
Chapter 14. Migration from other Domino platforms

This chapter provides guidelines for migrating one or more Domino servers running on other platforms, to a Domino for AS/400 server.

14.1 Overview

There are a number of reasons why you may want to migrate to Domino for AS/400 from other platforms, such as Windows NT or OS/2, or the implementation of Lotus Domino on the IBM Integrated Nefinity Server. These reasons include:

- Higher reliability and availability of an AS/400 system compared to a PC server
- Consolidation of smaller capacity servers to a single highly scalable environment
- Enhanced integration with AS/400 services and DB2 for AS/400 data
- Announced lack of future support for Domino on your existing server implementation
- Low total cost of ownership

Because there are as many issues and approaches to migration as there are motivations and unique environments, this chapter is not meant to be a step by step cookbook. Rather, it is a set of tips and techniques to assist you in planning and to educate you about common issues and pitfalls based on experience.

The AS/400 implementation of Lotus Domino on an AS/400 Integrated Nefinity Server is officially called *OS/400 Integration of Lotus Notes*. OS/400 V4R3 is the last AS/400 operating system release to support this implementation. This specific Integrated Nefinity Server platform offers some unique integration and functions in comparison to an outboard OS/2 Domino server or a Domino server installed on the new Integrated Nefinity Server with Windows NT. This uniqueness provides special migration challenges, which are discussed in this chapter separately from the general migration considerations.

Note: In this chapter, the phrase *Integrated Nefinity Server implementation* refers to OS/400 Integration of Lotus Notes, rather than a Domino server installed on an Integrated Nefinity Server with Windows NT.

14.1.1 General approaches to Domino server migration

Two possible approaches to meet the objective of migrating a Domino server are *server transplantation* and *server consolidation*. The experience on which these guidelines are based comes from the IBM Rochester Information Services migration, business partner experience, migration services engagements, and laboratory testing in the ITSO.

Server transplantation means moving a Domino server from one platform to another while keeping the same Domino identity and IP address. The Domino identity includes the full hierarchical name and encryption keys of the server as stored in its ID file. The primary advantage of this method is that nothing is

changed within the Domino configurations, and no modifications are required to the Notes clients accessing the server.

A disadvantage is that since two servers with the same identity and IP address cannot both be active at the same time in the same network, a server outage for some period of time is necessary.

Server consolidation means changing the Domino and network identity of at least one server in the move from one platform to another, often merging the workload of two or more servers into one. An advantage of this method, even in migrating just one server, is that the original and the new server can both remain concurrently active for a limited period of time.

A major disadvantage is that it involves changing user information in the Domino Directory (formerly called Public Address Book) and changing database icons and location documents on the users' workstations to reflect the server change. Also, a different Domino identity means a different encryption key. Therefore, locally encrypted mail files require special handling in order for the new server to be granted appropriate access.

Special considerations beyond the basic migration process may be involved if any of the following components are a part of your environment:

- Migration from a server with Domino Release 4.5 or earlier
- Migration of the SMTP/MIME MTA
- Use of connection documents for replication or mail routing on the Integrated Nefinity Server
- Functions unique to the Integrated Nefinity Server implementation of Domino
- Domino applications dependent on interfaces or functions specific to a particular operating system

Guidelines to address some of these considerations are covered in this chapter. In cases where details are beyond the scope of this book, references to more information are provided.

14.1.2 Domino release issues

The migration (transplantation and consolidation) processes outlined in this chapter assume that the Domino release of the Domino for AS/400 Server is broadly compatible with the Domino release of the server being migrated. In other words, the processes do not address release upgrade issues.

Should there be a need to change releases in conjunction with a transplantation or consolidation, then the processes must either be modified for release difference issues, or an additional process can be added (before or after the migration) to upgrade the release.

Adding an additional process has the advantage of allowing one to sequentially use two fully documented and tested processes to do the migration/upgrade, compared to possibly using an untested method.

For example, to transplant a server running Domino R4.6 to a Domino for AS/400 server running Domino R5.0, you can use either of the following two fully documented methods:

- Upgrade the source server to Domino R5, using the normal upgrade process for the source platform (described in that platform's documentation). Then, use the transplantation process described in this chapter to transplant the source server, now running Domino R5, to a Domino for AS/400 server running Domino R5.
- Use the transplantation process described in this chapter to transplant the source server running Domino R4.6, to a Domino for AS/400 server running Domino R4.6. Then, upgrade the Domino for AS/400 server from R4.6 to R5. This process is described in 5.2, "Upgrading to Lotus Domino for AS/400 R5" on page 138.

It is advisable not to run the migration and upgrade processes back-to-back, but to allow a few days of normal operation in between to ensure that the first process has successfully completed.

The migration outlines in the following sections are applicable to both R4-to-R4 migrations and R5-to-R5 migrations. However, except where indicated, the processes are written using Domino R5 commands and terminology. Where there are major release dependent differences in the processes, they are highlighted.

14.1.3 Platform issues

The examples are based on migrating from Domino running on Windows NT, but the migration principles are applicable to all platforms. There are specific issues unique to Domino running on the Integrated Netfinity Server and these are addressed in a separate section.

14.2 Server transplantation process outline

In most cases, the server transplantation method is the best way to do the migration with minimal user disruption. It may be used as an initial step even when consolidation of multiple servers is the final goal. The overall process is as follows:

1. Identify the Domino files to be transplanted.

There are special issues in relation to full text indexing, database migration and compatibility.

2. Create the Domino directory structure on the AS/400 system.

Create the Domino data directory and subdirectory structure for the new Domino for AS/400 server. Copy the SERVER.ID file into the data directory.

3. Configure the Domino for AS/400 server.

It is configured as an additional server, but has the same name and IP address as the transplanted server. Because it is transplanting an existing server, it is already registered in the Domino Directory and uses the server ID file for the transplanted server.

4. Edit the NOTES.INI file.

On Domino R4.6, you must edit the NOTES.INI file if you want to bind the server to a unique IP address.

5. Bring down the original Domino server.

Schedule an outage for the original Domino server that is long enough to transfer databases to be migrated.

6. Copy files to the Domino for AS/400 server.

7. Change ownership of subdirectories and files.

Change ownership of subdirectories and files to the QNOTES user profile and change the public authorities.

8. Transfer the TCP/IP address to the Domino for AS/400 server.

This ensures that the server change is transparent to end users.

9. Start the Domino for AS/400 server.

This procedure is not the only way to successfully migrate a Domino server. However, in most cases, it has been found to be one of the most secure and convenient methods.

Note

The process assumes that, in addition to the server being transplanted, there is at least one other server in the domain that is active during the step to create the Domino for AS/400 server (14.2.3, "Configure the Domino for AS/400 server" on page 437). This is required so that the new Domino for AS/400 server can obtain the Domino Directory used in the domain. Should the transplanted server be the only server in the domain, then rather than modifying this procedure, the procedure can still be used by performing the following additional steps.

1. Before starting the migration, create a Domino for AS/400 server that is an additional server in the domain of the server being transplanted. Use a temporary server name and IP address for this server (the process to do this is outlined in Chapter 6., "Advanced Domino Services for the AS/400 system" on page 159). This only takes a few minutes and results in this server obtaining a copy of the Domino Directory for the domain.
2. Start this temporary server.
3. Use the name of this server for the Get Domino Directory from parameter of the Configure Domino Server (CFGDOMSVR) command in 14.2.3, "Configure the Domino for AS/400 server" on page 437.
4. When the Domino for AS/400 server that transplants the original server is set up, the temporary server can be ended and removed.

The following topics describe each of the migration tasks.

14.2.1 Identify the Domino files to be transplanted

First, you must determine which databases and files will be transplanted at this time. This task may sound simple at first, but it requires careful planning.

You should not copy the entire contents of the Domino data directory without some consideration. In addition to containing Domino databases, the Domino data directory also contains files specific to the existing operating system implementation and release of Domino, for example, modem files, documentation and configuration databases, and database templates. In most cases, you want documentation and configuration files specific to Domino for AS/400 in your new environment.

In other cases, you may want to carry over some of the original files. For example, if database templates have been customized, you will want to copy those as well. In general, the issue of templates is particularly important if your applications are based on design templates from an earlier release of Domino. If any of your databases automatically inherit the design from the templates, you should either copy the original templates along with the databases or turn off the automatic inheritance. Otherwise, a template for the current Domino release (4.6.x or 5) with the same name may render design changes that may potentially cause problems for client workstations running an earlier release of Lotus Notes.

Do not transplant full text indexes

For each Domino database set up for full text indexing, the data directory also contains up to nine subdirectories with files for the indexes, each of those containing several files. Although you will want the indexes in the new environment, it is much easier to create the indexes from scratch after the transplantation than to copy the full text index files. This is especially true if you use FTP to transfer the database. Because the content of each subdirectory to be transplanted must be created and copied individually, not copying the full indexes may substantially reduce the number of manual steps to be performed.

Directories containing full text indexes can easily be identified by an extension of .FT. For example, if the name of your Domino database is EUTALK.NSF, then the Domino data directory contains a subdirectory called EUTALK.FT.

Testing the Domino applications before migrating

Any applications that you plan to migrate should be tested with Domino for AS/400 prior to actual migration. This testing may be accomplished by setting up a server using an IP address which is not registered on the DNS name server with the Domino server name as the IP host name. The administrator or other persons who test the application then adds the IP address to their client HOSTS file to access the test server without connecting to the existing production environment. Before starting the test, you should disable all replication or mail routing in the Connection documents on the test server.

To migrate Domino applications for testing purposes, you should use the consolidation method, as described in 14.3, "Server consolidation process outline" on page 448, even though you may use the transplantation method for the actual migration of the production environment after completing the tests and deleting the test server. The reason is that you need to keep your production system active during the testing phase.

Compatibility of Domino applications

Generally, Domino applications are designed to be cross platform. If the application is a standard Domino application, it usually runs unchanged on the AS/400 platform. However, because there are exceptions to every rule, testing is necessary. Here are the general guidelines for cross-platform portability without modification:

- The application has been created using only the tools that come as part of Domino, which means no Visual Basic, C, or C++, or outside influencing wrappers.
- The application consists only of Domino databases (NSF files), which, means no external operating system related DLLs.
- The application is independent of the services of a specific operating system.

Some of the exceptions requiring minor modification are addressed in the article "Porting Domino Applications to AS/400", May 1998, Wellesley Information Systems Business Partner Special Report. The Web site at <http://www.eview.com/eview/view.nsf/pages/as400dev> has this publication available.

The special cases explained in the article include:

- Difference in path delimiter when accessing databases on the server. This means the AS/400 syntax (as well as UNIX) uses a forward slash (/), while PC operating systems use a back slash (\).

Note

Domino for AS/400 tries to accommodate this difference as much as possible by accepting either of the two slash types in most cases. However, when retrieving a path name, forward slashes are delivered. If an application specifically checks for a backslash, it must be modified.

- Differences in the use of LotusScript:Data Object (LS:DO) instructions.
- Unsupported LotusScript instructions.
- Differences in C, C++, and HiTest C APIs.

Applications significantly integrated with the services of a particular operating system will most likely require a significant amount of modification. You may choose to keep those specific applications running on their existing platform.

Note

Some Lotus companion products that run with Domino are written specifically to the services of a specific operating system and do require development effort to port to the AS/400 platform. Some of these, such as DOMINO.DOC, are now available on the AS/400 system.

14.2.2 Create the Domino directory structure on the AS/400 system

In this task, you create the Domino data directory and required subdirectories, and then copy the server ID file to the created data directory.

Note

Although the syntax for the following commands and directory names are shown in upper case, you can use upper or lower case because they are not case sensitive.

The path delimiter for the AS/400 integrated file system is a forward slash, not a backslash.

The examples assume you are able to use the recommended naming convention. If not, adjust to suit your convention.

You can also use MKDIR or its shortened version MD, in place of the CRTDIR command. They are aliases of the same command.

Create Domino data directory and subdirectories

Although it is not absolutely necessary to create the Domino data directory first (because the Domino for AS/400 server configuration process can create it for you), you may choose to do so for more control over what is adopted from the existing environment.

In a transplantation scenario, you must use the existing server ID file of the Domino server you are transplanting. This means that you must copy this ID file from your existing environment to a location accessible to the Domino for AS/400 configuration process. The simplest solution is to pre-create the Domino data directory, and then copy the server ID file into this directory.

Unless there is a naming conflict, you should use the recommended AS/400 naming convention for Domino data directories (adopted in R5). The directory is /LOTUS/DOMINO/SERVER_NAME, where SERVER_NAME is the name of the Domino server.

You should also create subdirectories in the Domino data directory with the same names as the subdirectories on the existing server for those subdirectories that are to be transplanted.

The following steps are used to create the directory structure in the root of the AS/400 integrated file system. The example uses /LOTUS/DOMINO/SERVER_NAME for the Domino data directory, where SERVER_NAME is the name of the Domino server. It is assumed that the higher level directories, namely LOTUS and DOMINO, do not already exist. If they do, skip the steps to create these directories.

Note

You can use the OS/400 Work with Object Links (WRKLNK) command to check if these higher level directories exist. Type `WRKLNK` on an AS/400 command line and press **Enter**. See if LOTUS is listed as an object link of type DIR (directory). If it is, then you do not need to create that directory. Type a 5 (Next level) in the Opt column to the left of the name LOTUS and press **Enter**. See if DOMINO is listed as an object link of type DIR. If it is, you do not need to create that directory. Type a 5 (Next level) in the Opt column to the left of the name DOMINO and press **Enter**. If DOMINO contains an object with the same name as the Domino server, then you have a name conflict and must decide whether to rename that object (link) or use a different name for the Domino data directory.

If either LOTUS or DOMINO is listed as an object link, but is not of type DIR (for example, of type STMF - Stream File), then you also have a naming conflict and must decide whether to rename the object link or use a different path for the Domino data directory.

1. Go to an AS/400 command line.
2. If the LOTUS directory does not already exist, type `CRTDIR '/LOTUS'` and press **Enter**.
3. If the DOMINO directory does not already exist, type `CRTDIR '/LOTUS/DOMINO'` and press **Enter**.
4. Type `CRTDIR '/LOTUS/DOMINO/SERVER_NAME'`, where `SERVER_NAME` is the name of your Domino server. Press **Enter**.
5. Create any subdirectories you may have in your existing environment. For example, mail databases are usually in a subdirectory called mail. To create a directory for it, type `CRTDIR '/LOTUS/DOMINO/SERVER_NAME/MAIL'` and press **Enter**.

Copy the server ID file to the newly created Domino data directory

There are several ways to copy the server ID file to the AS/400 Domino data directory. If the transplanted server is on an NT system, you could, for example, use Network Neighborhood in combination with either AS/400 Client Access or AS/400 NetServer support to map the Domino data directory as a network drive to the NT system. Then, use one of the several ways of copying files between directories on Windows NT (for instance, drag and drop). You could also use FTP. As FTP is common to most platforms, the following example uses FTP in a Windows NT environment.

1. On the Domino NT workstation, bring up an MS-DOS window. Click **Start** → **Programs** → **MS-DOS Prompt**.
2. From the MS-DOS Prompt window, change to the drive that contains the server ID file, if not already on that drive. Type `d:`, where `d` is the drive letter and press **Enter**.
3. From the MS-DOS Prompt window, change to the directory that contains the server ID file. This is normally the Domino data directory and on NT systems, for Domino R5, is usually called `\LOTUS\DOMINO\DATA`. The example assumes `\LOTUS\DOMINO\DATA`. Type `CD \LOTUS\DOMINO\DATA` and press **Enter**.

Note

On NT systems, for Domino R4.6, the Domino data directory is usually called \LOTUS\nOTES\DATA or \NOTES\DATA

4. FTP to the AS/400 system on which the Domino server will run. Type `FTP AS400_SYSTEM_NAME` and press **Enter**.
5. Enter your AS/400 user ID and password when prompted. Press **Enter** after each entry.
6. Change to binary format. Type `BINARY` and press **Enter**.
7. Change to the AS/400 Domino data directory. Type `CD /LOTUS/DOMINO/SERVER_NAME` and press **Enter**.

Note

The line `CD /` is very important. It not only changes the current directory to the root of the IFS (from whatever is specified as the home directory in your AS/400 user profile), it also switches to name format 1. This is necessary to access any IFS directories other than QSYS.LIB

This happens only when you mention an object name (in this case, the Domino data directory `/LOTUS/DOMINO/SERVER_NAME`) for the very first time during an FTP session to AS/400 system and the object name starts with a slash (/). Typing anything different causes FTP to remain in name format 0, which means you can only refer to objects in QSYS.LIB. If you do not see the message `250-NAMEFMT set to 1`, you can manually switch to name format 1 by entering the following command: `quote site namefmt 1`

8. Copy the server ID file (normally called SERVER.ID) to the AS/400 Domino data directory. Type `PUT SERVER.ID` and press **Enter**.
9. Exit FTP, and then MS-DOS. Type `quit` and press **Enter**.

14.2.3 Configure the Domino for AS/400 server

For these examples, we assume that the server to be transplanted is called Dom01 and both its Organization and Domain names are called Acme.

Follow these steps:

1. On an AS/400 command line, type `CFGDOMSVR` and press **F4** (Prompt).

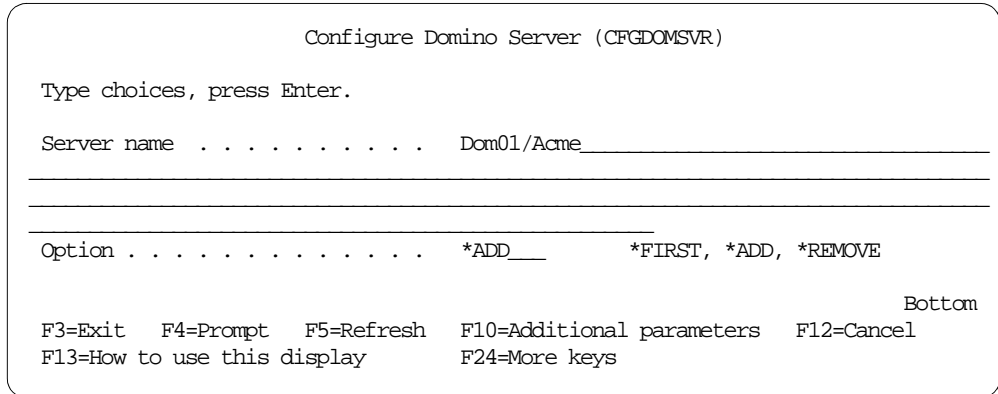


Figure 344. CFGDOMSVR (Part 1 of 5)

2. In the Server name field, type the full hierarchical name of the server (as shown in Figure 344). The full hierarchical name is required if the Option value *ADD is used. Type *ADD in the Option field and press **Enter**.

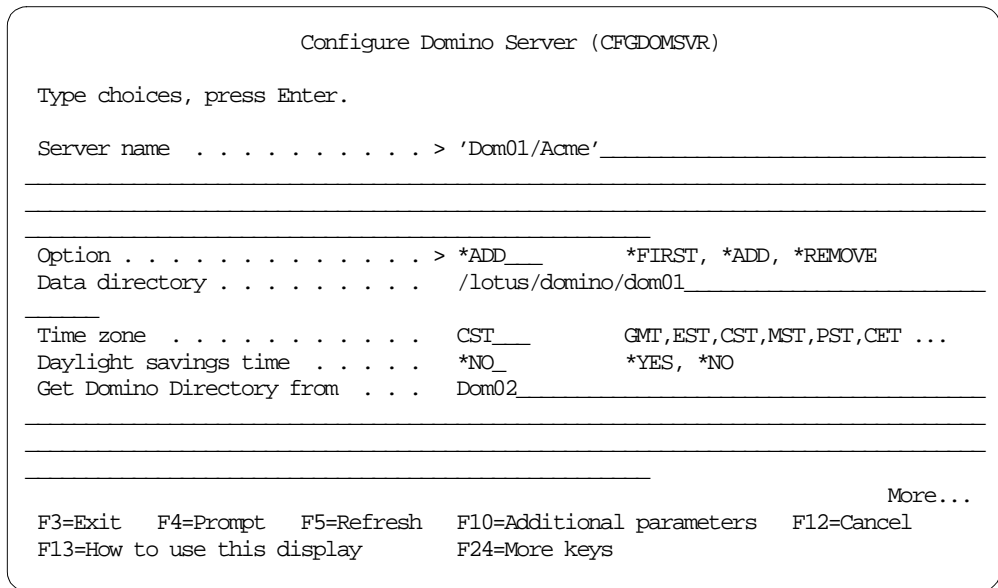


Figure 345. CFGDOMSVR (Part 2 of 5)

3. In the Data directory field, type the full path to the Domino data directory on the AS/400 system. Ensure that you start the path with a forward slash (/), as shown in Figure 345. Fill in the appropriate values for Time zone and Daylight savings time fields. In the Get Domino Directory from field, type the name of an additional (not the one being transplanted) Domino server in the domain, from where the new Domino server can get the Domino Directory. This server must be active when this command is run. Press **PageDown** to proceed.

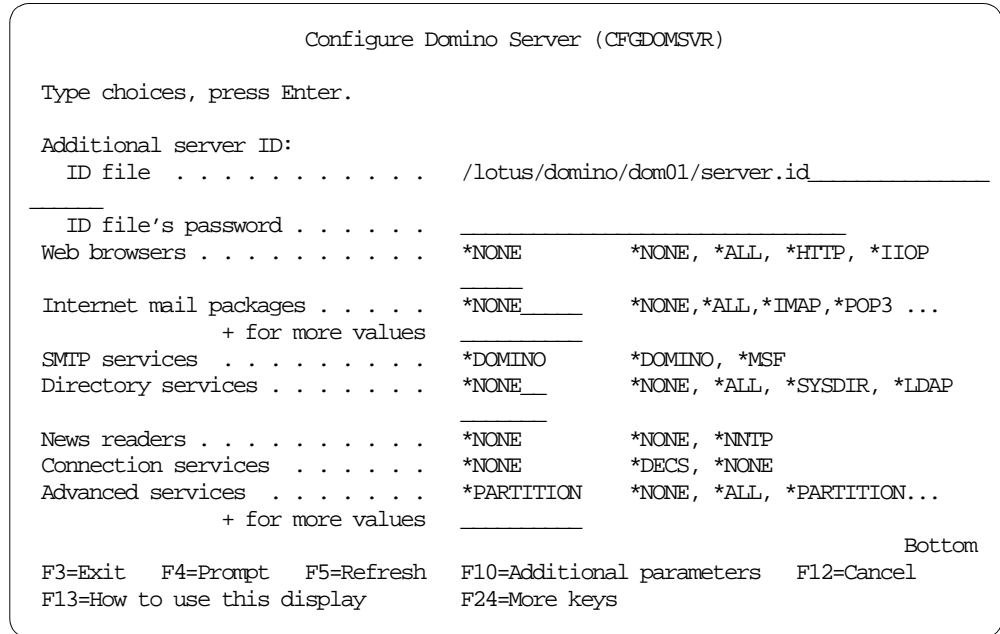


Figure 346. CFGDOMSVR (Part 3 of 5)

- In the Additional server ID: ID file field, type the *to* path and the name of the server ID file, as shown in Figure 346. This is the ID file that was copied using FTP in “Copy the server ID file to the newly created Domino data directory” on page 436. If this server ID file is password protected, enter the password in the ID file’s password field. For the other parameters, ensure you include all the services that are included on the server being transplanted. Even if you are not going to migrate your SMTP/MIME MTA, but are going to use Native Domino SMTP, type `*NONE` for the Internet mail packages field and `*DOMINO` for the SMTP services field. You will reconfigure SMTP support later (see 14.4, “Migrating SMTP support” on page 452). If there already is another Domino server on this AS/400 system, or if you plan to add another, ensure that `*PARTITION` is included for the Advanced services field.

Note: If you are migrating from R4 to R4, then you are probably migrating your SMTP/MIME MTA. If you are migrating R5 to R5, then you are probably using Domino SMTP in both cases.

Note

Although, at this stage, you could add services to the AS/400 Domino server that are not included in the server being transplanted, for simplicity, we recommend that you only include those services that are already there. After the transplantation is complete, it is quite easy to add these other services using the Change Domino Server (CHGDOMSVR) command.

Press **F10** (Additional parameters) and use **PageDown** to see the additional parameters.

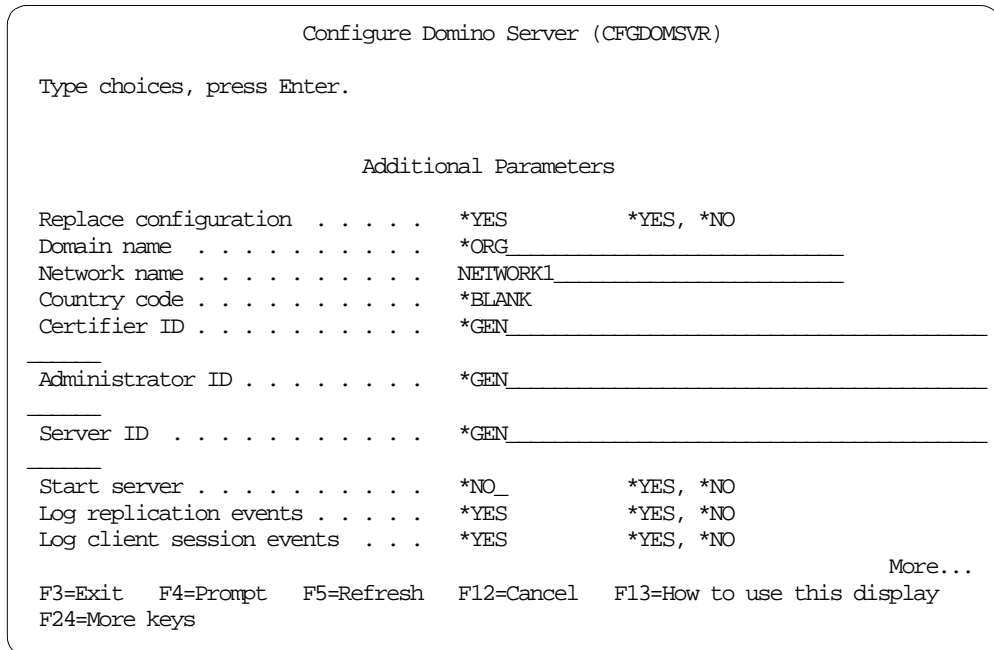


Figure 347. CFGDOMSVR (Part 4 of 5)

- If the Domino domain name differs from the Organization name (in our example, it does not), enter the domain name in the Domain name field. If the network name is not NETWORK1, enter the correct name in the Network name field. Press **PageDown**.

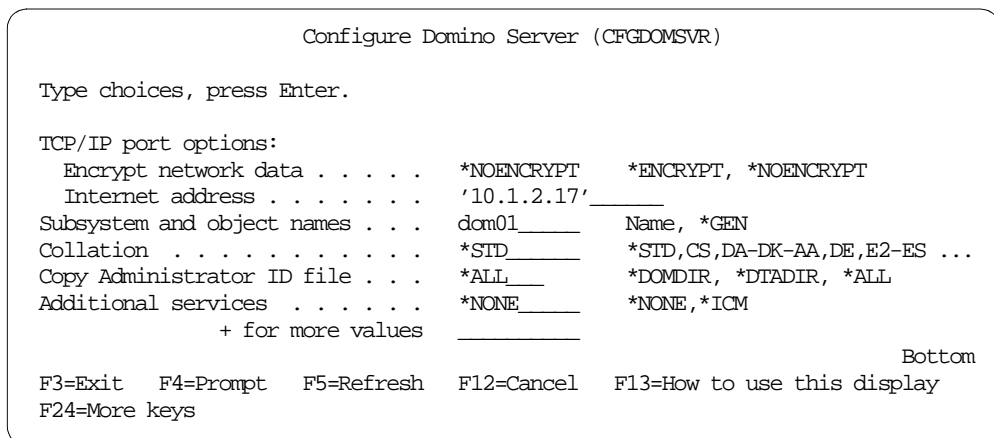


Figure 348. CFGDOMSVR (Part 5 of 5)

- Because this new server has the same IP address as the server being transplanted, type that IP address in the Internet address field. Instead of having a system generated name (such as DOMINOxx, where xx is allocated by the system) as the name of the partition in which this server runs, you can allocate your own preferred name by specifying a value for the Subsystem and object names field. In the example, the server name is used. This support is available at R4.6.5 or higher and R.5.

Note

If running the R4.6 version of the CFGDOMSVR command, you do not have an Internet address parameter. You must perform the tasks in 14.2.4, “Edit the NOTES.INI file” on page 441. If running the R5 version of the command and you leave the *Internet address* set to the default *SYSTEM, you also must follow that section.

If running the R4.6 version of the CFGDOMSVR command, you do not have the Subsystem and object names parameter and must accept system generated subsystem names. Your SMTP option is also different.

Press **Enter** to start the setup of the server.

This command takes approximately 10 minutes to complete. Messages are shown on the display as various configuration tasks are completed.

7. When you see the message `Press ENTER to end terminal session`, press **Enter**.

14.2.4 Edit the NOTES.INI file

You must do these tasks if you have configured a Domino R4 server or if you have configured a Domino R5 server and did not specify a specific IP address for the TCP/IP port options - Internet address parameter of the Configure Domino Server (CFGDOMSVR) command (you used the default, *SYSTEM).

If you are running Domino R5 or Domino R4.6.4 or higher, you can change this value with the Change Domino Server (CHGDOMSVR) command. However, we describe changing the NOTES.INI file manually to cover earlier releases.

In this step, you must edit the NOTES.INI file which is stored in the Domino data directory. On systems running Domino R5, the easiest way to edit the NOTES.INI file is to run the Work with Domino Servers (WRKDOMSVR) command, and then type a 13 (Edit NOTES.INI) in the Opt field to the left of the Domino server name. This automatically runs the Edit File (EDTF) command against the NOTES.INI file. On systems running Domino R4.6, you may need to run the Edit File (EDTF) command from a command line. The EDTF command is available through PTFs. Refer to 4.9, “Edit File (EDTF)” on page 119. Alternatively, you can map a network drive to the Domino data directory and use the Microsoft WordPad editor to edit the NOTES.INI file.

Binding to the IP address

Note

The default for the TCP/IP port options - Internet address parameter is *SYSTEM. If you use the default, instead of specifying the IP address, no TCP/IP_TcpIpAddress line is added to the NOTES.INI file. The Domino server listens on the standard port 1352 of all IP addresses defined to the AS/400 system. If using R4.6.3 or earlier, you must manually edit the NOTES.INI file to bind the server to a specific IP address.

This binding is accomplished by adding the following line to the NOTES.INI file (prior to the server being started):

```
TCPIP_TcpIpAddress=0,w.x.y.z:1352 (where w.x.y.z is the IP Address).
```

If there are partitioned Domino servers on the AS/400 system and they are *not* bound to individual IP addresses, then when the first one of these servers is started, it listens on port 1352 of all IP interfaces defined to the AS/400 system. This *allocates* port 1352 of each of the IP addresses to that server. If another partitioned server is subsequently started, it cannot open any TCP/IP communication. The server runs, but Notes clients and other Domino servers are not able to access it.

If you are not using Domino partitioning, it is not mandatory to bind the (one) Domino server to its IP address. We still recommend you do it so that problems are not encountered should you change to a partitioned Domino environment in the future.

Note

There is an alternative method of handling the IP addressing of partitioned servers called *port mapping*. Port mapping is more complex than using individual IP addresses and is not considered in this chapter. However, if port mapping is used on the transplanted server system, it is necessary to modify this transplant procedure to allow for the differences. Port mapping is described in more detail in 6.1.1.2, "All servers use the same IP address (port mapping)" on page 163.

Remove directory synchronization task

On systems running Domino R4.6, the Configure Domino Server (CFGDOMSVR) command adds a line to the NOTES.INI file that is needed should directory synchronization be configured. This line is `NSF_HOOKS=QNDIHK`.

If the server configured in 14.2.3, "Configure the Domino for AS/400 server" on page 437, is a Domino R4.6 server and directory synchronization is not required, remove this line from the NOTES.INI file.

On systems running Domino R5, the CFGDOMSVR command has a parameter that controls whether this line is added to the NOTES.INI file. This is the Directory services (DIRSRV) parameter. The line is added to the NOTES.INI file if DIRSRV has the value `*ALL` or `*SYSDIR`. Directory Services must still be configured, this parameter affects mainly the NOTES.INI entry. If directory synchronization is not required on an Domino R5 server, it is assumed that the parameter was set accordingly when the CFGDOMSVR command was run, or you can remove this line manually.

14.2.5 Bring down the original Domino server

With the server transplantation method, the original Domino server must be down for a period of time to copy the Domino data files and transfer the network identity. This avoids updating of files (particularly volatile mail files) while the transfer is taking place. After the TCP/IP network identity has been moved to the AS/400 system, both servers cannot be concurrently active with the same

address in the same network. Type `ENDDOMSVR SERVER_NAME` on any command line and press Enter to end the server

14.2.6 Copy files to the Domino for AS/400 server

The next step is to actually copy the mail and other Domino databases and files to be transplanted. The target is the Domino data directory and subdirectories that you created in 14.2.2, “Create the Domino directory structure on the AS/400 system” on page 434. This can be done using FTP or the Network Neighborhood capability provided by AS/400 Client Access or AS/400 NetServer.

FTP is usually the desired method for optimum performance when copying large amounts of data. However, FTP does not allow you to copy the contents of all subdirectories with a single put command. Therefore, a put command is necessary for each subdirectory, which may be cumbersome and error prone if the server has a complicated subdirectory structure. In such an environment it is very helpful that multiple FTP commands can be queued up in batch using a source file.

The following procedure shows how to copy the contents of a complete subdirectory using FTP. In the example, the mail files are copied. However, the procedure is applicable to the contents of any subdirectory by changing to the correct subdirectories on both the source (NT in this case) and target (AS/400) systems:

Note

Using FTP is similar on most platforms. The main differences relate to naming conventions. However, if the source system is an Integrated PC Server running the OS/400 Integration of Lotus Notes product, special considerations are required to run the FTP commands, because the Integrated Nefinity Server does not have its own console when used with Integrated Domino. These are described in 14.5.8, “Using FTP to copy files from an Integrated Nefinity Server” on page 462.

1. On the Domino NT server, click **Start** → **Programs** → **MS-DOS Prompt**.
2. From the MS-DOS Prompt window, change to the drive that contains the Domino data directory, if not already on that drive. Type `d:`, where `d` is the drive letter, and press **Enter**.
3. From the MS-DOS Prompt window, change the directory to the directory on which the mail files are kept. On NT systems, for Domino R5, this is usually called `\LOTUS\DOMINO\DATA\MAIL`. This is assumed in this example. Type `CD \lotus\domino\data\mail` and press **Enter**.

Note

On NT systems, for Domino R4.6, the mail directory is usually called `\LOTUS\notes\data\mail` or `\notes\data\mail`

4. FTP to the AS/400 system on which the Domino server runs. Type `ftp AS400_SYSTEM_NAME` and press **Enter**.

5. Enter your AS/400 user ID and password when prompted. Press **Enter** after each entry.
6. Change to binary format. Type `binary` and press **Enter**.
7. Change to the mail directory on the AS/400 Domino server. Type `cd /lotus/domino/server_name/mail` and press **Enter**.
8. FTP the Domino mail files to the AS/400 mail directory. Type `mput *.nsf` and press **Enter**.
9. Verify the mail files were successfully copied to the AS/400 IFS subdirectory. Type `dir` and press **Enter**.
10. Exit FTP. Type `quit` and press **Enter**.
11. Exit the MS-DOS prompt window. Type `exit` and press **Enter**.

Tip

If you want to copy the contents of other subdirectories, you can do so before you end the FTP session (before you type `quit`). Within the FTP session, you can use the LCD (Local Change Directory) command to change the directory on the local NT system and the CD (Change Directory) command to change the directory on the AS/400 system. For example, to copy all the .NSF databases from the MYAPPS subdirectory of the Domino data directory, you use the following commands (after creating the subdirectory MYAPPS):

```
lcd \lotus\domino\data\myapps
cd /lotus/domino/server_name/myapps
mput *.nsf
```

Tip

If you want to copy all files in a subdirectory, not just .NSF files, use the asterisk (`*`) wildcard instead of the .NSF extension in the MPUT command. For example, type:

```
mput *.*
```

If you need to replace the destination files, include the replace parameter in the MPUT command. For example, type:

```
mput *.* (replace
```

To copy an individual file, use PUT instead of MPUT. For example, type:

```
put myapp.nsf
```

14.2.7 Change ownership of subdirectories and files

For Domino for AS/400 to access Domino databases and manage access by users, the newly created directory structure and copied files must be owned by the QNOTES user profile. Therefore, you must change the ownership of these directories and files.

To change the ownership of a directory, you use the Change Owner (CHGOWN) command. To change the ownership of the Domino data directory (in our example, it is called /LOTUS/DOMINO/SERVER_NAME), type

CHGOWN '/LOTUS/DOMINO/SERVER_NAME' QNOTES on an AS/400 command line type and press **Enter**.

To change the ownership of all the files and databases in the Domino data directory, use a wildcard for the file names. On an AS/400 command line, type CHGOWN '/LOTUS/DOMINO/SERVER_NAME/*' QNOTES and press **Enter**.

Repeat the previous two commands for all subdirectories created under the Domino data directory and the files copied to them.

Tip

Press **F9** (Retrieve) to retrieve on the command line the last run command. This is very useful if you only want to make minor changes to the command parameters (as in the previous example). You can directly amend the command on the command line or press **F4** (Prompt) to change the parameters using prompt assistance.

Changing ownership sets the appropriate authorities for the QNOTES user profile at the same time. However, to ensure data security and integrity, you should change the public data authority for these directories and files to *EXCLUDE. To do this, you use the Change Authority (CHGAUT) command.

For example, type:

```
CHGAUT '/LOTUS/DOMINO/SERVER_NAME' USER(*PUBLIC) DTAUT(*EXCLUDE)
        OBJAUT(*NONE)
CHGAUT '/LOTUS/DOMINO/SERVER_NAME/*' USER(*PUBLIC) DTAUT(*EXCLUDE)
        OBJAUT(*NONE)
```

Press **Enter**. A message appears at the bottom of the display indicating Object Changed.

As in the case of changing ownership, you must run the Change Authority (CHGAUT) command for each of the subdirectories and the files copied to them.

14.2.8 Transfer the TCP/IP address to the Domino for AS/400 server

The purpose of a server transplantation is to move a server to another piece of hardware without affecting the end user. Because we recreated the identical Domino server on the AS/400 system, we must also have our end users access this server the exact same way. The most common way to get to a Domino server is by name. During a transplantation both the server name and the IP connection to that Domino server name must remain the same. This can be done by either using the same IP address as the original Domino server or by changing the entry of that Domino server in the DNS. For these examples, we assume that we want to use the same IP address.

To use the same TCP/IP address, you must change (or disable) the IP address on the transplanted system, and then configure and activate the IP address as a new TCP/IP interface on the AS/400 system.

Note

If you have a large TCP/IP network with several subnetworks connected through routers or bridges, it may be necessary to flush the ARP table on the router before the router recognizes the new MAC address as owning the IP address.

Change or disable the TCP/IP address on the transplanted system

Note

If the transplanted system is an Integrated Netfinity Server running the OS/400 Integration of Lotus Notes product, refer to 14.5.9, "Changing the TCP/IP address on the Integrated Netfinity Server" on page 466, for special instructions on changing or disabling the TCP/IP address on that platform. The following instructions assume the transplanted system is an NT system.

If the Domino server on the original system is active, go to that server console and type `quit`, and then press **Enter**. It is not active if these steps are being followed without interruption:

1. On the NT Task bar, click **Start** → **Settings** → **Control Panel**.
2. Double-click **Networks**.
3. Click **Protocols** → **TCP/IP Protocol** → **Advanced**.
4. Select the IP address that is being moved to the AS/400 system.
5. If there are multiple IP addresses on the NT system, press **Remove** to delete the selected address. If this is the only IP address and you want to use the NT system for other purposes (still running TCP/IP), click **Edit** and change the address to something different.
6. Click **OK** → **Apply** → **OK** → **OK**.

Reboot the NT system. Make sure that you can no longer PING it using the original IP address.

Configure and activate TCP/IP interface on the AS/400 system

The following steps describe how you configure and activate a TCP/IP interface:

1. Sign on to the AS/400 system with a user profile that has at least all object (*ALLOBJ), security administrator (*SECADM) and input/output configuration (*IOSYSCFG) special authorities.
2. You can use the Configure TCP/IP (CFGTCP) command to show a menu allowing you to perform all configuration tasks related to TCP/IP. On any AS/400 command line, type `CFGTCP` and press **Enter**.

The Configure TCP/IP menu is displayed (see Figure 1 on page 25).

3. Select option **1** (Work with TCP/IP interfaces) to add a TCP/IP interface to your TCP/IP configuration. This associates one or more IP addresses with an existing line description representing a physical network interface.

The Work with TCP/IP Interfaces appears, as shown in Figure 349.

```

Work with TCP/IP Interfaces
System: AS01

Type options, press Enter.
  1=Add  2=Change  4=Remove  5=Display  9=Start  10=End

   Internet      Subnet      Line      Line
Opt Address      Mask      Description Type
  1_ 10.1.2.17_____
   ___ 10.1.2.3      255.255.255.0  TRNLINE  *TRLAN
   ___ 127.0.0.1      255.0.0.0     *LOOPBACK *NONE

Bottom

F3=Exit      F5=Refresh  F6=Print list  F11=Display interface status
F12=Cancel   F17=Top     F18=Bottom

```

Figure 349. Work with TCP/IP Interfaces display

- To add a TCP/IP interface, type a 1 (Add) in the Opt column and the IP address to be used in the Internet Address column, as shown in Figure 349, and press **Enter**. The Add TCP/IP Interface (ADDTCPIFC) command is launched for you. You see the display shown in Figure 350.

```

Add TCP/IP Interface (ADDTCPIFC)

Type choices, press Enter.

Internet address . . . . . > '10.1.2.17'_____
Line description . . . . . TRNLINE_____ Name, *LOOPBACK, *VIRTUALIP
Subnet mask . . . . . 255.255.255.0_____
Associated local interface . . . *NONE_____
Type of service . . . . . *NORMAL_____ *MINDELAY, *MAXTHRPUT...
Maximum transmission unit . . . *LIND_____ 576-16388, *LIND
Autostart . . . . . *YES _____ *YES, *NO
PVC logical channel identifier _____ 001-FFF
+ for more values
X.25 idle circuit timeout . . . 60_____ 1-600
X.25 maximum virtual circuits . 64_____ 0-64
X.25 DDN interface . . . . . *NO_____ *YES, *NO
TRLAN bit sequencing . . . . . *MSB _____ *MSB, *LSB

Bottom

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Figure 350. Add TCP/IP Interface (ADDTCPIFC) display

- Enter the name the line description and the subnet mask for your new interface, as shown in Figure 350. Contact your network administrator if you need more information about the values for your TCP/IP configuration.
- Press **Enter** to add the new interface and to return to the Work with TCP/IP Interfaces display.
- Type a 9 (Start) in Opt column to the left of the newly added interface, and then press **Enter** to start the interface.

8. Press **F11** (Display interface status) to see the interface status. Press **F5** (Refresh) several times until the status changes to `ACTIVE`. This should take just a few seconds.
9. Press **Enter** to return to the Configure TCP/IP menu.
10. You will probably want to add the Domino server name to the host table on your AS/400 system if it is not in a DNS.

14.2.9 Start the Domino for AS/400 server

The Domino for AS/400 server is now in a position to transparently take over the role of the transplanted server on the NT system.

If the Domino server on the NT system is to be used for other purposes, the IP address of that server must be changed before that server is restarted. If it is not to be used for other purposes, the Domino software can be removed after you are sure that the AS/400 server is running satisfactorily.

Start the Domino for AS/400 server. On a AS/400 command line, type `STRDOMSVR SERVER_NAME`, where `SERVER_NAME` is the name of the Domino server. Press **Enter**.

After running the Start Domino Server command, you can monitor the Domino console messages by running the Work with Domino Console (`WRKDOMSCL`) command. Type `WRKDOMCSL SERVER_NAME` and press **Enter**.

These commands are also available from the Work with Domino Servers (`WRKDOMSVR`) display.

14.3 Server consolidation process outline

The server consolidation method offers the benefits of minimized down time during the migration and, as the name suggests, offers the potential for a smaller number of servers at the completion of the process. It involves a new server identity, as well as the associated administrative challenges of managing the impact on users.

Note: The name *server consolidation method* is used to denote migration to a server with a different identity from the original. A true consolidation of multiple servers involves using either the server transplantation or server consolidation process to migrate the first of the identified servers to Domino for AS/400. Migration from the other existing servers to that same server can be accomplished using the server consolidation process outlined here, except for step 2, because the target Domino for AS/400 server already exists at that point.

The planning and copying phases are identical to the server transplantation process. Beyond that, there are significant differences in the procedure and user impact. The overall process is as follows:

1. Identify the Domino files to be migrated.
2. Configure the Domino for AS/400 server. This server has a different name and IP address from the existing servers.
3. Copy files to the Domino for AS/400 server.
4. Change ownership of subdirectories and files.

5. Start the Domino for AS/400 server.
6. Consider handling of databases with local encryption.
7. Manage synchronization of old and new files. Use server-to-server replication to keep the old and the new files synchronized until complete cutover to the new server has taken place.
8. Update the Domino Directory to reflect mail server changes.
9. Make the required changes to the Notes client workstations. Modify Location documents to reflect a home mail server change. Database icons must be modified to reflect an application server change.

The following topics describe each of these tasks.

14.3.1 Identify the Domino files to be migrated

This topic is identical to 14.2.1, “Identify the Domino files to be transplanted” on page 433, except that, in this case, you do not need to transfer the server ID file.

14.3.2 Configure the Domino for AS/400 server

Unlike in the transplantation method, this Domino for AS/400 server has its own unique identity (server name and IP address).

You must first configure TCP/IP to establish and activate a new TCP/IP interface on the AS/400 system with a unique IP address. If there is no Domino for AS/400 server configured on your AS/400 system, you can also use an existing TCP/IP interface. For details about configuring an AS/400 TCP/IP interface, please refer to 2.4.1, “Configure TCP/IP on your AS/400 system” on page 24.

Then, you configure a Domino for AS/400 server as a new and additional Domino server in your organization. This process begins with registering the new server in the Public Address Book of your existing Domino domain. It is completed by configuring the Domino for AS/400 server using the Configure Domino Server (CFGDOMSVR) command with the *ADD option. Details of this entire process can be found in Chapter 3, “Adding a Domino server to an existing organization” on page 87.

You must either create the Domino data directory manually before running the Configure Domino Server command or you can let the Configure Domino Server command create the directory for you. This depends on how you decide to handle the server ID file created during the registration of the Domino for AS/400 server. The Configure Domino Server command also creates the standard Domino subdirectories, such as mail. If you need to duplicate any other existing subdirectories on the Domino for AS/400 server, you must manually create those subdirectories. Refer to 14.2.2, “Create the Domino directory structure on the AS/400 system” on page 434, for additional information.

14.3.3 Copy files to the Domino for AS/400 server

This step is similar to the transplantation topic in 14.2.6, “Copy files to the Domino for AS/400 server” on page 443, with the following two exceptions:

- The Domino Directory (or Public Address Book under Domino R4.6) does not need to be copied because a replica is created automatically during the configuration of an additional server.
- The ID files do not need to be copied. The ID file for the new server is created during the process of registering the new server. You must be careful that this ID file is not overwritten during the copy process by an existing server ID.

Technically, replication can be used to copy all other files as well because the servers have different Domino and network identities. IBM Rochester used FTP for their migration because they found it much faster and more straightforward for bulk copying mail files for selected users or large numbers of users.

One trade-off for the speed benefit of using FTP versus replication is that to FTP open files from the existing Domino server while it is still active, a trick may be required. In the IBM Rochester migration, a Domino console command, `dbcache flush`, followed by a `drop all`, was used to temporarily close all databases and copy as many files as possible without taking the Domino server down for any length of time.

With this technique, the IT support of IBM Rochester was able to accomplish their goal with minor side effects, as opposed to a server outage. For example, if a user interacted with the server at the exact moment the `drop all` command was run, they might receive an error message. If they immediately retried the function, it would be successful. Users not actively communicating with the server at that moment may have experienced a little bit longer connect time the next time they accessed the server. However, it will be a simpler task if you can end the server first.

14.3.4 Change ownership of subdirectories and files

This topic is identical to the transplantation topic in 14.2.7, “Change ownership of subdirectories and files” on page 444.

14.3.5 Start the Domino for AS/400 server

To start the Domino for AS/400 server, use the Start Domino Server (STRDOMSVR) command, option 1 of the Work With Domino Servers (WRKDOMSVR) display, or Operations Navigator.

14.3.6 Consider handling of databases with local encryption

In most cases, if the LocalDomainServers group is identified in a database access control list (ACL), and if the new server has been added to that group in the Domino Directory, the new server should be able to access the copied databases. An exception to this rule is databases with local encryption specified on the server, for example, for some mail databases. Such databases would have been encrypted with an encryption key unique to the original server, and the new server would be denied access to them.

The FIXUP command can be used from the new Domino server console to identify any mail files in this situation. If FIXUP identifies that the new Domino

server does not have access to specific databases, you can manually create a new replica of each of those databases on the new server, using a Lotus Notes client interface. Through the replication process, Notes allows this encryption key to be rebuilt. You can then verify that all the mail data has been successfully copied and is accessible by the new Domino server.

14.3.7 Manage synchronization of old and new files

The final step in data migration is to periodically replicate the existing Domino server with the new Domino server to keep the data synchronized until after cutover. After updating the Domino Directory (discussed in the next section) to reflect the change in mail servers, one final replication of the old and new Domino servers completes the process. From a data perspective, this process provides uninterrupted service to the user community.

14.3.8 Update the Domino Directory to reflect mail server changes

When the location of a user's mail database is moved from one Domino server to another (one with a different Domino identity), changes must be made to the Domino Directory, which the Domino mail router references to deliver the mail. Person documents in the Domino Directory must be modified to change the mail server and, if necessary, the mail file path for each user being migrated.

If you are migrating all users from a given server, this can be done with a simple agent. In the case of a pilot group of users migrating from different servers, a manual approach may be more straightforward.

14.3.9 Make required changes to Notes client workstations

When the location of a user's mail database is moved from one Domino server to another (one with a different Domino identity), changes are also required on user workstations. The user's location document, which defines how the user's mail is sent and received, must be modified to reflect the home mail server change.

When an application database moves from one server to another, icons on the users' desktops must be modified to reflect the new location. This may be done by adding a new database icon and removing the original.

These modifications can be accomplished without visiting each desktop or asking the users to perform manual tasks. In the IBM Rochester migration, the updates were handled in conjunction with end user communication by sending a series of memos. Each e-mail notification contained some information and instructions, but more importantly, contained a button with code behind it that would automatically make the appropriate client workstation changes.

For example, if the migration process takes place over a calendar week, a memo is sent on Wednesday including an announcement of the imminent migration: who, what, where, when, and why. A button in this memo is set up to add icons for primary databases on the new Domino server, such as the Domino Directory. This also offers the benefit of load balancing by adding larger databases to user desktops well in advance of the Monday morning peak load that typically follows a migration.

On Friday morning, after updating the Domino Directory documents for each migrated user, a second memo is sent to the affected users. This memo includes

a button and some detailed instructions. The button causes their location document in their personal address book to be updated, and add an icon to their workspace for the new mail database. The instructions explain how to manually replicate their new mail database with the old one, in case they have been manipulating their old mail file after the Domino Directory changes were made and the final replication was performed.

Over the weekend, a third and final note is sent to the users to simply congratulate them on making the move. More importantly, by sending this final note, you can quickly identify if any users are experiencing mail routing problems.

14.4 Migrating SMTP support

Important

We suggest you look on the Web site at <http://notes.net/doc> for the latest version of the Release notes for Lotus Domino for AS/400 R5. Look for SMTP within the Release notes.

We recommend that all customers apply the latest QMU for the release they are running. To apply the latest QMU for your current release, go to the Web site at http://www.as400.ibm.com/lotus_notes/qmulist.htm to obtain the appropriate code.

This section covers considerations for migrating existing Domino SMTP support to Domino for AS/400. Although the guidelines explained here apply largely to migration from a Windows NT server, they may be helpful in the migration of the SMTP/MIME from other Domino servers.

There is one important difference between R4.6 Domino SMTP/MIME MTA running on the AS/400 system and a Domino SMTP/MIME MTA running on other systems. The Domino SMTP/MTA running on the AS/400 system does not communicate with the TCP/IP network. Rather, it sends and receives mail through the OS/400 SMTP support and AnyMail/400, and the AS/400 Mail Server Framework.

The R5 AnyMail/400 (MSF) Integration on the AS/400 system continues to use the AS/400 SMTP support for Domino SMTP mail. Domino Native SMTP support is similar to that which is available on other platforms.

Important

Before attempting to migrate the SMTP/MIME configuration from any other server, you should read and understand the explanations about the AS/400 implementation of SMTP in Chapter 7, "Lotus Domino for AS/400 and SMTP" on page 183. Especially important is the fact that the SMTP server on the AS/400 is configured correctly.

The general approach is to delete configuration documents generated by the original SMTP/MIME configuration process, and allow them to be reconfigured by Domino for AS/400. You begin by following the basic migration process, either the

server transplantation method or server consolidation method. As described earlier in this chapter, the migration procedure essentially involves copying your Domino files from the original platform to a data directory on the AS/400 system, changing ownership, and configuring the new Domino for AS/400 server.

When you run the Configure Domino Server (CFGDOMSVR) command, you should first run it without specifying the SMTP parameter, as described in the previous sections. Then, as the rest of the process outlines, delete the SMTP/MIME configuration information you brought over in the Domino Directory from the original platform before letting Domino for AS/400 configure it. Otherwise, you have duplicate configuration documents and it may be difficult to tell which one is correct.

Important

If you are migrating from R5 on NT, you must make a decision as to which mail configuration you require. If you must communicate with other AS/400 based mail applications, you need Domino for the AS/400 with MSF. If you are only using Domino as your mail platform, you should use Native Domino SMTP. For more information, please refer to Chapter 7, "Lotus Domino for AS/400 and SMTP" on page 183.

If you are migrating from R4.5 or R4.6.x on NT to R4.6.x on the AS/400 system, you must use MSF.

The detailed steps in the process are as follows:

1. Start the new Domino for AS/400 server.
2. Open the Domino Directory that you have migrated from the original platform.
To do this, double click on the database icon from your Notes client desktop or click **File** → **Database** → **Open** from the menu bar.
3. If you are migrating from R5, follow these steps:
 - a. Delete the Messaging Configuration document created by the SMTP/MIME configuration process.
 - b. Open and edit the Server document for the Domino server. If you find these items, make the following modifications:
 1. Remove **SMTP Mail Routing** from the Routing Tasks field.
 2. **Disable** the SMTP Listener field.Save your changes.
4. If you are migrating from R4 SMTP/MTA, follow these steps:
 - a. Delete the Global Domain Document created by the original SMTP/MIME MTA configuration process. You may prefer to rename it so that you still have the information for reference.
The name of the global domain is probably MTAGlobal unless it was renamed.
 - b. Delete the Foreign SMTP Domain Document created by the original SMTP/MIME MTA configuration process.
The name of the foreign SMTP domain document is * . *.

- c. Delete the SMTP connection document created by the SMTP/MIME MTA configuration process.
This connection document specifies the Domino server name as the source server and All Internet Hosts as the destination server.
 - d. Open and edit the Server document for the Domino server and if you find these items make the following modifications:
In the Internet Message Transfer Agent (SMTP MTA) section, blank out the contents of the following fields: Global Domain name, Fully Qualified Internet Host Name, and MTA Work Path.
 - e. Save your changes.
5. End the Domino for AS/400 server.
Change the Domino for AS/400 server configuration using the Change Domino Server (CHGDOMSVR) command to add support for the SMTP/MIME. This involves specifying *SMTP in the Internet Mail Packages parameter and *DOMINO or *MSF for the SMTP services parameter. This allows Domino for AS/400 to configure the SMTP/MIME by recreating the documents and fields you deleted or blanked out (see Figure 351).

```

Change Domino Server (CHGDOMSVR)

Type choices, press Enter.

Server name . . . . . > acmenmail

Additional server ID:
  ID file's password . . . . . *NONE
  Time zone . . . . . EST          *SAME, GMT, EST, CST, MST ...
  Daylight savings time . . . . . *NO          *SAME, *YES, *NO
  Web browsers . . . . . *HTTP        *SAME, *NONE, *ALL, *IIOP...

Internet mail packages . . . . . *SMTP      *SAME, *NONE, *ALL, *IMAP ...
      + for more values
SMTP services . . . . . *DOMINO      *SAME, *DOMINO, *MSF
Directory services . . . . . *NONE      *SAME, *NONE, *ALL, *LDAP...

News readers . . . . . *NONE          *SAME, *NONE, *NNTP
More...

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Figure 351. Change Domino Server for mail migration

- If you are migrating Domino R4, you must reconfigure your server using RPLCFG(*NO) to configure the SMTP/MIME MTA.
- 6. If you are using MSF, end and restart AS/400 Mail Server Framework (ENDMSF and STRMSF) to reset the AnyMail function.
Make sure that the SMTP TCP/IP task is running. You can check this by looking at the TCP/IP Connection status with the command NETSTAT *CNN.
 - 7. Restart the Domino for AS/400 server.

8. It is important to verify the information in the new configuration documents. In the Server document, make sure in the Routing Tasks field that SMTP Mail Routing is one of the options. If you are using R5 and Native Domino SMTP, the SMTP Listener field must be enabled. Check also that a Messaging Configuration document has been created and that the Group or Server name field contains your server name.
9. Make changes to the SMTP/MIME MTA configuration documents, if necessary.

In some cases, you may be required to make changes to the automatically generated configuration. One of these is if the SMTP domain name used to address mail to your users is different from the AS/400 local host and domain, and your OS/400 SMTP environment is set up to use the default SMTP mail behavior.

With Domino for AS/400, the AS/400 local host and domain, as defined in option 12 of the Configure TCP/IP (CFGTCP) menu, is what is configured by default for the fully qualified Internet host name in the Server document. The name used in your existing Domino environment may in fact be different. For example, the default fully qualified Internet host name for the Windows NT SMTP/MIME configuration is the TCP/IP host name and TCP/IP domain name of the NT server. The TCP/IP host name of the NT server is unique and different from the AS/400 local host name.

If you want to continue to receive mail using the same SMTP mail addressing as before, you may need to create a Global Domain document where you can define alternative or additional Internet domain names. For more information about configuring AS/400 SMTP mail behavior and changes, which may be required to SMTP/MIME MTA configuration documents, please refer to Chapter 7, "Lotus Domino for AS/400 and SMTP" on page 183.

10. If you changed any values in the previous step, end the Domino for AS/400 server and restart it.
11. If you are using the R4 SMTP/MIME MTA, ensure that SMTPMTA is included in the server tasks to be started automatically when the server starts. To start it manually, type `LOAD SMTPMTA` at the Domino console. At R5, the selected SMTP support automatically starts when the server starts.

14.5 Migrating from an Integrated Nefinity Server

In this section, the Domino Directory is referred to by its previous name, Public Address Book. Domino Directory is the R5 terminology and is not applicable to the Integrated Nefinity Server implementation of Domino, which only supported Domino R4. Because the described transplantation and consolidation methods apply only when moving to the same release of Domino on the target AS/400 system, transplantation and consolidation of Integrated Nefinity Domino servers imply that the target release is also R4 on the AS/400 system. Therefore, the Public Address Book is also the appropriate term on the target Domino for AS/400 server.

There are some unique and additional considerations when migrating from the Domino implementation on an Integrated Nefinity Server (OS/400 Integration of Lotus Notes). One is that special installation procedures are required for this Domino implementation due to the fact that an Integrated Nefinity Server does

not have a direct workstation interface to its operating system. The other is that the Integrated Nefinity Server implementation of Domino offers some unique integration features that have been implemented differently with Domino for AS/400.

The primary considerations are related to the following:

- Add Notes User (ADDNTSUSR) command
- Differences in default port names
- Dial-up connectivity (X.PC versus PPP/SLIP)
- Directory shadowing versus directory synchronization
- Database integration (DataProp versus NotesPump)
- Backup and recovery (ADSM versus BRMS or OS/400 IFS backup/recovery tools)
- Capability to submit Domino commands from a CL program
- Using FTP to Copy Files from an Integrated Nefinity Server
- Changing the TCP/IP Address on the Integrated Nefinity Server

The following topics describe each of the issues and offer suggestions for ways to address them.

14.5.1 Add Notes User command

The Add Notes User (ADDNTSUSR) command is unique to the Integrated Nefinity Server implementation of Domino. It provides a method of registering Lotus Notes users from an AS/400 interface, interactive, or batch.

Domino for AS/400 offers the Operations Navigator interface for both Domino and AS/400 administration. Notes user registration is available directly from a Notes client through the administrator interface (or, if using R5 clients, the Domino Administrator client), a Web browser, or an Operations Navigator front end to the administration functions of the R4 Notes client (or R5 Domino Administrator client). The ADDNTSUSR command or an equivalent has not been implemented with Domino for AS/400.

With the Integrated Nefinity Server implementation, before you can add Notes users with the ADDNTSUSR command, the AS/400 system distribution directory entries must exist for users to be registered. Those entries are automatically modified specifically for the Integrated Nefinity Server implementation of Domino. This is particularly important if the SMTP/MIME MTA is in use on the Integrated Nefinity Server. When mail integration is installed on the Integrated Nefinity Server, the behavior of the ADDNTSUSR command is changed to add specific user-defined fields to the system distribution directory entries.

If you have Notes users who were registered using the ADDNTSUSR command and you now want to migrate them to Domino for AS/400, some AS/400 system distribution directory entry changes must be made to allow those users to successfully receive SMTP mail. These changes can be made interactively using the Work with Directory Entries (WRKDIRE) command.

Alternatively, they can be made in batch from a CL program using the Change Directory Entries (CHGDIRE) command. Your CL program needs to read through the system distribution directory to identify which user entries must be modified, and then use CHGDIRE to modify each appropriate entry.

The following changes are required:

- Change the Mail Service Level from 9=other to 4=Lotus Domino.
- Edit the user-defined fields to blank out the contents of all the fields for which the first part of the name begins with QYN and the second part of the name is QNOTES.

If you want to change a directory entry interactively from an AS/400 interface, type `WRKDIR` on any AS/400 command line and press **Enter**. Type a 2 in the Opt column next to the entry to be changed and press **Enter**. You see the Change Directory Entry display, as shown in Figure 352.

```
Change Directory Entry

User ID/Address . . . . : WBLANKER NTSIPCS

Type changes, press Enter.

Description . . . . . Wilfried Blankertz on IPCS Notes
System name/Group . . . NTSIPCS          F4 for list
User profile . . . . .          F4 for list
Network user ID . . . . WBLANKER NTSIPCS

Name:
Last . . . . . Blankertz
First . . . . . Wilfried
Middle . . . . .
Preferred . . . . .
Full . . . . . Blankertz, Wilfried

More...
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F18=Display location details
F19=Change name for SMTP  F20=Specify user-defined fields  F24=More keys
```

Figure 352. Change Directory Entry display

Press **PageDown (PgDn)** several times until you see the display shown in Figure 353 on page 458.

```

Change Directory Entry
User ID/Address . . . . : WBLANKER NTSIPCS
Type changes, press Enter.

Mail service level . .  9                               1=User index
                                                            2=System message store
                                                            4=Lotus Domino
                                                            9=Other mail service

For choice 9=Other mail service:
Field name . . . .  QYNMAILTY  QNOTES  F4 for list

Preferred address . . .  3                               1=User ID/Address
                                                            2=O/R name
                                                            3=SMTP name
                                                            9=Other preferred address
                                                            F4 for list

Address type . . . .  _____
For choice 9=Other preferred address:
Field name . . . .  _____  _____  F4 for list
More...
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F18=Display location details
F19=Change name for SMTP  F20=Specify user-defined fields  F24=More keys

```

Figure 353. Change mail service level

You must change the Mail service level field to a 4, and then press **F20** (usually **Shift + F8**) to see the user-defined fields. Remove the contents of all fields with a name starting with QYN and a second qualifier of QNOTES. Page forward to find these fields. An example is shown in Figure 354.

```

Specify User-Defined Fields
Type choices, press Enter.

QYNHOMHOME  QNOTES  _____
_____
_____
_____
_____
_____
QYNMAILTY  QNOTES  Notes  _____
_____
_____
_____
_____
More...
F3=Exit  F5=Refresh  F12=Cancel

```

Figure 354. Specify User-Defined Fields display

If you want to write a CL program to change multiple directory entries, you can use the Change Directory Entry (CHGDIRE) command, as shown in the following example.

```

CHGDIRE USR.ID(&USERID &ADDRESS)+
  USRDFNFLD( (QYNMSHORT QNOTES *NONE)+
    (QYNMNTSDMN QNOTES *NONE)+
    (QYNMHOME QNOTES *NONE)+
    (QYNMSVR QNOTES *NONE)+
    (QYNMMAILTY QNOTES *NONE)+
    (QYNMFADDR QNOTES *NONE)+
    (QYNMORGU QNOTES *NONE))+
  MSFSRVLVL(*DOMINO)

```

Note: There may also be generic *ANY entries in your system distribution directory, directing all mail with a certain SNADS address or SMTP domain to the SMTP/MIME MTA on the Integrated Nefinity Server. If this is the case, those must be removed or changed in the same manner as the individual entries, as described previously.

14.5.2 Differences in default port names

Default Domino port names are not the same between the Integrated Nefinity Server implementation of Domino and Domino for AS/400. For example, the default Domino port for the TCP/IP protocol is called FSNOTES_TCPIP on the Integrated Nefinity Server, and TCPIP in Domino for AS/400 and other platforms.

If you use the server transplantation method of migration, manual configuration changes to any existing connection documents in the Public Address Book are most likely required. As a result of the migration process described in this chapter, the port FSNOTES_TCPIP is enabled in the Server document and possibly referenced in connection documents because the NAMES.NSF was copied from the Integrated Nefinity Server. However, the NOTES.INI file of the Domino for AS/400 server only defines the port TCPIP. This may result in a conflict. The following three methods are potential alternatives to resolve this situation:

- Disable the Domino port called FSNOTES_TCPIP and modify your connection documents to use the port TCPIP instead.
- Assign unique network addresses to the two Domino ports. You can either use unique IP addresses or a port mapping scenario in which the server acts as its own port mapper. The technique is comparable to the one used in setting up partitioned servers, as described in 6.1, “Multiple Domino servers on a single AS/400 system” on page 159.
- Disable the Domino port called TCPIP.

Attention

We do *not* recommend the third option. The port named TCPIP may have other implications because it is the default name used by Domino for AS/400.

14.5.3 Dial-up connectivity

There are varied protocols for dial-up connectivity to Domino on different platforms. Virtually all of the platforms support TCP/IP. On some Domino platforms, a proprietary protocol called X.PC is also supported for dial-up connectivity from client workstations.

The Integrated Nefinity Server implementation of Domino supports X.PC on its own modem port (exclusive to the Pentium version). It can also take advantage of the TCP/IP dial support (PPP and SLIP) provided with OS/400.

Domino for AS/400 supports the TCP/IP protocol exclusively and uses the AS/400 native communications hardware and software. Dial-up connectivity to Domino for AS/400 is available using PPP or SLIP.

Therefore, if you are using X.PC with the communications hardware of the Integrated Nefinity Server, migration of your dial-up connectivity environment to TCP/IP dial is a consideration. For details on Domino for AS/400 dial-up connectivity alternatives and configuration, please refer to Chapter 13., "Dial-Up connectivity" on page 359.

14.5.4 Directory shadowing versus directory synchronization

The Integrated Nefinity Server implementation of Domino supports one-way directory shadowing from the AS/400 system distribution directory to the Domino Address Book. Domino for AS/400 provides flexible and comprehensive bidirectional directory synchronization that is available even if the Domino server itself is not running. You will want to take advantage of the additional power and integration available with this feature. For more details on Domino for AS/400 directory synchronization and its configuration, please refer to Chapter 11, "Directory synchronization" on page 315.

One consideration is that if you have Lotus Notes users registered using the Add Notes User (ADDNTSUSR) command, the same modifications required for mail integration apply when directory synchronization is used. Refer to 14.5.1, "Add Notes User command" on page 456.

14.5.5 Database integration

With Domino on the Integrated Nefinity Server, integration with DB2 for AS/400 data is accomplished using the companion product DataPropagator/400, which must be purchased separately. DB2 for AS/400 Integration for the Integrated Nefinity Server allows data which resides on the AS/400 system to be imported or shadowed to Lotus Domino databases. User authorities to the DB2/400 tables can also be shadowed to the Domino database and translated into ACL settings. Updates of shadowed data can be applied to DB2 for AS/400 tables only through a user written AS/400 exit program.

Domino for AS/400 significantly enhances the flexibility of real time bidirectional data access. Refer to 1.3.2, "Database integration" on page 10, for examples of Domino for AS/400 data integration.

Therefore, much function and flexibility is available with Domino for AS/400. If you are using database integration today with Domino on an Integrated Nefinity Server, one or more of these integration tools must be incorporated into your migration plans. You need to be aware that DataPropagator/400 is not used with Domino for AS/400 for database integration. For bulk data shadowing, the supplemental product NotesPump (now called Lotus Enterprise Integrator (LEI)) may be appropriate for your environment.

14.5.6 Backup and recovery

The Integrated Nefinity Server implementation of Domino offers granular backup and recovery utilizing the optional product Adstar Distributed Storage Manager (ADSM).

With Domino for AS/400, Domino databases and files are stored as separate stream file objects in the integrated file system (IFS). The network server storage space is a single object representing the entire (virtual) disk attached to the Integrated Nefinity Server.

A primary advantage of the IFS implementation of Domino for AS/400 is the ability to integrate Domino backup into your usual AS/400 backup procedures. This could include incorporating the appropriate Save Object (SAV) and Restore Object (RST) commands into your strategies for full or incremental backup and recovery. For more details about Domino for AS/400 backup and recovery, please refer to Chapter 10, "Backup and recovery" on page 297.

Note: For installations that have large amounts of data or require unattended backup, the Backup and Recovery Management Services (BRMS) software and a tape library system provide a good solution.

Some considerations to think about in moving from the ADSM backup and recovery method to native AS/400 IFS backup and recovery tools include approaches for backup of *active* files and recovery at the document level. For example, some Domino databases, such as the Domino Directory, are always open whenever the Domino server is running. High availability requires minimal Domino server down time for routine maintenance, such as backup.

If you require 24x7 availability, you may choose to replicate to a partition, which can be taken offline for backup, while your primary Domino server remains available. This is the approach used in production by the internal IS department at IBM Rochester. Another alternative is to use the Domino clustering capability available with the advanced services of the Domino Enterprise Server license.

Domino for AS/400 security is relevant in a backup and recovery strategy. The Domino for AS/400 security implementation takes advantage of a combination of AS/400 security and Domino security. AS/400 security protects Domino databases from access outside of the control of Domino by setting public authority for all Domino objects to *EXCLUDE.

14.5.6.1 Document-level restore

One advantage of the ADSM implementation on the Integrated Nefinity Server is the possibility to restore single documents, for example, if one or more documents were accidentally deleted by a user. The backup and recovery function for Domino for AS/400 does not provide such a possibility. However, you may restore the complete Domino database to a different IFS directory, and then copy the required documents using a Notes workstation.

Application programming interfaces (APIs), as well as more complete backup and restore solutions to allow more flexible and granular backup and recovery, are planned for a future release of Domino for AS/400.

14.5.7 Capability to submit Domino commands from a CL program

One benefit of the Submit Network Server Command (SBMNWSCMD) command for the Integrated Nefinity Server is the capability to submit commands to the Domino console using a batch interface. If you are using this feature to provide access to Domino commands from a CL program, please notice that this capability is not available with Domino for AS/400 R4.6.2 or earlier versions. However, Domino for AS/400 provides programmatic access to Domino resources from AS/400 application programs using application programming interfaces (APIs). Later versions of Domino for AS/400 include the Submit Domino Command (SBMDOMCMD) command.

14.5.8 Using FTP to copy files from an Integrated Nefinity Server

Here is the general process for setting up the FTP environment:

1. Verify your FTP user ID and password on the Integrated Nefinity Server by accessing the TRUSERS (trusted users) file. Look for the file E:\MPTN\ETC\TRUSERS.

If you have not configured FTP on your Integrated Nefinity Server, this file does not yet exist. However, a sample file, called TRUSERS.SMP, is provided. This sample TRUSERS file has a user ID (*admin*) and password (*adminpwd*) already configured, which can be used to log on the first time.

You can create the TRUSERS file on the E: drive from this sample file. Type the following command on any AS/400 command line and press **Enter**.

```
SBMNWSCMD CMD('COPY F:\FSNOTES\ADMIN\TRUSERS.SMP E:\MPTN\ETC\TRUSERS')
SERVER(NWSD_name) SVRTYPE(*BASE)
```

Note

If your Integrated Nefinity Server resides on a different AS/400 system, it may be on a release older than V4R2. Notice that in V3R2 or V3R7 the file TRUSERS.SMP was provided in a different directory. Therefore, the correct command in this case would be:

```
SBMNWSCMD 'COPY D:\MPTN\BIN\TRUSERS.SMP E:\MPTN\ETC\TRUSERS'
NWSD_name SVRTYPE(*BASE)
```

2. Start the FTP server on the Integrated Nefinity server. Type `SBMNWSCMD CMD('XFTPD ON') SERVER(NWSD_name)SVRTYPE(*BASE)` on an AS/400 command line, where `NWSD_name` is the name of your network server description. Press **Enter**.

Note

You do not receive any confirmation message. However, if you do not see any error messages, it indicates that FTP has been started on the Integrated Nefinity Server. You can verify that FTP is active by using the following command:

```
SBMNWSCMD 'netstat -s' NWSD_name SVRTYPE(*BASE)
```

3. Connect to the Integrated Nefinity server to transfer your data. On the AS/400 command line, type `FTP IP_Address` and press **Enter**.

Note

The IP_Address should be the internal bus port TCP/IP Address of your Integrated Nefinity Server for best performance.

To find out the IP address of the internal bus port, you can use the Display Network Server Description (DSPNWSD) command. Type `DSPNWSD` `NWSD_name`, where `NWSD_name` is the network server description name of your Integrated Nefinity Server.

4. An AS/400 File Transfer Protocol display appears. In response to the prompts, enter the FTP user ID and password you obtained in step 1. on page 462. FTP indicates the user is logged in and prompts you for an FTP subcommand.
5. Change the mode of transfer to binary. On the AS/400 FTP command line, type `binary` (or the short form `bin`).
Press **Enter**. FTP sends a confirmation message `200 Type set to I` (Image/Binary).
6. Toggle off passive data connection transfer mode because the Integrated Nefinity Server does not support it. If you do not change the transfer mode, you see an error message, for example, `Error 425 can't open data connection`. On the AS/400 FTP command line, type `sendpa` and press **Enter**. FTP sends a confirmation, `SENDPASV is off`.
7. Change the name format to 1. This allows us to work with the entire AS/400 integrated file system (IFS) (the root file system instead of the library file system (QSYS.LIB), which is only a subset). On the AS/400 FTP command line, type `na 1` and press **Enter**. FTP sends a confirmation, `Client NAMEFMT is 1`.
8. Working from your identified list of files to be migrated, use the appropriate FTP commands to copy individual files, multiple files of the same type from a particular directory, or all files from a particular directory.

Note

In the examples used in the transplantation and consolidation processes, the FTP command was run from the source system (the NT system). Therefore, the PUT and MPUT commands were used to copy the files from the source to the target system. Because the FTP command is run from the AS/400 system, the target system, the following examples use the GET and MGET commands to copy the files from the source to the target system.

Tip

Use LCD (Local Change Directory) to change directory on the local (AS/400) system. Use CD (Change Directory) to change directory on the original system, which may be an Integrated Nefinity Server. Use GET for individual files and MGET for multiple files.

More specific examples with command syntax are included in the following list:

- To copy all files from a particular subdirectory of this Domino data directory (in our example, from the mail subdirectory with the option to replace existing files of the same name in the target directory), type the following commands on the AS/400 FTP command line:

```
LCD /lotus/domino/server_name/mail
CD k:\notes\data\mail
MGET *.* (replace
```

- To copy multiple files of the same type (for example, with extension NSF) from a user subdirectory of this Domino data directory, type the following commands on the AS/400 FTP command line:

```
LCD /lotus/domino/server_name/johndoe
CD k:\notes\data\johndoe
MGET *.nsf
```

9. Repeat the previous step for each subdirectory you must copy.
10. When you are finished copying files, quit FTP. On the AS/400 FTP command line, type `QUIT` and press **Enter**.
11. Verify that you have copied all the files to be migrated, plus the certifier ID, server ID, and administrator user ID to the Domino data directory on the AS/400 system.

Automating the file transfer with a CL program

If you need to transfer many subdirectories, you may want to automate the copy process by writing a CL program. While one easily may combine all CL commands to create the directory structure into a CL program, as shown in lines 2.00 through 5.00 of Figure 355 on page 465, it is not very obvious how to automate the FTP process. The trick is to create a separate source file member containing all FTP subcommands in the sequence they need to be entered. In our example, we named the member `FTPINPUT` and added it to the standard source file for CL programs `QCLSRC`.

```

Columns . . . : 1 71          Browse          STEPHEN/QCLSRC
SEU==>
FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
***** Beginning of data *****
0001.00 PGM
0002.00 CRTDIR '/LOTUS/DOMINO/ACMEDS1/MYDIR' DTAAUT(*EXCLUDE) OBJAUT(*NONE)
0003.00 CRTDIR '/LOTUS/DOMINO/ACMEDS1/MAIL' DTAAUT(*EXCLUDE) OBJAUT(*NONE)
0004.00 CHGOWN '/LOTUS/DOMINO/ACMEDS1/MYDIR' NEWOWN(QNOTES)
0005.00 CHGOWN '/LOTUS/DOMINO/ACMEDS1/MAIL' NEWOWN(QNOTES)
0006.00
0007.00 SEMNWSQCMD 'XFTPD ON' SERVER(IPCS1) SVRTYPE(*BASE) CMDTYPE(*OS2)
0008.00
0009.00 OVRDBF FILE(INPUT) TOFILE(*LIBL/QCLSRC) MBR(FTPINPUT)
0010.00 OVRDBF FILE(OUTPUT) TOFILE(*LIBL/QCLSRC) MBR(FTPOUTPUT)
0011.00 FTP RMTSYS('10.1.2.60')
0012.00
0013.00 SEMNWSQCMD 'XFTPD OFF' SERVER(IPCS1) SVRTYPE(*BASE) CMDTYPE(*OS2)
0014.00 ENDEPGM
***** End of data *****

F3=Exit F5=Refresh F9=Retrieve F10=Cursor F11=Toggle F12=Cancel
F16=Repeat find F24=More keys

```

Figure 355. CL program to automate data transfer through FTP

Before coding the FTP command, you must use an Override with Data Base File (OVRDBF) command to redirect the standard input file (by default, the keyboard) to the source file member FTPINPUT (line 9.00 in Figure 355). Figure 356 shows the content of the file member.

```

Columns . . . : 1 71          Edit          STEPHEN/QCLSRC
SEU==>
FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
***** Beginning of data *****
0001.00 admin adminpwd
0002.00 CD /
0003.00 bin
0004.00 sendpa
0005.00 NA 1
0006.00 LCD /LOTUS/DOMINO/ACMEDS1/MYDIR
0007.00 cd k:\notes\data\mydir
0008.00 MGET *.* (replace)
0009.00 LCD /LOTUS/DOMINO/ACMEDS1/MAIL
0010.00 cd k:\notes\data\mail
0011.00 MGET *.* (replace)
0012.00 QUIT
***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

```

Figure 356. Input file for FTP utility

The standard output is redirected to member FTPOUTPUT in line 10.00 of Figure 355. The content of this member can be used for debug and control purposes after transferring the data. An example is shown in Figure 357 on page 466.

```

Columns . . . : 1 71          Browse          STEPHEN/QCLSRC
SEU==> _____          FTPOUTPUT
FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
0017.00 SENDPASV is off.
0018.00 Enter an FTP subcommand.
0019.00 > NA 1
0020.00 202 SITE not necessary; you may proceed.
0021.00 Client NAMEFMT is 1.
0022.00 Enter an FTP subcommand.
0023.00 > LCD LCD /LOTUS/DOMINO/ACMEDS1/MYDIR
0024.00 Local working directory is LCD /LOTUS/DOMINO/ACMEDS1/MYDIR
0025.00 Enter an FTP subcommand.
0026.00 > cd k:\notes\data\mydir
0027.00 250 CWD command successful.
0028.00 Enter an FTP subcommand.
0029.00 > MGET *.* (replace
0030.00 200 Type set to A.
0031.00 200 PORT command successful.
0032.00 150 Opening ASCII mode data connection for *.*.
0033.00 226 Transfer complete.

F3=Exit   F5=Refresh  F9=Retrieve  F10=Cursor  F11=Toggle  F12=Cancel
F16=Repeat find      F24=More keys

```

Figure 357. FTP log redirected to source file member

Note

The transfer speed may vary substantially, depending on the systems. Therefore, you should test the transfer to estimate the time needed. Remember, neither the old or the new Domino server is available to users during this period of time.

14.5.9 Changing the TCP/IP address on the Integrated Nefinity Server

Before adding the original server IP address as a new AS/400 TCP/IP interface, you must end the TCP/IP interface of the Integrated Nefinity Server. This is done using option 1 of the Work with TCP/IP Network Status (NETSTAT) menu. You also must vary off the Integrated Nefinity Server using option 2 in the Work with Configuration Status (WRKCFGSTS) display or the Vary Configuration (VRYCFG) command.

Changing the network identity of the Integrated Nefinity Server involves changing its IP address in the TCP/IP configuration. You can change its network identity in one of the following ways:

- Change the external IP address on the existing network server description.
- Create a new network server description for the Integrated Nefinity Server with a new name and a new external IP address.

The method you choose is primarily determined by whether the Integrated Nefinity Server also supports applications or interfaces which rely on the original network server description name.

Many customers may want to change the name of the network server description for the Integrated Nefinity Server for administrative convenience and clarity. For

example, you have a Domino installation on your Integrated Nefinity Server whose network server description is named DOMINO1 because it was primarily or solely intended as a Domino server. After you migrate to Domino for AS/400, your Integrated Nefinity Server is likely to be no longer used for Domino. It may be used as a firewall or LAN adapter or for other network applications.

Therefore, keeping the original network server description name (for example, DOMINO1) is no longer appropriate and may in fact be confusing. In many cases, the potential confusion may be further complicated by the fact that the Domino server name may be the same as the network server description name. Therefore, we expect most organizations will prefer to simply create a new network server description for their Integrated Nefinity Server with a new name (for example, IPCS1), and then create a new line descriptions for the new network server description.

Note

If you do not plan to use the Integrated Nefinity Server for other Network Server implementations, such as a firewall or a LAN server, you may also use it as a normal LAN adapter for your AS/400 applications. If you decide to do so, you still must follow the instructions provided in the following section to move the IP address from the Integrated Nefinity Server to an AS/400 IP interface, even if you plan to use the same physical adapter.

The following section shows how to create a new network server description. If you prefer to use the existing network server description, go to 14.5.9.2, “Using the same network server description” on page 470.

14.5.9.1 Creating a network server description with a new name

To create a new network server description for the Integrated Nefinity Server with a new name and external IP address, follow these steps:

1. On an AS/400 command line, type `WRKNWSD` and press **Enter**.

The Work with Network Server Descriptions display, as shown in Figure 358 on page 468, appears.

```

Work with Network Server Descriptions
System: SYSTEM01

Type options, press Enter.
  1=Create  2=Change  3=Copy  4=Delete  5=Display  6=Print
  9=Retrieve Source...

Opt      Network
Server   Text
-----
 3      DOMINO1    IPCS with Lotus Domino
      NIJAREK     BACK Office Workshop residency TEST
      NISIPCS     Domino Intro Hands-On Lab

Parameters or command
====>
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F17=Position to
F23=More options  F24=More keys
Bottom

```

Figure 358. Work with Network Server Descriptions display

- Find the Network Server name that matches your Integrated Nefinity Server. (In our example, it is DOMINO1). Tab down to the corresponding field under the Opt column and type a 3 to copy the description. Press **Enter**. The Create Network Server Description (CRTNWSD) display, as shown in Figure 359, appears.

```

Create Network Server Desc (CRTNWSD)

Type choices, press Enter.

Network server description . . .  IPCS1      Name
Resource name . . . . . > CC07      Name
Network server type . . . . . > *BASE    Character value...
Online at IPL . . . . . > *NO      *YES, *NO
Vary on wait . . . . . > *NOWAIT  *NOWAIT, 1-15 minutes
Language version . . . . . > 2924    *PRIMARY, 2963, 2966, 2980...
Country code . . . . . > 1      *LNGVER, 001, 002, 031, 033...
Code page . . . . . > 850      *LNGVER, 437, 850, 852, 857...
NetBIOS description . . . . . > QNTBIEM  Name, QNTBIEM
Server message queue . . . . . > *JOBLOG  Name, *JOBLOG, *NONE
  Library . . . . .      Name, *LIBL, *CURLIB
Configuration file . . . . . > *NONE    Name, *NONE
  Library . . . . .      Name, *LIBL, *CURLIB
Start NetBIOS . . . . . > *YES    *YES, *NO
Start TCP/IP . . . . . > *YES    *NO, *YES

More...

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Figure 359. Create Network Server Description (CRTNWSD) (Part 1 of 2)

- Type in a new name for your Integrated Nefinity Server. In our example, the new name for the Integrated Nefinity Server is IPCS1. Page down and a second command display, as shown in Figure 360 on page 469, appears.


```

Create Network Server Desc (CRTNWSD)

Type choices, press Enter.

TCP/IP port configuration:
Port . . . . . > 1 *NONE, *INTERNAL, 1, 2, 3
Internet address . . . . . > '10.5.67.73'
Subnet mask . . . . . > '255.255.255.192'
Maximum transmission unit . . > 1500 Number

Port . . . . . > 2 *INTERNAL, 1, 2, 3
Internet address . . . . . > '10.5.67.74'
Subnet mask . . . . . > '255.255.255.0'
Maximum transmission unit . . > 1500 Number

Port . . . . . > *INTERNAL *INTERNAL, 1, 2, 3
Internet address . . . . . > '192.168.7.2'
Subnet mask . . . . . > '255.255.255.0'
Maximum transmission unit . . > 15400 Number

More...
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

```

Figure 360. Create Network Server Description (CRTNWSD) (Part 2 of 2)

4. If an Internet address is defined for port 1, type in a new Internet address for TCP/IP port 1. In our example, the original address was 10.5.67.71. We changed it to 10.5.67.73. The IP address must be unique within your network and conform to your subnet mask. For a larger network, you may need to consult your network administrator to obtain an appropriate new IP address for your installation.

If an Internet address is defined for port 2, type in a new Internet address for TCP/IP port 2. In our example, the original address was 10.5.67.72. We changed it to 10.5.67.74.

Note

An Integrated Nefinity Server configured for Domino always has one internal port (showing *INTERNAL in the Port parameter), and one or two external ports.

There is no need to change the internal IP address. Depending on the future usage of the Integrated Nefinity Server, the internal port may or may not be needed. For example, if the Integrated Nefinity Server is used to implement a firewall, the internal port must be used. If the Integrated Nefinity Server is used as a LAN adapter for AS/400 applications, the internal port is no longer needed.

If the Domino server uses both external ports, you must change each port, as in our example. If only one port is used, it is port 1 in most cases. However, it can be port 2. A reason for using two ports would be one port connects to a Token Ring, the other one to an Ethernet, or you may have a 4 MB and a 16 MB Token Ring.

Press **Enter**. A message appears indicating *Operation in progress, please wait*.

5. The Work with Network Server Descriptions display reappears. A message at the bottom of the display should confirm your action. In our example, the message states, *Network Server Description IPCS1 created*.
6. Vary on the Integrated Nefinity Server again, using either the Vary Configuration (VRYCFG) command, or option 8 in the Work with Network Server Descriptions menu, and then option 1 in the Work with Configuration Status display.

14.5.9.2 Using the same network server description

Alternatively, if you have implemented interfaces or applications which rely on the original name for the network server description (for example, DOMINO1), you may choose to simply assign a new IP address to the existing network server description. We expect this scenario to be relatively rare because any such interfaces or applications also requires the original IP address.

However, if this situation does apply to you, follow these steps to change the external IP address for your existing network server description:

1. On an AS/400 command line, type `WRKNWSD` and press **Enter**. The Work with Network Server Descriptions display appears.
2. Find the network server name that matches your Integrated Nefinity Server. In our example, it is DOMINO1. Tab down to the corresponding field under the Opt column and type a 2 to change the description and press **Enter**.

The Change Network Server Description (CHGNWSD) display, as shown in Figure 361, appears.

```

Change Network Server Desc (CHGNWSD)

Type choices, press Enter.

Network server description . . . > DOMINO1      Name
Resource name . . . . . > CC07                Name
Network server type . . . . . > *BASE        Character value...
Online at IPL . . . . . > *NO                *YES, *NO
Vary on wait . . . . . > *NOWAIT        *NOWAIT, 1-15 minutes
Language version . . . . . > 2924        *PRIMARY, 2963, 2966, 2980...
Country code . . . . . > 1                *LNGVER, 001, 002, 031, 033...
Code page . . . . . > 850                *LNGVER, 437, 850, 852, 857...
NetBIOS description . . . . . > QNTBIEM        Name, QNTBIEM
Server message queue . . . . . > *JOBLOG        Name, *JOBLOG, *NONE
  Library . . . . .                Name, *LIBL, *CURLIB
Configuration file . . . . . > *NONE        Name, *NONE
  Library . . . . .                Name, *LIBL, *CURLIB
Start NetBIOS . . . . . > *YES        *YES, *NO
Start TCP/IP . . . . . > *YES        *NO, *YES

More...
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Figure 361. Change Network Server Description (CHGNWSD) (Part 1 of 2)

3. Page down. A second display, as shown in Figure 362 on page 471, appears.

```

Change Network Server Desc (CRINWSD)

Type choices, press Enter.

TCP/IP port configuration:
Port . . . . . > 1          *NONE, *INTERNAL, 1, 2, 3
Internet address . . . . . > '10.5.67.73'
Subnet mask . . . . . > '255.255.255.192'
Maximum transmission unit . . > 1500      Number

Port . . . . . > 2          *INTERNAL, 1, 2, 3
Internet address . . . . . > '10.5.67.74'
Subnet mask . . . . . > '255.255.255.0'
Maximum transmission unit . . > 1500      Number

Port . . . . . > *INTERNAL  *INTERNAL, 1, 2, 3
Internet address . . . . . > '192.168.7.2'
Subnet mask . . . . . > '255.255.255.0'
Maximum transmission unit . . > 15400     Number

More...
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Figure 362. Change Network Server Description (CHGNWSD) (Part 2 of 2)

4. If an Internet address is defined for port 1, type in a new Internet address for TCP/IP port 1. In our example, the original Port 1 address was 10.5.67.71. We changed it to 10.5.67.73. The IP address must be unique within your network and conform to your subnet mask. For a larger network, you may need to consult your network administrator to obtain an appropriate new IP address for your installation.

If an Internet address is defined for port 2, type in a new Internet address for TCP/IP port 2. In our example, the original address was 10.5.67.72. We changed it to 10.5.67.74.

Note

An Integrated Nefinity Server configured for Domino always has one internal port (showing *INTERNAL in the Port parameter), and one or two external ports.

There is no need to change the internal IP address. Depending on the future usage of the Integrated Nefinity Server, the internal port may or may not be needed. For example, if the Integrated Nefinity Server is used to implement a firewall, the internal port must be used. If the Integrated Nefinity Server is used as a LAN adapter for AS/400 applications, the internal port is no longer needed.

If the Domino server uses both external ports, you must change each port, as in our example. If only one port is used, it is port 1 in most cases. However, it can be port 2. A reason for using two ports would be one port connects to a Token Ring, the other one to an Ethernet, or you may have a 4 MB and a 16 MB Token Ring.

Press **Enter**. A message appears on your display indicating Operation in progress, please wait.

5. The Work with Network Server Descriptions display reappears. A message appears at the bottom of your display confirming your change. In our example, the message states, *Network Server Description DOMINO1 changed.*
6. Vary on the Integrated Nefinity Server again, using the Vary Configuration (VRYCFG) command.

14.6 General considerations when migrating your Domino infrastructure

The primary focus of this chapter has been migration from one Domino server platform to another, specifically migration to the Domino for AS/400 platform. Special considerations are involved when migrating from one major release of Lotus Notes and Domino to another. Migration for any mission-critical system requires careful planning. Therefore, many of the steps required are also typical steps for migrating any mission-critical system to a major new release. When migrating from one release to another, the recommended order for migration is:

1. Servers
2. Clients
3. Applications

Please refer to the Lotus product documentation for detailed release migration information.

Many migration scenarios also involve coexistence between the old and the new environments for some period of time. However, if you require this, you must use the consolidation method, as described in 14.3, "Server consolidation process outline" on page 448, rather than the transplantation method, as described in 14.2, "Server transplantation process outline" on page 431.

Whether or not actual coexistence is involved, comprehensive testing using a test environment prior to production migration is highly recommended. In any migration process, careful, detailed planning, and the well-managed execution of that plan is critical to the success of the migration.