,OU=East,O=Acme. When this name is converted to Notes syntax the plus character must be escaped in the Notes style by surrounding it with double-quote characters (see the second example above). However, not all LDAP-escaped characters need to be Notes-escaped. See the table below for other characters that must be escaped in an LDAP DN, and which must be escaped with double-quotes when converting to Notes.

In addition, the forward-slash and @ (at-sign) characters must be escaped when used in a attrValue of a Notes DN, otherwise the canonicalization and abbreviation of these names will fail. So, the correct representation is MAIL=bob″@″www.acme.com/OU=South/O=Acme, not MAIL=bob@www.ibm.com/OU=South/O=Acme . When this name is converted to LDAP syntax, the at-sign is not escaped, which results in MAIL=bob@www.ibm.com, OU=South, O=Acme. This is also shown below.

The following table is a helpful reference for determining:

- which characters require LDAP escaping
- which characters require Notes escaping
- how to convert an LDAP escaped character to its Notes equivalent
- how to convert a Notes escaped character to its LDAP equivalent

- conversion differences with past revisions of Domino

Desired character in attrValue	LDAP DN	New Notes DN (in Domino 7 servers with DN_PARSE_REV=2 enabled)	Old Notes DN (prior to Domino 7)
=	\ =	″=″	=
+	\ +	″+″	+
″	\ ″	″″″	″
\	\ \	″\″	\
/	/	″/″	″/″ (>=Domino 6.5.4)
@	@	″@″	@
,	\,	,	,
>	\ >	>	>
<	\ <	<	<
#	\ #	#	#
;	\ ;	;	;

The following are some more conversion examples:

LDAP DN	New Notes DN	Old Notes DN
cn=This\=That,o=Acme	cn=This″=″That/o=Acme	cn=This=That/o=Acme
cn=This\+That,o=Acme	cn=This″+″That/o=Acme	cn=This+That/o=Acme
cn=This\″That,o=Acme	cn=This″″″That/o=Acme	cn=This″That/o=Acme
cn=This\\That,o=Acme	cn=This″\″That/o=Acme	cn=This\That/o=Acme
cn=This@That,o=Acme	cn=This″@″That/o=Acme	cn=This@That/o=Acme
cn=This/That,o=Acme	cn=This″/″That/o=Acme	cn=This″/″That/o=Acme (>= 6.5.4)
cn=This\,That,o=Acme	cn=This,That/o=Acme	cn=This,That/o=Acme
cn=This\<That,o=Acme	cn=This<That/o=Acme	cn=This<That/o=Acme
cn=This\>That,o=Acme	cn=This>That/o=Acme	cn=This>That/o=Acme
cn=This\#That,o=Acme	cn=This#That/o=Acme	cn=This#That/o=Acme
cn=This\;That,o=Acme	cn=This;That/o=Acme	cn=This;That/o=Acme

Other conversion problems that have been resolved with this set of fixes include:

- Stricter validation of LDAP and Notes DNs, such as:
  -- Unescaped special chars
  cn=this<that,o=Acme
  -- Illegal/non-ascii chars in attrTypes
  1two=foo,o=Acme
  big$=spender,o=Acme
  -- ″#″ hexstring attrValues where one or more of the hexpairs in hexstring is illegal
  cn=#hij,o=Acme
  -- Illegal backslash escaped attrValues
  cn=not\YY right,o=Acme
  -- Other bad syntax

cn=thats,,ou=+just,#ou=not,o;=right

- OID style attrTypes

1.2.3.4.5=foo,o=Acme

oid1.2.3.4.5=foo,o=Acme

- attrValues encoded as ″\″ hexpair

cn=foo\41bar,o=Acme

- attrValues encoded as ″#″ hexstring

cn=#414243442C31323334, o=Acme

Backward compatibility

In order to correctly perform round-trip conversion of DNs (that is, LDAP->Notes->LDAP and Notes->LDAP->Notes), it was necessary to change the behavior for how certain escaped characters are handled. As shown in the tables above, when converting from LDAP the = (equals),(comma) + (plus), ″ (double-quotes), and \ (back slash) characters are escaped by surrounding them with a double-quote char in the resulting Notes DN. So, a server with DN_PARSE_REV=2 enabled will convert the LDAP DN cn=George\+Abraham,cn=users,dc=acme,dc=com to the Notes DN cn=George″+″Abraham/cn=users/dc=acme/dc=com. A server without this Notes.ini variable will convert the LDAP DN to cn=George+Abraham/cn=users/dc=acme/dc=com, which will cause problems when attempting to convert it back to LDAP, as the parsing code can not determine whether the back slash used to escape the plus sign is a separator for a multi-valued RDN or just part of the attrValue. Unfortunately, this can result in incompatibility between servers that have DN_PARSE_REV=2 enabled and those that don't (or can't, such as pre-7.0 servers).

Enabling DN_PARSE_REV=2

It is safe to enable DN_PARSE_REV=2 if:

- There are no entries in Domino directories or LDAP servers configured via Directory Assistance that have DNs that contain the = (equals), + (plus), @ (at sign), ″ (double quotes), or \ (back slash) characters in attrValues, or
- All DNs stored in Domino directories that contain these chars in attrValues are stored in the new Notes syntax. In this case, DN_PARSE_REV=2 should be enabled on all 7.0 servers.

If neither of the above cases are true then the suggested procedure for enabling DN_PARSE_REV=2 is as follows:

- Upgrade all servers to 7.0
- In each Domino directory, modify any entries which have DNs stored in the old Notes syntax to have the correct new Notes syntax (see table above). Replicate changes to all replicas.
- For each server, set DN_PARSE_REV=2 in Notes.INI and restart.

Other considerations

When DN_PARSE_REV=2 is enabled, the DNs specified in LDAP protocol operations will be subject to stricter syntax checking. This may result in invalid DN syntax errors being returned by the Domino LDAP server. For example, a search filter like ″secretary=name*″ will not produce the same results as a pre-7.0 Domino LDAP server would. The filter must look like this: ″secretary=cn=name*″.

Known caveats and bugs

- The Notes client has a few problems handling the \ (back-slash) and ; (semicolon) characters, so these characters should be avoided in DNs.

- These characters should not be used in DNs that begin with CN=: = (equals) and ″ (double quotes). However, other LDAP identifiers, such as UID and email will work.

  For example, this will not work: CN=this\=that, o=Acme

  This will work: UID=this\=that, o=Acme
- If the > (greater-than) sign is used in a DN, the derived RDN is not correct. For example, if the original DN is cn=user>greaterthan,o=abc, the derived RDN is user/greaterthan, which is wrong.
- Avoid using < (less-than) and > (greater-than) together in a DN.
- LDAP searches for attributes of type DN are now stricter with DN_PARSE_REV=2, consequently, the search filter, ″secretary=name*″ will not work. The filter must look like this: ″secretary=cn=name*″.
- The Domino LDAPsearch.exe tool does not handle ; (semi-colon) and ″ (double quotes) in base-level searches.

DNs that use the + (plus), @ (at-sign), , (comma), # (pound) , and / (forward-slash) have no known caveats.

Chapter 17. Migrating personal mail data

During the first phase of a migration, you used Domino Upgrade Services in the Domino Administrator to migrate the users listed in the public directory of the old mail system and to move the contents of their mail boxes from the old messaging server. Users can now complete the migration by converting their personal mail data, such as private addresses, mailing lists, and message archives, to Lotus Notes.

Users migrate personal mail data by running an upgrade wizard, which guides them through the process of converting their personal mail data to Notes data. Users launch the upgrade wizard from an upgrade message in the Inbox of their Notes mail file. The administrator sends the upgrade message from the Domino Administrator, which specifies the location of the wizard program files. You can install the upgrade wizard as part of each user's Lotus Notes client or in a shared network directory.

Lotus Notes/Domino 7 provides user upgrade wizards for migrating personal mail data from:

- Microsoft Outlook Express
- Microsoft Exchange

This section includes the following topics:

- Data migrated by the user upgrade wizards
- Before running the upgrade wizard
- Platform requirements for running the user upgrade wizards
- Installing the upgrade wizard
- Sending users an upgrade notification message
- Running the upgrade wizard
- Converting message archives
- Migrating mail messages from Microsoft Outlook Express
- Migrating personal address book information
- After the upgrade wizard finishes processing

Messaging data migrated by the user upgrade wizards

The upgrade wizards let users migrate their personal mail data from any local or mapped drive location. The upgrade wizards convert archived messages from the old mail system into messages in a Notes mail file archive. Private addresses and private mailing lists are migrated into a Notes Personal Address Book (NAMES.NSF) on the user's workstation.

After data is migrated by DUS or by the upgrade wizard (nupgrade 3 command), all messages display an Unread status in the Notes client. Read/Unread marks cannot be migrated.

The following table shows how information in each mail system is converted to Notes information.

Mail data from Microsoft Outlook Express	**Mail data from Microsoft Exchange/Outlook**	**Converts to these Lotus Notes equivalents**
--	Personal Folders (PST files)	Folder in mail file archive database
Attachments	Attachments	Attachments
Message priorities	Message priorities	Message priorities
Messages	Messages	Messages
Folder hierarchy	Folder hierarchy	Hierarchical folder views

Mail data from Microsoft Outlook Express	Mail data from Microsoft Exchange/Outlook	Converts to these Lotus Notes equivalents
--	Mobile post offices	Not migrated
Groups	Groups ***	Group document in PAB
Contacts	Contacts (Outlook only)/Personal Address Books (PAB file)	Contact in PAB
Read/unread marks (not migrated)	Read/unread marks (not migrated)	Unread status
--	Return receipts	Return receipts
Delete Items Folder	Delete Items Folder	Not migrated
--	--	Not migrated
--	--	Not migrated
--	--	Not migrated
--	Sensitivity levels	Mood stamps
--	Calendar entries	Calendar entries
--	Tasks	To Do tasks

*** The upgrade wizard migrates Exchange personal distribution lists maintained in the PAB file on the client.

The upgrade wizard for Microsoft Exchange assigns all messages migrated from Exchange the status of unread.

Before running the upgrade wizard

Before a user runs the upgrade wizard, the system administrator must:

- Migrate users and their mail boxes to Lotus Notes, using Domino Upgrade Services in the Domino Administrator.

  Note: For Microsoft Outlook Express users, be sure to select the ″Internet authentication: More name variations with lower security″ option in the Internet Access field on the Security tab of the Server document. This option lets users connect to the Domino server using short names.
- Decide whether users will run the upgrade wizard locally or over the network
- Install the Lotus Notes 7 client on users' workstations.
- Send an upgrade notification message to users

Platform requirements for running the user upgrade wizards

The following table shows the software required to run each version of the upgrade wizard:

Requirements	Client migrated from Microsoft Outlook Express	Client migrated from Microsoft Exchange/Microsoft Outlook
Supported versions	5.0 and 5.5	All
Lotus Notes client **	Release 5.x Release 6.x Release 7	Release 5.x Release 6.x Release 7

Requirements	Client migrated from Microsoft Outlook Express	Client migrated from Microsoft Exchange/Microsoft Outlook
Workstation operating system	Windows 2000/2003 Windows XP	Windows 2000/2003 Windows XP

** The upgrade wizard may fail to work properly on computers where the Lotus Notes 7 client is installed along with an earlier version of Lotus Notes. To prevent errors when running the upgrade wizard on computers with multiple releases of Lotus Notes installed, edit the user's path statement to include the Lotus Notes 7 Program and Data directories and exclude the Program and Data directories for other Lotus Notes releases. Even after you change the path statement, the Lotus Notes 7 client still attempts to locate and use earlier versions of the NOTES.INI file (in the Windows directory, for example). To prevent errors when running the upgrade wizard, rename earlier versions of the NOTES.INI file on the user's workstation.

Installing the upgrade wizard

Users run the upgrade wizard by clicking a button in the body of the upgrade message you send from the Domino Administrator. When you complete the upgrade message form, you specify the location of the upgrade wizard. Users must run the upgrade wizard from a Lotus Notes client that is either installed on the same computer as the mail data they want to migrate, or at least has access to this data.

You can install the wizard program files in either of the following locations:

- In a shared network location
- Locally, as part of the Lotus Notes client

Installing the upgrade wizard with a user's Lotus Notes client

When you install the Lotus Notes client software, the files required to run the upgrade wizard locally are not installed by default. If users will run the upgrade wizard locally, customize the Lotus Notes client installation to load the appropriate program files on the workstation. Follow this procedure to perform a custom Lotus Notes client installation and to install the upgrade wizard locally.

1. Run the Lotus Notes installation program.
2. When prompted to select the type of client to install, click the appropriate client type, and then specify the location for the files.
3. From the Components list, left click Migration tools, and then click "This feature, and all subfeatures, will be installed on local hard drive.
4. Repeat Step 3 for any components other than Migration tools that you may also want to install.
5. Click Next, and then proceed with the rest of the installation as directed.

Installing the upgrade wizard on a network drive

If users will run the upgrade wizard from a network drive, perform the following tasks:

Perform a custom installation of the Lotus Notes client to install the upgrade wizard on a network drive to which all users have access.

- Map drives on users' workstations to the directory containing the upgrade wizard program files. Use a login script to automatically map workstation drives to the directory.
- Send users an upgrade notification message that specifies the path to the directory where the upgrade wizard resides.

If you decide to have users run the upgrade wizard from a network location, rather than locally, load the necessary software in a directory that is accessible to all migrated users. To ensure that all of the required

files are placed in the directory, perform a custom installation of the Lotus Notes client, as shown in the following procedure. Do not attempt to manually copy the wizard's program files from one location to another.

1. Run the Lotus Notes installation program.
2. When prompted to specify the install location, click Change and then select the desired network location for the files. Click OK, and then click Next.
3. From the Components list, left-click Migration tools, and then click "This feature, and all subfeatures, will be installed on local hard drive."
4. Click Next, and then proceed with the rest of the installation as directed.
5. After the installation completes, provide all migrated users with access to this directory, and send an upgrade notification message that specifies the path to the directory. Configure users' workstations to run a client login script that automatically connects a workstation drive to the directory.

Sending users an upgrade notification message

Migrated users run an upgrade wizard at the Lotus Notes client to migrate personal mail information to Notes mail archives and Personal Address Books. Users run the wizard by clicking a button in the body of a Notes mail message you send from the Domino Administrator. The upgrade notification message contains information about:

- The type of mail system users are migrating from
- The location of the wizard program files
- Other information needed to migrate personal mail data

Before sending the upgrade notification, install the upgrade wizard either locally on each migrated user's workstation as part of the Lotus Notes client or on a network directory that all users have access to. Then follow this procedure to send the upgrade notification message.

1. From the Server pane of the Domino Administrator, select the server where you registered the migrated users.
2. In the Task pane, click the People and Groups tab, right-click the name of the server's Domino Directory, and select Open Directory.
3. From the Lotus Notes menu, select File - Database - Access Control.
4. From the Basics pane of the Access Control List dialog box, select the Administrator ID you are using, and from the Roles box, select UserModifier or NetModifier.

   If you are using a local copy of the Domino Directory, also select the Advanced pane and click the following check box: "Enforce a consistent Access Control List across all replicas of this database."
5. Click OK.
6. From the Messaging tab, click the Mail subtab, and then click Mail Users.
7. From the Action bar, click Send Upgrade Notifications.
8. Click Address on the action bar, and specify the users to send the upgrade notification message to.

   If you added users to a Migration' group when you registered them, address the message to the group name.
9. In the Administrator Setup section, select "Send out MS Exchange/MS Outlook Express convert local information notices."
10. If users will run a network copy of the upgrade wizard, in the Mail Conversion Utility Path section, enter a DOS path to the network directory where you installed the appropriate upgrade wizard. End the path with a backslash (' \ ') character.

    The path you specify must be identical to the path users have mapped to this directory from their workstations. For example, if users map drive J to the directory that contains the upgrade wizard, you would enter the following in this field: J:\

    If you installed the upgrade wizard locally on each user's workstation, leave this field blank.

11. In the Mail Conversion Options section, select the mail system users are migrating from.
12. The Additional Information section displays the text included in the upgrade notification message that users receive. Edit this text as necessary to provide users with additional information about the migration.
13. When you have completed the form, click Send on the action bar to deliver the upgrade notification message to each user you specified.

Running the upgrade wizard

Users start the upgrade wizard by opening the upgrade notification message received after migration and clicking a button in the message body or by using a desktop shortcut. You must have previously installed the upgrade wizard either locally, as part of the user's Lotus Notes client, or on a shared network directory. You send upgrade notification messages to users' Notes mail files after migrating their mail boxes with the upgrade tools in the Domino Administrator.

After a user launches the upgrade wizard, it automatically checks for a Lotus Notes installation on the user's workstation. If a Notes program directory is not found, the wizard fails to load.

The upgrade wizard obtains information about the Notes environment from the active NOTES.INI file in the Notes Data directory and from the upgrade notification message.

Users must run the upgrade wizard from a Lotus Notes client that is either installed on the same computer as the mail data they want to migrate, or at least has access to this data.

Running the upgrade wizard from a desktop shortcut

Alternately, you can create a desktop shortcut from which users can run the upgrade wizard. The shortcut must point to the location where you installed the upgrade wizard and must specify a target application as follows:

- Microsoft Exchange -- NUPGRADE.EXE 3
- Microsoft Outlook Express - NUPGRADE.EXE 4

By default, the ″Start in″ field on the Shortcut property page specifies the directory where the upgrade application resides as the starting point for selecting archive files to migrate.

Information the upgrade wizard obtains from the upgrade notification message

The Upgrade Notification message provides information that the upgrade wizard uses to migrate personal mail data. The wizard obtains the following information from the upgrade message:

- The type of mail system being migrated (Microsoft Outlook Express or Microsoft Exchange)
- The name of the user's Notes mail server

Information the upgrade wizard obtains from the NOTES.INI file

The upgrade wizard obtains additional information from the active NOTES.INI file in the Notes Data directory on the user's workstation. If a NOTES.INI file is not found in the Notes Data directory, the wizard searches for it in the Program directory, and then along the system path. The upgrade wizard obtains information from the following values in the NOTES.INI file:

Information	**NOTES.INI setting**
Personal Address Book (PAB)	First entry in ″NAMES=″
Location of the Notes Data directory	Value of ″Directory=″
Notes mail file name	Value of ″MailFile=″

Information	NOTES.INI setting
User credentials (password, etc.)	Value of ″KeyFileName=″

The default file name for the Personal Address Book file is NAMES.NSF, which is stored in the local Notes Data directory. The value of the ″MailFile″ field indicates the name of the active mail file as specified in a user's current Location document.

Selecting an upgrade method

Each type of upgrade wizard migrates two or three types of personal data, as shown in the following table:

Upgrade wizard	Mail data migrated
Microsoft Outlook Express *	Personal address books, local folders, messages in local folders
Microsoft Exchange/Outlook	Personal address books/contacts, personal folders, calendar entries and messages in local PST file

The Microsoft Exchange/Outlook upgrade wizard offers an Express or Custom upgrade method. The default Express method processes all the available messaging data using the default settings. When users select Custom upgrade, they can selectively migrate each of the available data types. The upgrade wizards report an error if they cannot locate or convert any of the data types.

* The Microsoft Outlook Express upgrade wizard does not offer Express or Custom upgrade options. This wizard creates a Notes mail account in Outlook Express to which users manually copy messages to their Notes mail folders and export their contacts to the Notes Personal Address Book in Outlook Express. The Microsoft Outlook Express upgrade wizard does not migrate mail messages and contact information automatically.

Converting message archives

Users may have considerable amounts of data stored in message archives. The upgrade wizard can convert users' archived messages into a Notes archive database. For each user, the selected message archives are consolidated into a single Notes database. Within this database, the name of the original archive files appear as folder names. By default, the Notes archive database is created in the Mail subdirectory of the Notes Data directory.

Note: If users create the archive database on a network drive, they need read/write access to that drive.

The upgrade wizard can be run more than once to migrate additional sets of message archives. The additional archives can be added to the Notes archive database already created or become part of a new database.

Microsoft Exchange does not specifically allow users to archive mail. Instead, users can back up their mailboxes, creating off-line copies of their mailboxes, which are stored in the same file format (PST) as their active mailboxes. The upgrade wizard for Microsoft Exchange can migrate data from any PST file.

Although Microsoft Outlook Express users can create backup folders locally or on network drives with a DBX file extension, the Microsoft Outlook Express upgrade wizard does not migrate DBX files.

Migrating archives during an Express upgrade

When running the upgrade wizard, users are prompted to select either an Express or a Custom upgrade. For most users, an Express upgrade is recommended. Note that the Microsoft Outlook Express upgrade wizard does not provide these upgrade options.

During an Express upgrade, each upgrade wizard uses a different method to determine which archive files to migrate, as shown in the following table:

Mail system	How upgrade wizard selects archives to migrate
Exchange/Outlook	Migrates all PST files in location specified in MAPI profile

Selecting archive files to migrate

By default, when you specify archive files to migrate, the upgrade wizards look for the files in the current working directory. If users run the upgrade wizard from a Windows desktop shortcut, you can set the current working directory by editing the 'Start in' field in the shortcut properties for the application. If users run the upgrade wizard from the upgrade notification message, or if you do not edit the "Start in" location, the current working directory is set to the directory from which the application was started. To specify a different archive source, users can browse the file system to locate the archives to migrate.

Users must have read/write access to the directory containing the archive files to migrate, as well as to the directory that stores temporary files used during the migration process. The upgrade wizard places temporary files in the directory specified by the Windows environment variable "TEMP=". Typically, the TEMP variable specifies a local directory, such as C:\WINDOWS\TEMP.

When migrating Microsoft Mail or Microsoft Exchange archives that are protected with a password, a user must supply the appropriate user name and password.

Specifying the template for migrated archives

The upgrade wizard uses the specified mail template to convert the archives into a Notes archive database. By default, the upgrade wizard uses the template defined by the DefaultMailTemplate setting in the user's NOTES.INI file, or, if this setting is undefined, the template MAIL7.NTF. In most instances, users should not change the default setting.

Users migrating from Microsoft Exchange can specify a mail template regardless of whether they perform an Express or Custom upgrade.

Specifying where to migrate archives

When migrating archives, users can specify where the upgrade wizard will store the resulting Notes archive database. By default, the upgrade wizard migrates all archives into a single Notes mail file database. Unless otherwise specified, the database is created in the MAIL subdirectory of the user's Notes Data directory, as specified in the NOTES.INI file. Users are prompted to provide a Notes password when they create the archive database.

The resulting Notes archive automatically derives an eight-character name from the Notes name of the migrated user, to which it adds the prefix *A_* . For example, if the Notes name of the user migrating an archive is *Robin Rutherford*, the resulting Notes archive database would have the name *A_RRUTHE.NSF*.

For Microsoft Mail and Microsoft Exchange, if an archive file contains multiple files, these files become folder views in the resulting Notes archive database. To distinguish among duplicate archive filenames (from multiple source directories) the wizard appends a numeral to the archive name. For example, if the upgrade wizard moves the two files archive\1996\meetings and archive\1997\meetings they appear as folders with the names meetings1 and meetings2 within a single Notes database.

The default settings are maintained when users select Express as the upgrade method. Users converting from Microsoft Exchange can change the destination regardless of the upgrade method selected.

Running the wizard again to migrate additional archives: Users can run the upgrade wizard more than once to migrate archives. By default, archives migrated after the initial session are added to the existing Notes archive database. Users can place archives that they migrate later in a different archive database as follows:

- Before migrating additional archives, rename the original database. Then, run the upgrade wizard and migrate the archives to the default location.
- Run the upgrade wizard and select Custom upgrade. Then, on the Folder field of the Archive Conversion Options dialog box, specify a directory location for the Notes archive database that is different from the location of the original database.

Space requirements for migrating archives

The Notes mail file template is approximately 2MB in size. The size of each migrated archive is approximately equal to the sum of the template size and 130% of the original archive size.

For example, if the original archive is 3MB, the migrated archive will be approximately equal to (1.3 * 3MB) + 2MB, or 5.9MB. Instruct users to estimate the amount of disk space required before migrating their archives.

Migrating a mailbox folder hierarchy

Microsoft Exchange users can create backup copies of their mailboxes. These off-line replicas are stored in the same file format as active mailboxes (PST files) and can contain multiple folders and subfolders. When migrating these files to a Notes archive mail file, the upgrade wizard maintains the existing folder hierarchy.

For example, a Microsoft Exchange user might have a backup of a mailbox folder called Projects in which there are four subfolders named Q1, Q2, Q3, and Q4. When the user migrates this file, Projects.PST, the upgrade wizard creates a folder called Projects within the Notes archive, and then replicates the existing folder hierarchy within this folder, creating subfolders called Q1, Q2, Q3, and Q4.

Migrating mail messages from Microsoft Outlook Express

After users run the Microsoft Outlook Express upgrade wizard to create Notes mail accounts in Outlook Express, they can migrate mail messages to their Notes mail account. To migrate messages, users open any folder in the Local Folders mail account in Outlook Express, then do any of the following:

- Drag and drop messages into Notes mail account folders
- Copy messages to the Notes mail account folders
- Move messages to the Notes mail account folders

The Notes mail account contains the same folders found in the Local Folders mail account in Outlook Express. If users want to create additional folders for their Notes mail accounts, they can do so in Outlook Express.

After migrating messages to their Notes mail account, users can access those messages through their Notes mail database in the Lotus Notes 7 client.

Tip: If users cannot connect with the Domino server, check the Security tab of the Server document. In the field ″Internet authentication,″ select ″More name variations with lower security.″ This allows Outlook Express users to connect with the server using their short names.

Overview of migrating personal address book information

Users who have migrated to Lotus Notes may retain personal address book information from their old mail system by migrating the information to a Notes Personal Address Book (PAB).

There are two types of personal address book entries users can migrate:

- Personal addresses for users not listed in the public address book; for example, Internet e-mail addresses
- Personal mailing lists for distributing e-mail to multiple addresses at one time

When migrating personal address book information, the upgrade wizards convert private addresses to Contact entries in the PAB.

Personal mailing lists are converted to Multi-purpose groups in the PAB. Multi-purpose groups can be used as access control lists and deny access lists in a Server document, as well as for mailing lists.

How the upgrade wizards obtain personal address book information

The user upgrade wizards read migrated address book information from either or both of two sources, depending on the mail system the user is migrating from:

- Attachments to messages sent by Domino Upgrade Services
- Personal address book files located on a workstation local or mapped drive

The upgrade wizard copies information from message attachments and data files to the PAB on the user's Lotus Notes client.

Migrating Microsoft Exchange personal address book information

For users migrating from Microsoft Exchange, the upgrade wizard extracts personal address book information from two possible sources, depending on the client mail application used. The Outlook mail client can store address book information in a Contacts list on the Exchange server, and in a Personal Address Book (PAB) file on the user's workstation. The Exchange mail client stores all personal address book information in a PAB file on the user's workstation. The upgrade wizard obtains the Outlook Contacts list from a temporary PAB attached to a Notes mail message. Migrated users automatically receive this message if they had Contacts information defined.

Migrating Microsoft Outlook Express personal address book information

For users migrating from Microsoft Outlook Express, the upgrade wizard provides a menu option for exporting contact and group information to a local PAB. Users can export personal address book information at any time. When users export personal address book information, the Microsoft Outlook Express upgrade wizard copies contacts and groups from the Outlook Express personal address book to the Notes PAB.

Migrating personal address book information from the old mail server

The Notes mail client stores personal address book information locally, on the client workstation. However, the Microsoft Outlook and Outlook Express clients each store some portion of a user's personal address book information on the mail server. Migrating personal address book information from the old mail server requires coordination between the administrative migration tools and the user upgrade wizards that make up Domino Upgrade Services.

When you migrate users' personal address book information from the server, the Domino Administrator automatically places an upgrade message in their Notes Inboxes. Attached to each upgrade message is a temporary Notes Personal Address Book (PAB), which contains the information migrated from the old mail system.

Users who do not have personal information to migrate from the server do not receive an upgrade message.

Personal address book information sent in the upgrade message

The following table shows the personal address book information that Domino Upgrade Services copy from the server into the temporary PAB attached to the upgrade message:

Mail system	Personal address book information attached to upgrade message
Microsoft Outlook	Contacts

Copying personal address book information to the Notes Personal Address Book

To update a user's Notes Personal Address Book with information migrated from the old mail system, the upgrade wizards copy personal address book information stored on the old mail client or in temporary Public Address Books sent to users in an upgrade message. The following table shows the sources the upgrade wizards use to obtain address book information:

Source of migrated information	Microsoft Exchange Outlook client	Microsoft Exchange client
Server (temporary PAB sent in upgrade message)	Contacts	--
Client workstation	Personal Address Book	Personal Address Book

Migrating personal address books during Express or Custom upgrades

During an Express upgrade, the upgrade wizards migrate all the personal address book information that is available for a user (that is, information from both the Server and Client rows of the preceding table).

The upgrade wizard for Microsoft Exchange provides a single option for migrating Contacts and Personal Address Books together. Although Outlook client users may maintain separate Contacts and Personal Address Books files, users cannot migrate these items separately.

Migrating information obtained from the mail server

When migrating information from the old mail server (refer to the preceding table) the upgrade wizards search the user's Notes Inbox for an upgrade message. After locating a message, the wizards detach the temporary PAB from it, and copy the information in the temporary PAB to the PAB on the user's workstation (NAMES.NSF). The original upgrade message remains in the Inbox, and may be deleted after the user verifies that the information has been migrated successfully.

Migrating information directly from the workstation

The upgrade wizard for Microsoft Exchange searches the workstation for the Exchange Personal Address Book (PAB file) specified in the user's MAPI profile. After locating the files, the wizards copy the address book information in them to the Notes PAB.

The e-mail addresses listed in Contact documents in the Notes PAB may conform to any of several mail system types. Lotus Notes assigns the mail system type "Internet Mail" to the addresses that the upgrade wizard migrates from other mail systems.

Migrating personal address book information in Microsoft Outlook Express

The Microsoft Outlook Express upgrade wizard adds a Lotus Notes Personal Address Book option to the Address Book Export Tool dialog box. To access the dialog box, users choose File - Export - Other Address Book. The Microsoft Outlook Express upgrade wizard exports all contacts and groups from the Outlook Express personal address book to the Notes PAB. After exporting personal address book information, users should check their PABs to ensure that information was exported correctly.

After the upgrade wizard finishes processing

If the upgrade wizard encounters errors as it processes archive files or directory information, it skips to the next record and continues. Failures are logged, and after the wizard finishes processing all of the information, it displays a status message reporting the number of messages processed.

Users may find that the message count of the migrated archive is lower than the message count in the original archive. If there were multiple copies of one message in the original archive, or in different archives, only one copy of the message is migrated.

After the upgrade wizard finishes converting data from the old system into Notes data, users should complete the following tasks:

- Check the Miscellaneous Events in the Notes Log (LOG.NSF) to see if there are any problems that require further attention.
- Verify that all messages in the source archives migrated successfully to the Notes mail archive.
- Remove the obsolete Microsoft Exchange files from their workstations. Refer to the appropriate documentation for the old mail system for more information. Before users delete any data, it is recommended that they back up their old mail files.
- (Microsoft Exchange users) Edit gateway information if necessary, before using migrated addresses to send mail. External addresses in PABs and archives migrated from Microsoft Exchange are not automatically updated with the names of Notes gateways.

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