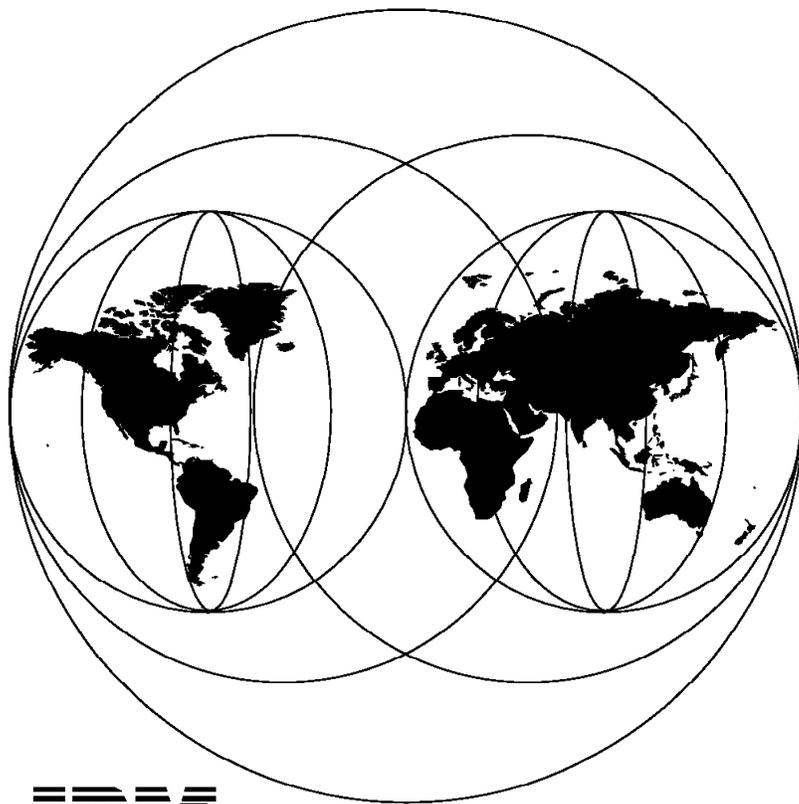


International Technical Support Organization

SG24-4649-00

**Lotus Notes Release 4
In a Multiplatform Environment**

February 1996



IBM

**International Technical Support Organization
Austin Center**



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SG24-4649-00

**Lotus Notes Release 4
In a Multiplatform Environment**

February 1996

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First Edition (February 1996)

This edition applies to Release 4 of Lotus Notes for use with the OS/2 Warp 3.0, Windows NT, Windows 95, Apple Macintosh System 7, IBM AIX 4.1.3, Sun SPARC Solaris 2.4, and HP-UX 10.01 operating systems.

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Abstract

This document is unique in its detailed coverage of the installation, configuration, and administration of Lotus Notes Release 4 in a multiplatform environment. We installed Lotus Notes Release 3.x and Release 4 on several different servers - OS/2, AIX, Windows NT, and Windows 95, and clients - OS/2, AIX, Windows 3.1, Windows 95, and Apple's System 7. We also documented the use of Lotus Notes with both the TCP/IP and NetBIOS networking protocols. Installation scenarios and the necessary administration tasks are examined and documented.

We also describe the use of many different administrative commands and functions which would be commonly used by a Lotus Notes Administrator. Topics such as replication, certification of IDs, passthru servers, shared mail databases, and remote connections are discussed and many examples are shown.

This document was written for the technical professional who is responsible for the installation and administration of Lotus Notes Release 4. Some knowledge of LAN environments, network topologies, and operating systems is assumed.

(151 pages)

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Special Notices

This publication is intended to help technical support personnel install, configure, and administer Lotus Notes Release 4 in a multi-platform environment. The information in this publication is not intended as the specification of any programming interfaces that are provided by Lotus Notes Release 4. See the PUBLICATIONS section of the IBM Programming Announcement for Lotus Notes Release 4 for more information about what publications are considered to be product documentation.

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Preface

This document is intended to assist the technical systems professional in the installation, configuration, and administration of Lotus Notes Release 4 in a multiplatform environment.

It contains a scenario for installing and administering Lotus Notes Release 4 in a typical customer enterprise environment where there may be many different hardware and software platforms installed. Coexistence and migration considerations between Release 3 and Release 4 of Lotus Notes are also discussed.

How This Document is Organized

The document is organized as follows:

- Chapter 1, "Introduction"

This chapter provides an overview of Lotus Notes Release 4. It discusses what is new in Lotus Notes Release 4 and describes the hardware and software requirements for Release 4.

- Chapter 2, "Multiplatform Scenario"

This chapter describes the multiplatform scenario which we used for this document. It discusses the physical configurations and logical connections of Lotus Notes Release 4 needed to support the installation in a typical customer environment.

- Chapter 3, "Installing Lotus Notes Release 4"

In this chapter, we describe the installation of Lotus Notes Release 4. First, we discuss the installation of several Lotus Notes servers on various operating systems platforms - OS/2, Windows NT, Windows 95, and AIX.

Then we describe the installation of several Lotus Notes client workstations on various operating systems platforms - OS/2, Windows NT, Windows 95, Windows 3.1, and Apple Macintosh.

- Chapter 4, "Administration"

In this chapter, we discuss various administrative procedures for Lotus Notes Release 4. These include the topics of server registration, user registration, database replication, Lotus Notes security, passthru server, network configuration, mail routing, and remote workstation connectivity.

- Chapter 5, "Coexistence and Migration"

This chapter covers coexistence and migration considerations for Lotus Notes 3.x and Lotus Notes 4. Some potential problems and solutions are discussed.

Related Publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this document.

- *Install Guide for Workstations (Release 4), (wrkinst.nsf), Part No. AB0501*
- *Install Guide for Servers (Release 4), (srvinst.nsf), Part No. AB0502*
- *Release Notes (Release 4),(readme.nsf), Part No. AB0506*
- *InterNotes Web Navigator User's Guide (Release 4), (webuser.nsf), Part No. AB0504*
- *InterNotes Web Navigator Administrator's Guide (Release 4), (webadmin.nsf), Part No. AB0505*
- *Migration Guide (Release 4), (migrate.nsf), Part No. AB0503*
- *Database Manager's Guide (Release 4), Part No. AB0500*
- *Deployment Guide (Release 4), Part No. 12391*
- *Network Configuration Guide (Release 4), Part No. 12390*
- *LotusScript Cross-Product BASIC Scripting Language (Release 3), Part No. 12382*
- *Administrator's Guide (Release 4), Part No. 12389*

International Technical Support Organization Publications

- *Lotus Notes as an AIX Server, SG24-4694 (To be published in April, 1996)*
- *Developing Enterprise Applications with Lotus Notes 4.0, SG24-4618*

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with the keyword subscribe in the body of the note (leave the subject line blank). A category form and detailed instructions will be sent to you.

To obtain more details about this service, employees may type the following:

```
TOOLS SENDTO USDIST MKTTOOLS MKTTOOLS GET LISTSERV PACKAGE
```

Note: INEWS users can select RelInfo from the action bar to execute this command automatically.

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This publication is the result of a residency conducted at the International Technical Support Organization, Dallas Center.

Chapter 1. Introduction

This document is intended to share our experiences with the installation and administration of Lotus Notes** Release 4 in the cross-platform environment created by using different multiple operating system platforms. This book will not address application-specific issues. That topic is being covered in another redbook, *Developing Enterprise Applications with Lotus Notes 4.0, SG24-4618*. Instead, this publication will discuss our experiences working with the Lotus Notes Release 4.0 Beta code on as many platforms as were available to us.

1.1 What is Lotus Notes?

Lotus Notes is a software application which creates a workgroup computing environment that helps people work together more effectively. With Notes, people can work together regardless of software or hardware platform or technical, organizational, or geographical boundaries. Notes-based information can be shared across any distance, at any time.

Notes is also a client-server platform for developing and deploying groupware applications. The intent of Notes is to improve the business performance of people working together, by compressing the time needed to share information, and improving the quality of everyday business processes. At its most basic level, Lotus Notes is a document database, serving as a repository for both textual and other information, for example, images, presentations, spreadsheets. Lotus Notes provides the ability to distribute this information throughout an enterprise via replication, and yet offers the security necessary to allow only those users who need to see information to see it. In short, the intent of Lotus Notes is to improve "communication, coordination and collaboration" across any enterprise.

One of the aspects that makes Lotus Notes an appropriate platform for the enterprise is its cross-platform nature. A Lotus Notes server can run on PCs and RISC processors. It can run under OS/2*, Windows 95**, or Windows NT**, as a NetWare** NLM, or on several flavors of UNIX**, including IBM* AIX*, HP-UX**, and Sun Solaris**. The client runs on OS/2, Windows 3.1**, Windows NT and Windows 95, and Apple's System 7** Supported protocols, varying by platform, include various flavors of NetBIOS, TCP/IP, SPX, and AppleTalk** as well as asynchronous dial alternatives.

Notes consists of two primary components:

- Notes Server
 - Provides services to Notes workstation users and other Notes Servers, including storage and replication of shared databases and mail routing.
- Notes Workstation
 - Communicates with one or more Notes Servers, providing the interface that allows a Notes user to access shared databases, to read and to send mail.

The basic units of information in the Notes system are databases and the documents they contain. A database can be used by one person, for example, a mail file, it or can be shared among users throughout the organization who have

a common interest. Notes databases can be used for bulletin boards, reference manuals, and status tracking to name a few possible applications. Most databases in Notes reside on a Notes Server, however, they could also reside on an individual user's workstation.

1.2 What's New in Lotus Notes Release 4?

Lotus Notes Release 4 contains enhancements to address needs of many groups involved with Notes, including users, administrators, application developers, and managers. Specifically, the intent was to improve the user's satisfaction, by lessening the complexity, making the system more intuitive, and improving the mail interface and mobility support aspects. Another goal was to increase the value of Notes' applications, by providing more design capability and easier design facilities, and to lower the cost of ownership by improving the scalability and robustness, while lowering the requirements for training, support and administration.

There are lots of new features available in Notes Release 4. The workstation enhancements in Lotus Notes are significant in this release. They include a major redesign of the user interface and expanded capabilities for mobile users, powerful LotusScript** language, and so on.

1.3 System Requirements

Lotus Notes Release 4 provides a multi-platform workgroup computing environment. It supports the following operating systems and networking platforms.

1.3.1 Available Platforms

Table 1. Available Platforms for Lotus Notes Release 4

Platform	Notes Server Release 4	Notes Workstation Release 4
OS/2 Warp 3.0 (32-bit)	Yes	Yes
Windows NT (32-bit)	Yes	Yes
Windows 95 (32-bit)	Yes	Yes
Windows 3.1 (16-bit)	No	Yes
Macintosh**	No	Yes
UNIX	Yes	Yes

The following is an overview of the system requirements on different platforms. For additional, more detailed information, please see *Lotus Notes Release 4 Release Notes*.

1.3.2 OS/2 Warp 3.0 (32-bit)

Environment(s): OS/2 Warp 3.0 recommended.

Workstation: Yes

Server: Yes

Network protocols available on workstation:

- Banyan VINES**
- NetBIOS
- NetWare IPX/SPX**
- IBM TCP/IP
- FTP PC/TCP
- X.PC

Network protocols available on server:

- AppleTalk
- Banyan VINES
- NetBIOS
- NetWare IPX/SPX
- IBM TCP/IP
- X.PC

1.3.3 Windows NT (32-bit)

Environment(s): Windows NT Release 3.51

Workstation: Yes

Server: Yes

Network protocols available on server:

- AppleTalk
- Banyan VINES
- NetBIOS
- NetWare IPX/SPX
- TCP/IP
- X.PC

1.3.4 Windows 95 (32-bit)

Environment(s): Windows 95

Workstation: Yes

Server: Yes

Network protocols available on workstation:

- Banyan VINES
- NetBIOS
- NetWare IPX/SPX
- TCP/IP
- X.PC

Network protocols available on server:

- Banyan VINES
- NetBIOS
- NetWare IPX/SPX
- TCP/IP
- X.PC

1.3.5 Windows 3.1 (16-bit)

Environment(s): Windows 3.1 or Windows for Workgroups 3.11

Workstation: Yes

Server: No

Network protocols available on workstation:

- Banyan VINES
- NetBIOS
- NetWare IPX/SPX
- TCP/IP
- X.PC

1.3.6 Macintosh

Environment(s): Macintosh System 7

Workstation: Yes

Server: Yes

Network protocols available on workstation:

- AppleTalk
- MacTCP**

1.3.7 UNIX

Environment(s):

- IBM AIX 4.1.3
- HP-UX 10.01
- Sun SPARC Solaris 2.4

Workstation: Yes

Server: Yes

Network protocols available on workstation:

- NetWare IPX/SPX
- TCP/IP
- X.PC

Network protocols available on server:

- NetWare IPX/SPX
- TCP/IP
- X.PC

Chapter 2. Multiplatform Scenario

Lotus Notes Release 4 is workgroup software which can run on multiple hardware and software operating system platforms such as Windows NT, OS/2 Warp, UNIX, and Apple Macintosh.

In this chapter, we will describe the specifics of the scenario which we used throughout the rest of this book.

2.1 Physical Configuration

We installed both Lotus Notes Release 3 and Release 4 in a variety of operating system environments. Figure 1 shows our installation with the various names of our servers and clients and the operating system level and Lotus Notes Release level installed on each particular machine.

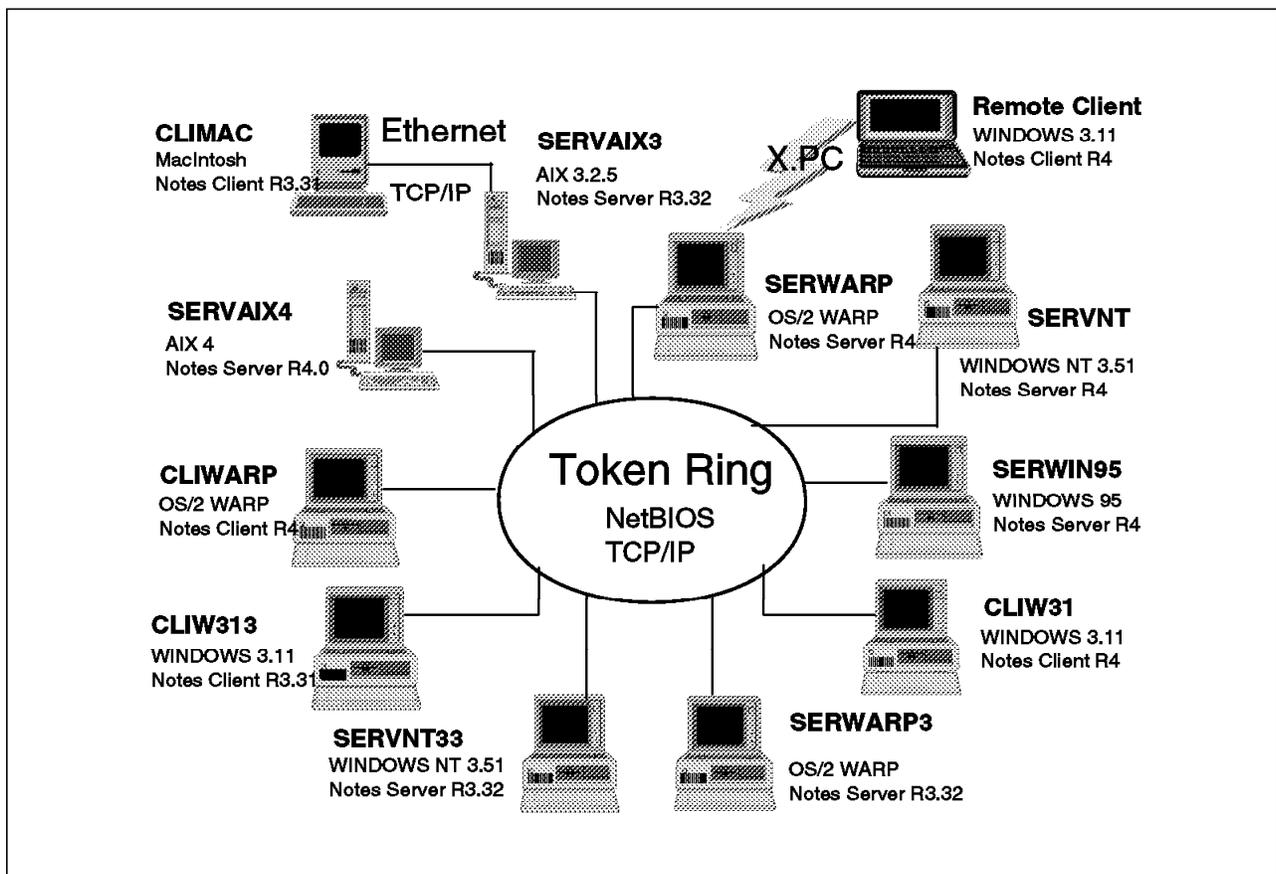


Figure 1. Network Configuration in Single Domain - ITSC_Dallas

The Multiplatform environment for our scenario contained:

- Notes Servers:
 - OS/2 Warp, Notes Release 4 server
 - Windows NT 3.51, Notes Release 4 server
 - Windows 95, Notes Release 4 server
 - AIX 4.1.3, Notes Release 4 server
 - OS/2 Warp, Notes Release 3.32 server
 - Windows NT, Notes Release 3.32 server
 - AIX 3.2.5, Notes Release 3.32 server
- Notes Workstations:
 - OS/2 Warp, Notes Release 4 workstation
 - Windows 3.1, Notes Release 4 workstation
 - Windows 95, Notes Release 4 workstation
 - Windows NT 3.51, Notes Release 4 workstation
 - Macintosh System 7.0, Notes Release 4 workstation
 - Windows 3.1, Notes Release 4 workstation (Remote)
 - Windows 3.1, Notes Release 3.31 workstation
 - Macintosh System 7.0, Notes Release 3.31 workstation

2.2 Overview of Scenario

Lotus Notes defines how Notes Servers connect to other systems, either to another Notes Server or to workstations. The Connection Document is located in the Name & Address Book. All the servers in one domain have the same Connection Document in their local Name & Address Book. The Connection Document defines the communication settings between servers. These communication settings define how Notes logically connects to each of the other servers. Figure 2 on page 7 is the logical overview of the connection definition for the ITSC_Dallas domain in our scenario.

For example, if server SERAIX3 wants to replicate a file from SERVNT33, it should first talk to SERWARP using TCP/IP. Then SERWARP talks to SERVNT via NetBIOS, and then SERVNT talks to SERVNT33 via NetBIOS.

Note: The Connection Document in a Notes workstation does not contain the connection settings between servers. It only contains the connection setting between Notes Servers and the workstation itself.

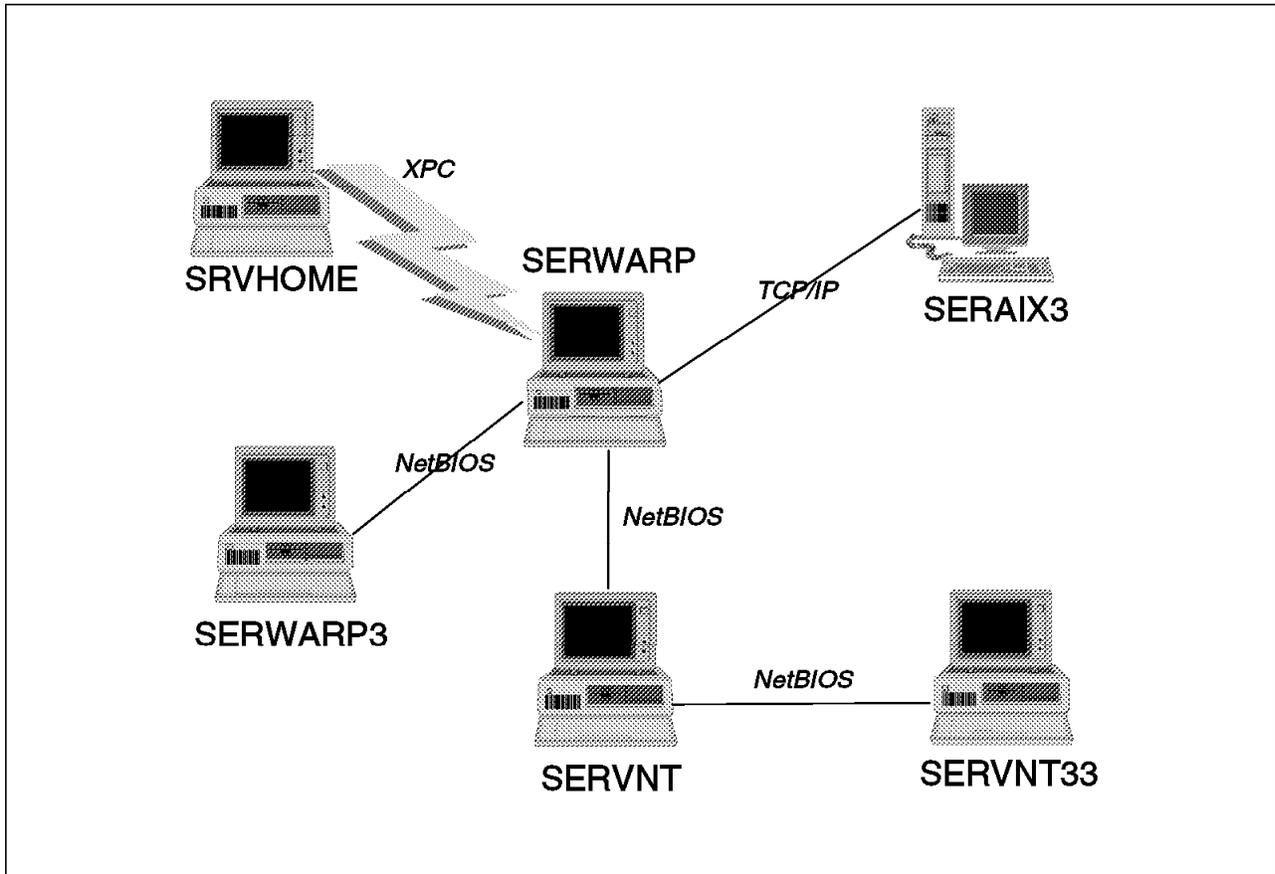


Figure 2. Logical Connection of Notes Servers in Our Scenario

2.3 Hardware and Software Environment for Our Scenario

The following tables contain the detailed information for the hardware and software in our scenario.

Table 2 (Page 1 of 2). Table of Server Machines

Machine Name	Hardware	Software
SERWARP	PS/2* Model 85	OS/2 Warp Connect 3.0
	28 MB RAM	Notes Server Release 4
	400 MB Hard Disk	IBM OS/2 LAN Requester 4
	IBM Token-Ring Adapter 4/16	IBM OS/2 TCP/IP 3.0
SERVNT	PS/2 Model 95 XP 486	Windows NT Server Release 3.51
	28 MB RAM	Notes Server Release 4
	315 MB Hard Disk	
	IBM Token-Ring Adapter 4/16	
SERWIN95	PS/2 Ultimedia M77/486	Windows 95
	32 MB RAM	Notes Server Release 4
	315 MB Hard Disk	
	IBM Token-Ring Adapter 4/16	

<i>Table 2 (Page 2 of 2). Table of Server Machines</i>		
Machine Name	Hardware	Software
SERWARP3	PS/2 Model 95 XP 486	OS/2 Warp Connect 3.0
	24 MB RAM	Notes Server Release 3.32
	315 MB Hard Disk	IBM OS/2 LAN Requester 4
	IBM Token-Ring Adapter 4/16	IBM OS/2 TCP/IP 3.0
SERVNT33	PS/2 Model 95XP 486	Windows NT Server Release 3.51
	20 MB RAM	Notes Server Release 3.32
	300 MB Hard Disk	
	IBM Token-Ring Adapter 4/16	
SERVAIX	RS/6000* Model 530	AIX 3.2.5
	20 MB RAM	Notes Server Release 3.31
	IBM Token-Ring Adapter	
	Ethernet Adapter	

<i>Table 3 (Page 1 of 2). Table of Workstation Machines</i>		
Machine Name	Hardware	Software
CLIWARP	PS/2 Model 95 XP 486	OS/2 Warp Connect 3.0
	28 MB RAM	Notes Workstation Release 4
	400 MB Hard Disk	IBM OS/2 LAN Requester 4
	IBM Token-Ring Adapter 4/16	IBM OS/2 TCP/IP 3.0
CLIW313	PS/2 Model 80/386	Windows 3.1
	12 MB RAM	Notes Workstation Release 3.31
	75 MB Hard Disk	
	IBM Token-Ring Adapter 4/16	
CLI95	PS/2 Model	Windows 80/386
	16 MB RAM	Notes Client Release 4
	75 MB Hard Disk	
	IBM Token Ring Adapter 4/16	
CLIW31	PS/2 Ultimedia M77/486	Windows 3.1
	16 MB RAM	Notes Workstation Release 4
	210 MB Hard Disk	
	IBM Token-Ring Adapter 4/16	
CLIMAC	Macintosh Quadra 700**	System 7
	20480 Kbyte	Notes Client Release 4
	79 MB Hard Disk	
	Ethernet Adapter	
Remote Client	PS/2 Server 95	Windows 3.1
	32 MB RAM	Notes Workstation Release 4
	420 MB Hard Disk	
	IBM 7855-10 Modem	

Table 3 (Page 2 of 2). Table of Workstation Machines

Machine Name	Hardware	Software
CLIMAC3	Macintosh Quadra 700	System 7
	20480 Kbyte	Notes Client Release 3.31
	108 MB Hard Disk	
	Ethernet Adapter	

Chapter 3. Installing Lotus Notes Release 4

This chapter describes the installation procedure of the Lotus Notes Servers and Workstations for our scenario which we outlined in the previous chapter.

We have installed four Notes Release 4 Servers, two Notes Release 3.32 Servers and several Notes Workstations as single domain "ITSC_Dallas."

The servers and workstations communicate with several protocols: NetBIOS, TCP/IP, and X.PC.

3.1 Installing Notes 4 Servers

This section describes the installation procedure of Lotus Notes 4 servers. We have four Lotus Notes Release 4 Servers as shown in the following table. These servers are connected physically in a token-ring network.

Table 4. Our Lotus Notes Release 4 Servers

Platform	Server Name	NetBIOS Name	TCP/IP Hostname
OS/2 Warp Connect (Primary server)	SERWARP (SERWARP/ITSC_Dallas)	SERWARP	serwarp (serwarp.dfw.ibm.com)
Windows NT Server	SERVNT (SERVNT/ITSC_Dallas)	SERVNT	servnt (servnt.dfw.ibm.com)
Windows 95	SERWIN95 (SERWIN95/ITSC_Dallas)	SERWIN95	serwin95 (serwin95.dfw.ibm.com)
AIX 4.1	SERVAIX (SERVAIX/ITSC_Dallas)	SERVAIX	servaix (servaix.dfw.ibm.com)

3.1.1 Determining Server Name

Notes allows you to choose the server name with great flexibility. The Notes Server name must be up to 79 characters, consisting of letters, numbers, spaces, and some special characters (the first 15 characters must be unique). Otherwise, for easier administration, you should keep the name short, such as up to 8 characters, without any special characters.

For determining the server name, you must consider how the Notes workstation looks up a Notes Server. Please read section 4.6.3, "How a Workstation Looks Up Servers" on page 104 for details. In particular, the workstation must be able to locate its home server.

We recommend that you make the Notes Server name the same as the machine's network name. That is, the server name should be the same as the TCP/IP hostname and/or the Requester name of the LAN Requester, and so on. This consideration eases your task of network management. In addition, the network performance gets better because the conversation to the name server is no longer needed.

3.1.2 Installing OS/2 Warp Server as Primary Server

We chose *OS/2 Warp Connect* as the platform of our primary server. The server name is SERWARP/ITSC_Dallas and the network configuration is outlined in Figure 3.

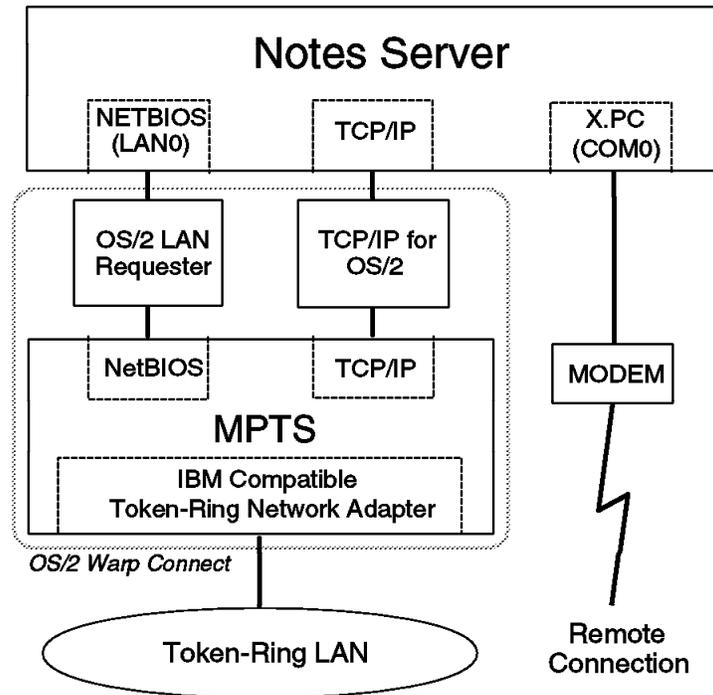


Figure 3. OS/2 Warp Server SERWARP Configuration

3.1.2.1 OS/2 Warp Connect

OS/2 Warp Connect includes some networking components required for our scenario, namely, LAN Requester 4, and IBM TCP/IP for OS/2 3.0. The X.PC protocol is a part of Lotus Notes itself.

Install OS/2 Warp Connect as per the instructions in the Users' Guide. You should choose appropriate network components. We have selected:

- LAN Requester
- TCP/IP for OS/2

3.1.2.2 OS/2 Warp Server Running on NetBIOS with LAN Requester

To run Notes on NetBIOS, LAN Server is not required. Only LAN Requester is needed for both the Notes server and Notes workstation. To start LAN Requester, type:

```
NET START REQ
```

in an OS/2 Window. If you want to know whether the requester is running or not, just type:

```
NET START
```

On our computer, LAN requester starts automatically when OS/2 is started up. For your information, this is the STARTUP.CMD file for our machine:

```
NET START REQ
@if errorlevel 2 C:\IBMLAN\NETPROG\1serr.exe
@EXIT
```

These three lines are created by the install program of OS/2 Warp Connect.

3.1.2.3 Installing OS/2 Server

To run the Notes Server on your computer, you must complete the server installation program and the server setup program.

The installation process is shown as below:

1. Insert the media for Lotus Notes into your computer. If you are installing from a file server, find the location of the file server that contains the Notes program files.
2. Locate the install program for OS/2 Warp, named INSTPM.EXE. Start INSTPM in an OS/2 Window.

For example, if you are installing Notes from CD-ROM in drive R: and program is on \OS2\SERVER directory of the CD-ROM, type:

```
R:\OS2\SERVER\INSTPM
```

and press Enter.

3. On the *Installation Method* panel (Figure 4), you must select an installation method. The install program offers three installation methods:
 - Standard installation - Local workstation
 - Server installation - Local workstation
 - Shared installation - Network server

This is the first server and we have no network server, therefore, we selected **Server installation - Local workstation** and clicked **OK**.



Figure 4. Selecting Installation Method

4. On the next panel, Figure 5 on page 14, read the Instructions and click **Continue**.

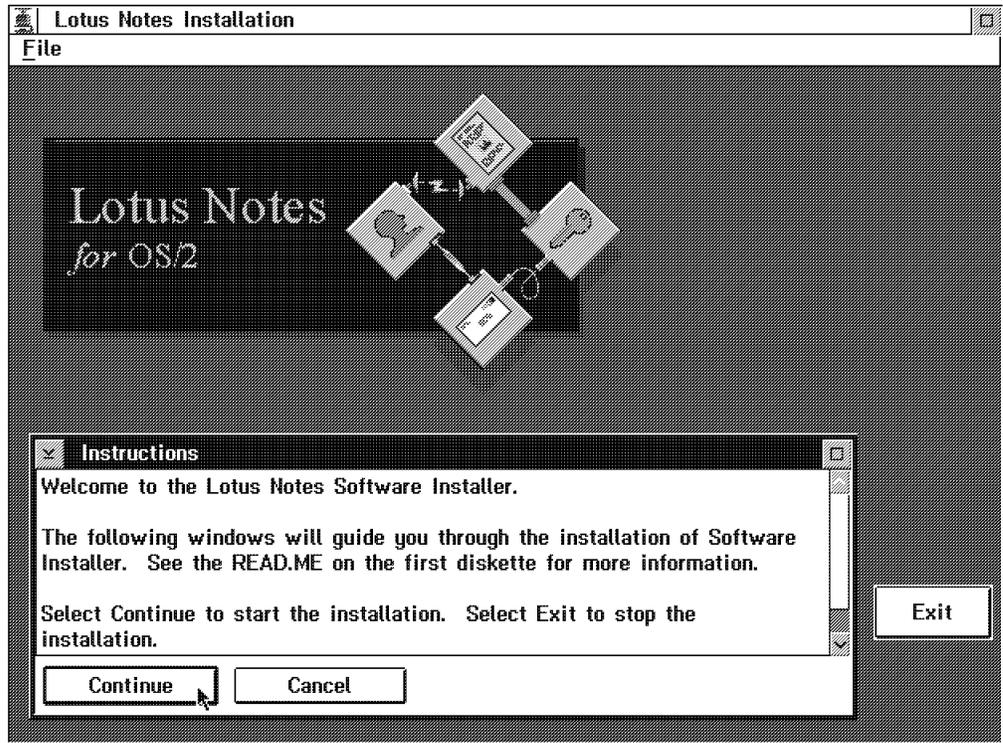


Figure 5. Notes Installer Instructions

5. On the Install panel, as shown in Figure 6, you can see the product's version, and so on. Select **Update CONFIG.SYS** and click **OK**.

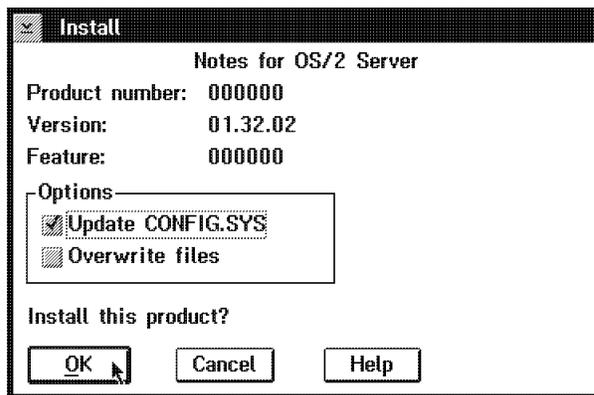


Figure 6. Starting the Installation

The install program will edit CONFIG.SYS to change the PATH and LIBPATH statements and add the Notes directory to the path. For safety's sake, you should *not* select Overwrite files.

6. On the next panel, Install - directories, as shown in Figure 7 on page 15, choose the components you want to install.

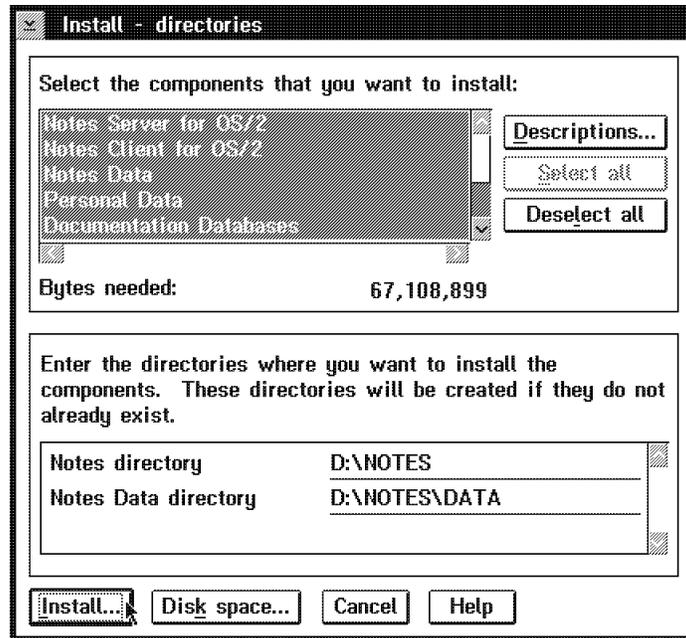


Figure 7. Selecting Components and Directories

- a. The install program lets you choose which of the following components you want to install:

- Lotus Notes Server for OS/2 (must install for the server)
- Lotus Notes Client for OS/2 (must install for the server)
- Documentation Databases
- Notes Full Help
- Notes Help-Lite
- Lotus Notes Data (must install for the server)
- Optional Notes Templates

Other items may be selected as you want.

For the first Notes Server, we recommend you install all components if your computer has enough disk space. We have selected all of the components. If you want to install all of the components, click **Select all**.

You must, at a minimum, select **Lotus Notes Server for OS/2**, **Lotus Notes Client for OS/2**, and **Lotus Notes Data** if you are installing a Notes Server.

- b. Enter a drive and directory where you want the program files and the data files to reside. By default, the install program installs Notes program files into C:\NOTES and data files into C:\NOTES\DATA. You should keep your program files and data files in a separate directory.

If you are not sure whether there is enough disk space or not, click **Disk space** on the Install - directories panel to confirm that you have enough disk space. You may change the drive if necessary, see Figure 8 on page 16. Click **OK** or **Cancel** to return the previous panel.

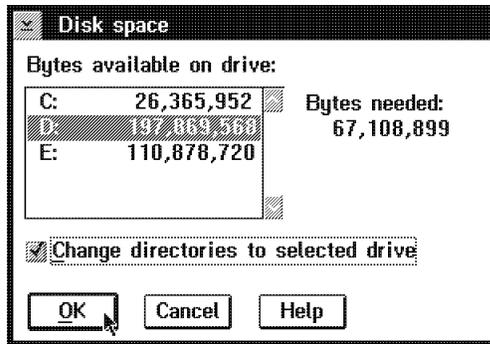


Figure 8. Disk Space Confirmation

Confirm your choice of the components and the destination directory. Click **Install** on the Install - directories panel.

- The panel Install - progress appears and it shows the amount of installation which has been completed. See Figure 9.

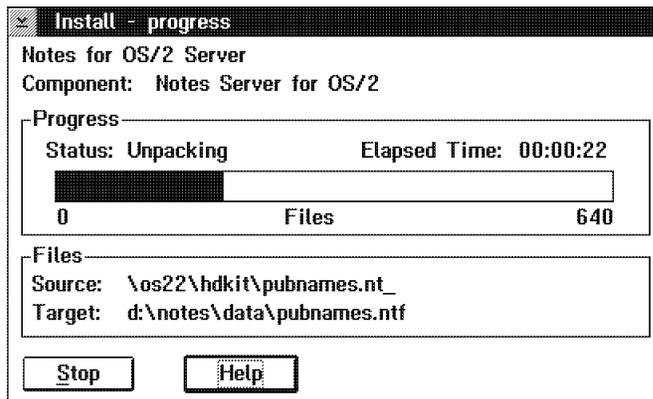


Figure 9. Installation in Progress

- When all files have been copied to the machine, the next panel, Figure 10 will appear.

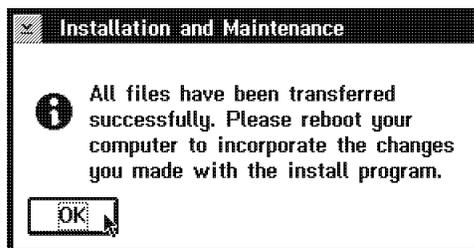


Figure 10. Install Program Completed

To exit the install program, click **OK** on that panel and click **Exit** on the Lotus Notes Installation panel, Figure 11 on page 17.

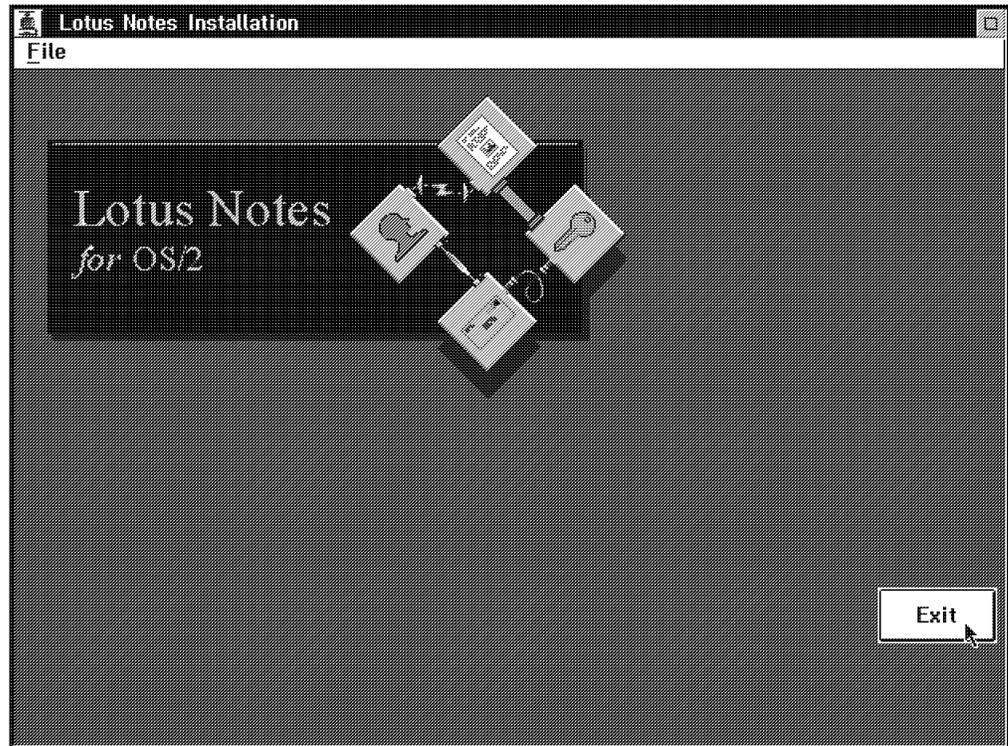


Figure 11. Exit from Notes Install Program

9. You can now find the icons, named Lotus Notes Workstation and Lotus Notes Server (Figure 12) on your desktop. The icons may be placed in the Lotus Applications folder.

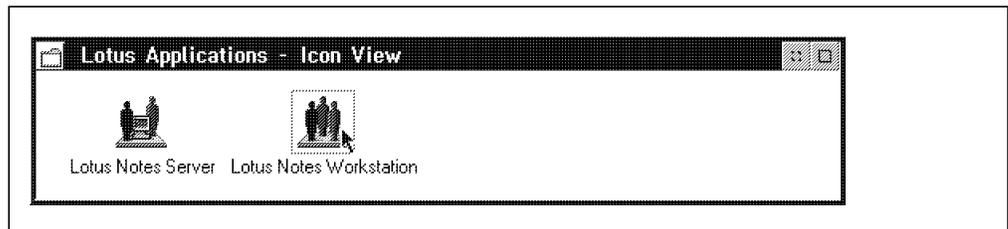


Figure 12. Lotus Notes Icons

10. Shut down the OS/2 system and re-start it. Now you are ready to start the Lotus Notes Server setup program.

3.1.2.4 Setting Up OS/2 Server

Before starting the Notes Server, you must complete the server setup program.

1. To start the server setup program, double-click on the Lotus Notes Workstation icon. The first time you double-click the Notes Workstation icon, the server setup program starts automatically.
2. Notes Workspace opens in your computer's display and then the panel shown in Figure 13 on page 18 appears. Select **The first Lotus Notes Server in your organization** and click **OK**.

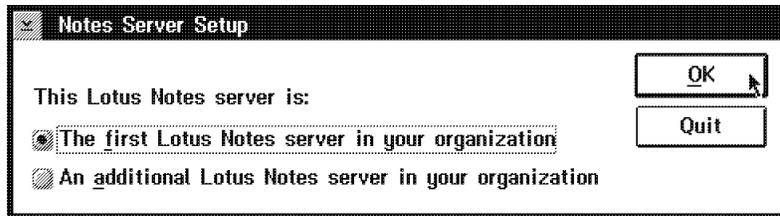


Figure 13. Starting Notes Server Setup Program

If you are redoing the setup because of any errors or accidents and you don't see this panel, you must redo the setup again. Refer to the box labeled Redoing the Server Setup on page 21.

3. On the First Server Setup panel (Figure 14) enter the information for this server installation. This information is referred to often and will be used until this system's life terminates, therefore, you must fill in these fields very carefully.

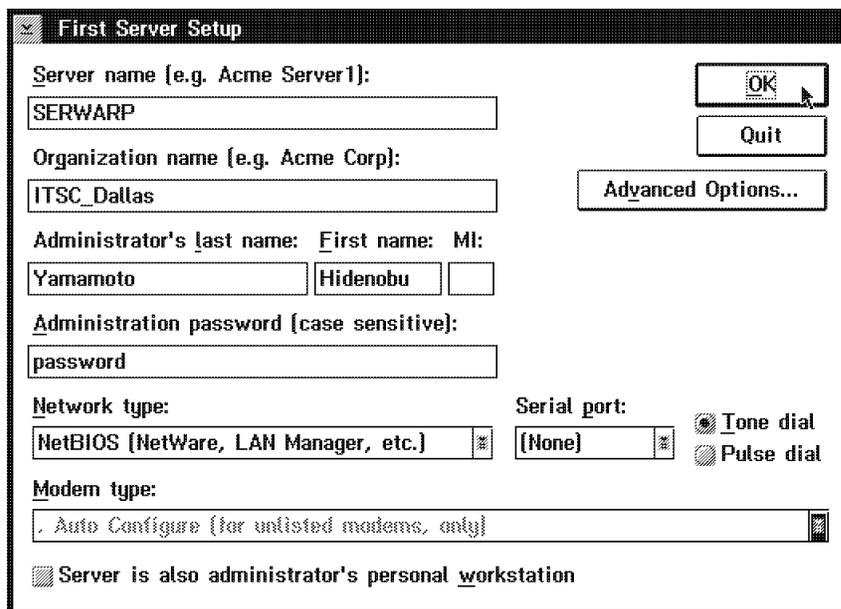


Figure 14. First Server Setup Parameter

- a. Enter the name of your Notes Server in the Server name box.
- b. Enter the name of your organization in the Organization name box.
- c. Enter the name of your server's administrator in the Administrator's last name, First name, and MI (Middle Initial) boxes.
- d. Enter the password in the Administration password box. The password is case-sensitive and consists of between 8 and 31 characters of letters, spaces, and numbers. (If you select Advanced Options, you can change the minimum number of characters allowed for a password to be less than 8).
- e. Select the network protocol in the Network type box.

If you want to install two or more protocols, install any one of those in this panel. After the completion of the setup program, you should add other protocol(s). We selected NetBIOS at this point and added TCP/IP and X.PC after the server setup had completed. Please refer to section

4.6, "Networking" on page 93 and section 4.8, "Remote Connection" on page 124 for details on the installation of additional protocols.

- f. If the server uses a modem, select a port in the Serial port box, select **Tone dial** or **Pulse dial**, and select the type of modem in Modem type box.
- g. Then, you should click **Advanced Options...** and confirm the contents of the Advanced Server Setup Options panel. See Figure 15. On this panel, three items must be selected:

- Create Organization Certifier ID**
- Create Server ID**
- Create Administrator ID**

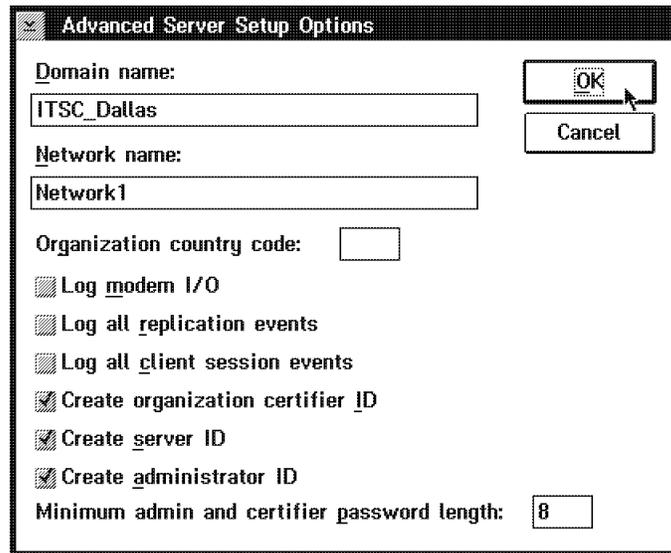


Figure 15. Advanced Server Setup Options

Click **OK** to go back to the previous panel.

- h. Click **OK** to exit the First Server Setup panel.

- 4. Select a time zone from the Time Zone box on the Time Zone Setup panel, Figure 16. If appropriate, check the Observe Daylight Savings Time box and click **OK**.

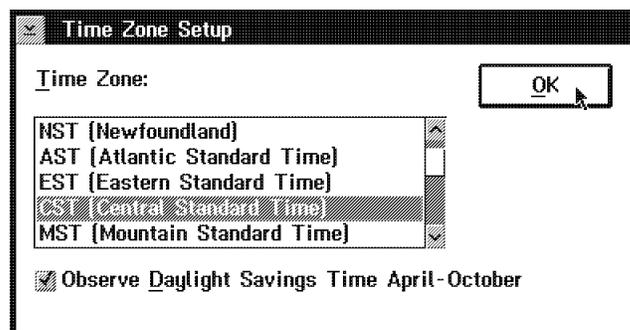


Figure 16. Time Zone Setup

- 5. It takes several minutes to create the ID files and set up the environment.

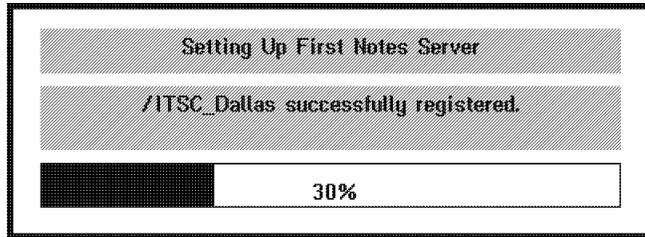


Figure 17. Setting Up First Notes Server

6. When the server setup program is completed, the panel (Figure 18) appears. Click **OK** on the panel to exit the program.

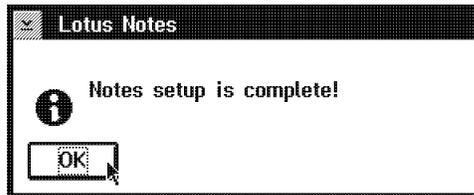


Figure 18. Notes Setup Program Completed

The workspace of Lotus Notes is shown in Figure 19.

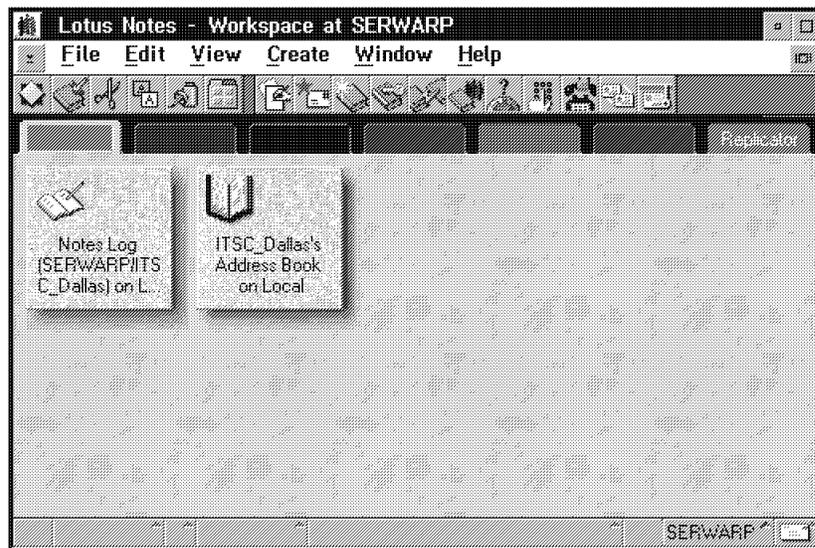


Figure 19. Lotus Notes Workspace

7. After setting up the Lotus Notes Server, if appropriate you should:
 - Add network protocol(s)
 - Register user(s)

If you want to install multiple servers, you must register an additional server before the installation of the additional servers. For details of these operations, see Chapter 4, "Administration" on page 59.

Redoing the Server Setup

To redo the server setup, follow this procedure to start the server setup program again:

1. Choose **File - Exit** to exit Notes.
2. Use a text editor to open the NOTES.INI file. For example, type
E C:\NOTES\DATA\NOTES.INI
on an OS/2 Window to invoke the OS/2 System Editor (E.EXE).
3. Delete all lines in the file except the lines beginning with [Notes], KitType, and Directory. As a result of this, for example, the NOTES.INI will be:

```
[Notes]
KitType=2
Directory=C:\NOTES\DATA
```

Note: In case of the workstation setup, KitType parameter must be 1 ("KitType=1").
4. If you want to redo the setup from scratch, remove the DESKTOP.DSK, CERT.ID, SERVER.ID, USER.ID (if any), LOG.NSF, and NAMES.NSF files from the Notes data directory.
5. Double-click the Notes Workstation icon to start the server setup program.

3.1.3 Installing Notes 4 Server for Windows NT

We chose *Windows NT Server 3.51* as the platform for one of our additional servers. Windows NT Server includes networking components required for our scenario. We have chosen the following Network options: NetBEUI protocol and Microsoft TCP/IP for Windows NT. You must install the NetBEUI protocol if your computer communicates with other computers on an existing network that uses NetBEUI with Windows for Workgroups 3.11 or LAN Manager. X.PC protocol is a part of Lotus Notes itself.

3.1.3.1 Installing Windows NT Server Release 3.51

Install Windows NT Server Release 3.51 as the users' guide directs. You should choose appropriate network software. We chose the following software components:

- Computer Browser
- IBM Token-Ring Adapter Driver
- NetBEUI Protocol
- NetBIOS Interface
- Server
- Workstation

3.1.3.2 Installing Windows NT Server as Additional Server

The installation procedure is the same for a primary or for an additional server. In our configuration this Windows NT Server is an additional Notes Server.

To install any Notes Servers on a Windows NT machine do the following:

1. Put the Lotus Notes programs media in the required drive (CD-ROM or diskette) of your computer. If you are installing from a file server, find the location of the Lotus Notes install files on the file server.
2. Choose **File - Run** from the Program Manager menu and type drive:\directory\install and press Enter (Figure 20).

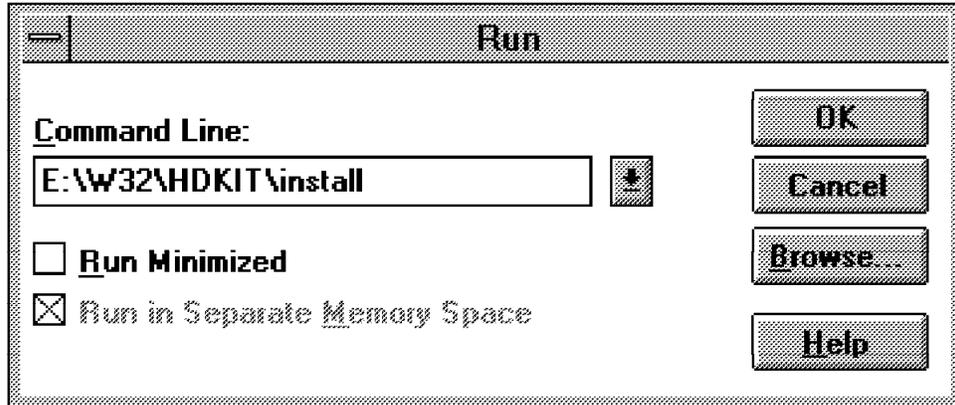


Figure 20. Notes Install Program

3. The Welcome screen as shown in Figure 21 appears on your screen. The installation program copies its temporary files to your hard disk and asks your name and the company name. Enter this information and click **Next**.

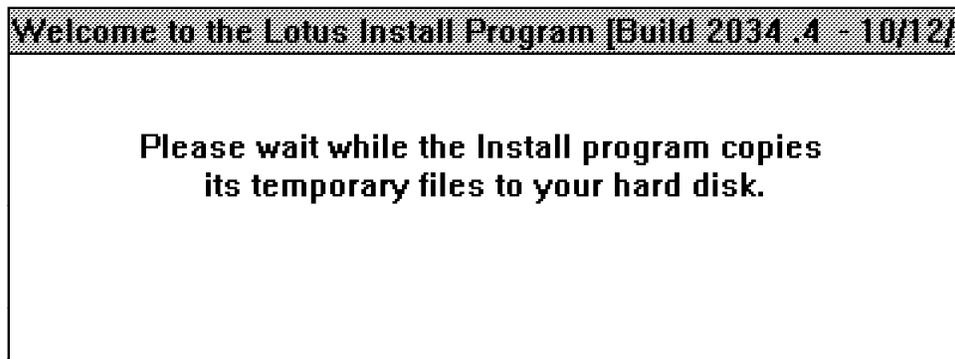


Figure 21. Welcome

4. Confirm your name and the company name, and click **Yes**. See the following figure, Figure 22.

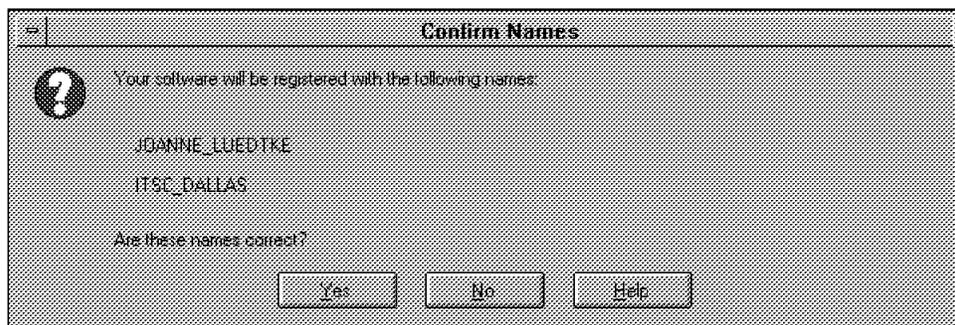


Figure 22. Confirm User Names

5. The install program offers three installation methods:
 - a. Standard install - Choose this option if you are installing a Notes Workstation on your computer.
 - b. Server install - Chose this option for automatic installation of a Server.
 - c. Customize features - Manual install.

We have chosen the Customize features - Manual install.

6. Chose a drive and directory where you want the program files and data files to reside. By default, the install program installs Notes program files into C:\NOTES and data files into C:\NOTES\DATA. See Figure 23. You should keep your program files and data files in a separate directory.

If you are not sure whether there is enough disk space or not, use the browse button. You may change the drive if necessary.

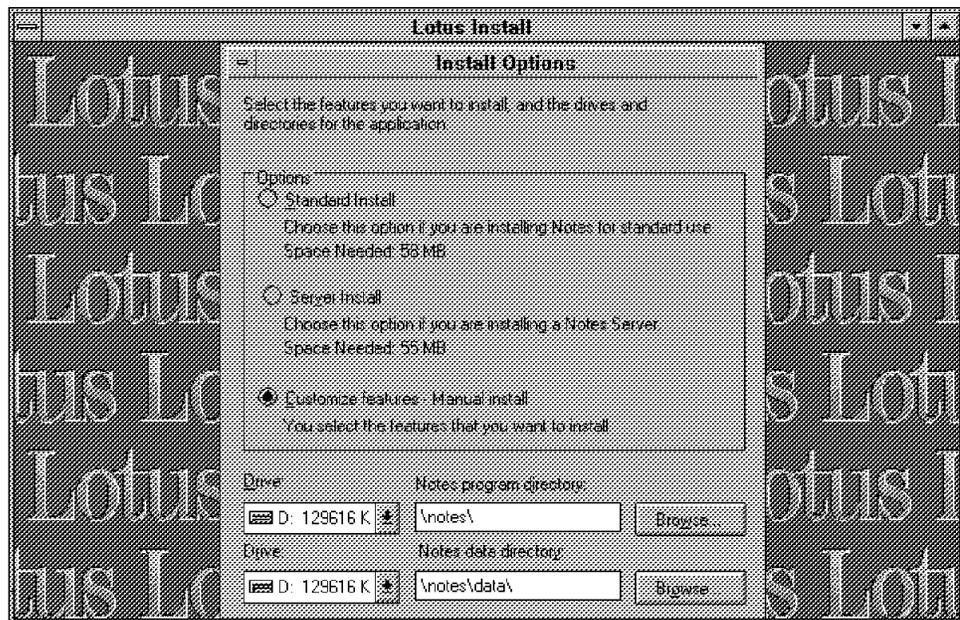


Figure 23. Install Options (Windows NT)

7. You must customize your new Notes Server. Choose which Notes components you want to use.

The install program lets you choose the following components to install. See Figure 24 on page 24.

- Notes Client and Required Program data files (must install)
- Notes Server and Required Server data files (must install)
- Personal Data files (must install)
- Template application files
- Documentation databases
- Notes Release 4 Help database
- Notes Help-Lite database
- Attachment Viewer

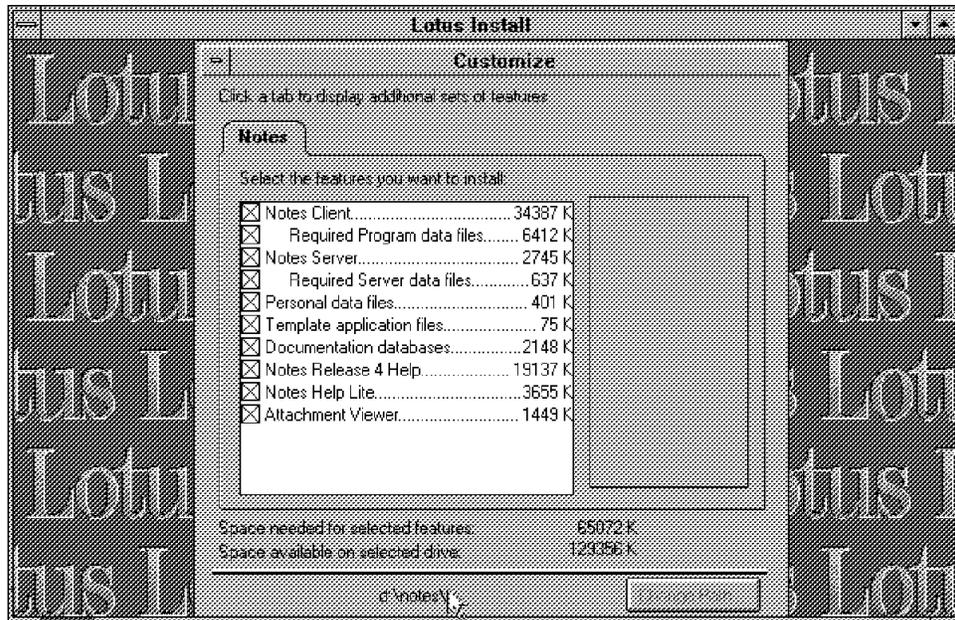


Figure 24. Customize the Windows NT Server

You must select the following components: **Notes Client and required program data files, Server Program and required server data files** and **Personal data files**. Other components may be selected as you like. Normally you can access the help files every time from another server. This server is an additional one.

8. Select the program group for the Notes Workstation icon and the Notes Server icon, or type a name to create a new program group as shown in Figure 25 on page 25.

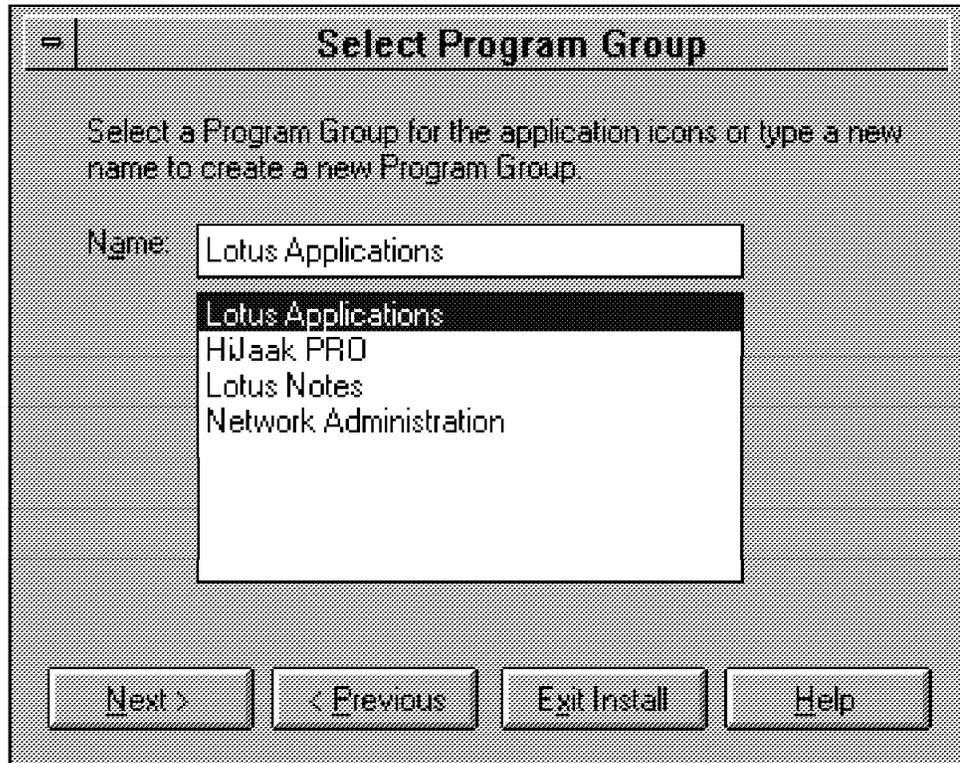


Figure 25. Select Program Group

9. Click **Yes** to begin copying files to your hard disk.

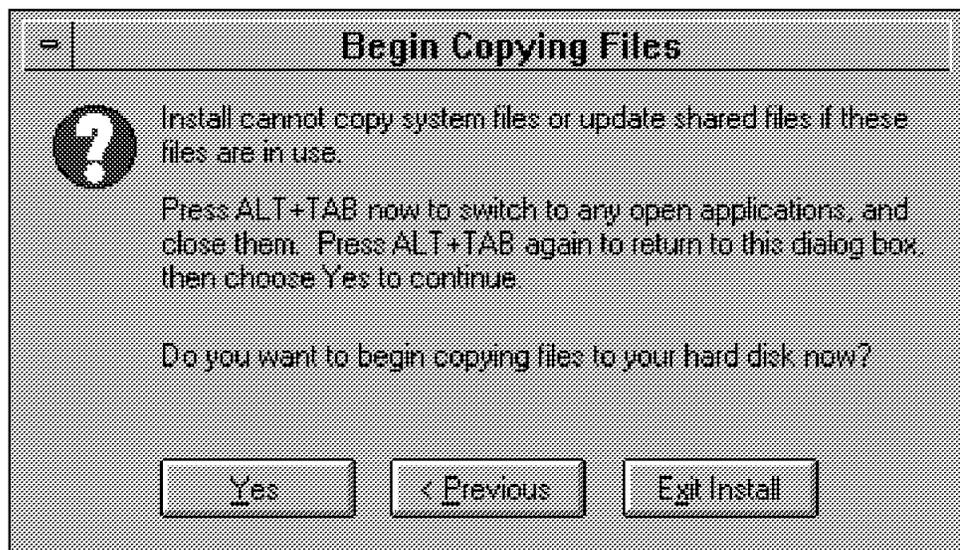


Figure 26. Begin Copying Files

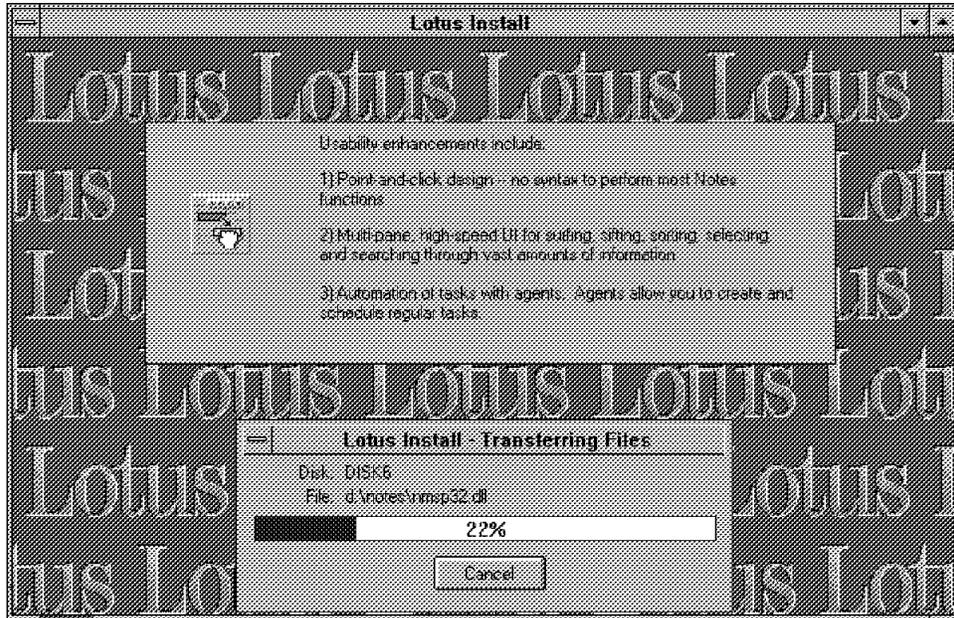


Figure 27. Transferring Files

10. Once you have successfully installed the Notes Client and Server program, the installation program places the Lotus Notes Server and Lotus Notes icon on your desktop.

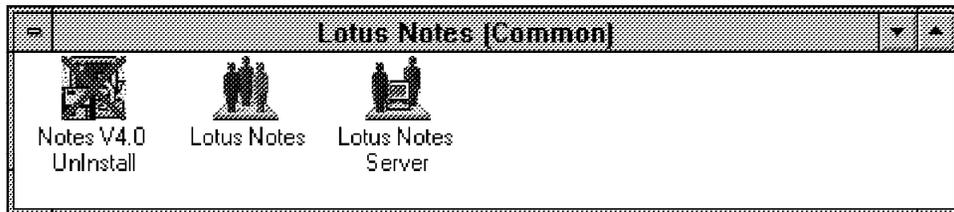


Figure 28. Lotus Notes Icons (Windows NT)

11. Click **Done** when the installation is complete.

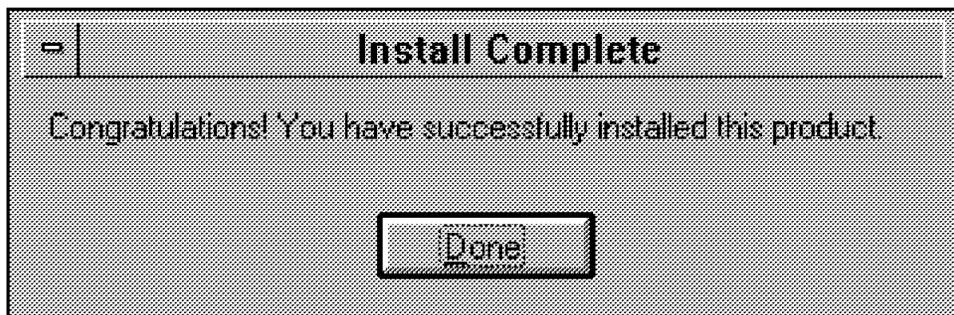


Figure 29. Install Complete

Before you setup any additional server you must register each server using the Certifier ID, named CERT.ID which was created during the first server setup. You must have access to the server and at least author access in the Name & Address book.

After installing Notes on Windows NT server, and registering the additional Notes Server on your network, double-click Lotus Notes Workstation icon and you can start the setup process.

3.1.3.3 Setting Up the Additional Windows NT Server

You have to register and install the Notes software on your additional server machine before you can run the Notes Server Setup program.

The registration process creates a Server Document in the Domains' Public Name & Address book, and creates a Server ID as an attachment to the Server Document.

The registration server must be available on the network. When you register a new server, Notes creates a Server ID for the new server, SERVER.ID, places it in the data files' directory, and certifies it with the Certifier ID. It also creates a Notes Server Document and adds the server to the LocalDomainServers group in the Name & Address book.

When you run the Setup Program on an additional server, Notes connects to the server that has the domain's Name & Address Book, replicates that Names & Address Book to the new server and retrieves the SERVER.ID from the Names & Address Book. Your system administrator could also give you the SERVER.ID file on a diskette.

This server must be available on the network and you must have access to the server and to the Name & Address Book.

Click the Lotus Notes icon.

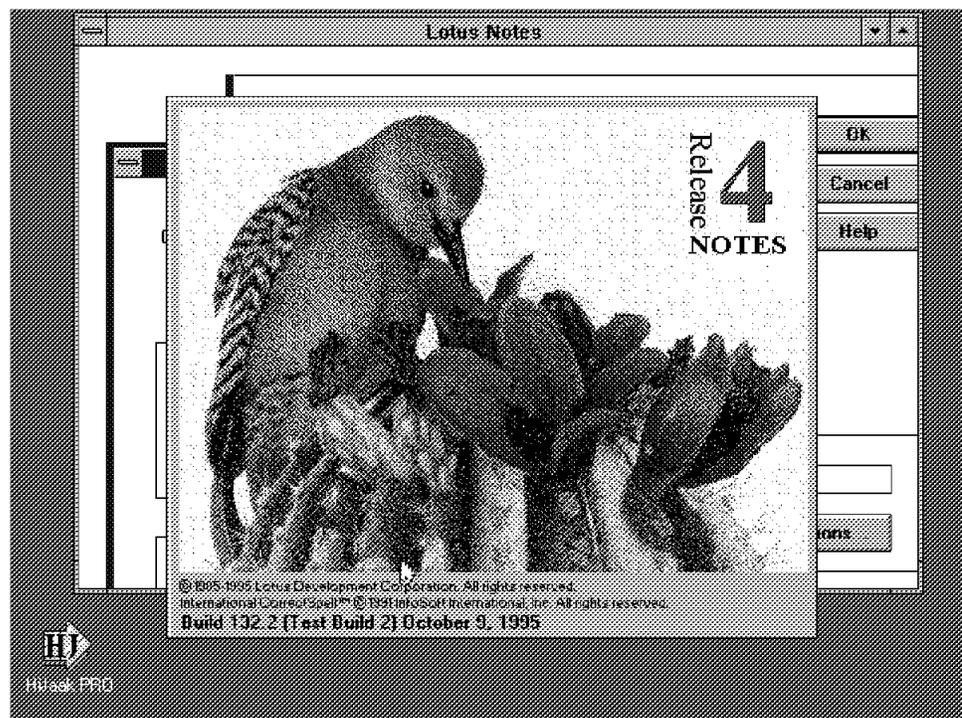


Figure 30. Notes Release 4

Do the following:

1. In Figure 31, select **An additional Notes Server in your organization** and click **OK**.

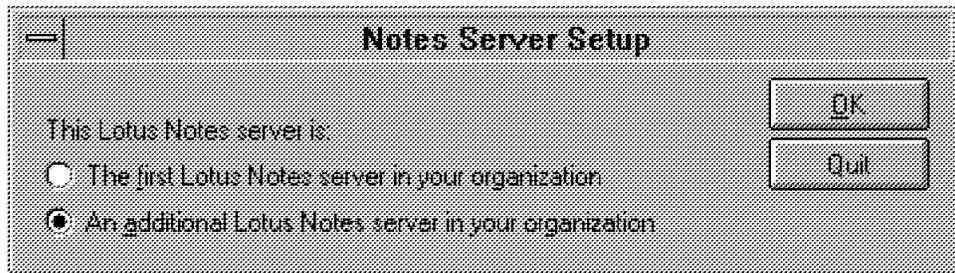


Figure 31. Additional Server

2. Enter the new server name as it was defined in the registration procedure. You can find this server name in the Name and Address Book. Enter the name of a server that is available and contains a copy of the domain's Public Name & Address Book. See Figure 32.
3. Select the port (network or serial) to indicate how the server will communicate with the server that contains the Names and Address Book. Select the network protocol that the server uses in the Network type box. If the network is installed and set up, it will automatically appear in the Network type field as shown in Figure 32.

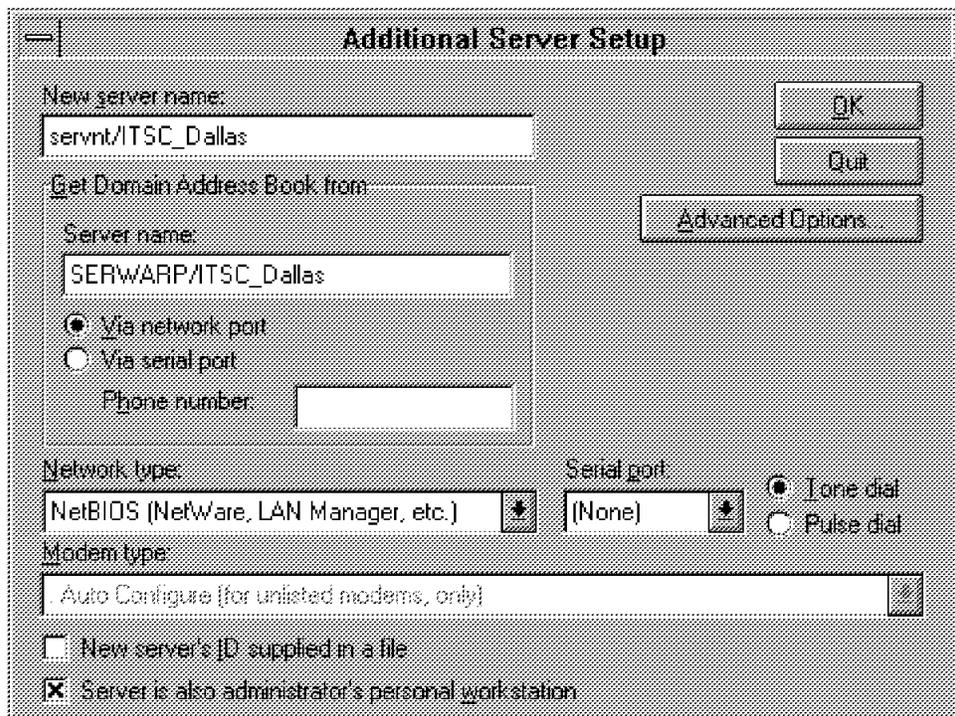


Figure 32. Additional Server Setup

For recording the server activity you can optionally click Advanced options to select one of the following log options as shown in Figure 33 on page 29:

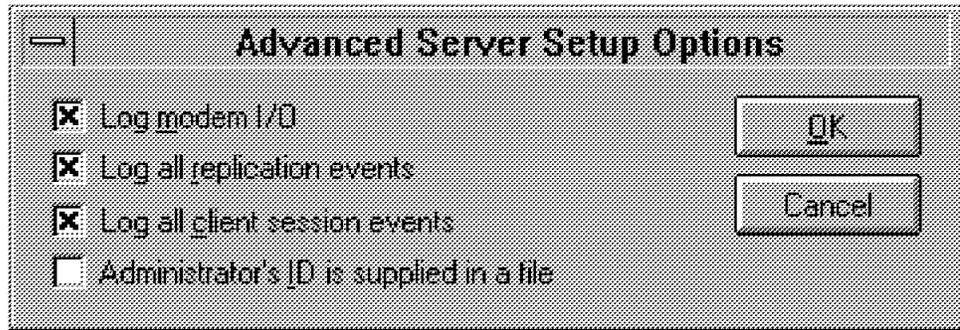


Figure 33. Advanced Server Options

- a. Log Modem I/O to monitor modem responses
- b. Log All Replication Events
- c. Log All Client Session Events

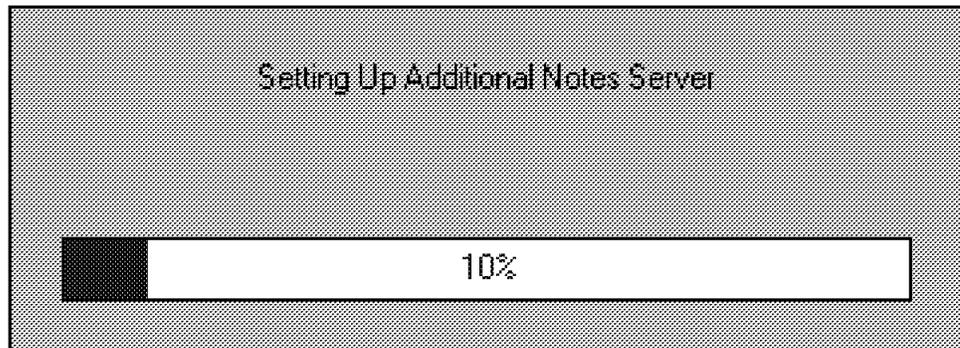


Figure 34. Setup Running

- 4. Enter the password for the new server that is registered in the domain's Public Name & Address Book.

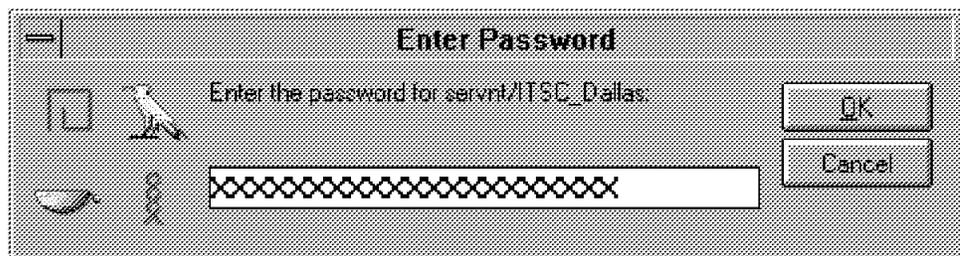


Figure 35. Password for Server

- 5. Select a time zone. If appropriate also check "Observe Daylight Saving Time April-October". This option may not work properly outside of North America.

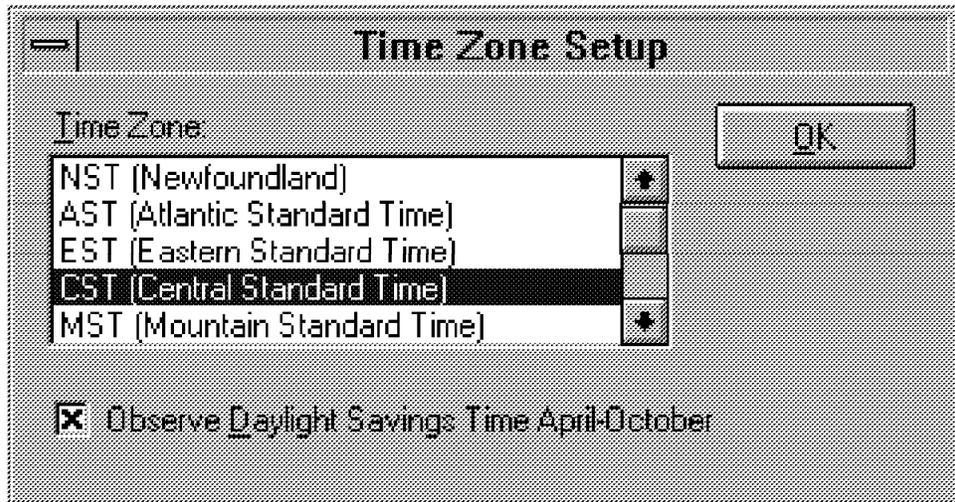


Figure 36. Time Zone Setup

6. Click **OK** when Notes setup is complete.

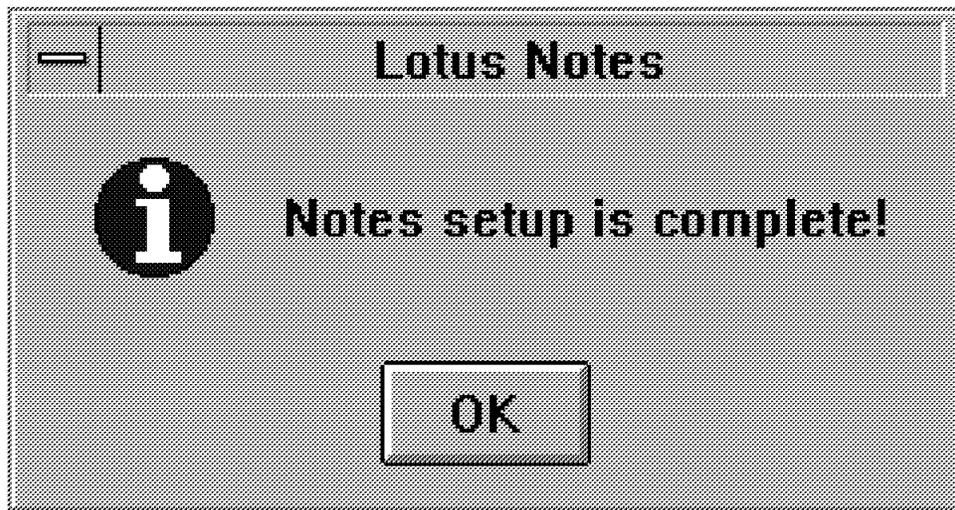


Figure 37. Setup is OK

If you have difficulties starting the setup program, you must verify that the NetBIOS port unit number in Notes corresponds to the Lana number of the NetBIOS that you want Notes to use.

Go back to the Network Setting Control Panel. Choose **NetBIOS Interface**.

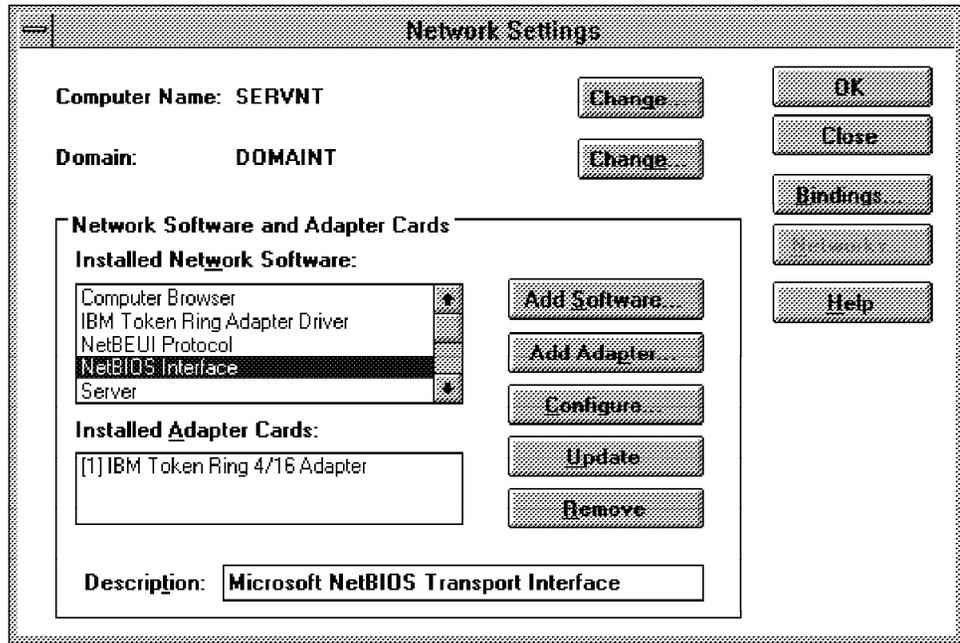


Figure 38. Network Setting

Click on the **Configure** button. You should now see the NetBIOS Interface window. The numbers in the left hand side of the drop down list box indicates the Lana number.

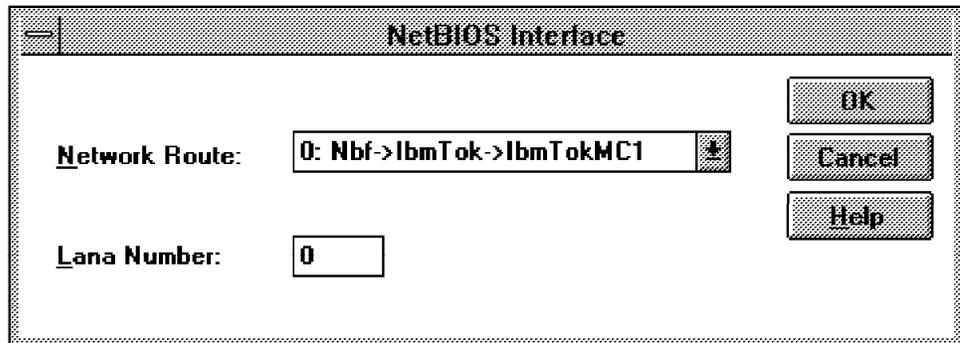


Figure 39. NetBIOS Interface Windows

When you choose NetBIOS as your protocol during the installation of a Notes Server, you cannot select a specific unit number. The NetBIOS port is automatically assigned a unit number of 0. When you want use your Notes Server for Windows NT you should check that the unit number of the NetBIOS port is really set to 0.

Redoing the Server Setup

To start or restart the Server Setup Program, be sure that your machine has no NOTES.INI file in your paths, or that all the lines are erased from this NOTES.INI file except the first two lines.

Note: You find the NOTES.INI file on a Windows NT server in the WINNT35 library.

To redo the server setup, follow the procedure described in box called Redoing the Server Setup on page 21

3.1.4 Installing Notes 4 Server for Windows 95

Lotus Notes Release 4 Server code is the same code for Windows NT and for Windows 95 - the Win-32bit code. Notes Server for Windows 95 has the same installation and setup procedure with the Notes Server for Windows NT. See section 3.1.3, "Installing Notes 4 Server for Windows NT" on page 21 for the detail.

The difference is that in Figure 25 on page 25, Windows NT calls the location of the application icon a *Program Group* and Windows 95 calls it a *Folder*.

If you failed in setting up a Notes Server Release 4 for Windows 95, the problem was probably a network error. Check your system network configurations. Be sure that the network has no problems. To get more information about running Notes and Network Protocols on Windows 95, see the online *Notes Administration Help* database.

In our scenario, the Windows 95 machine uses an IBM Token-Ring 4/16MB Adapter as the Network Adapter, NetBIOS as the default network protocol to talk the network, and the TCP/IP protocol is also configured. The following steps show how to set the network configuration for Windows 95 in our scenario.

1. Open the Start menu and choose **Settings, Control Panel**.
2. Double click the Network icon in the Control Panel. The network dialog box appears as shown in the Figure 40 on page 33.

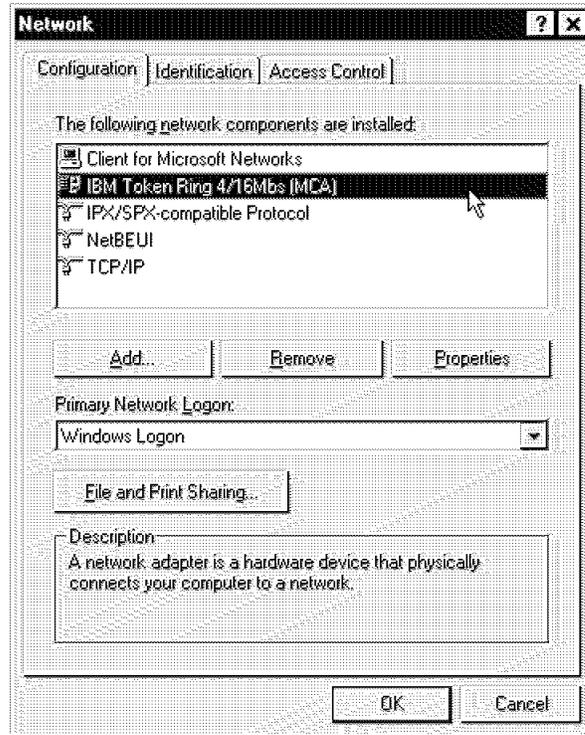


Figure 40. Network Setting Dialog Box for Windows 95

3. At the Configuration tab, you can add or remove network components, or customize the properties of the component. There are four kinds of component types: such as client, adapter, protocol and services.

We first set up the NetBIOS configuration and set up NetBEUI as the default network protocol.

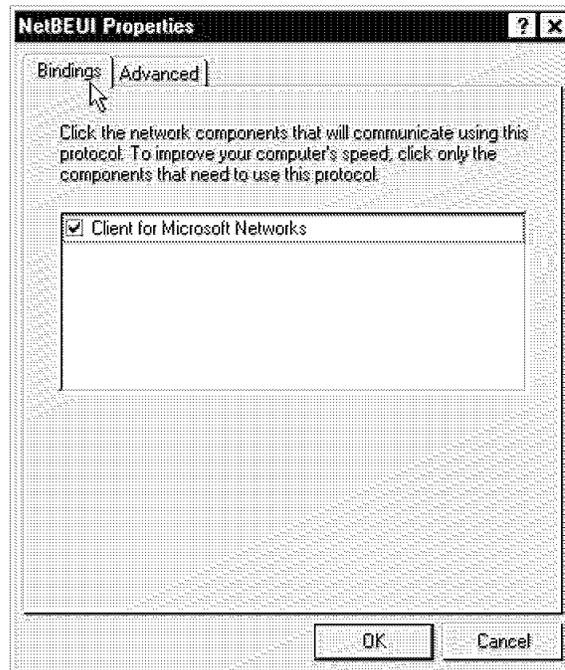


Figure 41. NetBEUI Properties - Bindings (Windows 95)

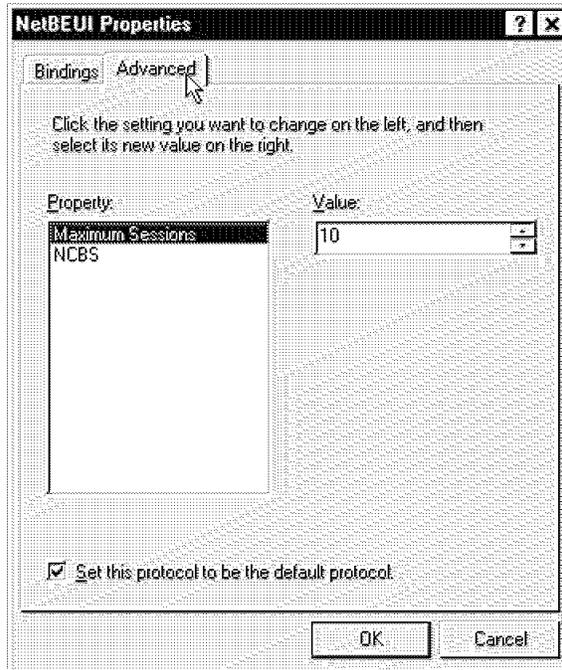


Figure 42. NetBEUI Properties - Advanced (Windows 95)

4. TCP/IP is another network protocol used in Windows 95 in our scenario. We configured it as shown in Figure 43 and Figure 44 on page 35.

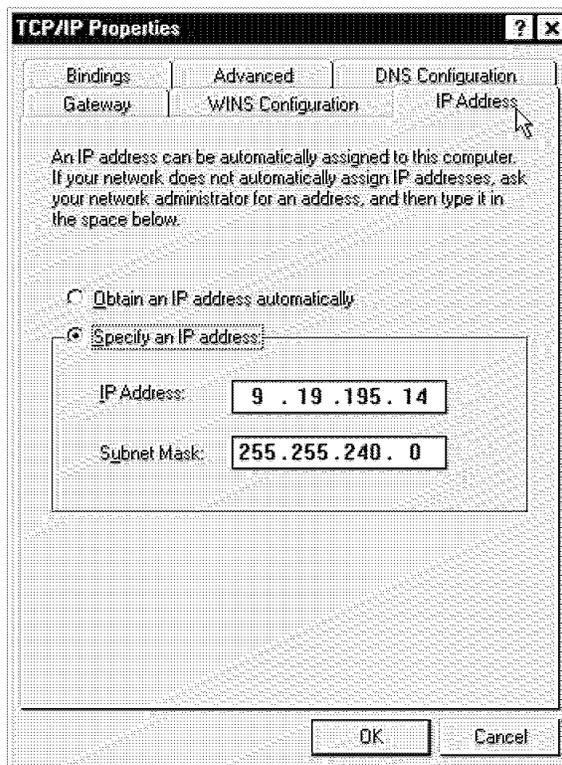


Figure 43. TCP/IP Properties - IP Address (Windows 95)

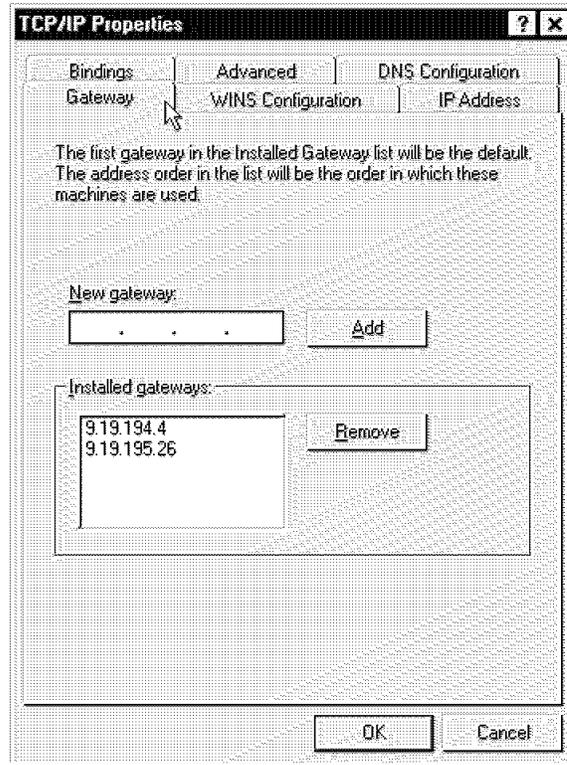


Figure 44. TCP/IP Properties - Gateway (Windows 95)

3.2 Installing Workstations

This section describes the installation procedures of our Notes workstations on several platforms.

There are two steps to installing notes workstations - installing and setting up. There are some differences between each platforms in the installation. On the other hand, the setting up procedure is the same, regardless of the platform.

First we will explain the common setup procedure and then we will talk about the installation of each of the platforms.

3.2.1 Setting Up Network Workstation

This section describes the setup procedure for a Notes workstation. The procedure was absolutely identical for all our platforms, but the design of the panels/windows was slightly different.

1. Double-click on the Lotus Notes Workstation icon to start the workstation setup program. The following panel appears, Figure 45. If you don't see this panel, then you should try to redo the server setup. Please refer to the box labeled Redoing the Server Setup on page 21.

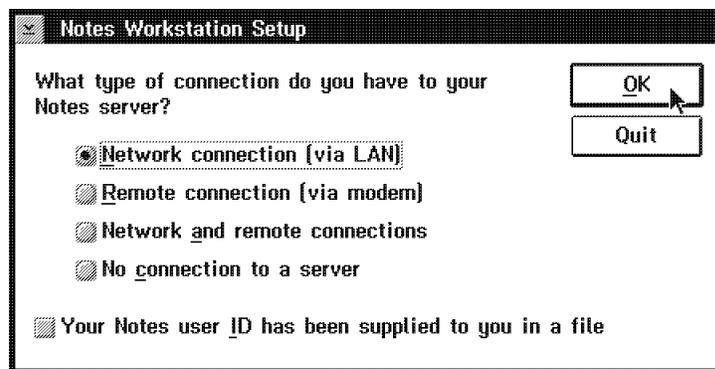


Figure 45. Notes Workstation Setup

Select the connection type on the panel. For network connection, that is, Token-Ring, Ethernet, and so on, select **Network connection (via LAN)**. If you are interested in the **Remote connection (via modem)**, please see section 3.2.7, "Remote Workstation Installation" on page 52.

If you have a copy of your user ID file, select **Your Notes user ID has been supplied to you in a file**.

Your user ID is either in the Public Name & Address Book on your home server or in a file on disk. If you are migrating your workstation from Notes Release 3.x to Notes Release 4, you must backup your user ID in a file on diskette and choose this selection.

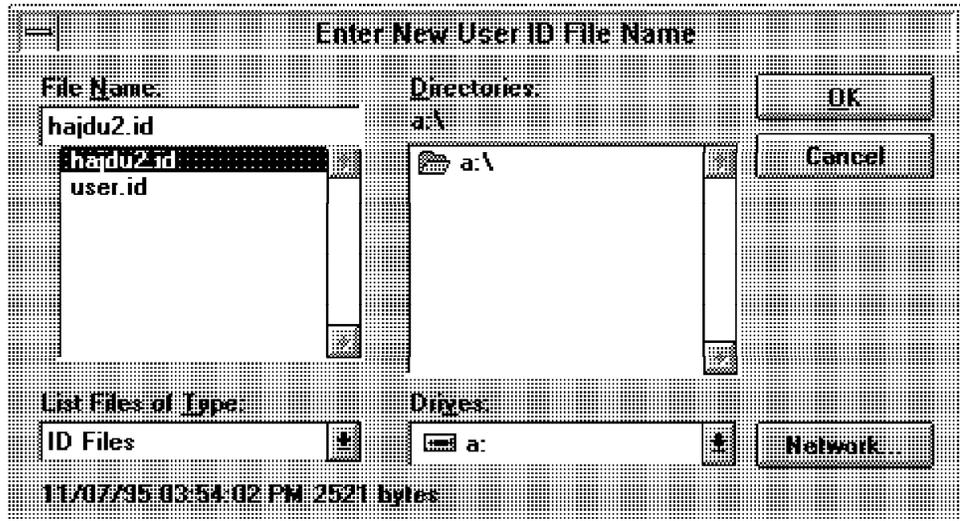


Figure 46. User ID Supplied in a File

2. Select the file for your user ID and then click **OK**.
3. On the next panel, Figure 47, enter Your user name and Home server name. You must have your own User ID on your home server.
Select **Network type**.
Click **OK**.

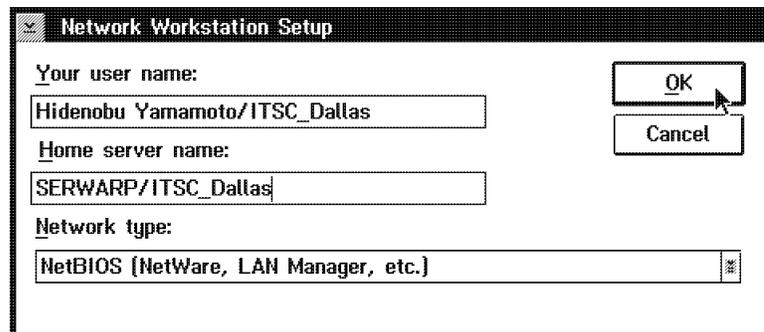


Figure 47. Network Workstation Setup

4. During the installation, the panel as shown in Figure 48 displays the installation progress percentage.

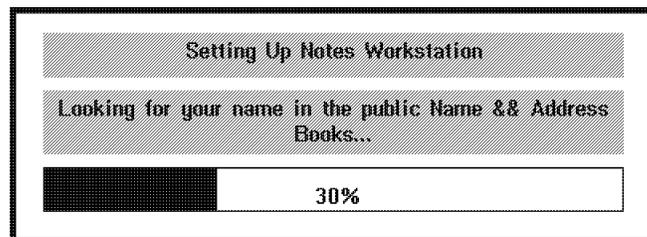


Figure 48. Setting Up Notes Workstation

5. On the next panel, Figure 49 on page 38, enter your password (case-sensitive). Then click **OK**.

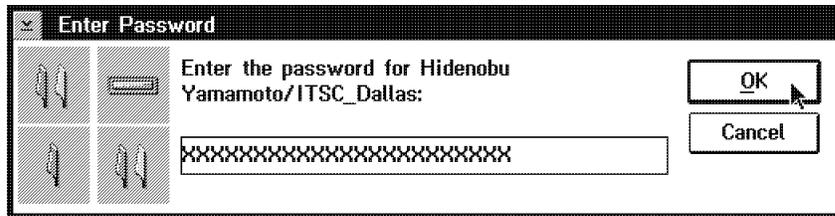


Figure 49. Enter Password

6. Select **Time Zone**. If appropriate, select **Observe Daylight Savings Time...** also.

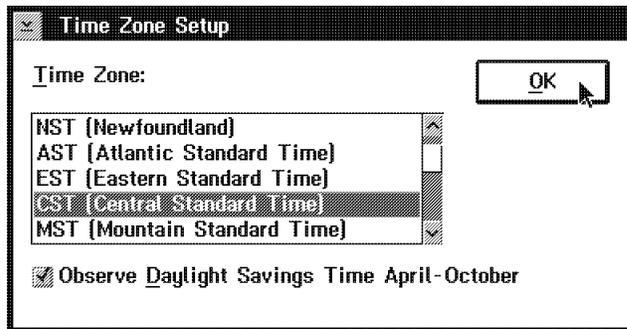


Figure 50. Time Zone Setup

7. When the setup is complete, the panel as shown in Figure 51 appears.

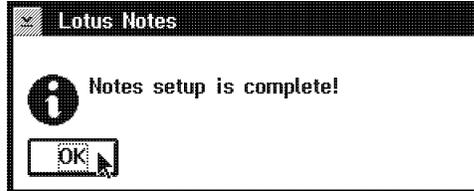


Figure 51. Notes Setup is Complete!

8. Now you are ready to begin your work with Lotus Notes. The initial workspace is as shown in Figure 52 on page 39.

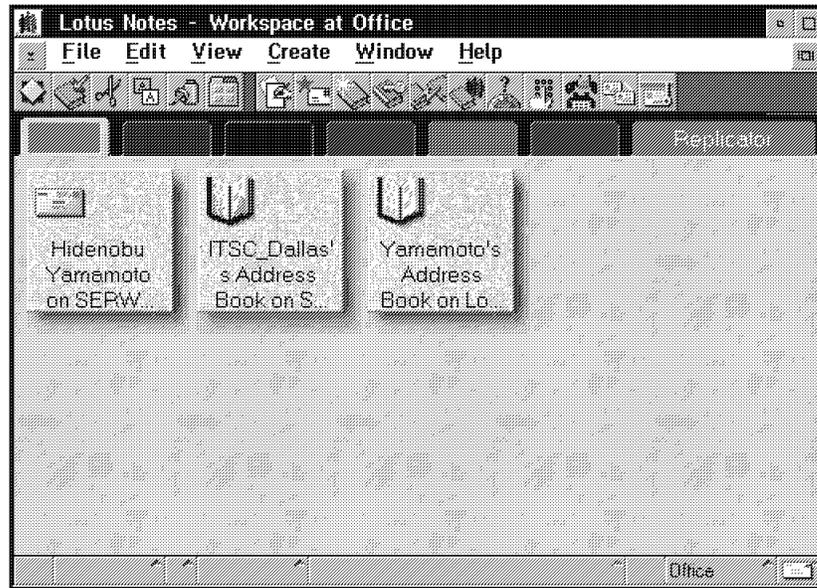


Figure 52. Workspace

Redoing the Workstation Setup (OS/2 Warp, Windows 3.1/95/NT)

If you are setting up the workstation on OS/2 Warp or Windows 3.1, Windows 95 or Windows NT, it is easy to redo the setup. Follow this procedure to re-start the workstation setup program again:

1. Choose **File - Exit** to exit Notes.
2. Use a text editor to open the NOTES.INI file.
3. Delete all lines in the file except the lines beginning with [Notes], KitType, and Directory. As a result of this, for example, the NOTES.INI will be:


```
[Notes]
KitType=1
Directory=C:\NOTES\DATA
```
4. If you want to redo the setup from scratch, remove the DESKTOP.DSK, USER.ID, LOG.NSF, and NAMES.NSF files from the Notes data directory.

Note: If you have a copy of your USER.ID already on your workstation, you should not delete that file. If you lose the USER.ID, your site's administrator will have to re-register your identification on the home server and it takes quite a bit of time.
5. Double-click on the Notes Workstation icon to start the workstation setup program.

3.2.2 Installing OS/2 Warp Workstation

The installation of a OS/2 Warp Lotus Notes Workstation is quite easy. It is very similar to the OS/2 Warp Notes Server installation.

Before the installation, make sure your favorite network protocol is installed and your workstation machine can connect to the server machine.

Follow these steps, and please refer to section 3.1.2, "Installing OS/2 Warp Server as Primary Server" on page 12 also.

1. Start the install program INSTPM in an OS/2 window. INSTPM provides both server installation and workstation installation.
2. On the Installation Method panel, select **Standard Installation** and click **OK**. See Figure 4 on page 13. On the next panel, select **Workstation Install** and click **OK**.
3. Installation begins. Click **Continue** on the Instructions panel. See Figure 5 on page 14.
4. Click **OK** on the Install panel as shown in Figure 6 on page 14.
5. On the Install - directories panel (Figure 7 on page 15), you must choose:
 - Notes Client for OS/2
 - Notes Data
 - Personal Dataand you should choose Notes Help-Lite database.
Make sure your selection and directory specification is correct and click **Install**.
6. After transferring the software, the Installation and Maintenance panel appears (Figure 10 on page 16). Click **OK**.
7. Click **Exit** button on the Lotus Notes Installation panel as shown in Figure 11 on page 17 to exit the install program.
8. Shut down the OS/2 system and re-start it.

After the installation, you must set up the Notes workstation. Please read section 3.2.1, "Setting Up Network Workstation" on page 36 for the setup procedure.

3.2.3 Installing Notes 4 Workstation for Windows NT

The installation procedure for a Notes 4 Workstation is exactly the same as for a Notes 4 Server. See section 3.1.3, "Installing Notes 4 Server for Windows NT" on page 21 for information.

The difference is that you must choose the **Customize features - Manual install** options on screen Figure 23 on page 23.

In the next step on the picture Figure 24 on page 24, you must select the components: **Notes Client and required program data files** and **Personal data files**. The component Server Program and required server data files *must* be deselected.

Other components may be selected but normally you can access the help files from one of the servers so you don't need to install the help files on each workstation. This can save you some disk space on each of your workstations.

If you are registered and have a user ID in the Domains' Public Name & Address book after installing Notes on Windows NT Workstation, you must set up the workstation. The setup procedure is described in section 3.2.1, "Setting Up Network Workstation" on page 36.

3.2.4 Installing Windows 3.1 Workstation

Please follow the instructions in section 3.2.1, “Setting Up Network Workstation” on page 36.

3.2.5 Installing Windows 95 Workstation

Before you begin installing Notes workstation on Windows 95, be sure that there are no problems in the network. In section 3.1.4, “Installing Notes 4 Server for Windows 95” on page 32, we described some network configuration features of Windows 95.

The installation procedure for a Windows 95 workstation is the same as for a Windows NT workstation. They use the same source code. See section 3.2.3, “Installing Notes 4 Workstation for Windows NT” on page 40 for detailed installation information.

The setup procedure is described in section 3.2.1, “Setting Up Network Workstation” on page 36. You should follow the procedure to set up your Windows 95 workstation.

3.2.6 Installing Macintosh Workstation

The process of installing the Lotus Notes Release 4 client on the Macintosh is consistent with both the expected Macintosh interface and with the Notes install process. Installation can be started directly from the CDROM. When the CDROM is inserted into the reader, a CDROM icon appears on the desktop. Double-clicking the icon will open the CDROM to reveal several folders.

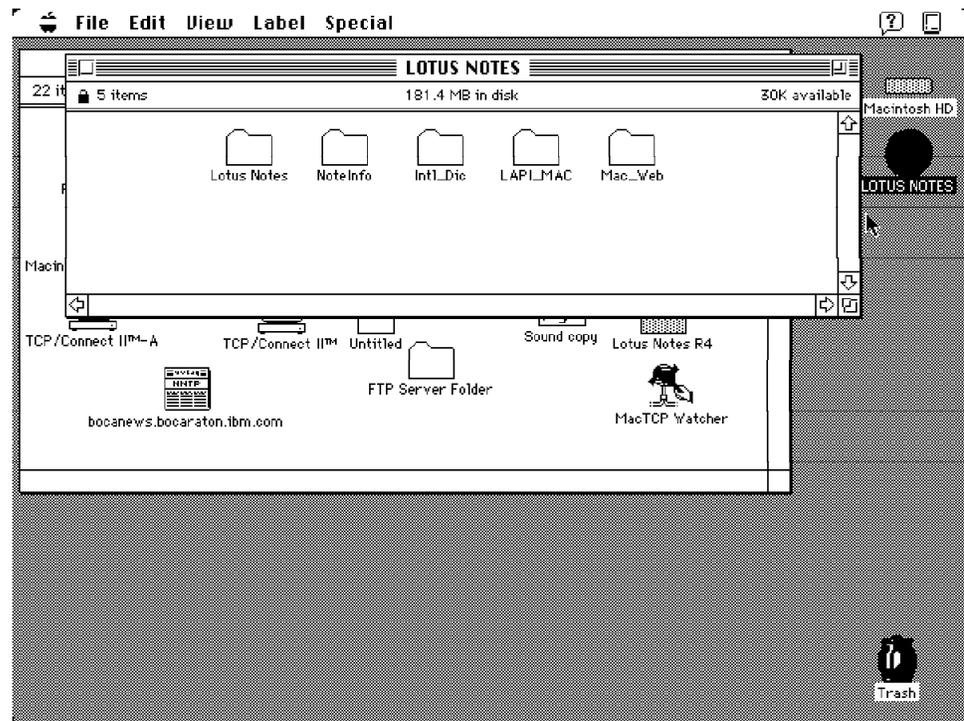


Figure 53. Contents of the Macintosh CDROM

The Lotus Notes folder contains folders for both the Motorola 68000 flavor of Macintosh and the PowerPC version. Opening the appropriate folder for your system will reveal an install disk folder, which contains an install icon.

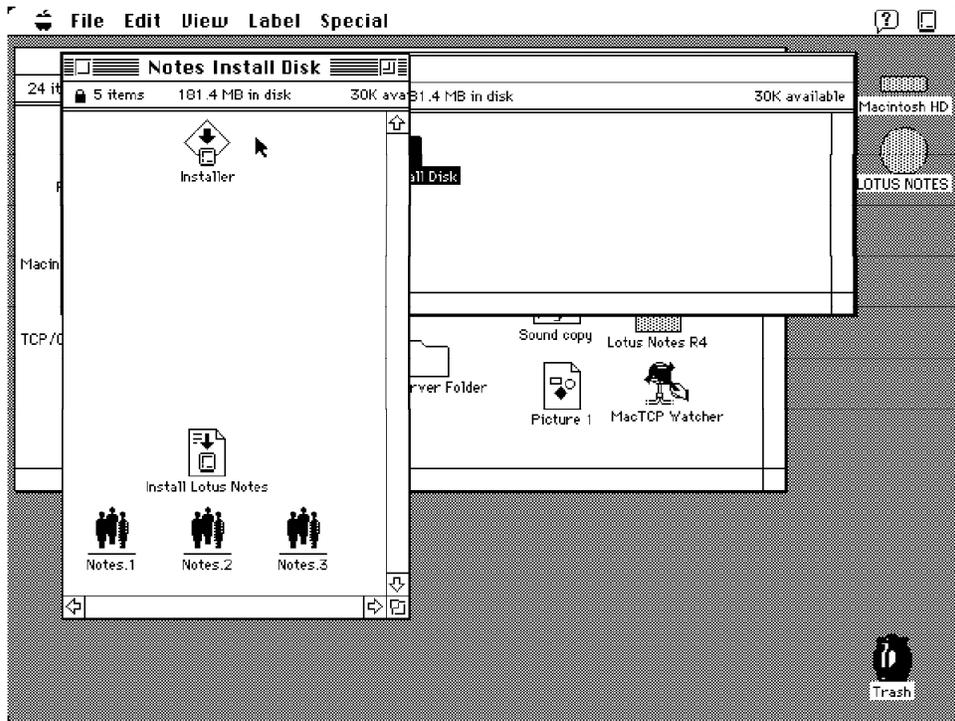


Figure 54. Contents of the Macintosh Install Folder

Double clicking the installer will start the install process, opening up a dialog box. The default installation type is "Easy Install" which installs the code, but does not install the Help, Example and Documentation databases.

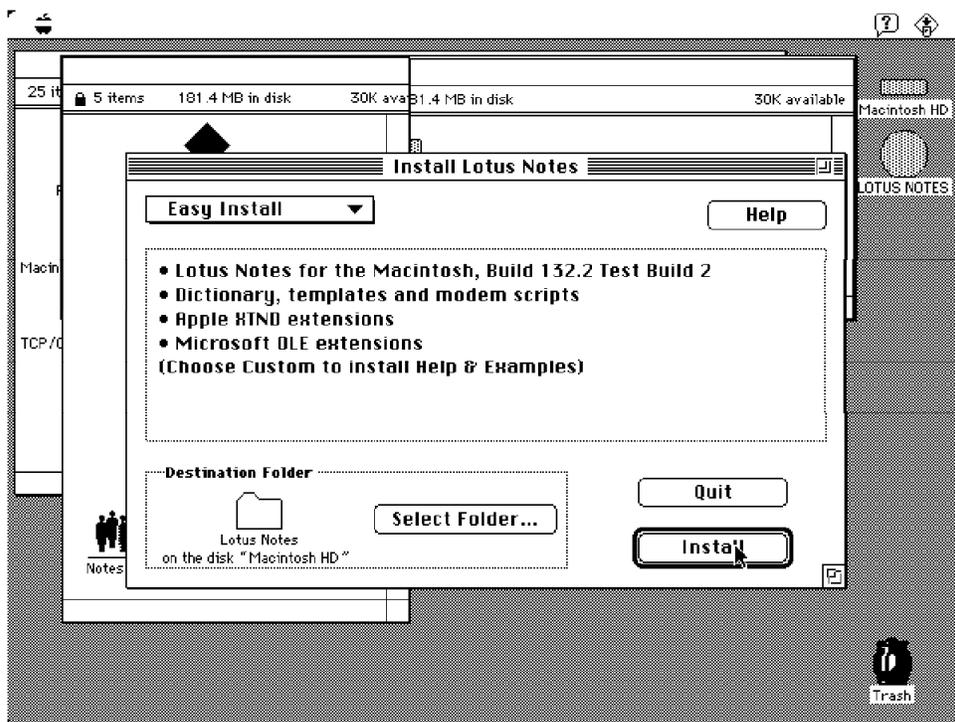


Figure 55. Easy Install Dialog

You may also choose Custom Install, which allows you to select the individual portions you want to install. We chose Custom Install and selected all options. We chose to install to the default folder which is called Lotus Notes.

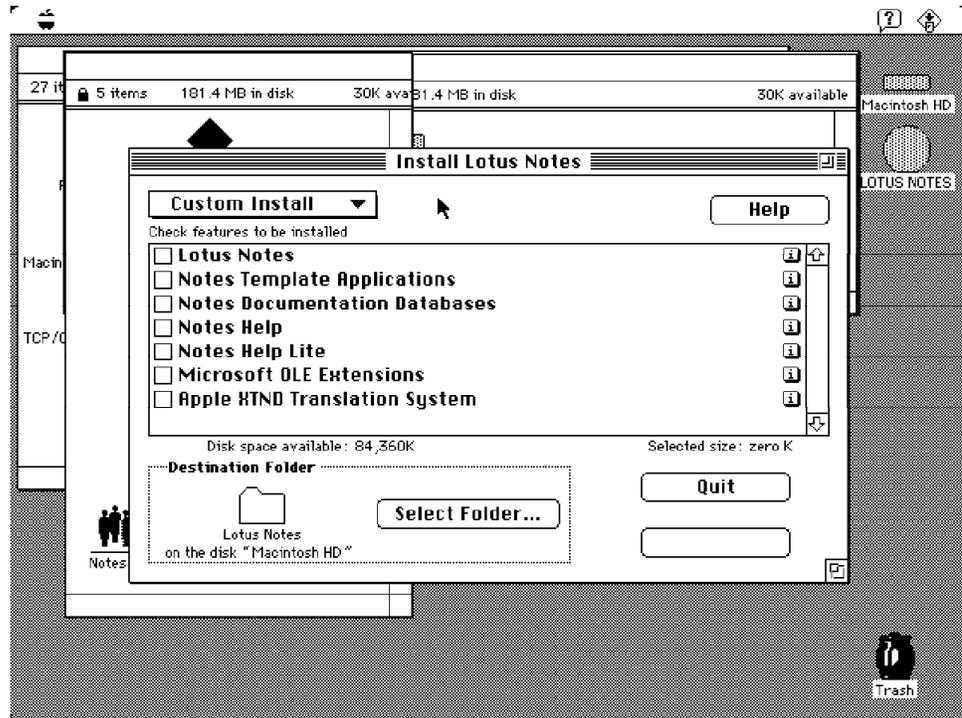


Figure 56. Custom Install Dialog

A busy bar is shown during Notes client installation so that progress can be determined.

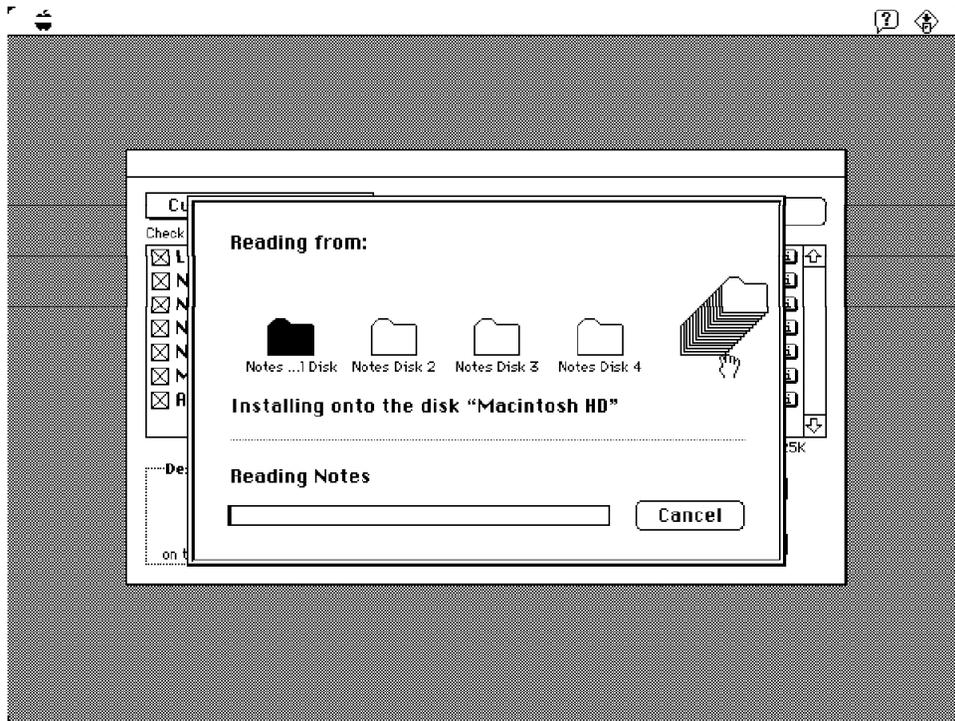


Figure 57. Macintosh Installation Progress

At the conclusion of the install, the familiar dialog appears on the screen.

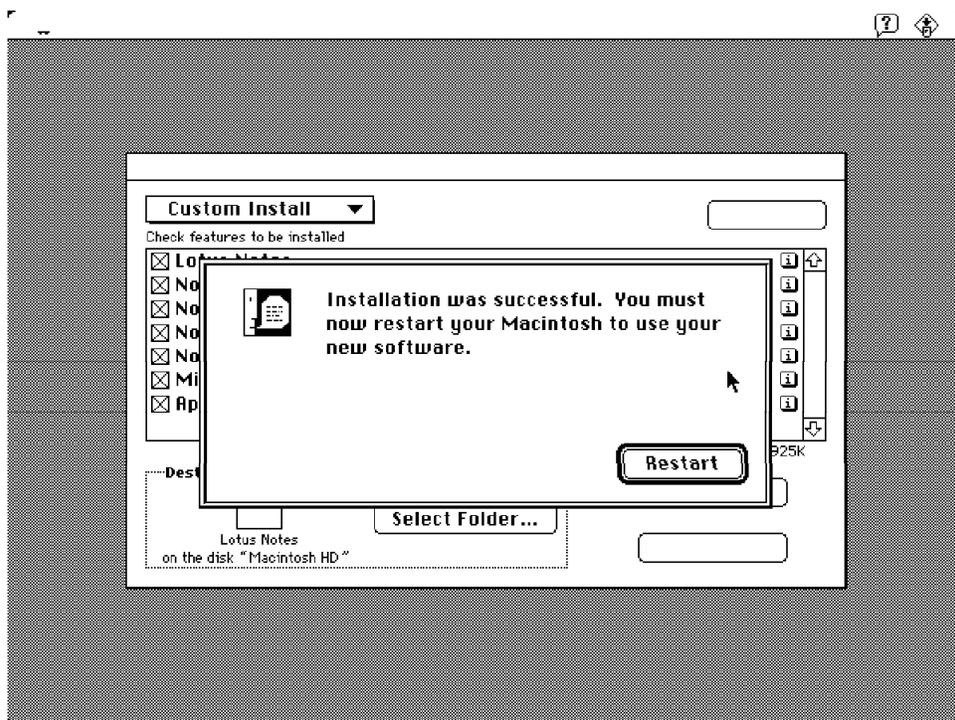


Figure 58. Installation Successful

As with the other platforms, the workstation must next be set up to use Notes. The Notes code can be found on the Macintosh hard drive, in the folder selected at install time - in our case, Lotus Notes.

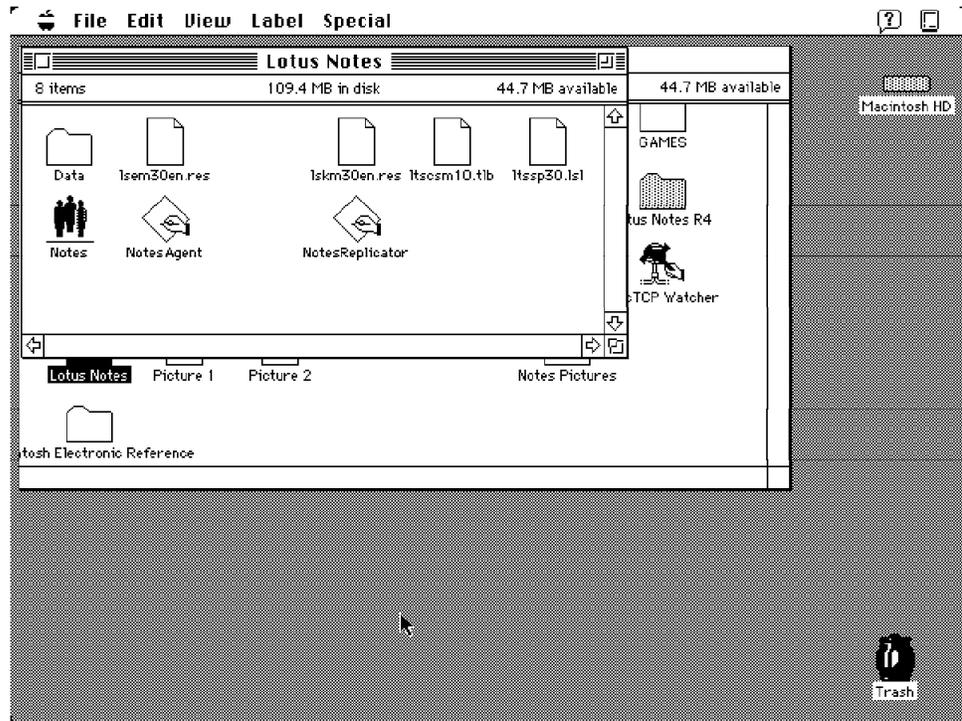


Figure 59. Macintosh Lotus Notes Folder

Because we planned to do the setup over the network, our next step was to verify that we were able to communicate to SERWARP, the Notes server that contained both the address book entry and Notes ID, and the mail file previously defined for our user. We chose to use MacTCP, the Macintosh version of TCP/IP, for this communication.

MacTCP must be customized with information such as the HOST address of the machine. Information about the router and any available Domain Name Server (DNS) are also provided at setup.

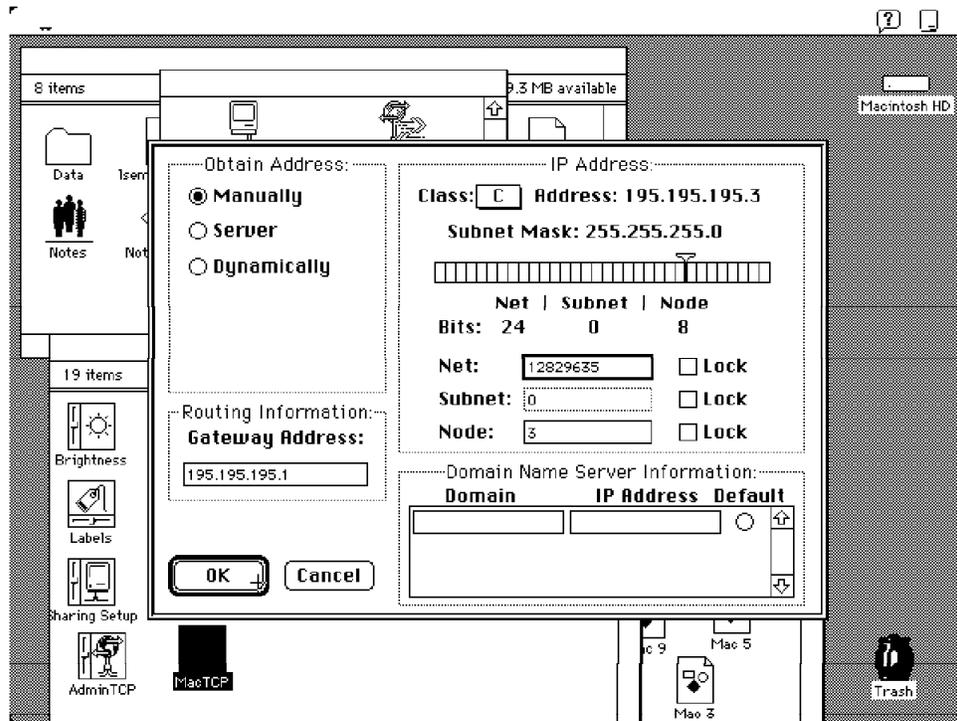


Figure 60. MacTCP Configuration

Because we did not have a TCP/IP DNS available to us, we needed to provide another way for the Notes client to resolve the TCP/IP address from the server name. We chose to use a HOSTS file for this purpose. In the MacTCP environment, the HOSTS file is a text file of a specific format, named HOSTS, and is stored in the the Systems Folder. One line in the HOSTS file makes the connection between the fully qualified HOST name of the server and the dotted IP address. A second line connects the short name used by Notes to the fully qualified name. Without either a DNS or a HOSTS file being available, setup will not complete successfully.

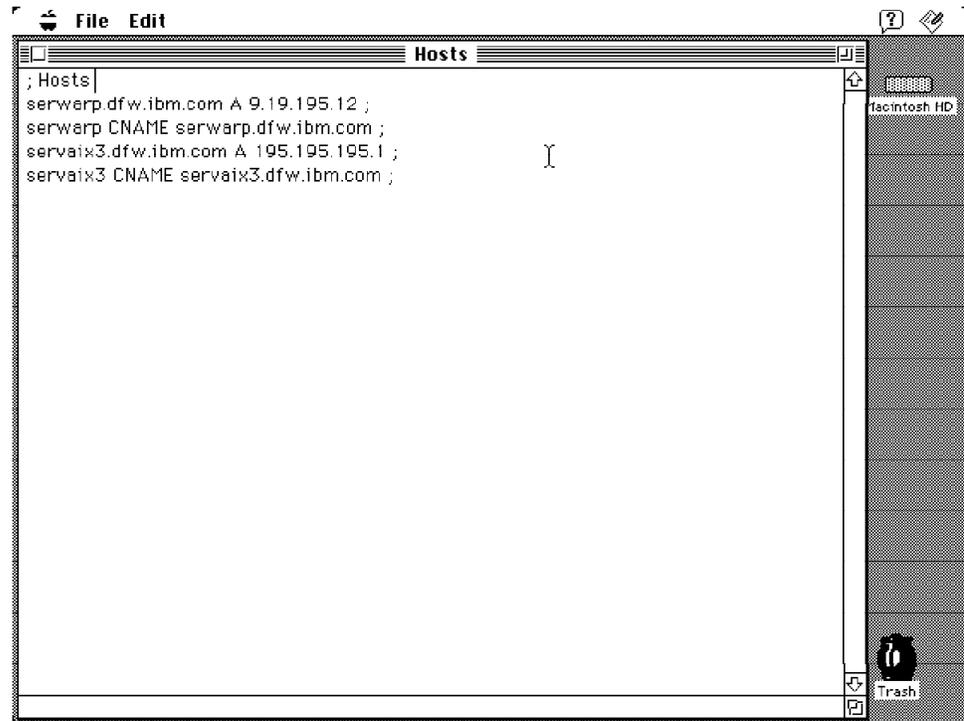


Figure 61. HOSTS File on the Macintosh

At this point, we ran into a glitch in our install. When clicking the Lotus Notes icon to begin setup, we received a message that the Apple Shared Library Manager (ASLM) was required. Normally, code that requires this system extension, which allows applications to share code, ships with ASLM. We expect that this issue will be resolved by the time Notes Release 4 is made generally available. We located the ASLM code on a Notes Release 3 CDROM, and used the standard Apple interface to install it.

At this point, we discovered another piece of groundwork that had to be done on the Macintosh. We were running on a Quadra 700 with 20 MB of memory. However, when trying to do Notes setup, we received a message that there was not enough memory available for the shared library. An investigation showed that the machine was not set for 32-bit addressing, meaning that it was really only using 8 MB of the available memory. Setting on 32-bit addressing solved this issue. This setting is changed by clicking the Memory icon in System Settings and setting 32-bit addressing on. Other models of the Macintosh may implement this setting in other ways.

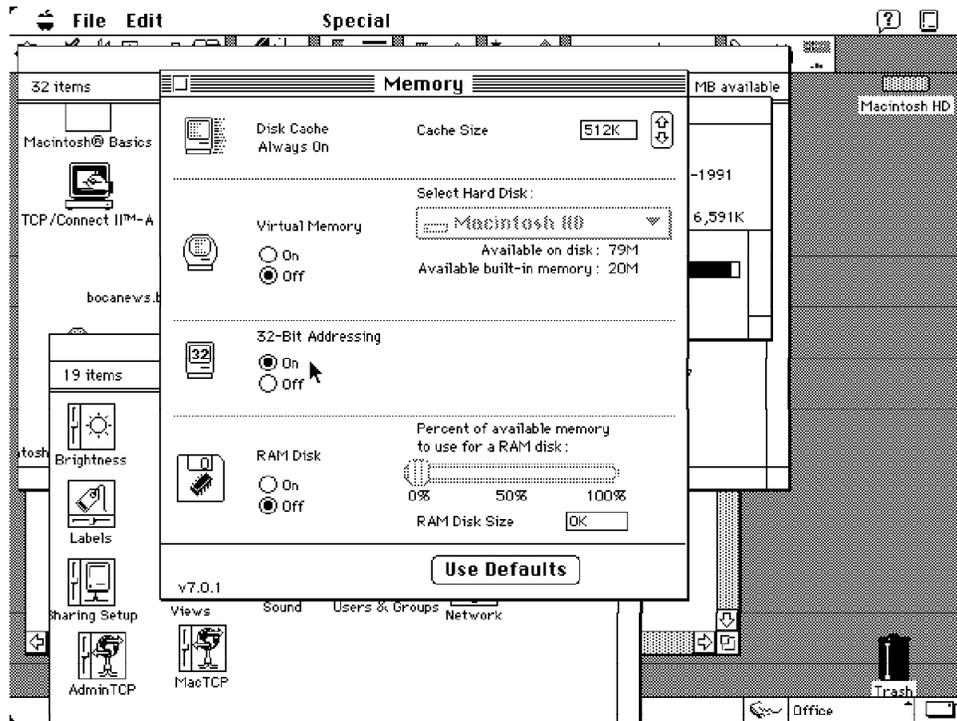


Figure 62. Macintosh Memory Settings

Using 32-bit addressing, the version of Notes Release 4 we were using took 6000k of memory.

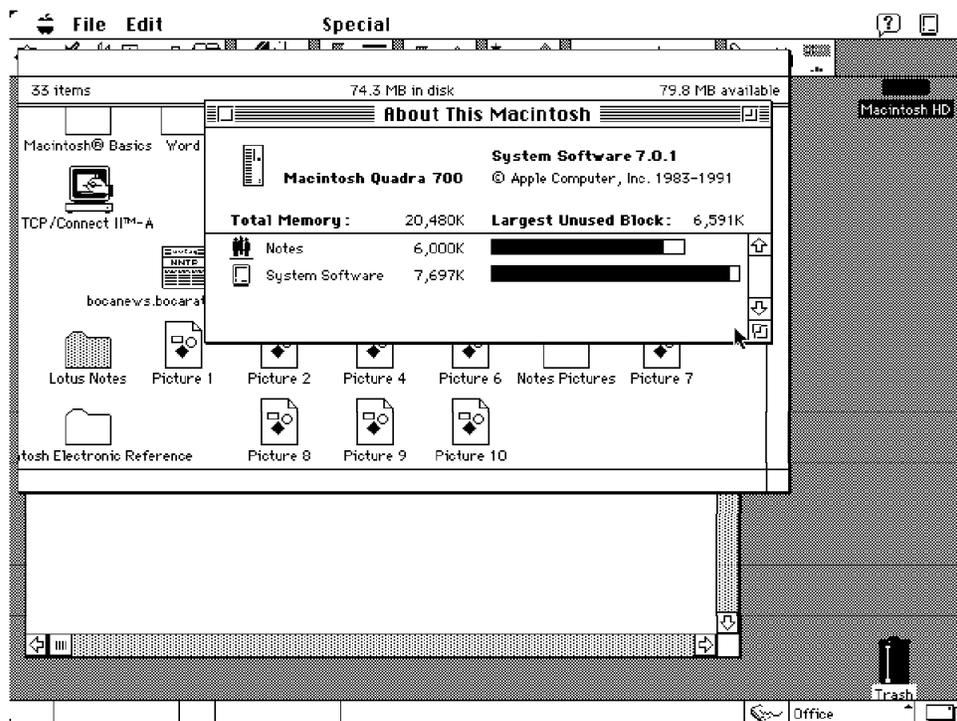


Figure 63. Macintosh Memory Utilization

At this point, we were able to start the Notes setup process.

The Macintosh setup dialog is completely familiar, asking the same questions that are asked on the other platforms. Since we have already set up the network environment and defined the user on the WARP server, we chose to do setup over the network.

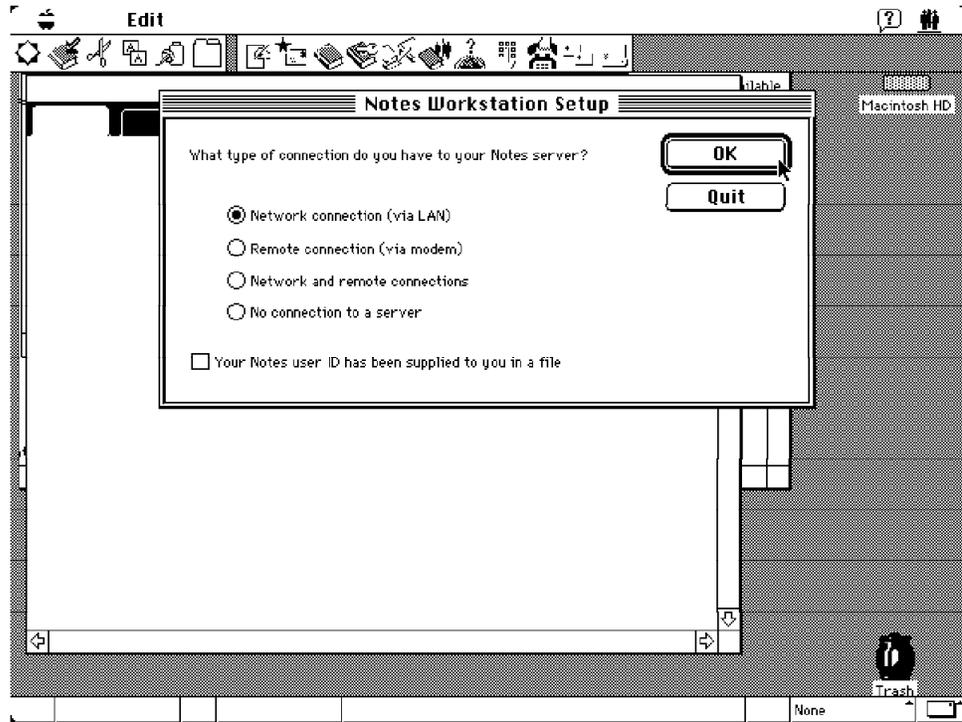


Figure 64. Macintosh Initial Setup Dialog

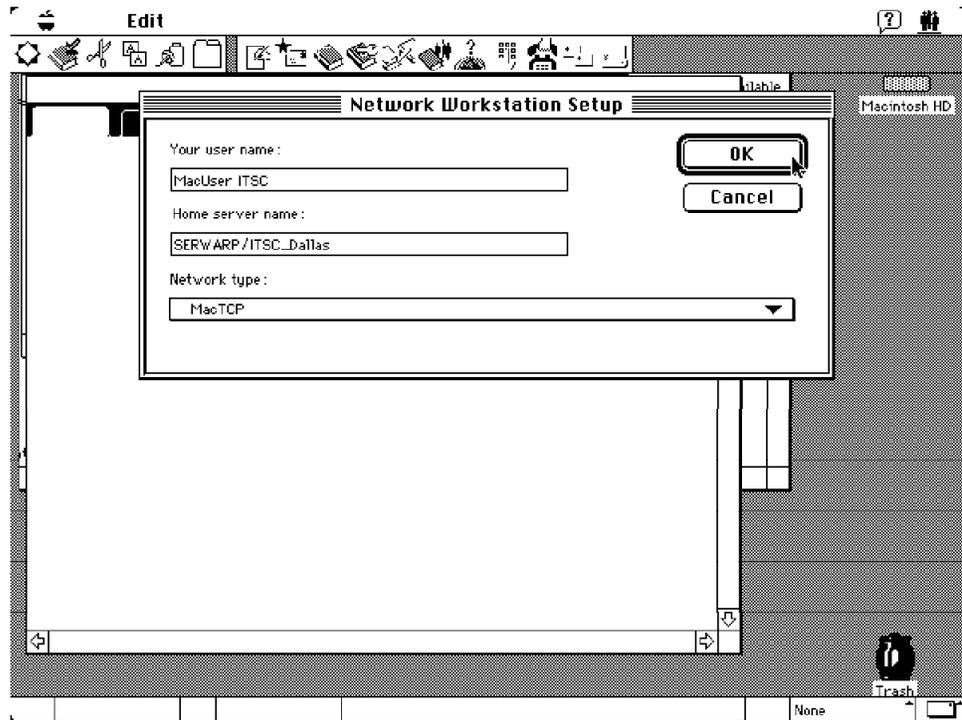


Figure 65. Workstation Setup

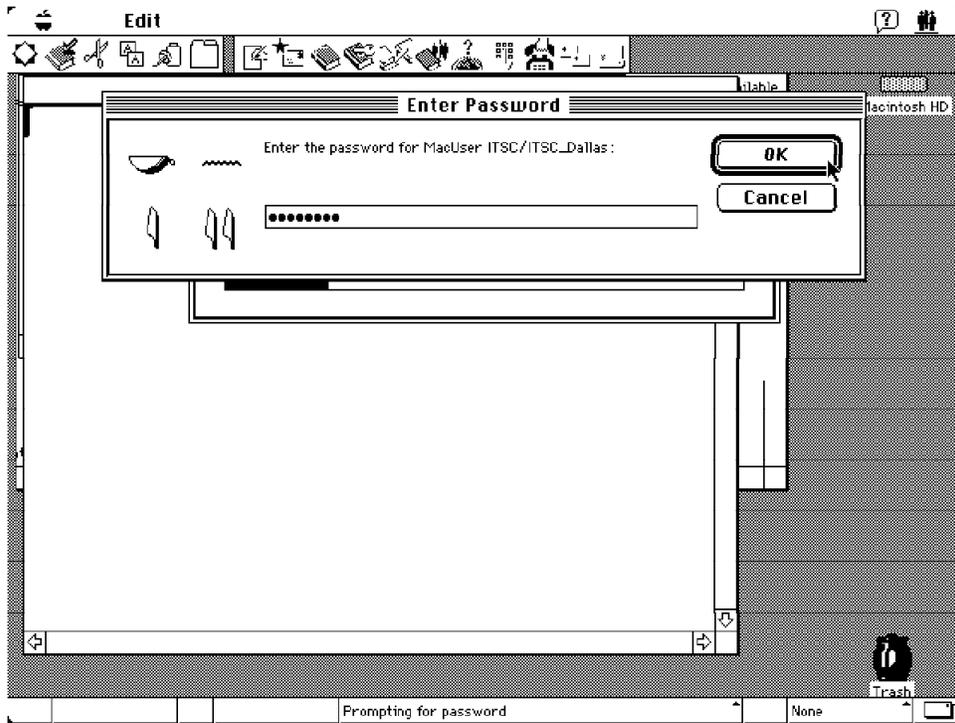


Figure 66. Enter Password

After asking for the user name, home server name, protocol, and password, the setup is complete.

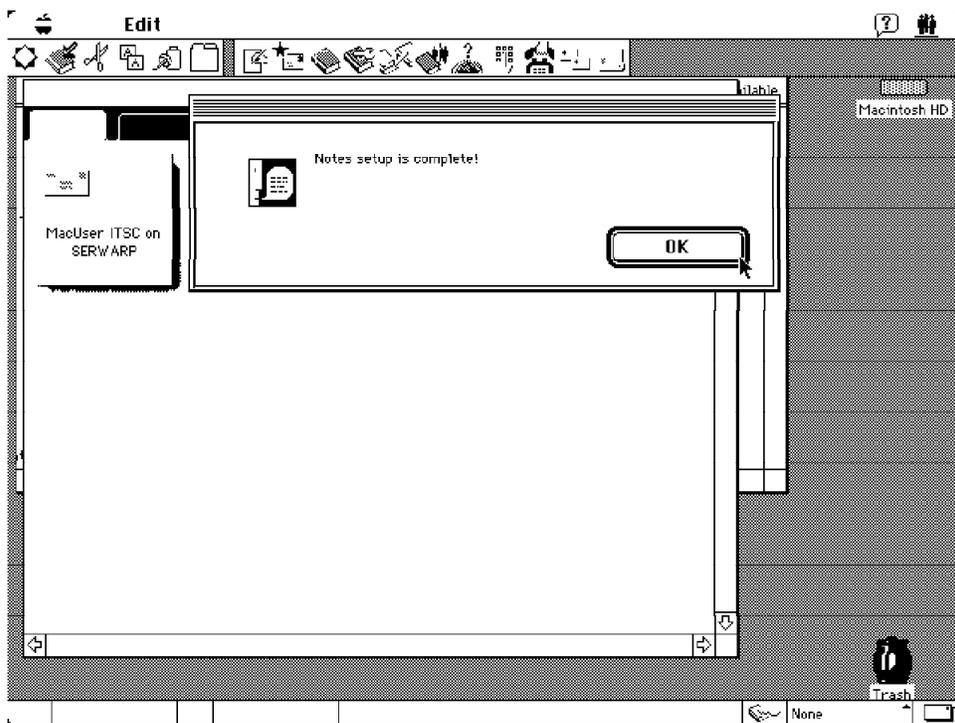


Figure 67. Setup is Complete

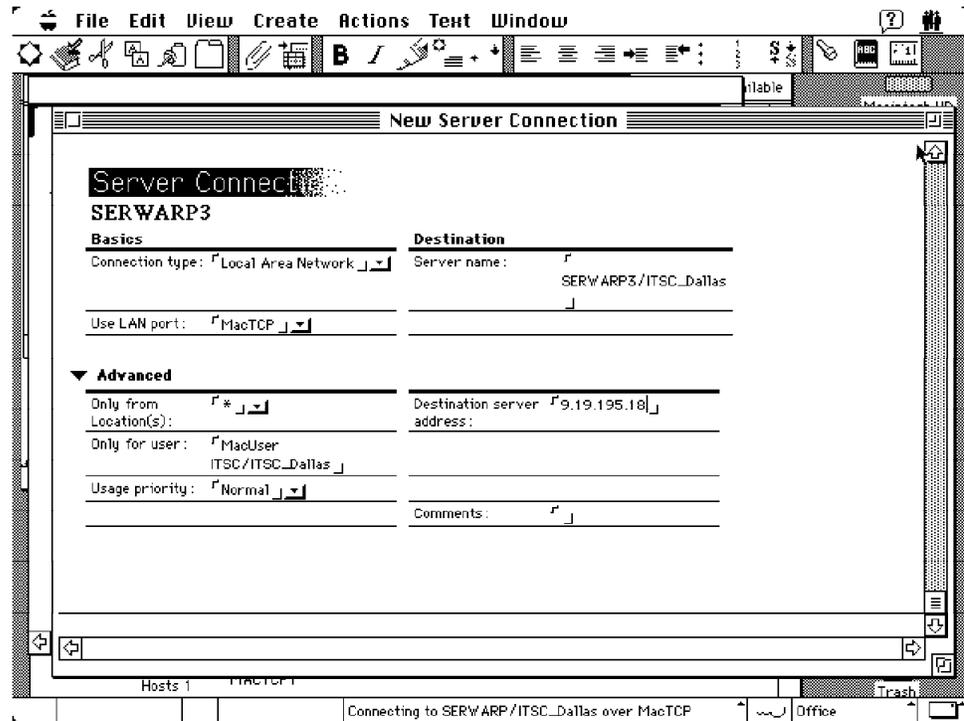


Figure 68. LAN Connection Document on the Apple Macintosh

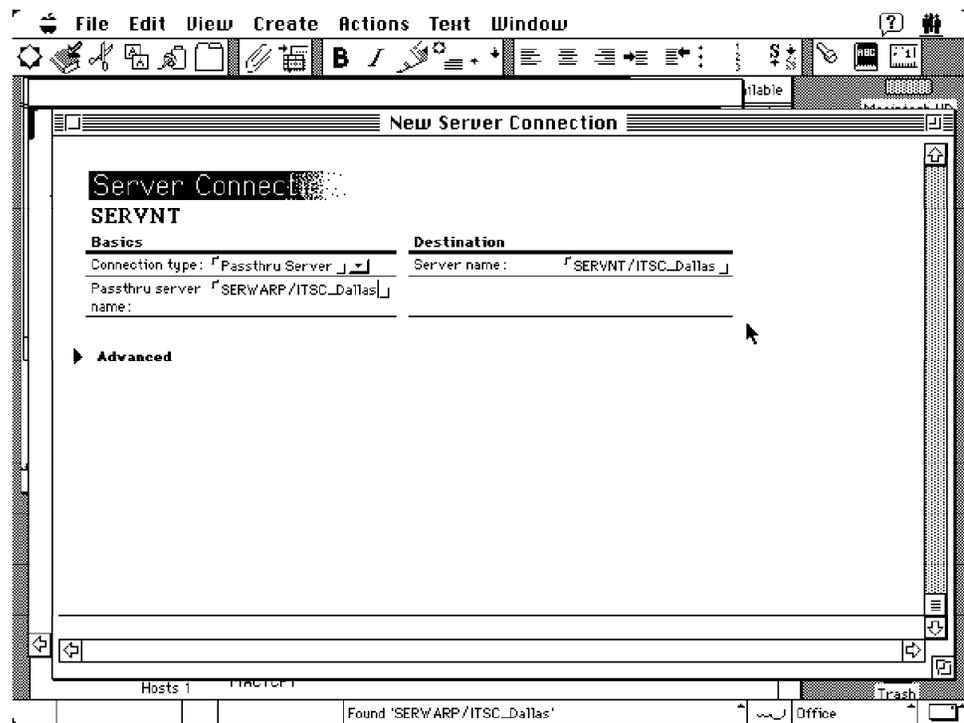


Figure 69. Passthru Connection Document on the Apple Macintosh

3.2.7 Remote Workstation Installation

There are many ways to connect between remote Notes workstations and Notes Servers.

- X.PC driver is supplied and supported by Notes.
- X.25 driver is optional, supplied and supported by Notes.
- If your TCP/IP network offers Serial Line Internet Protocol (SLIP), you can connect to Notes Servers and workstations through the SLIP remote network connection. You must establish the SLIP outside of Notes. Notes only talks to TCP/IP.

Because X.PC is the built-in remote driver, we will focus on how to set up a remote workstation through the X.PC protocol.

We chose *Windows 3.1* as the platform to demonstrate mobile client installation. Other platforms are similar to this platform in setting up a dial-up workstation.

3.2.7.1 Preparation

Before you install a dial-up workstation, you should first:

- Install a modem and verify that there is a direct dial analog phone line available.
- Get a copy of the Notes Workstation installation disks.
- Check that the Notes Server Program is running on the server machine, and you have a active connection to the server.
- Get the following system information from the Notes System Administrator:
 1. The user ID of the user.

If the user is new to Notes, the Notes Administrator should register the user before the Notes Client installation. The user ID can be stored in the Name & Address Book of the server or saved to a file. If the user ID is saved as a *user.id* file, make a backup copy of the file by copying it to a floppy disk.

2. User ID's default password.
3. The home server's full name and the server's telephone number.

Note: If you upgrade Notes from a previous release, or redo the installation, we recommend you do the following:

1. Backup the useful Notes data files of your system, including (.NTF), (.MDM), (.SCR), (.BMP), (.MAC), (.SMI) and (.TBL) files. You can restore these files after you finish installing Notes Release 4.
2. Backup your USER.ID file and DESKTOP.DSK, LOG.NSF, NAMES.NSF files, You can use these files to revert to your previous Notes setup if you encounter a problem.
3. Remove the DESKTOP.DSK, LOG.NSF and NAMES.NSF files from the Notes data directory.
4. Delete all lines in the NOTES.INI file except the first two lines.

3.2.7.2 Installation

To install a remote Notes Workstation, do the following:

1. Start Windows 3.1 environment.
2. Insert the first Notes Workstation Installation diskette in your diskette drive. Type A:INSTALL from the File - Run dialog and press Enter.

After checking system resource, Lotus wallpaper and the Install Options dialog appears, as shown in Figure 70.

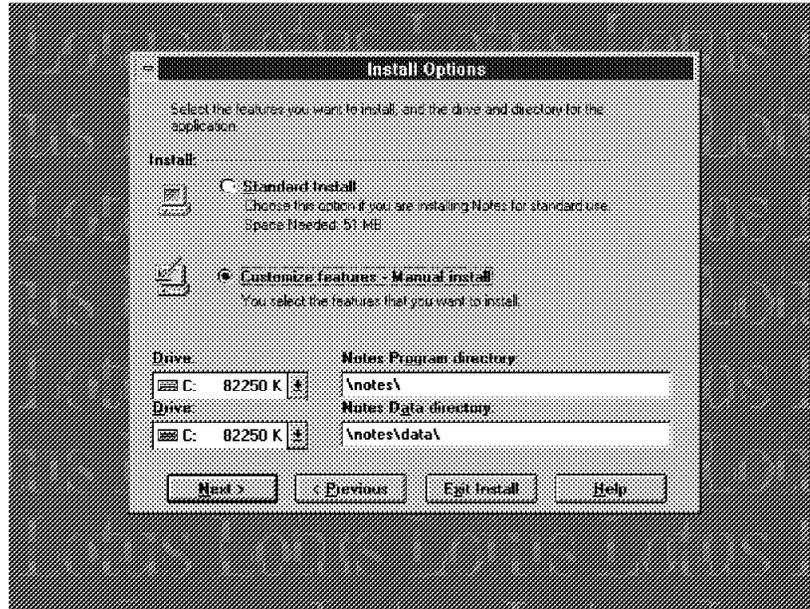


Figure 70. Install Options in Remote Client Installation

3. Choose your installation options - Standard install or Manual install. Confirm the hard drive and the directory where Notes programs and data will be installed. Click on **Next>**.

If you choose manual install, the customize windows, as shown in Figure 71 on page 54 appears. Choose the components you want to install.

Note: The Notes Client and Required Program data file is an essential component of the installation. You *must* select it. We recommend that you select the Personal data file. We could access the other files and databases from the server. Select them if you want to have them installed on your workstation.

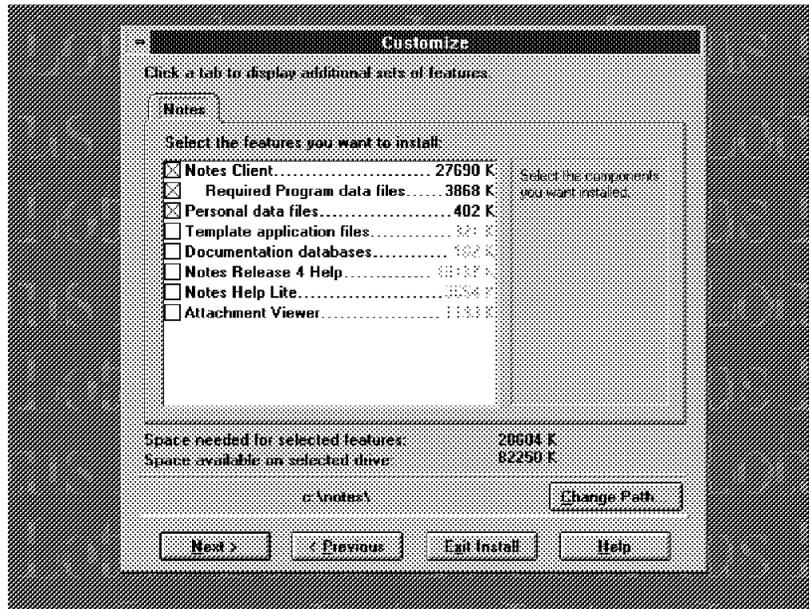


Figure 71. Customize

4. Click **Next>** to and the installation starts.

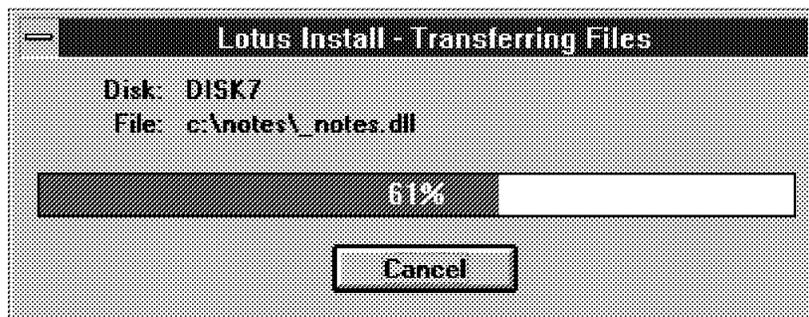


Figure 72. Installing

When Figure 73 on page 55 appears, the installation is complete.

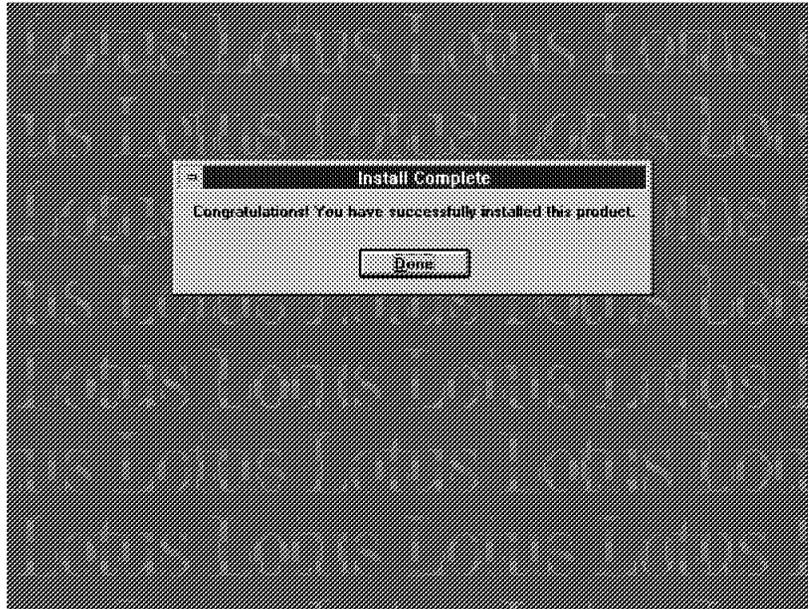


Figure 73. Install Complete

3.2.7.3 Setting Up a Remote Workstation

After installation, you should run the setup program.

1. To start the setup program, double-click the Lotus Notes Workstation icon. The first time you double-click it, the workstation setup program starts automatically.

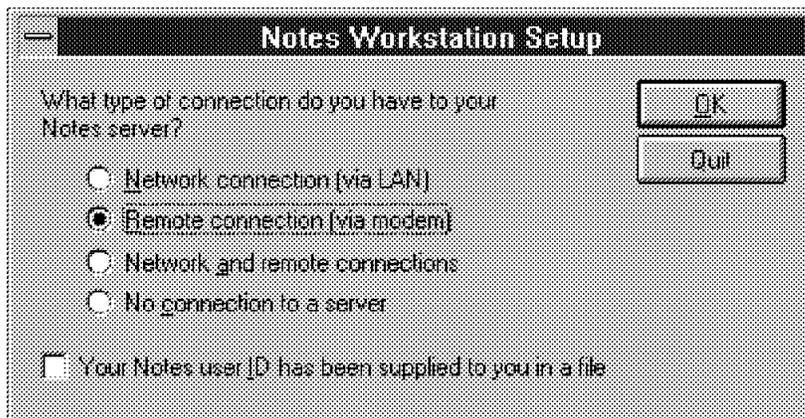


Figure 74. Setup - Select Connection

2. The Notes Workstation Setup window appears, as shown in Figure 74. Choose **Remote connection**, then click **OK**. The remote connection dialog windows appears. See Figure 75 on page 56.

Note: You can choose Network and Remote connections according to your needs. If your Notes user ID is stored in a file, select the option on the bottom of the screen. If the user ID is stored in the Name & Address Book on the server, leave the area blank.

The new user ID is stored in the Name & Address Book of the server in our scenario.

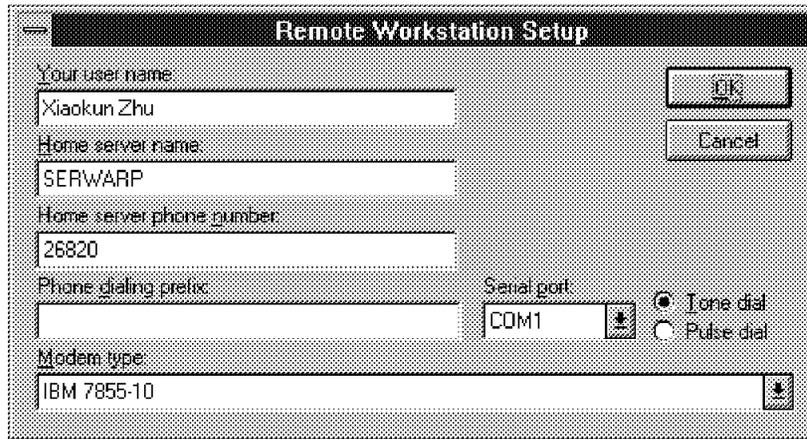


Figure 75. Setup - Remote Connection Information

3. Complete the connection information in this dialog:

- Your user name: Input your user name.

Note: If the user ID file is stored in a file, the user name in this dialog must be the same one with the user ID file.

If the user ID is stored in the Name & Address Book of the server, be sure that the Notes Administrator has created such a user.

When the setup has completed, we recommend that you make a backup copy of your user ID file from the NOTES\DATA directory, because when the setup is complete, Notes will create a user ID file in your workstation and erase the user ID from the Name & Address Book of the server. The user ID file is the unique identification of the user.

- Home server name: Input the home server name.
- Home sever phone number: Input the phone number of the home server.
- Phone dialing prefix: If the phone system of the workstation is internal system and the server phone number is a external one, you should input the prefix dialing number here to dial an external phone number.
- Serial port: Select the port which the modem attaches to.
- Modem type: Select the modem type of your modem.
- We selected **Tone dial** as the dial mode. Select the proper dial mode to meet your modem's requirements.

Click **OK**. The remote machine will begin to contact the server, copy files, establish the Name & Address Book of the remote machine, and so on.

If the dialing failed because it cannot contact the server, please check the connection between the modem and the machine. If the server is busy, please be patient and retry.

4. When the connection occurs and the server accepts the request to set up a remote workstation, the Password window prompt appears, as shown in Figure 76 on page 57. Type in your password and click **OK**.



Figure 76. Setup - Enter Password

The communication between the server and the remote workstation begins to transfer useful data to each other. It will take an average of 20 to 40 minutes. The transfer rate will depend on transfer speed, distance, server workload, and so on. Most problems which occur at this time will cause a lost connection.

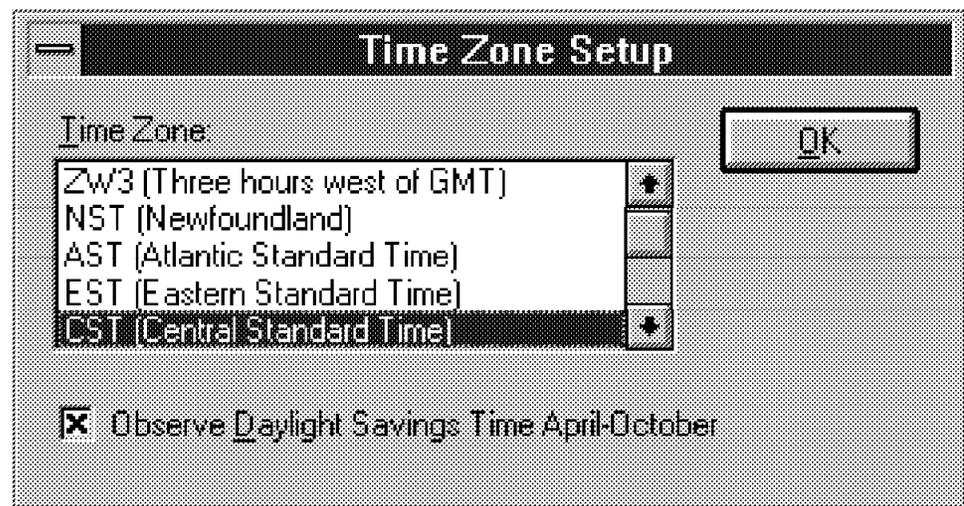


Figure 77. Setup - Time Zone

5. If the file transfer finishes successfully, the Time Zone dialog appears. Select the correct Time Zone.

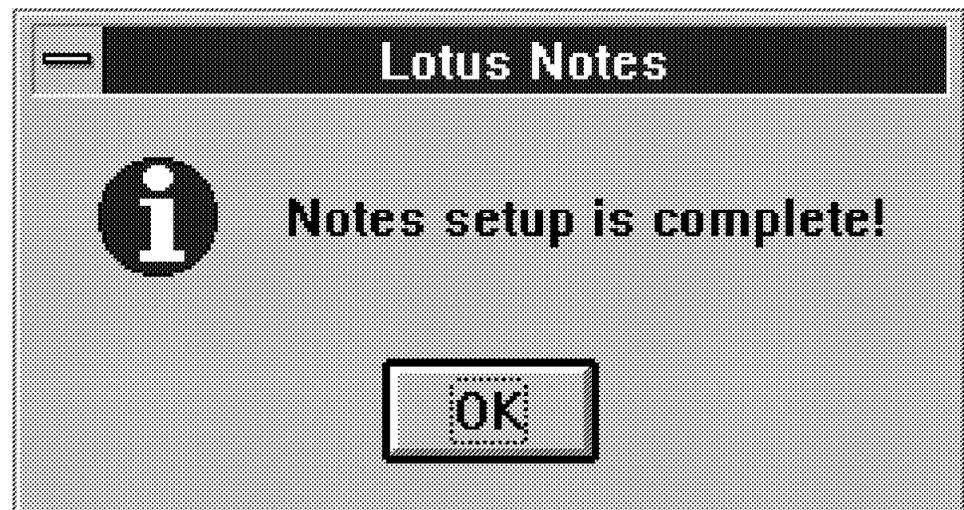


Figure 78. Setup - Installation Complete

When the mail address of the user and the Name & Address Book of the user is established, then the setup complete window will appear.

Time and Phone Information for Travel

Dial: 9 for an outside line

Country code: 1 Area code: 817

Time zone: CST (Central Standard Time)

Daylight savings time

Date: 11/06/95 Time: 05:52:11 PM

OK
Cancel
Help

Figure 79. Setup - Travel Information

6. As Lotus Notes considers a remote machine to be a workstation used for travel, you should give the travel information as the dialog prompts.

Note: There are a lot of factors that can cause the setup to fail. We recommend that you examine the following factors:

- Select a proper time to do setting up. If the workload of the server is heavy, the server will not respond to the remote client for a long time. We cannot change the Dial timeout of the remote machine, so a long time without any response from the server will cause the connection to be broken and the setup to fail. We recommend that you select a proper time to set up the remote client, such as a weekend or at night, when the workload of the server is not heavy and the server will respond in time.
- Be sure your client machine meets the system hardware requirements. The performance of the client machine can affect the setting up process. If the performance is poor, it cannot respond to the server quickly and the connection between the two machines will break because of the timeout.
- Disable all kinds of screen savers and virus-detecting software before you install Notes. Screen saver applications can affect Notes installation.

For more troubleshooting information, see the *Notes Administrator's Guide*.

3.2.7.4 After Setup

When the remote workstation completes the setup process with the home server, the following should be considered:

- Request access from database managers to the databases you want to use.
- Compose additional Remote Connection Documents for servers other than the home server. You can set up several Remote Connection Documents, one for each server that can be called.
- Create replicas of databases from the home server.

Chapter 4. Administration

In this chapter, we will describe the administration of Lotus Notes Release 4. For additional information, please see the *Lotus Notes Administrator's Guide*.

4.1 Registering a Server

After you have successfully installed your first Lotus Notes Release 4 Server, you may want to expand your Lotus Notes network by adding additional servers to the Lotus Notes network. To add an additional server you must do the following three things:

1. Register the new server(s) on your existing Lotus Notes Server.
2. Install the Notes Server software on the new server machine(s).
3. Set up the new Notes Server(s) using the setup program.

Registering additional servers is a task normally performed by the Lotus Notes Administrator. When you register a new server, Notes does the following:

- Creates and certifies a SERVER.ID for the new server
- Creates a Notes Server Document in the Name & Address Book
- Adds the Notes administrator's name to the administrator field and attaches the SERVER.ID to the Server Document
- Adds the server to the LocalDomainServers group in the Name & Address Book and optionally creates an entry in the Certification Log on the registration server

The registration server must be available on the network. You must have access to the server and you must have at least author access in the Lotus Notes Name & Address Book.

Now let's see an example of how you would register an additional Lotus Notes Server.

1. First, to start the Lotus Notes Workstation program double click on the Notes Workstation icon.

- Choose **File - Tools - Server Administration** from the pull-down menu as shown in the following figure.

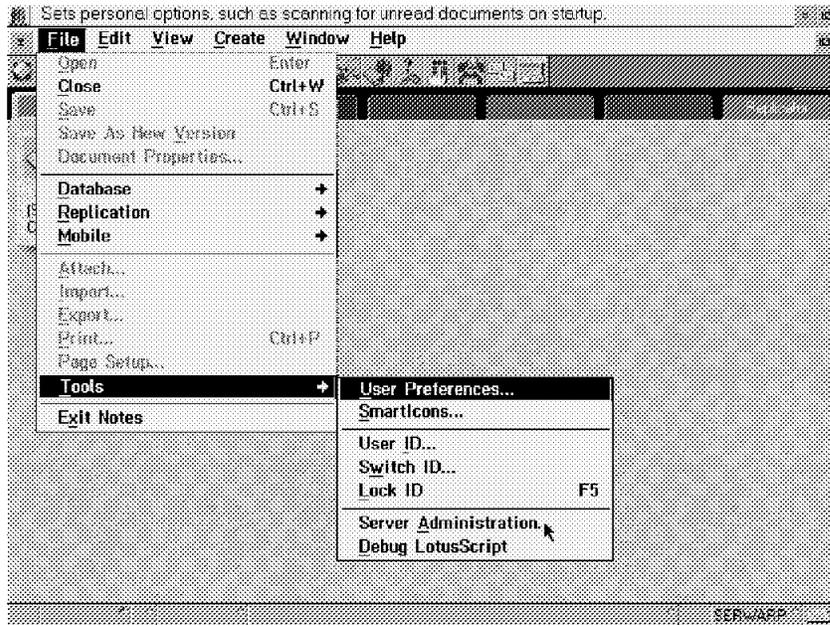


Figure 80. Lotus Notes Workspace

- On the Administration screen, as shown in Figure 81, click on the **Servers** button and choose **Register Server** from the pull-down menu.

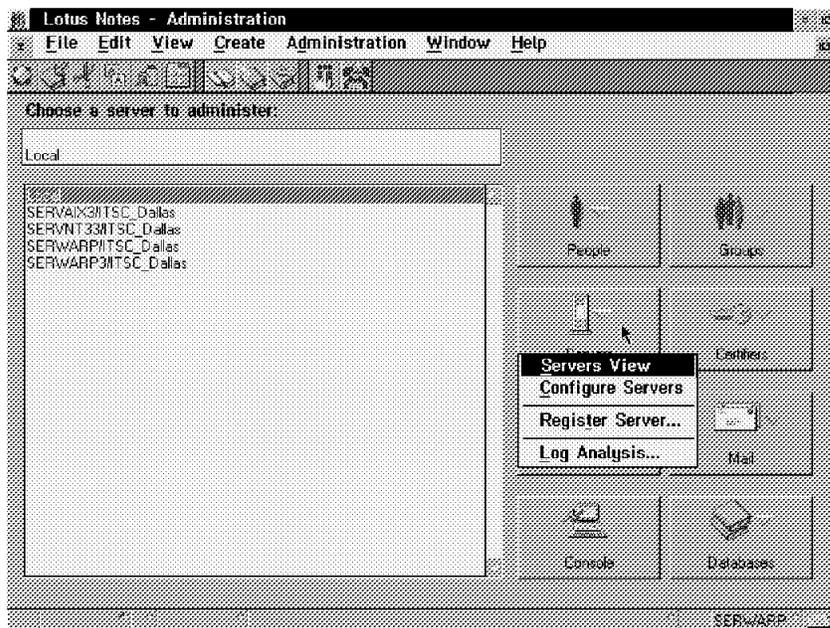


Figure 81. Administration Screen

4. If you have purchased a server license, click **Yes**.

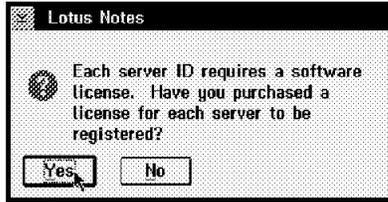


Figure 82. License

5. Type the administrator's password and click **OK**.

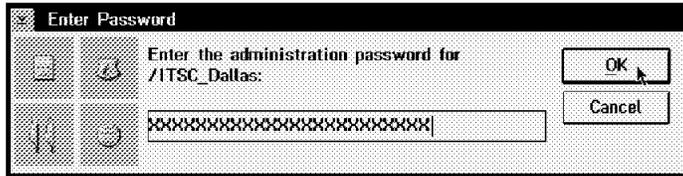


Figure 83. Enter Password

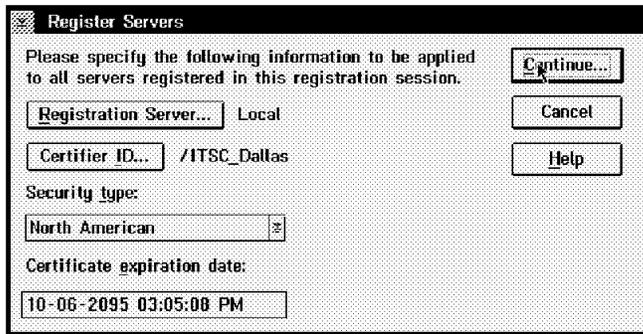


Figure 84. Register New Servers

6. On the Register Servers screen, click on **Registration Server**. Select the server that will register the new servers and click **OK**.

If you want to create a new entry in the Certification Log, click on **Certifier ID**, select the certifier ID file and click **OK**.

Under the Security type field, choose a license type, either North American or International.

Click on **Continue** to proceed to the Register Server screen, as shown in Figure 85 on page 62.

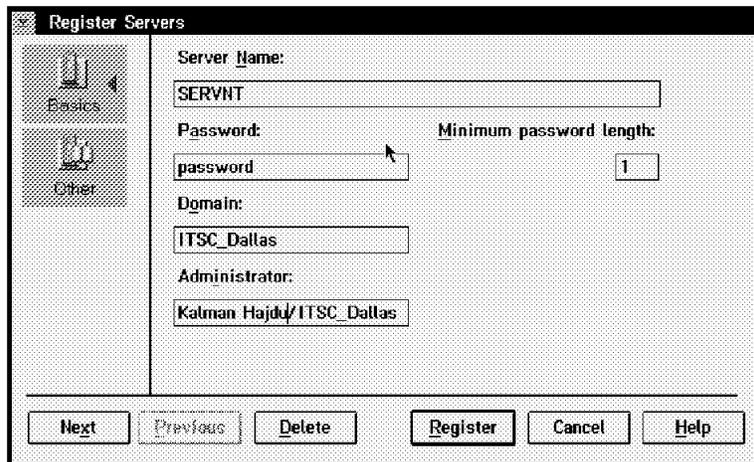


Figure 85. Register Servers Screen

7. On the Register Servers screen, enter a unique server name of up to 79 characters. If you want to register the server in a different domain from the one containing the registration server, enter the new domain name. The registration server's Lotus Notes domain is the default value for the Domain field.
8. Enter the administrator's name. If you want to also use the new server as a workstation for the administrator, then the administrator must have a USER.ID file on the registration server. Click **Register** to register the new server.

The new server name is added to the Name and Address Book as shown in the following figure.

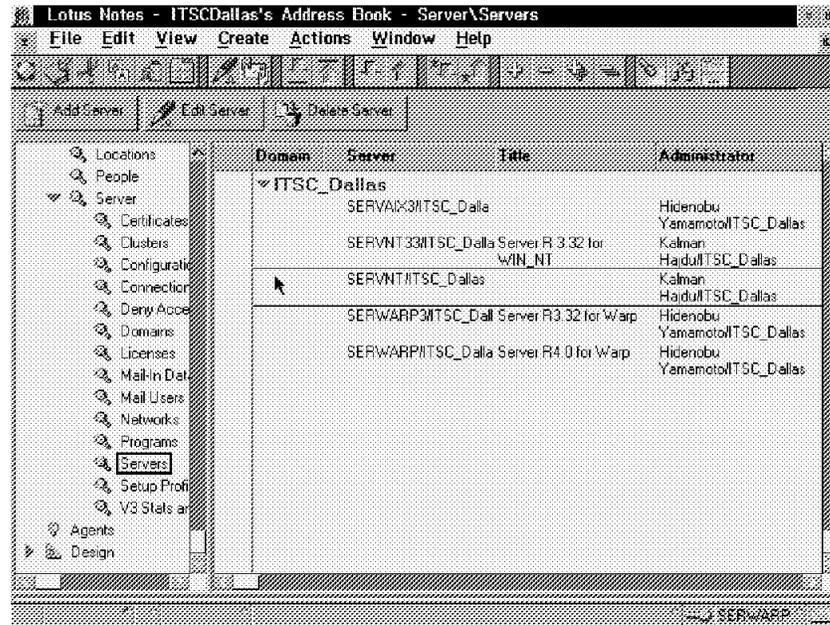


Figure 86. Name and Address Book

4.2 User Registration

Before you can install and set up Notes on workstations, you should first register the new users and prepare for workstation installation. Registering a new Notes user requires the following:

- A copy of the Certifier ID file
- Full user name
- Password of the Notes administrator

4.2.1 Adding a New Lotus Notes User

The Notes administrator can register new users and perform other administrative tasks from either a Notes Server or a Notes workstation.

Note: If the Notes server is running on a Windows NT Server machine, you should shut it down before doing any administrative tasks.

- From the Notes server, you can either double-click on the Lotus Notes Workstation icon or the Lotus Notes Administration icon to run the Notes Administration Program.
- From the Notes workstation, double-click on the Lotus Notes icon to run the Notes Administration Program.

To register a new Lotus Notes user, the following tasks must be performed:

1. Choose **File - Tools - Server Administration** from the Lotus Notes Workspace screen. The Lotus Notes - Administration screen, as shown in the following figure, will appear.

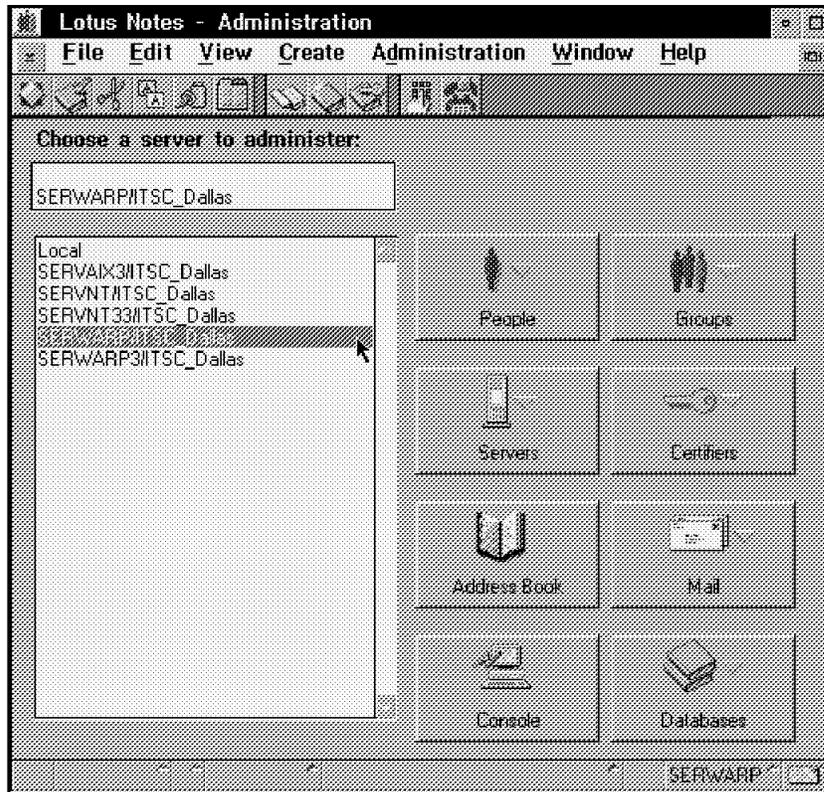


Figure 87. Server Administration Screen

2. Select a server to be the home server for the new user by clicking once on the name of the appropriate server.

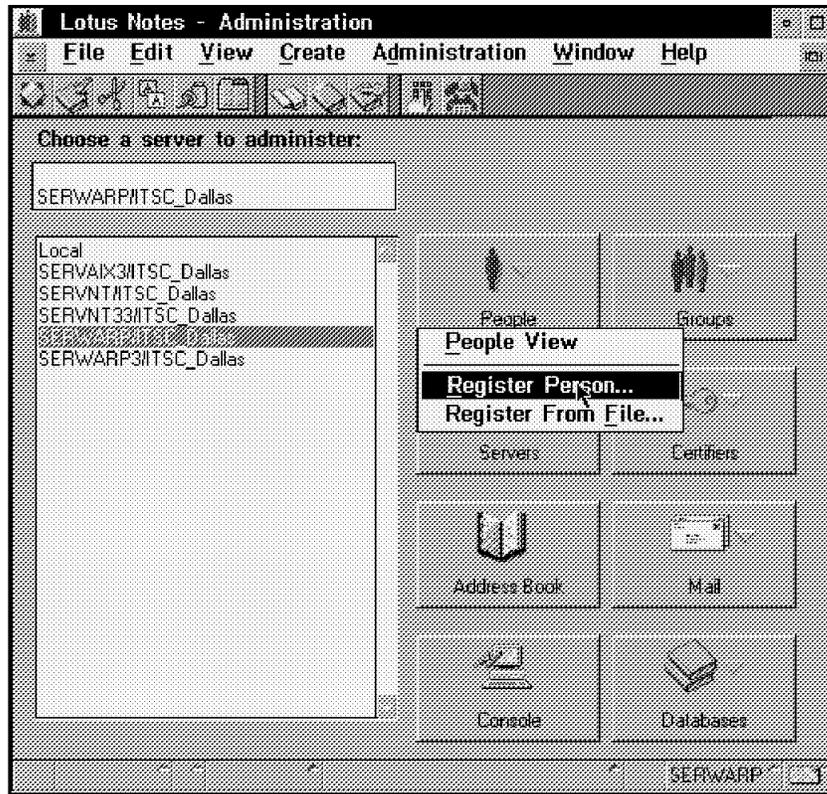


Figure 88. Select Register Person

3. Click on the **People** button and click on **Register Person** from the pop-up menu.

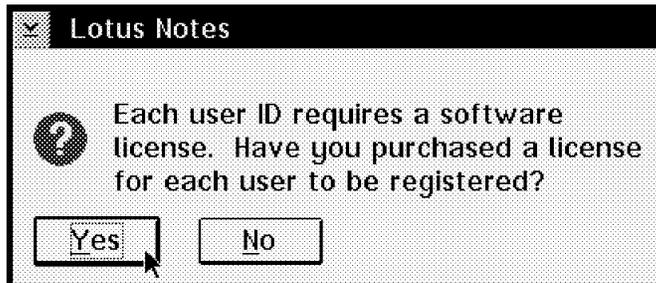


Figure 89. Message for License Confirm

4. A message asks if you have purchased a license for this user. If you have purchased a license, then click on **Yes** and select the appropriate one from the list of license types.

Note: If you are using a Lotus Notes workstation, Notes will first prompt for the Certifier ID. Select the drive, directory, and filename of the Certifier ID, then click on **OK**.

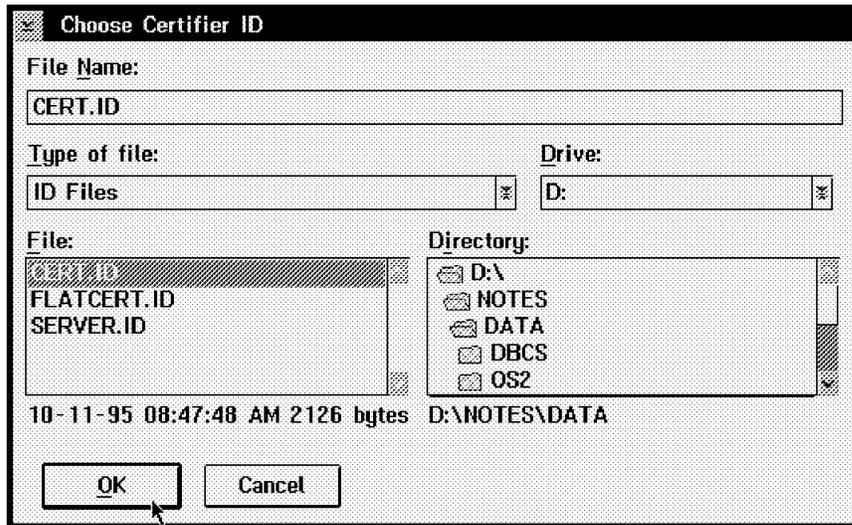


Figure 90. Choose Certifier ID

5. Input the password of the administrator.

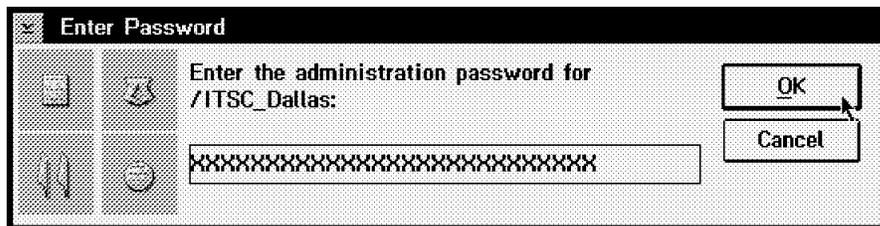


Figure 91. Enter Password

When the Enter Password screen appears, enter the case-sensitive administration password, then click on **OK**.

After you type in the correct password, then the Register Person screen, as shown in Figure 92, will appear. Some components can be changed on this screen.

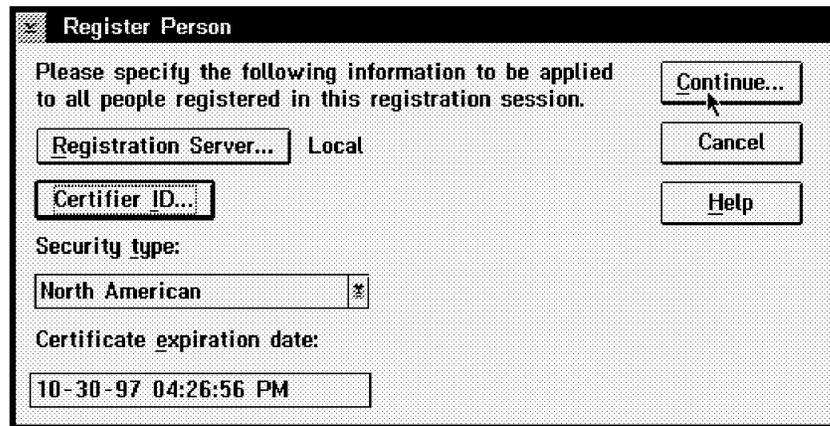


Figure 92. Register Person

1. Select **Registration Server**. Specify the name of the server where the new person's record will be added to the Public Name & Address Book.
Note: If you register a user from a Windows NT Server and specify the same server as the registration server, you must select **Local** because Notes cannot access a server which is not running.
2. Next click on **Certifier ID**, select the Certifier ID file, and then type in the administrator's password.
3. For security type, the North American security type is initially selected. Select International *only* if you will be using this ID on a computer with the International Version of Lotus Notes.
4. Change the Certificate Expiration Date as you like.
5. Click on **Continue** to enter additional information.

- Now, the Register Person screen, as shown in the following figure, will be displayed.

Figure 93. Register Person - Basics Screen

1. Type the user's first and last names and, to further distinguish the user, the middle initial, in the appropriate boxes. If you want a period after the middle initial, be sure to add one. Notes does not add the period automatically.
2. Enter a case-sensitive Password.
3. Enter a Minimum password length for this ID if you want it to be different from the system defaults.
4. Choose the appropriate License type for the new user's license.

Lotus Notes has three kinds of License types:

- Lotus Notes
- Lotus Notes Desktop
- Lotus Notes Mail

Each license type can also be designated as North American or International. Select the appropriate license type that you purchased. See the *Lotus Notes Deployment Guide* for more information on license type.

5. Select a user profile if you have defined a group user profile.

Lotus Notes Release 4 provide a method to customize the registration for a group of users in an organization at one time by a group user profile. The user profile contains default information on databases, the mail domain, passthru servers, and remote servers for a group of users. See the *Lotus Notes Installation Guide for Servers* for additional information.

- Click on the **Mail** icon to allow this user to use send and receive mail.

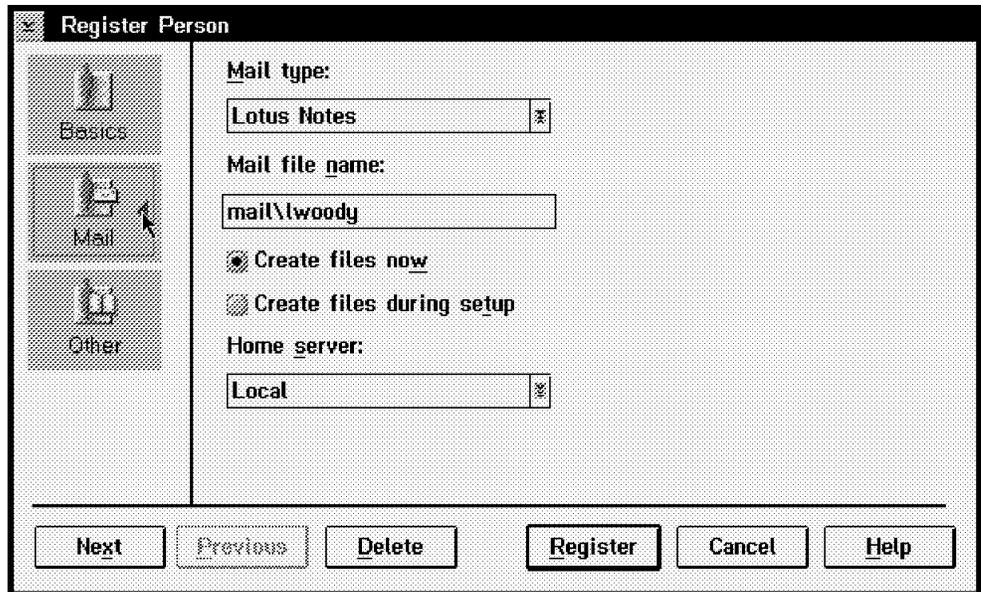


Figure 94. Register Person - Mail Screen

1. In the Mail type box, select the mail program you want this user to use. There are three choices for the Mail type in Lotus Notes Release 4: Lotus Notes, cc:Mail, or other VIM Mail.

If you select Lotus Notes, enter the name of the user's mail file and select whether you want to create the user's ID files now or when the user runs the Notes setup program at his workstation.

If you select cc:Mail or Other VIM Mail, enter the user's complete forwarding address.

2. In the Home Server box, select the name of the server that will store the user's mail file.

- Click on the **Other** icon to type in additional information about the user.

Figure 95. Register Person - Other

1. In the Comment box, enter any identifying information you want stored in the user's Person Document in the Public Name & Address Book.
 2. In the Location box, enter the server location of the user's Address Book.
 3. Select **In Address Book** or **In file** to indicate where you want the User ID file to be stored. If you want the User ID to be stored in a file, click **Set ID file** and specify the file name.
 4. Enter the unique organization for the user. This is useful only if you have two people with the same name in the same organizational unit. It helps to uniquely identify each person.
- Click on **Next** and repeat the actions to register multiple users.
 - Click **Previous** to view the previous user, and click **Delete** to delete the user.
 - Click **Register** to register the user(s).
 - A message asks if you want to register another user. Select **No** to terminate the registration process.

4.2.2 New User Information

After you have registered the new user(s), Notes can be installed and set up at each workstation. You will need the following information for each new user:

- The full user name followed by a slash and the organization name. For example, Lisa Woody/ITSC_Dallas.
- The User ID, either as a file on disk or as a file in the Name & Address Book.
- The User ID's temporary, case-sensitive, password.
- The home server's complete name followed by a slash and the organization name. For example, SERWARP/ITSC_Dallas.

4.3 Replication

Replication is a process through which Notes exchanges and distributes information to multiple copies of the same database. This section will start with a brief description on how replication works in Notes Release 3 and will then talk about what is new in Notes Release 4.

The following multidomain scenario was used to test replication during this project.

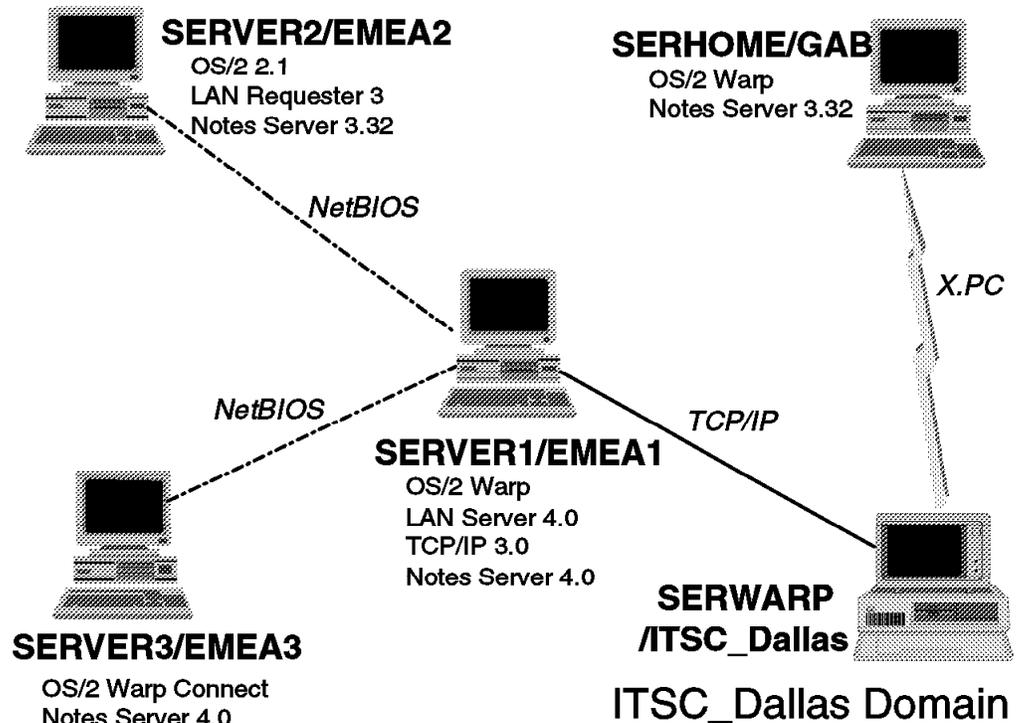


Figure 96. Multidomain Scenario

SERVER1/EMEA1 was migrated from Notes Release 3.32 to Notes Release 4.

Because different Lotus Notes Domains were involved, it was necessary to "exchange certificates" between the different Notes Servers. Each of the servers had to create a "Safe Copy Id File". In Notes Release 3 this can be obtained by **File - Administration - ID File - Examine - Create Safe Copy**. In Notes Release 4, you would create a "Safe Copy Id File" by **File - Tools - User Id - More Options - Create Safe Copy**.

Each Server then had to "Cross Certify" the Safe Copy Id File of each of the other Servers. In Notes Release 3 this can be done by **File - Administration - Certify ID - Cross Certify**. In Notes Release 4, cross certification is accomplished by **File - Tools - Servers Administration - Certifier - Cross Certify Id File**.

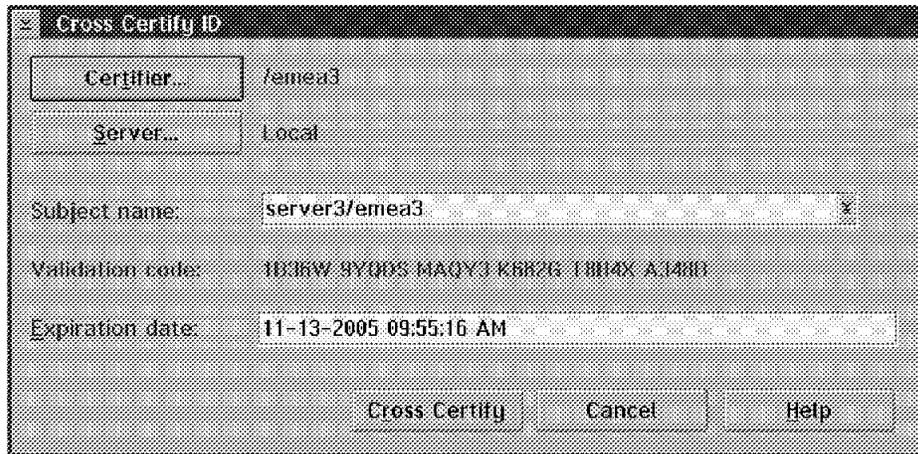


Figure 97. Cross Certify ID in Notes Release 4

4.3.1 Replication in Notes Release 3

- A Replicator “pulls” information from another Notes Server. Depending on the server’s access level, the Replicator can pull additions, deletions, and changes for documents, forms, views and Access Control Lists (ACLs).
- All Notes databases have a *Replica ID*. Replicated databases have the same Replica ID.

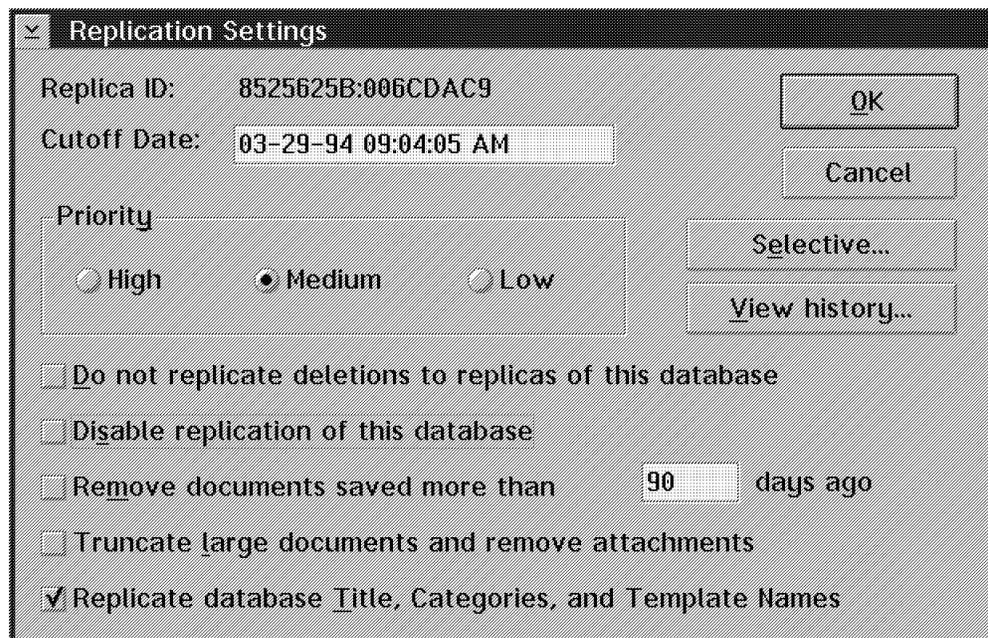


Figure 98. Replica ID in Notes Release 3

- Each Notes Server has only one Replicator.
- A Replicator can only pull from one Notes Server at a time.
- A Notes Server “can be pulled” by more than one Replicator at the same time.

- Notes Release 3 replicates at the “document level”. When a field is modified, the entire document is replicated. This can be quite a lengthy process if rich text fields are involved.

4.3.2 When Does Lotus Notes Replicate?

There are several ways to cause Lotus Notes to replicate a database.

- One way is to select **File - New Replica**. The following dialog, as shown in Figure 99, appears.

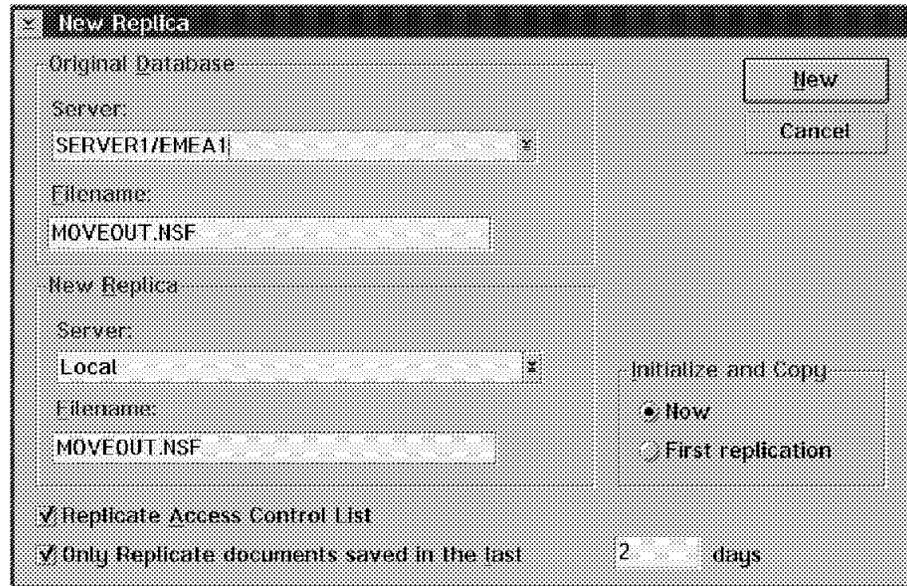


Figure 99. New Replica in Notes Release 3

- If **Now** is selected in the “Initialize and Copy” box, the original database is copied immediately to the new location. This is a foreground task.
- If **First replication** is selected in the “Initialize and Copy” box, an empty “Replica stub” of the original database is created in the new location’s desktop. The actual replication will happen at the next “replication schedule” or by typing `Replicate server <name>` or `Pull server <name>` at the new location’s Notes Server console, where <name> is the name of the Server you want to replicate the database from.

- Another way to cause Lotus Notes to replicate a database is to create a Connection Document in the Public Names & Address Book database.

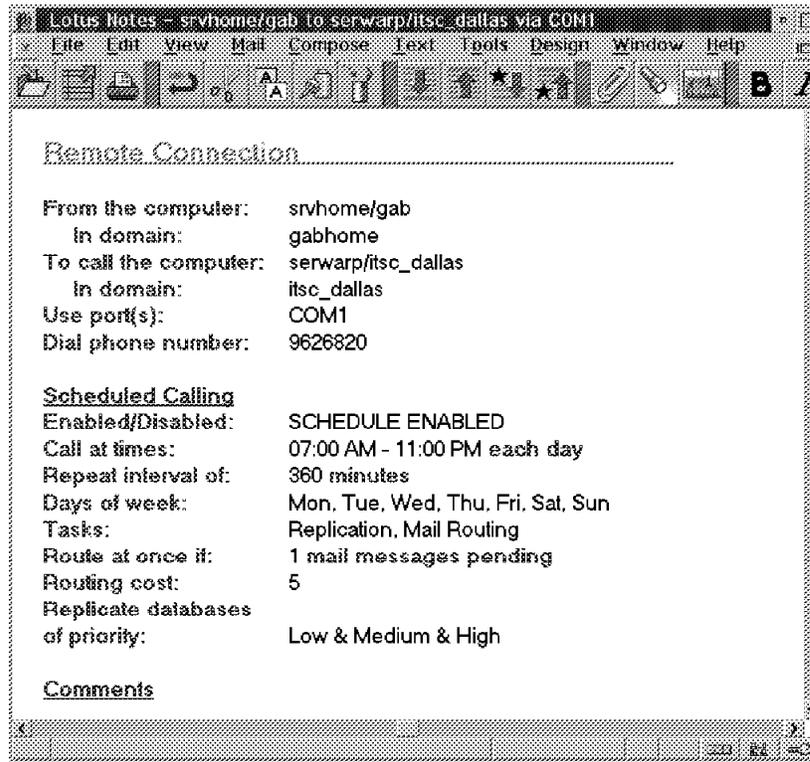


Figure 100. Connection Document in Notes Release 3

In this example, the server, SRVHOME/GAB, "pulls" the server SERWARP/ITSC_DALLAS every 360 minutes, each day, between 7am and 11pm. The communication is via a dial-up line through the COM1 port.

For the server, SERWARP/ITSC_DALLAS, to replicate with or "pull" the server SERHOME/GAB, a similar Connection Document must exist in the SERWARP/ITSC_DALLAS Public Names & Address Book.

- Type Replicate or Pull at the Notes Server Console. These two commands force an immediate replication.

4.3.2.1 Selective Replication

Selective Replication is a way to specify which documents and database elements will be replicated.

Select **File - Database - Information - Replication - Selective**.

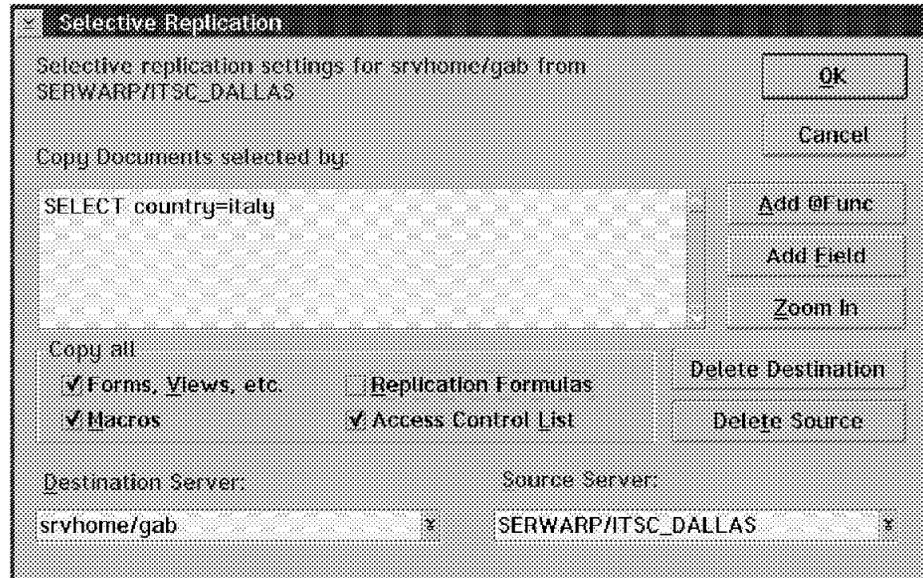


Figure 101. Selective Replication in Notes Release 3

In this case, only the documents where the value in field "country" is "italy" will be replicated.

4.3.2.2 Replication Conflicts

A replication conflict happens when two or more users update the same document in different replicas of the database. The document on the server with the most changes becomes the "winner". If the same number of changes happened, then the document modified most recently is the winner. The other documents then become "response" documents to the original document and appear in a view marked with a diamond-shaped symbol.

It is then possible to make the response document the main document or to cut/paste information between the response document and the main document.

4.3.3 What's New in Notes Release 4?

As in Release 3, each Release 4 database has an associated unique Replica ID. You can see this Replica ID by selecting **File - Database - Properties**.

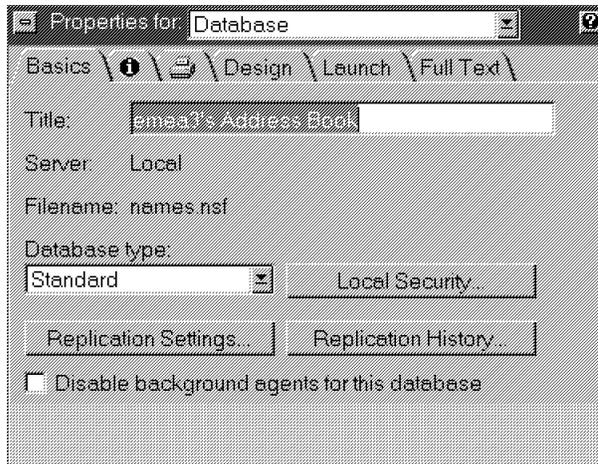


Figure 102. Database Properties Dialog Box

By selecting the "i" for "information", the Database Replica ID is displayed as shown in Figure 103.

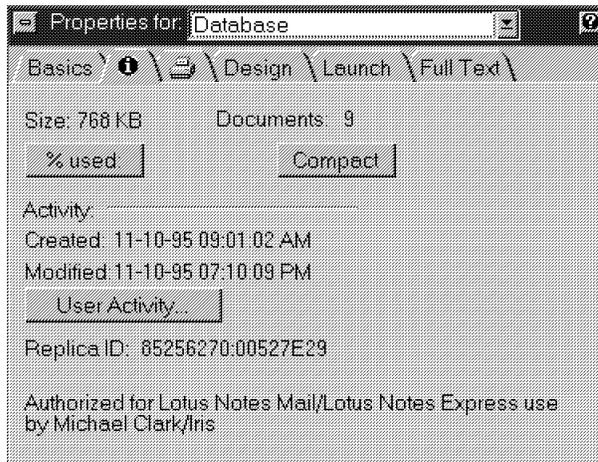


Figure 103. Replica ID

By selecting **Replication Settings** from the Database Properties Dialog Box as shown in Figure 102, the following dialog will appear.

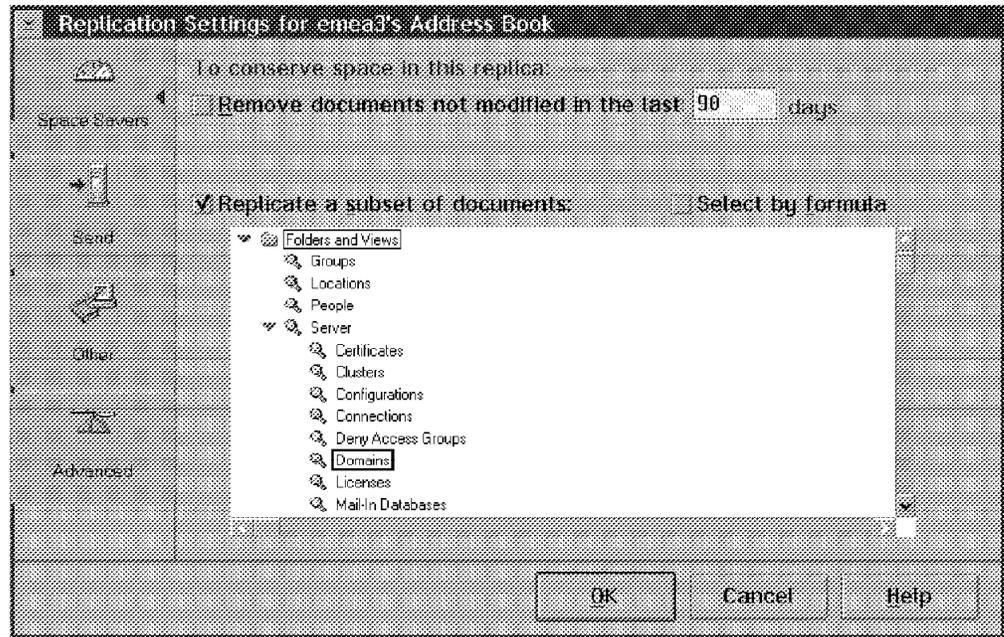


Figure 104. Replication Settings

With Lotus Notes Release 4, it is now possible to select a subset of documents to replicate without knowing how to write a formula. The selection is based on a view or a folder. That is, only documents within this view or folder will be replicated. It is, of course, still possible to write "Replication Formulas" if needed.

By selecting either the **Send**, **Other**, or **Advanced** option, it is possible to control a variety of replication characteristics, such as replication priorities and whether formulas, forms, views, access control lists, agents, deletions, and so on, should be replicated.

From the Database Properties dialog box it is also possible to select **Replication History**. This will show the history of all the replications of the selected database, either by date or by Server name.

Notes uses the Replication history information to determine the date of the documents to include in the database's next replication with a particular server.

A new Release 4 feature is *Local Security*. If this option is selected in the Database Properties dialog box, the following window appears.

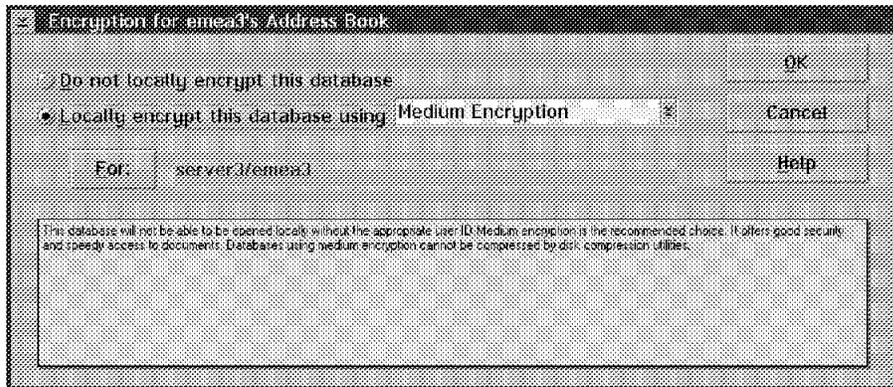


Figure 105. Local Security

It is now possible to locally encrypt a database. The kind of encryption can be either simple, medium or strong. This feature can be very important in conjunction with local replication in a disconnected user scenario.

If Local Background Indexing was enabled, Notes automatically updates each database's full text index and views in the background after replication. To enable the Local Background Indexing, select **File - Tools - User Preference**.

In Release 4 all replicas of a database can be "stacked" in one icon. This icon has a little down-arrow. By selecting this arrow it is possible to select which replica should be opened. The default replica is determined by the Location Document in use.

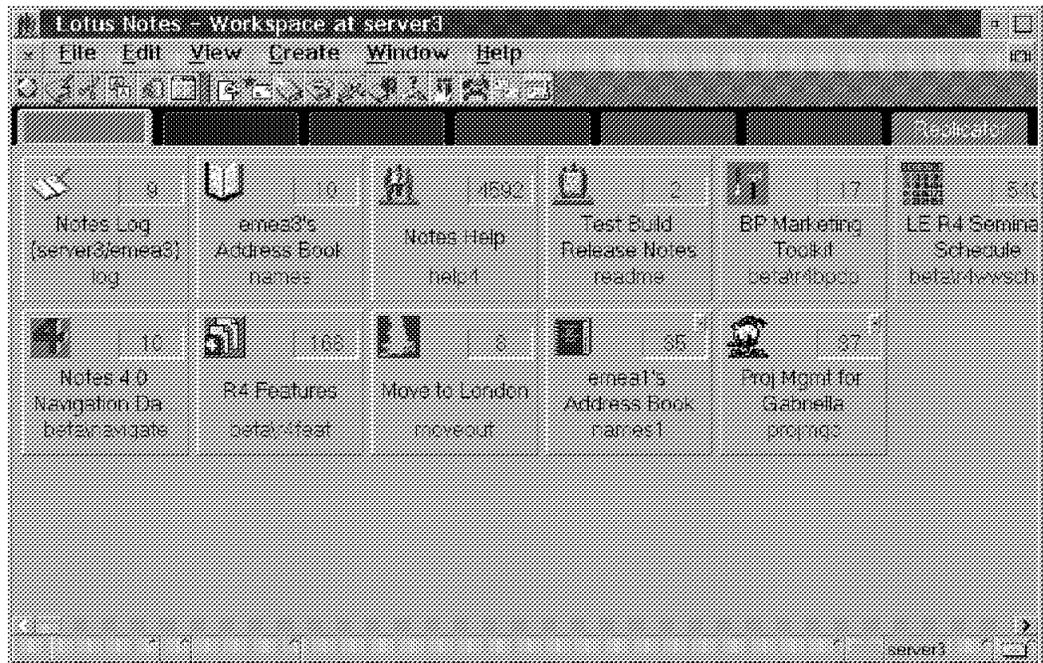


Figure 106. Stacked Replica Icons

4.3.3.1 When Does Lotus Notes Replicate?

If you select **File - Replication - New Replica**, the following screen will appear.

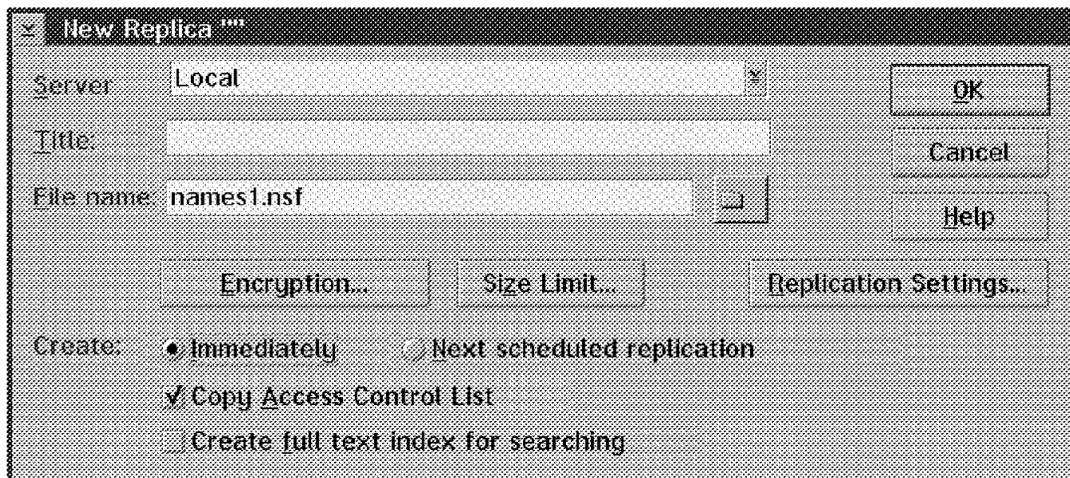


Figure 107. New Replica

If **Immediately** is selected, the original database is copied immediately to the new location. This is a foreground task. If **Next scheduled Replication** is selected, a "Replica stub" of the original database is created in the new location's desktop. The actual replication will happen at the next replication schedule or by typing the command `Replicate server <name>` or `Pull server <name>` at the new location's Notes Server console where <name> is the name of the Lotus Notes Server.

Release 4 allows you to specify the maximum size associated with the database. The maximum size allowed is 4 Gigabytes.

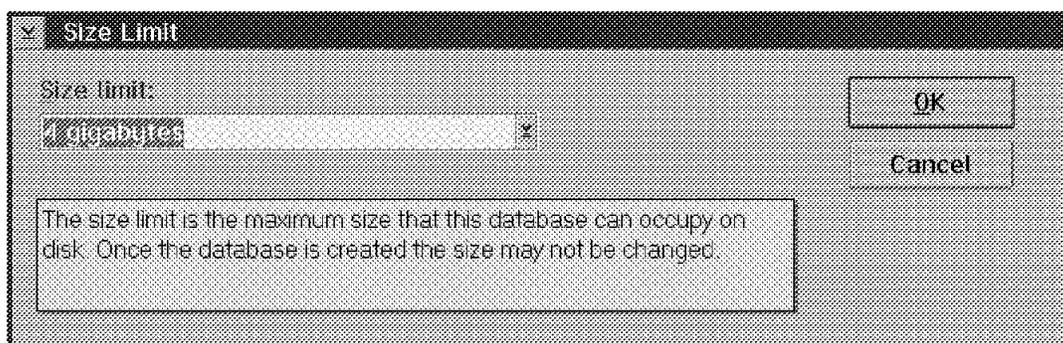


Figure 108. Database Size Limit

If the database already exists on the desktop, it is possible to force a replication by one of the following procedures:

- Select **File - Replication - Replicate**.
- Select the related smarticon in the Notes desktop.
- Left click on the database itself and select **Replicate** in the pop-up menu.

All of these tasks run in the background.

When **File - Replication - Replicate** is selected, it is possible to further choose **Replicate with options** which will cause the following screen to appear.

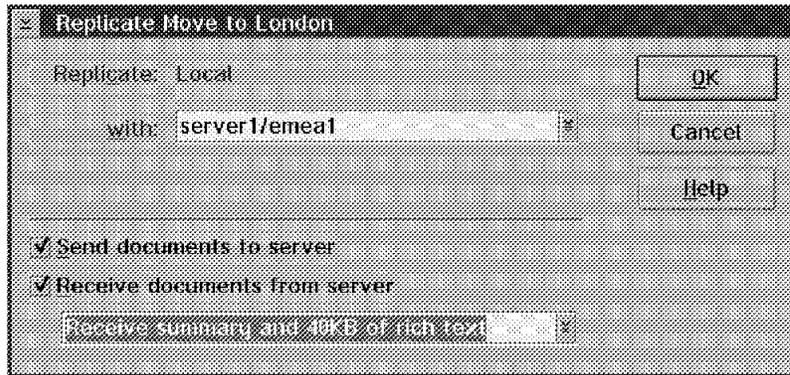


Figure 109. Replicate with Options

It is now possible to:

- Select the Server to replicate with.
- Select send and/or receive documents.
- Select whether full documents, summary only, or summary plus 40 KB of rich text should be sent/received.

The summary includes basic document information, for example, subject, author, and so on.

It is possible to disable replication for a database via **File - Replication - Settings - Other - Temporarily Disable Replication**.

4.3.3.2 The Replicator

In the Notes Release 4 desktop there is a "tab" whose title is Replicator. It is the last tab and cannot be renamed.

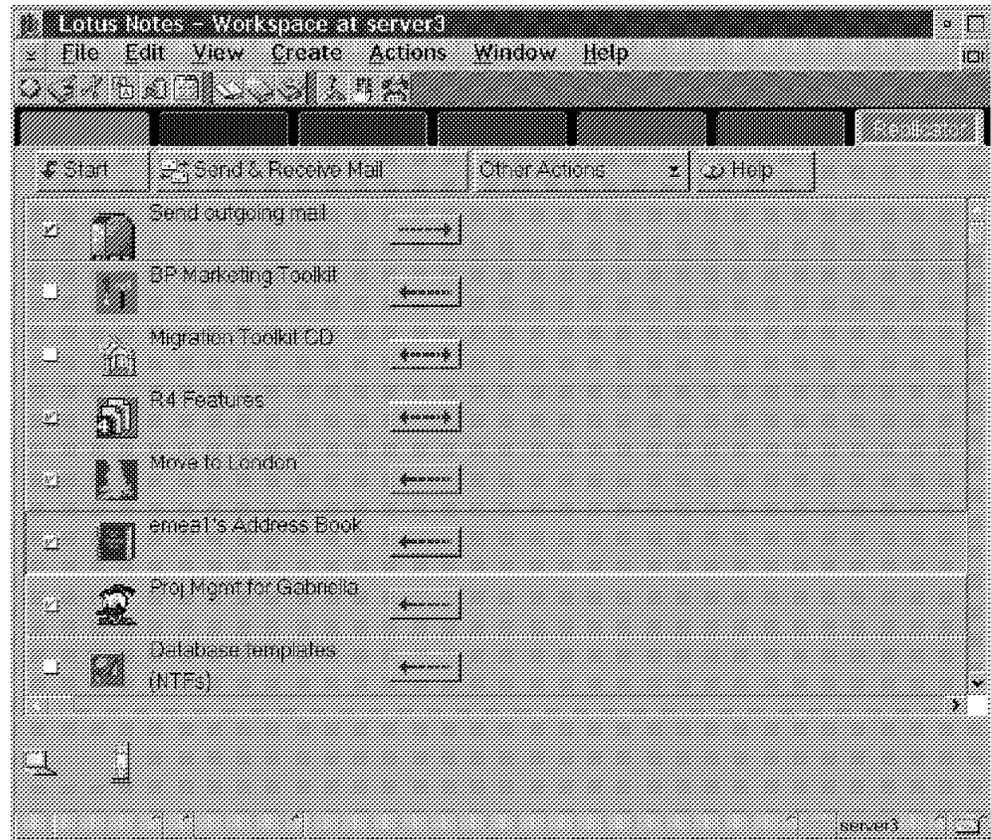


Figure 110. Replicator Tab

The Replicator screen gives a graphical representation of all the Replication activities related to the local server or workstation. The most recent replication history of the shown databases is also displayed.

It is possible to graphically select which databases should be replicated and to determine the replication order, via moving the database icons up or down.

Each selected database can be replicated with a different server. Replications can be started and stopped dynamically. Using the Replicator tab, it is also possible to manage all other disconnected related activities, such as calling the home server, and sending the outgoing mail. The Replicator's settings are based on the Location. The Replicator performs the current location replication schedule in the background. It is possible to specify different replication schedules for different locations. See section 4.5, "Locations" for additional information.

4.3.3.3 Connection Document

In the Release 4 Connection Document there are several new fields:

- Replication Type - This is a "Keywords" field with the following choices:
 - Pull Pull
 - Pull Push
 - Pull Only
 - Push Only

When migrating from Release 3, Notes sets the Replication Type field to "Pull Pull". If the setting ServerPushReplication=1 was added to the NOTES.INI file, then Notes would use the "Pull Push" Replication method.

- Files to Replicate - This field is used to specify which databases should be replicated. The default value is "all".
- Replication Time Limit - This field is used to specify a time limit for the Replication process, instead of waiting for the entire Replication to complete.
- Connection Type - This is a "Keywords" field with the following choices :
 - Local Area Network
 - Dialup Modem
 - Passthru Server
 - Remote LAN Service
 - X.25
 - SMTP
 - X.400
 - cc:Mail

When the Passthru option is chosen, the Use passthru server field appears in the Connection Document. This option allows the usage of one or more intermediary servers as "stepping stones" to access a target server.

The Remote LAN Services option supports the use of remote dial-in access facilities, such as the Microsoft Remote Access Services (RAS).

The SMTP, X.400, cc:Mail options were not supported in Notes Release 4 Test Build 2.

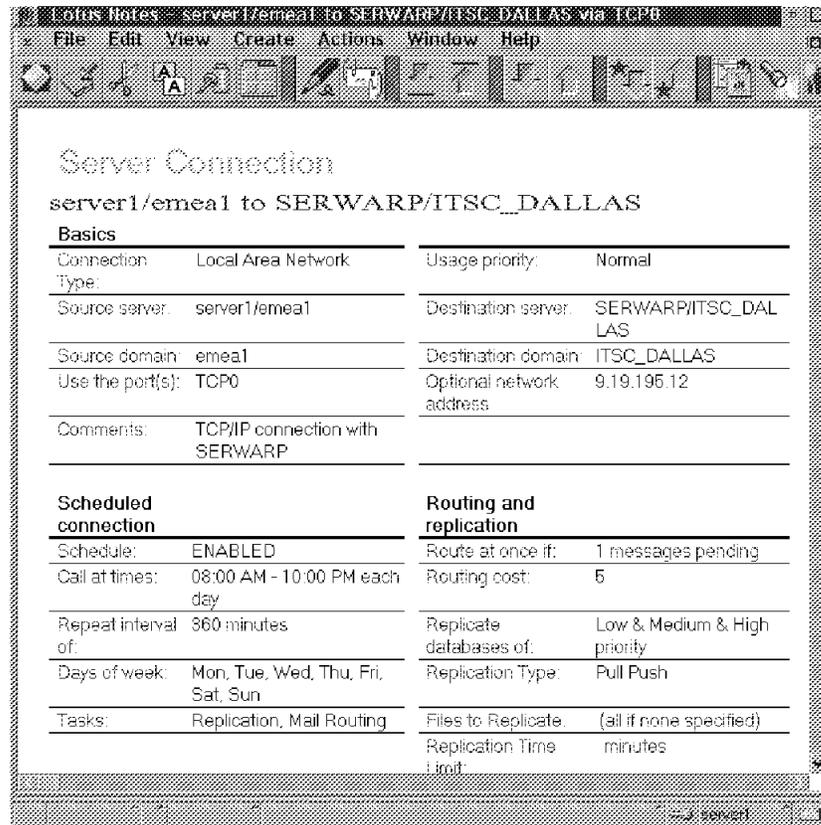


Figure 111. Connection Document

- The Notes Log can give a very useful summary of all the replication activities on a Notes Server.

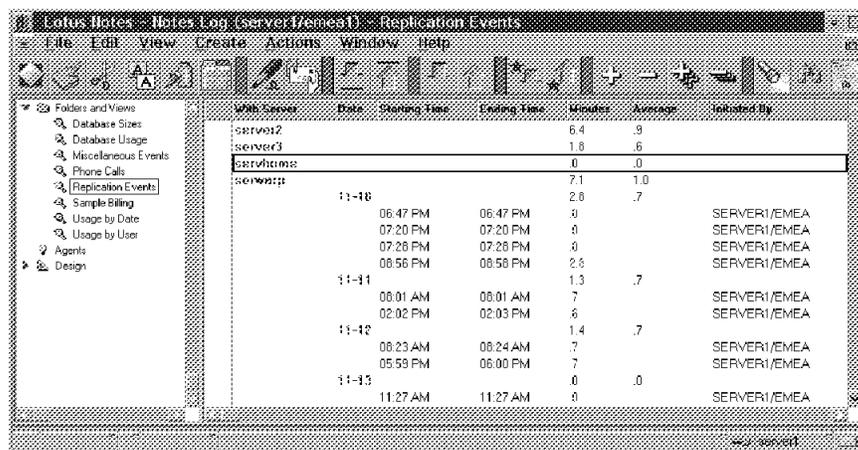


Figure 112. Replication Notes Log

In Notes Release 4, the Notes Log is organized in Folders and Views. This provides a very useful way of targeting various Administrative inquiries, such as Replication events, Database Usage, Phone calls, and so on.

The example shown refers to various replication activities started on SERVER1/EMEA1.

4.3.3.4 General Notes Release 4 Replication Enhancements

- It is now possible to run multiple Replicators on a single Notes Server. Each Replicator can replicate with a different server. Multiple Replicators cannot replicate with multiple databases on the same server.
- Notes Release 4 performs a Field level Replication, instead of a document level replication as in Release 3.

When Notes replicates between the Release 4 databases, it scans each document for fields that are modified and replicates only those fields instead of the entire document. To take advantage of this feature, databases must be at the Notes Release 4 level.

Field level replication has significant performance benefits and reduces replication conflicts.

- There are also several general performance improvements in replication over Release 3.
 - Instead of dynamically building a list of matching databases between two servers, each server maintains in memory a list of databases on that server.
 - Instead of scanning the destination database for matching information every time a replication occurs, Notes uses an index of the database stored in memory to search quickly for matching information.

4.3.3.5 Replication Conflicts

- Replication conflicts can now be resolved at the application design level. Form designers can add the \$ConflictAction field to a form. This field should be a computed numbers field, whose values can be either 1, 2 or 3.
 - 1 = Merge. Merges the two documents if there is no field level conflict.
 - 2 = UpdatedBy. Checks the \$Updated field and chooses a winner based on the \$ConflictUpdatedBy field.
 - 3 = Formula. The winner is based on the \$ConflictFormula field.
- An alternative way of solving replication conflicts is to make a form that consolidates replication conflicts. This is achieved by marking the Merge replication conflicts option in the **Design - Form - Properties** dialog box.

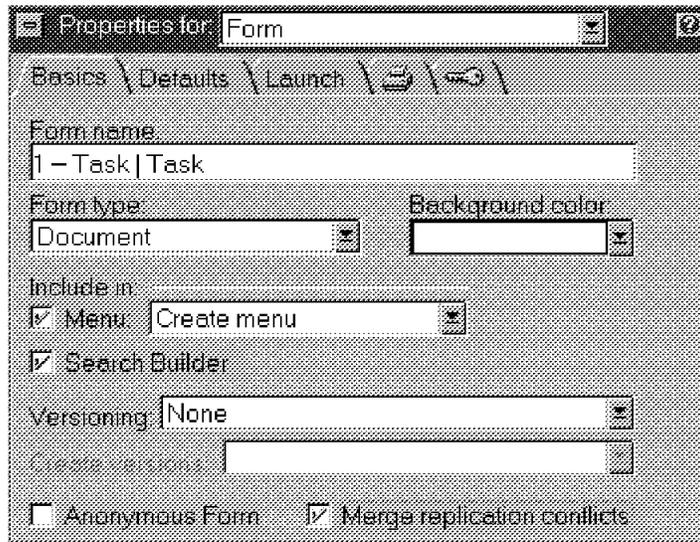


Figure 113. Merge Replication Conflicts

The result of this action is that all the replication conflicts are consolidated into a single document. This makes it easier for an editor to view the different versions and update the final text in the main document.

4.4 Passthru Server

In the past, for two Notes Servers or for a Notes Server and a Notes client to communicate, it was required that they have at least one network protocol in common. For example, a Notes workstation running the NetBIOS protocol could not use databases on a server whose only protocol was TCP/IP. Because each connection between machines had to be direct, it also meant that a dial-in user could only access the server into which he was dialed. The implementation of a *passthru server* in Notes Release 4 changes all that.

A Notes passthru server has the capability to route communications between Notes clients and servers running different protocols. This means that the NetBIOS client can now use databases on the TCP/IP server simply by routing through a server running both protocols. In addition, a mobile user can connect via X.PC to a passthru server and have access to multiple Notes servers with a single phone call. Not only does this greatly increase the user's convenience, but it allows modems to be deployed more efficiently.

A passthru server need not be dedicated to that activity, if its activity will be low. In a low volume situation, a server could serve as a mail router, a replication hub, or a database server as well. For performance in a high volume situation, a dedicated machine is recommended.

Two things are necessary in order to set up a passthru server. A Server Connection Document must be created in the Public Name and Address Book, and the Server Document for the passthru server must be updated with who is allowed to use the passthru capability. We chose to make SERWARP our passthru machine, since it supported three protocols NetBIOS, TCP/IP and X.PC. A Server Document was created to allow the Windows 3.1 client, running only NetBIOS, to pass through the OS/2 Warp server to the AIX server, running only TCP/IP.

For a server to server connection, the document is stored in the Public Name and Address Book. For a client to server connection, the connection is stored in the Personal Name and Address book.

In order to make the process more automatic for users, it is possible to define a profile that is used when a user is created. That profile can specify a default passthru server. At setup, the connection record is added to the name and address book automatically.

4.5 Locations

A location is a place where you work with Notes using certain communication settings. You might connect to the Notes servers over a LAN at the office, and use a remote port at home to connect to the Notes servers via a modem.

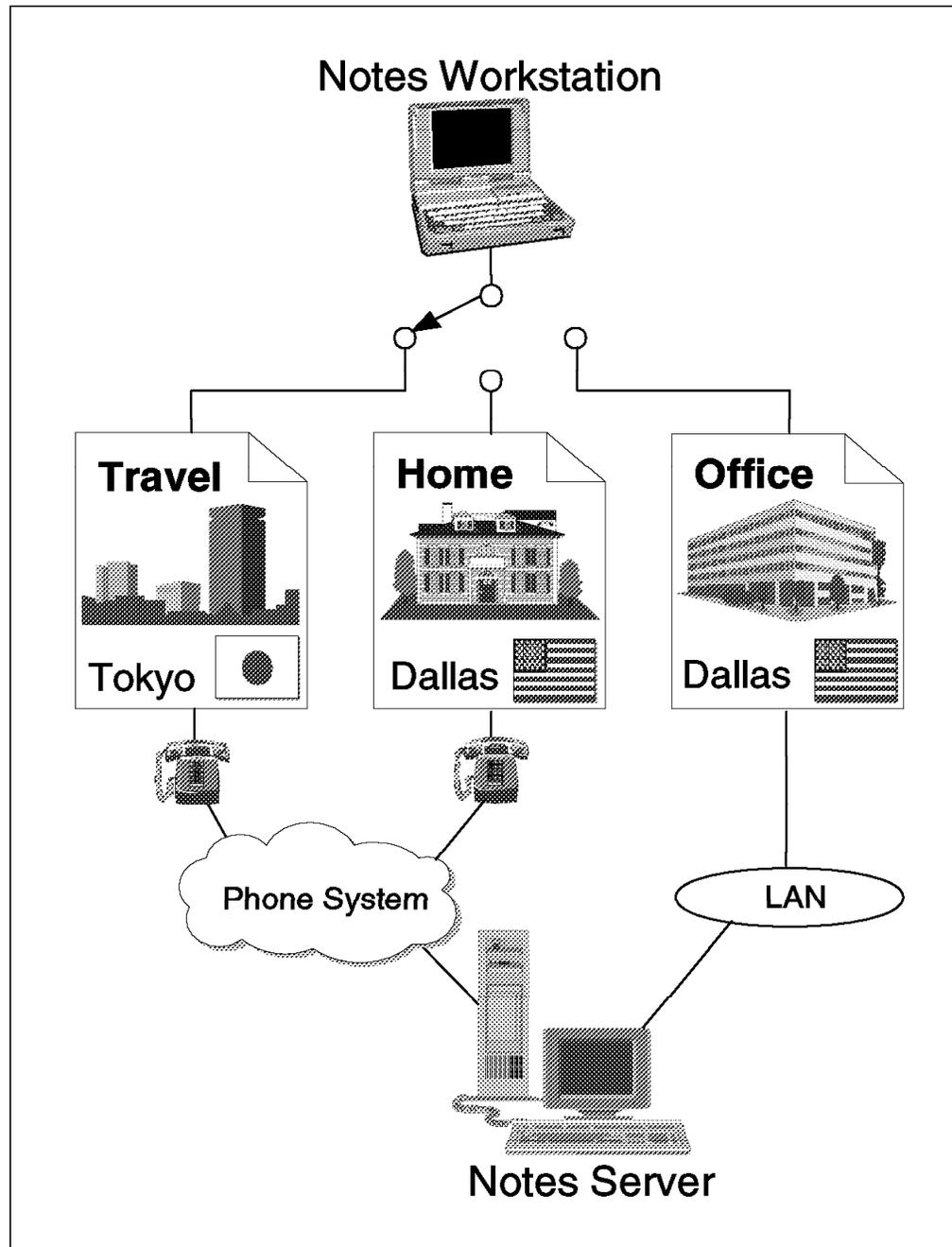


Figure 114. Different Locations Use Different Location Documents

Notes lets you create Location Documents in your Local Name & Address Book to store communications settings specific to each location. When you install Notes, it automatically creates three Location Documents in your Local Name & Address Book -- Office (Network), Travel (Modem), and Island (Disconnected). You can add or edit the documents. Then you can use Notes in different locations depending on the Location Document you choose.

The following describes our scenario. Assume that you have four different locations:

- The Office in Southlake is an office location which connects to the Notes Server SERWARP over a TCP/IP network.

- The Office in ITSC Dallas is an office location which connects to the Notes Server SERWIN95 over a NetBIOS network.
 - Home is a remote location which connects to the Notes Server SERWARP via X.PC protocol. The dial-in number of this location is an external telephone number.
 - The Lab is a remote location which connects to the SERWARP via X.PC protocol, but the dial-in number is an internal telephone number.
1. First, you should set up each of the different locations. For instance, we set up *Home* as a remote location.
 2. Enable a modem port.

If you create a remote location which connects to the Notes Server via the phone system, you must enable the port that your modem is connected to. For a discussion of how to enable a modem port, please see section 4.8, "Remote Connection" on page 124.

3. Create/modify a Location Document.

You must create a Location Document for each place where you work with Notes using specific communication settings. For example, Home is a remote location which we will setup here.

4. Open your Local Name & Address Book. Open the Location folder. Select **HOME**. Click the **Edit Location** button as shown in Figure 115. Another way to do this is to select **File - Mobile - Locations** from the menu, then select a location to edit or add a new location.

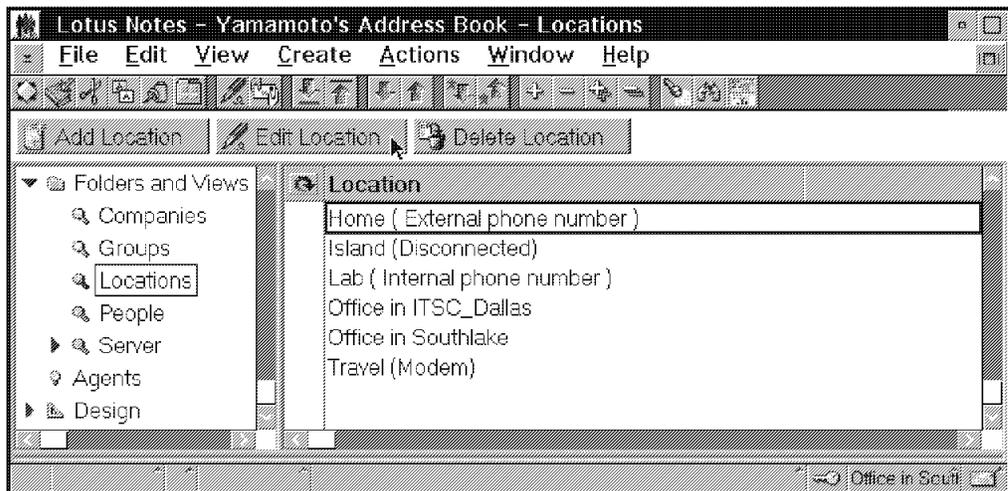


Figure 115. Open Location Document

5. Customize the Location Document, as shown in Figure 116, using the specific communications settings and save it.

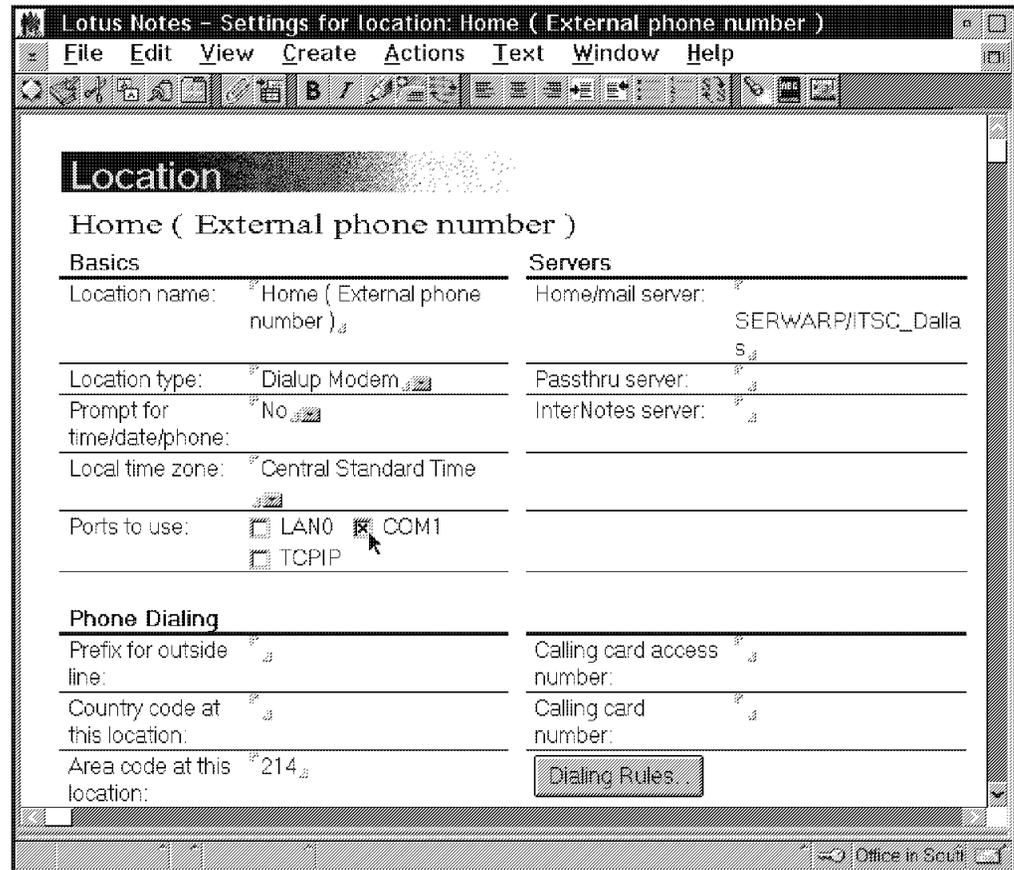


Figure 116. Location Document

- Location name will appear in the Local Name & Address Book.
- Location type determines what kind of communication this location will use to connect to the home server.
- Ports to use means what kind of port should be used in this location. It depends on the location type. If it is a remote location using a dialup modem to connect to the Notes server, you should choose COM1. The ports which appear here are determined by what kind of port you enabled in the first step.
- Home/mail server specifies the name of your home server. Notes calls this server from this location. The server name should be combined with the domain name.

Note: The Dialing Rules dialog box will have no rules if you do not set up a Connection Document which specifies the phone information of your home server.

After you have set up the Connection Document, you should open the Dialing Rules dialog box in the Location Document. Verify or select a server that this location will call to and verify that the phone number is the proper one in this location. You can modify the phone number in the dialog box.

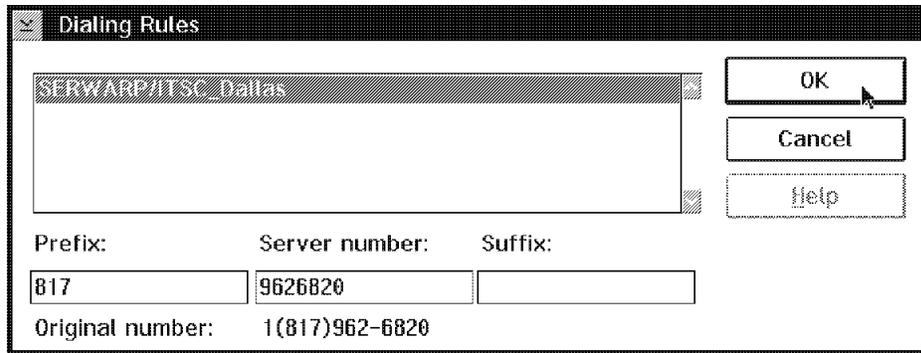


Figure 117. Dialing Rules

4.5.1.1 Create a Connection Document

Connection Documents store the communication information of how a Notes workstation can connect to a Notes Server. If you want to call your home Notes Server remotely, you must create a Connection Document to store the phone information of your home server.

1. Open your Local Name & Address Book. Open the Server folder. Open the Connections folder under the server folder. If you want to modify a Connection Document, select it and click **Edit Connection**. If you want to add a new Connection Document, just click the **Add Connection** button as shown in Figure 118.

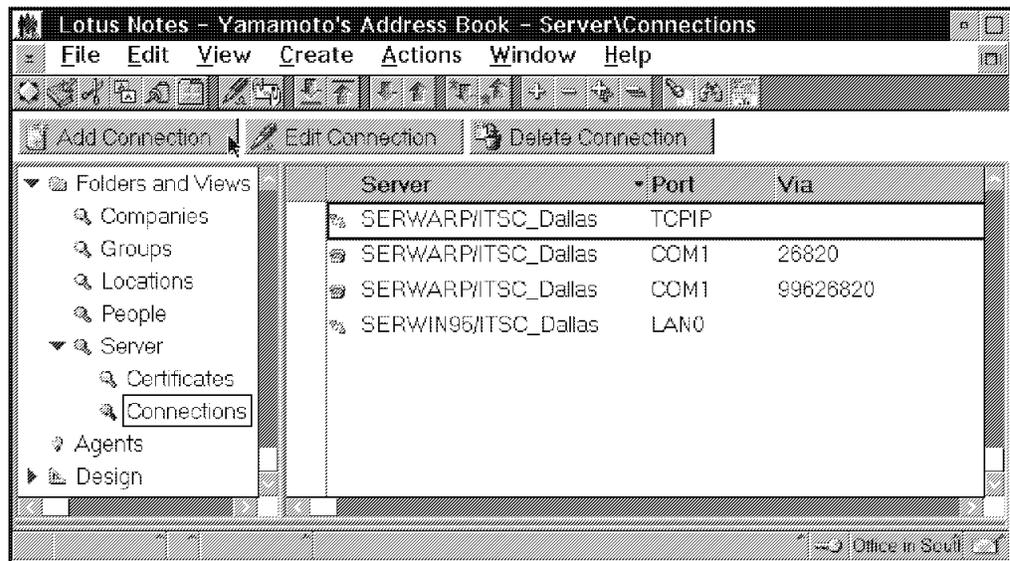


Figure 118. Open Connection Document

2. Setup the Connection Document. The Connection Documents have different styles depending on whether it is a remote connection or a network connection. For example, we added a dialup Connection Document.

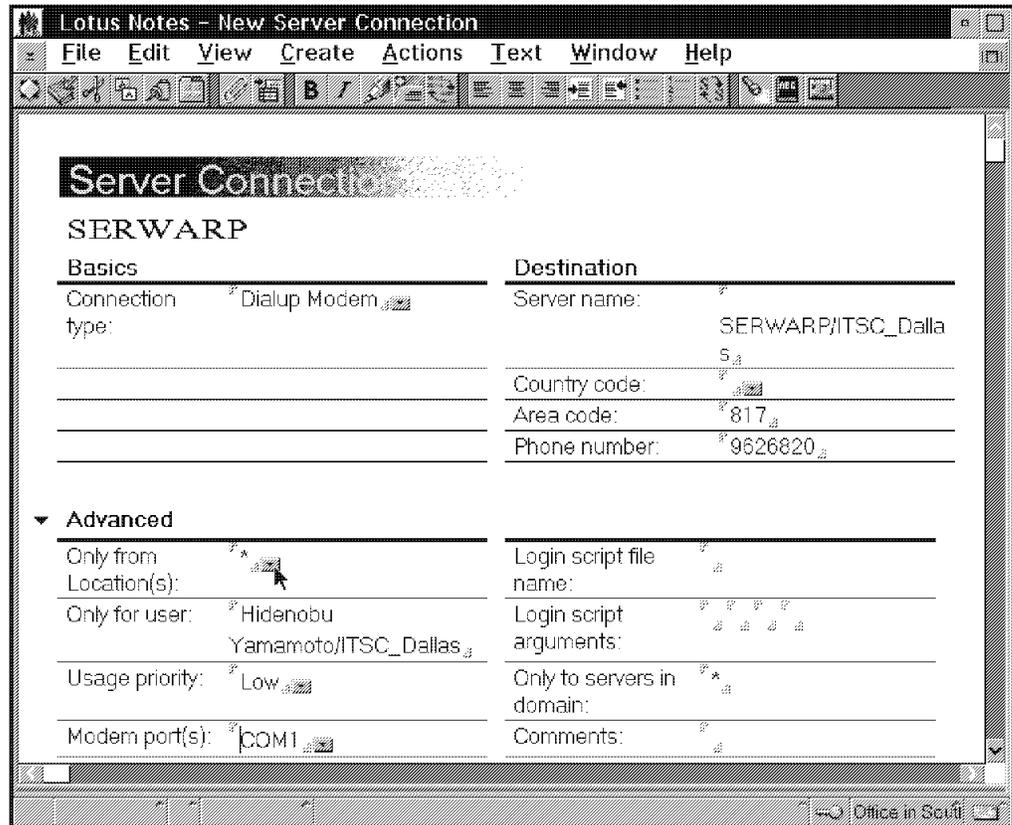


Figure 119. Dialup Connection Document

- Connection type determines the communication protocols used to connect to the server.
- Server name indicates which server this workstation will connect to. The server name should be combined with the domain name.
- Phone information includes the country code, area code, and the phone number. If you want to call this server at a certain location, you should verify the phone number in the Dialing Rules dialog box in the Location Document.
- In the advanced information area, you can specify that this Connection Document can be used only from a certain location.

The following two figures show the Location Document and the Connection Document for a Local Area Network Connection. First, you should choose the network port. For more information, see section 4.6.1.1, "Setting Up the Communications Port" on page 94. Then select the correct network port in the two documents. The other information in the document is similar to the Remote Connection Document, excluding the phone information.

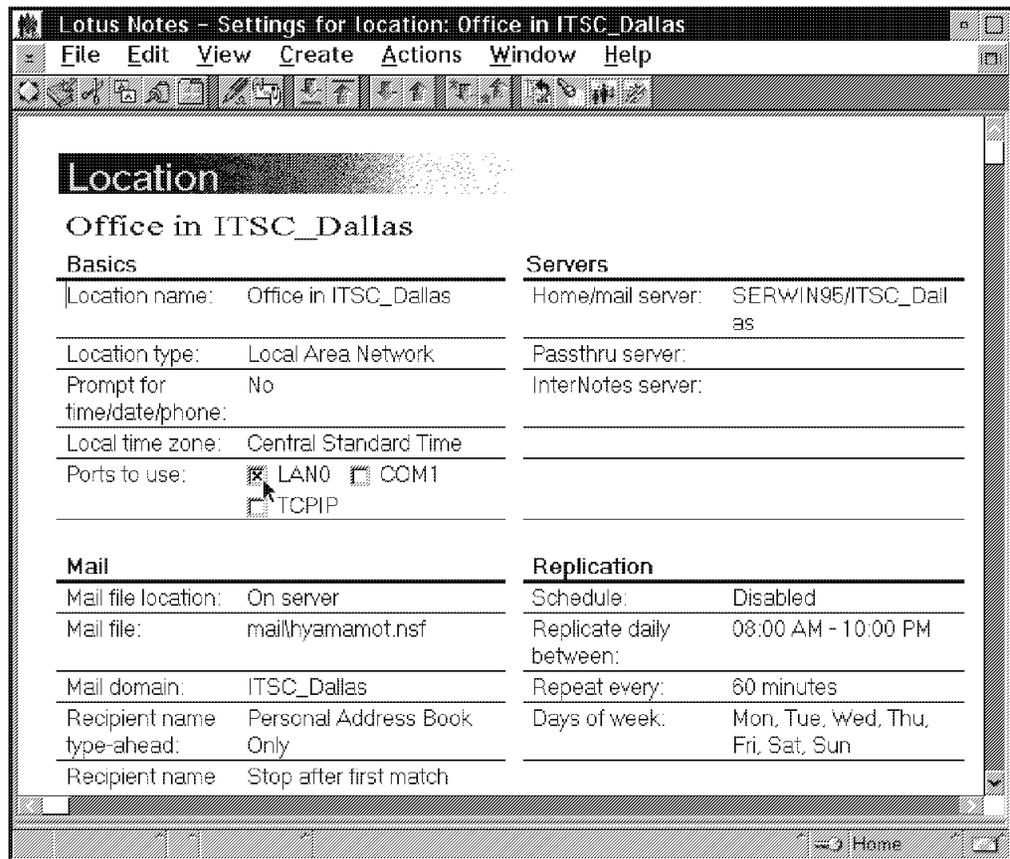


Figure 120. Location Document for LAN Network Connection

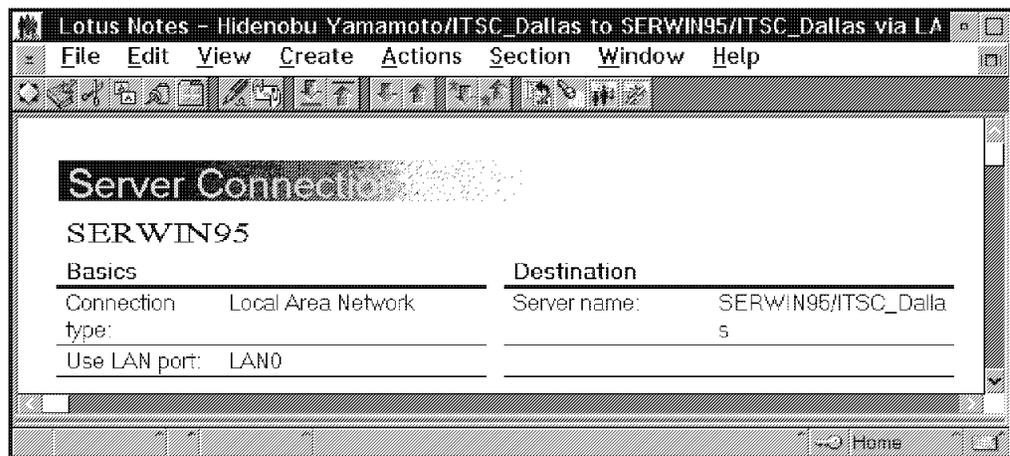


Figure 121. Connection Document for LAN Network Connection

4.5.2 Switch Locations

If you travel to another location and want to connect your Notes workstation to your home Notes Server, the only thing you have to do is to click the appropriate Location button. On the status bar in the Notes window, between the key and the envelope symbol, choose the current location. Then the Notes workspace will change to this new location. The Replicator tab is changed. If the location

is changed to a remote location, you can see that the Call Server and Hang Up action bar were added to the replication procedure.

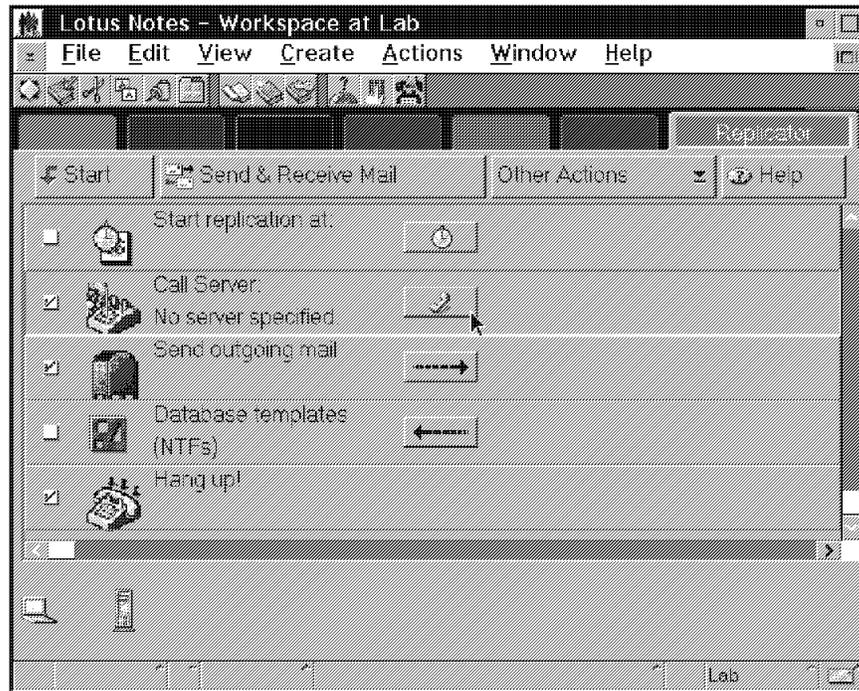


Figure 122. The Replicator Tab of Remote Location

4.6 Networking

This section describes how to configure the network port for Lotus Notes and provides some hints on how to do it successfully. If you are going to configure the network, you must have the basic network management skills for the protocol you want Notes to work with.

4.6.1 Configuring the Network

You can change the network configuration after installation of Notes. On the primary server, SERWARP, for example, we enabled the NetBIOS protocol during the installation process, then we added TCP/IP and X.PC protocol support after the installation. This section includes the TCP/IP port configuration. The X.PC configuration is described later.

Before configuring Lotus Notes communication ports, of course, you must complete the installation and configuration of the operating system and/or networking software and make sure that the network protocol works correctly.

To configure the network, you must set up the communication ports of Notes. For the Notes Server, you must also modify the Server Document. You cannot change the configuration with the server running, therefore, first you must shut down the server.

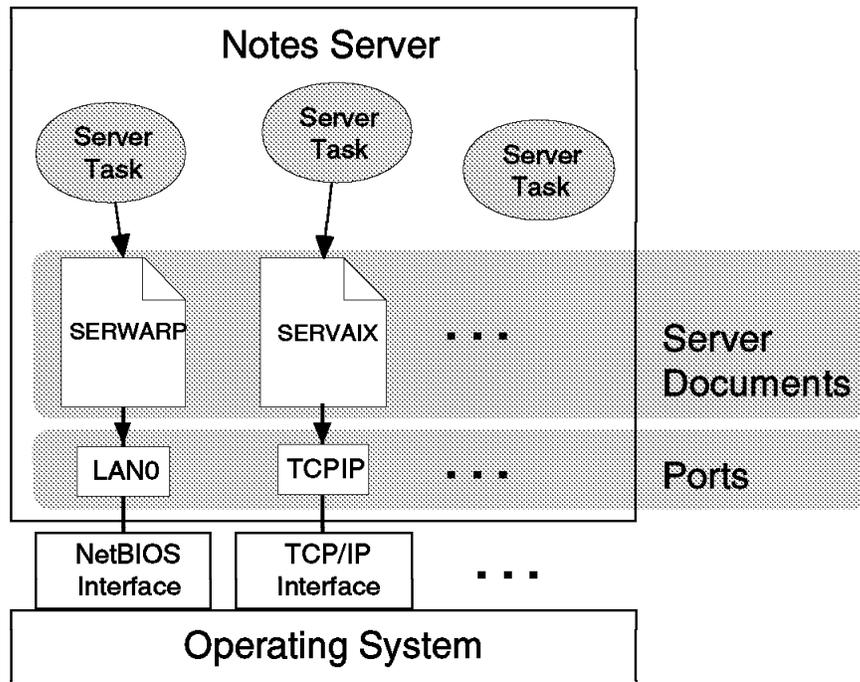


Figure 123. Server Documents and Ports

4.6.1.1 Setting Up the Communications Port

Select **File - Tools - User Preferences - Ports** to open the ports configuration panel as shown in Figure 124.

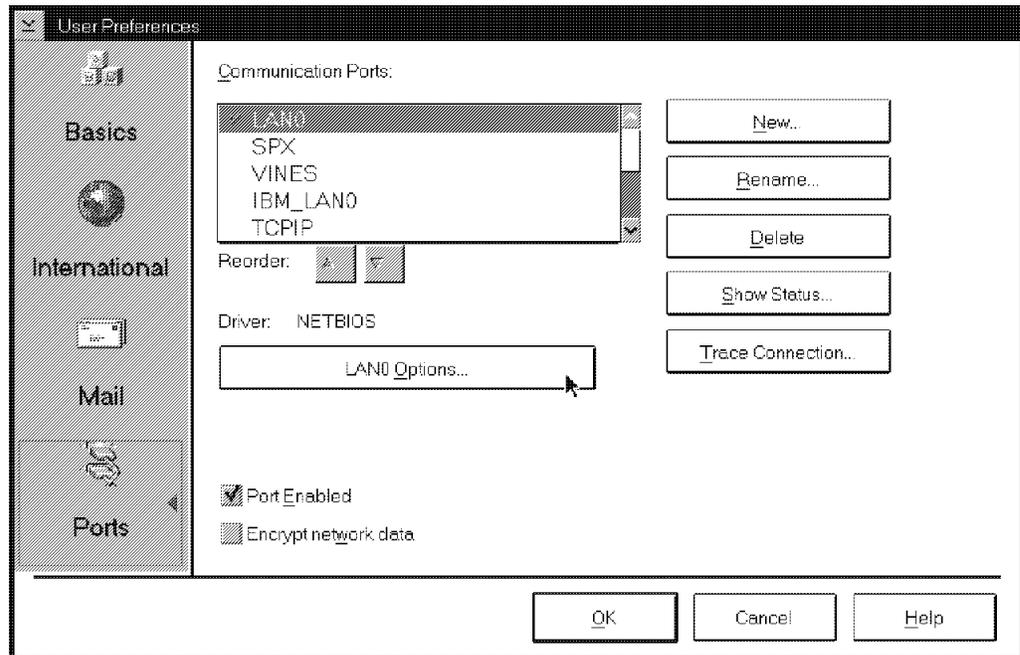


Figure 124. Configuring Ports

Initially, your Notes machine must have some communication ports enabled in the Communication Ports box: LAN0, SPX, VINES, IBM_LAN0, TCPIP, COM1, and so on. These names are “nicknames” of the ports and you can rename them if you want to. However, we recommend that you leave them set to the system defaults.

To enable or disable the port, highlight the port on the Communication Ports box and click **Port Enabled**. When you click **OK**, the panel is closed and the port will be activated or deactivated automatically.

To change the port setup, click on LAN0, TCPIP, or COM1, and so on, and the **Options** on that panel. The port setup panels are shown below. Change the parameters and click **OK** on each panel.

- NetBIOS Port

The port LAN0 is assigned for NetBIOS networks. We have left **Automatic setup** as the default.

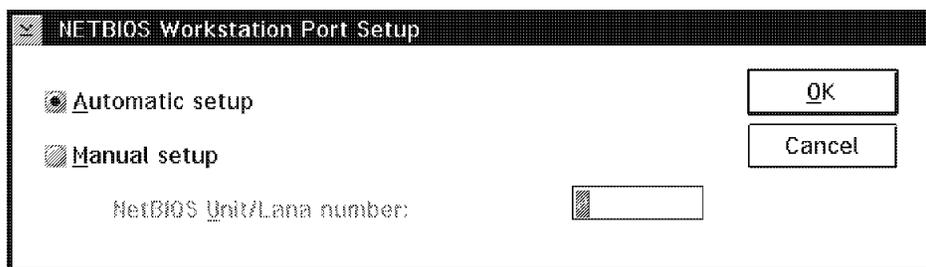


Figure 125. NetBIOS Port Setup

- TCP/IP Port

You may change only one parameter, the connection timeout, for the TCP/IP port. The default value is 5 seconds, and we have left it as the default.

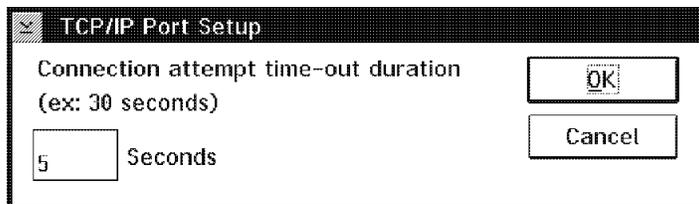


Figure 126. TCP/IP Port Setup

- X.PC Port

This panel is for X.PC protocol on the COM1 port. If you are interested in the X.PC configuration, please see section 4.8, “Remote Connection” on page 124.

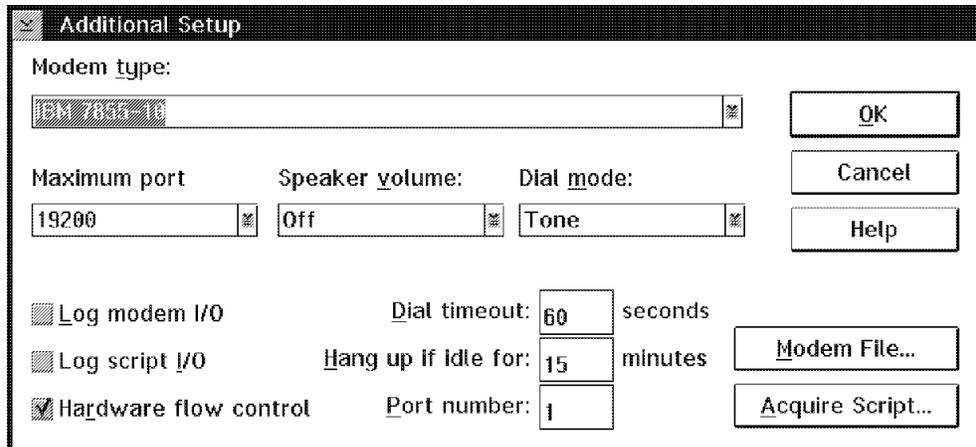


Figure 127. X.PC Port Setup

4.6.1.2 Modifying the Server Document

If you are configuring a Notes Server, you must modify the Server Document appropriately.

Open the Server Document that you want to configure. You can find the document on the Server\Networks view, as shown in Figure 128 on page 97, or the Server\Servers view of the public address book as shown in Figure 129 on page 98.

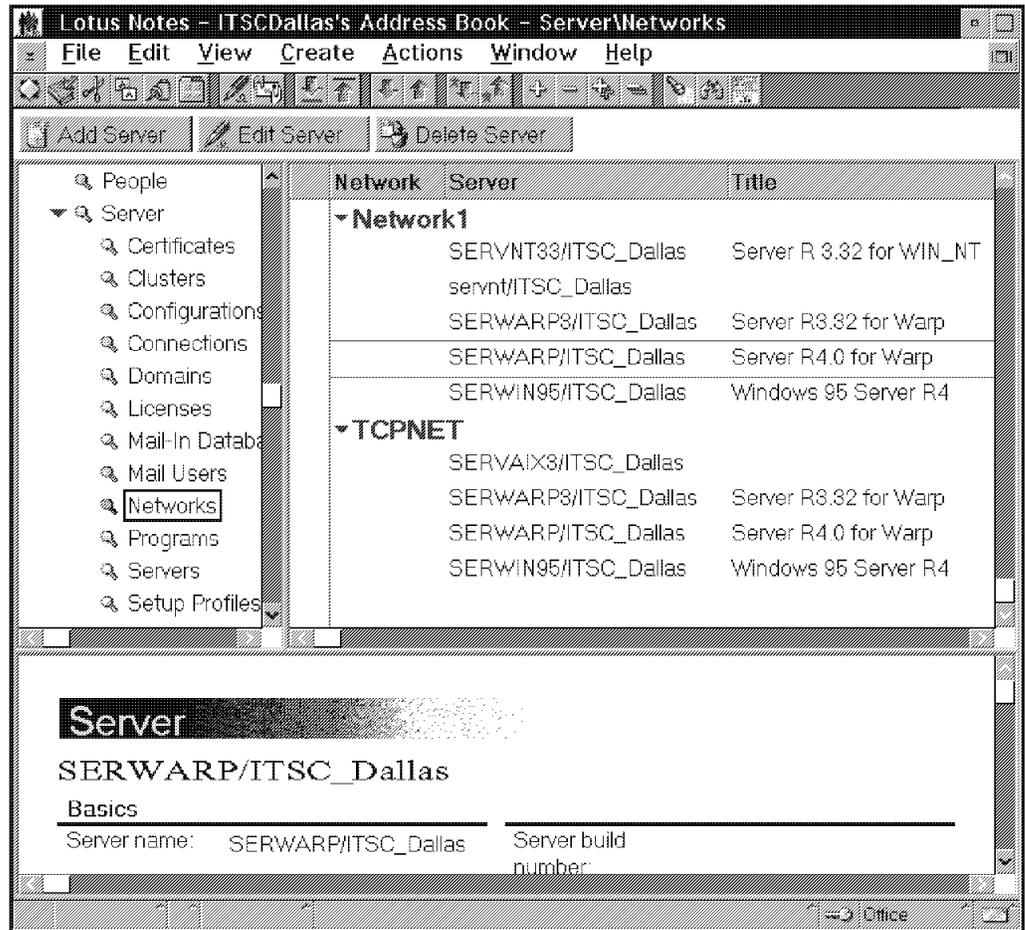


Figure 128. Public N&A Book - Server\Networks View

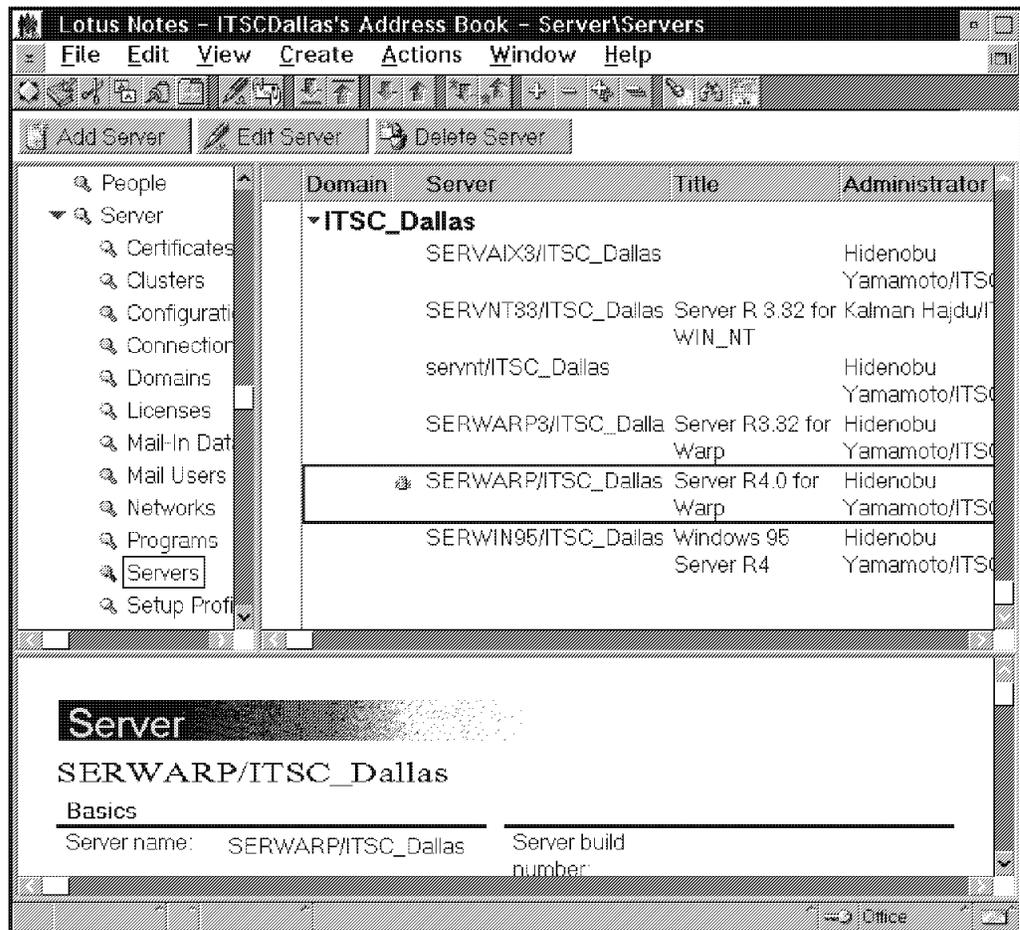


Figure 129. Public N&A Book - Server\Servers View

On the Server Document, click **Network Configuration** to see the desired information. To edit this document, press Ctrl+E or choose **Actions - Edit Server**.

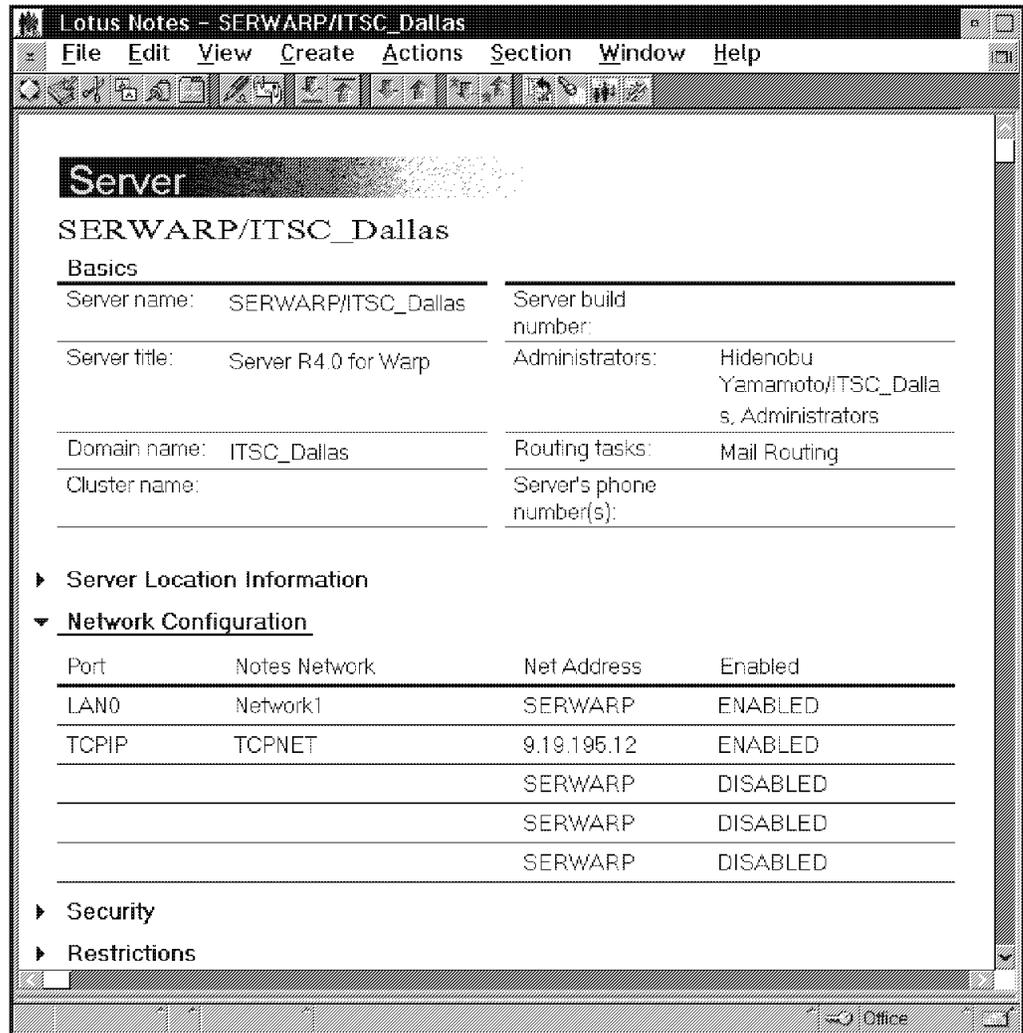


Figure 130. Server Document - Network Configuration

In this example, we have two lines of network configuration information on the Server Document.

Port	Notes Network	Net Address	Enabled
LAN0	Network1	SERWARP	ENABLED
TCPIP	TCPNET	9.19.195.12	ENABLED

The first row, LAN0 - Network1 - SERWARP - ENABLED, is created automatically by the setup program, and is for the Notes Server on a NetBIOS network.

- LAN0 is the port name assigned for the NetBIOS protocol.
- Network1 is the *nickname* for our NetBIOS network.
- SERWARP is the NetBIOS name for our computer.

The second row is for the TCP/IP network. We have added this column manually after the initial setup procedure.

- TCPIP is the name of the communications port for the TCP/IP network.
- For the Notes network, we have typed in *TCPNET*, as the name of our TCP/IP network.

The server name groups Notes Servers in terms of network protocol. Servers with the same network name can connect to each other, that is, those servers connected to the same network, including bridged/routed network, and they have a common network protocol.

- We entered the IP address of the machine for the Net Address. You may use the hostname instead of the IP address. If you want to use hostname, be sure that all Notes Servers and workstations are able to resolve the hostname.
- To activate this change of the network configuration, change the initial status of DISABLED to ENABLED.

4.6.2 Verifying Port Activity

If you want to see if a port has been working correctly, you can check the status of a Notes network port. For the Notes Server, you can use the SHOW PORT command for that purpose. On the Notes Server console, type SHOW PORT <portname>. For example, type:

```
SHOW PORT LAN0
```

on the server console.

You can also use the remote server console on a Notes workstation instead of the real, that is, local, server console. To open the remote console, select **File - Tools - Server Administration** then select **Administration - Remote Server Console**. Enter the server command in the Server Console command box and click **Send** to execute the command on the server.

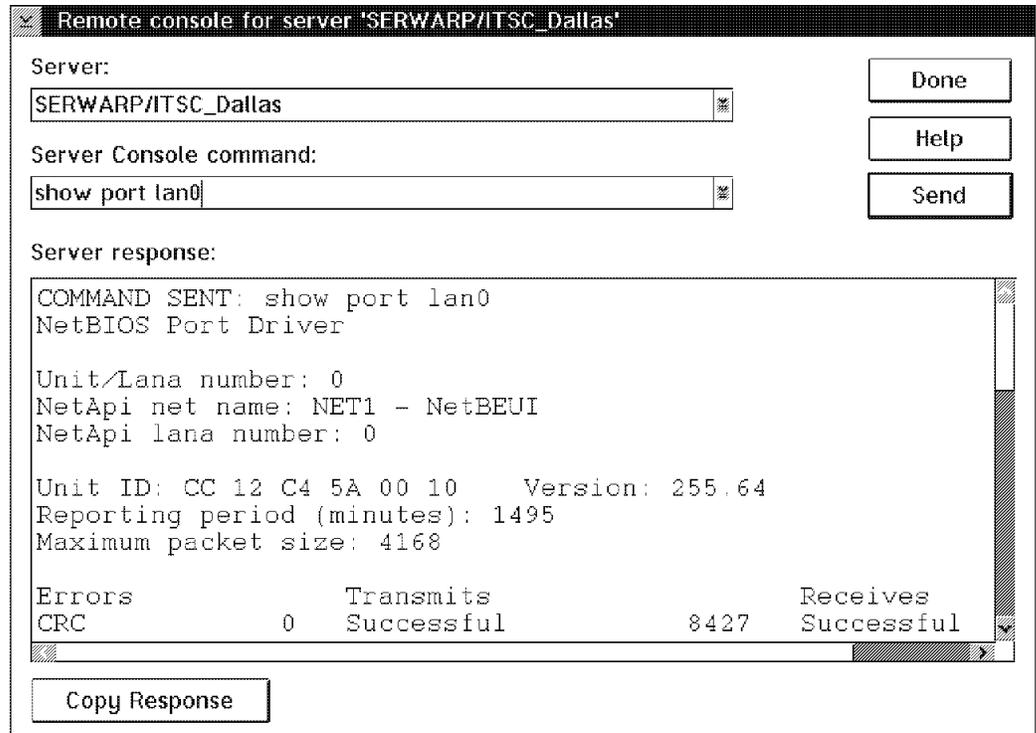


Figure 131. Show Port Status on Remote Console

You can see the port status of either the Notes Server or the workstation via the Port Status panel, as shown in Figure 132. To open this panel, select **File - Tools - User Preferences - Ports - Show Status**.

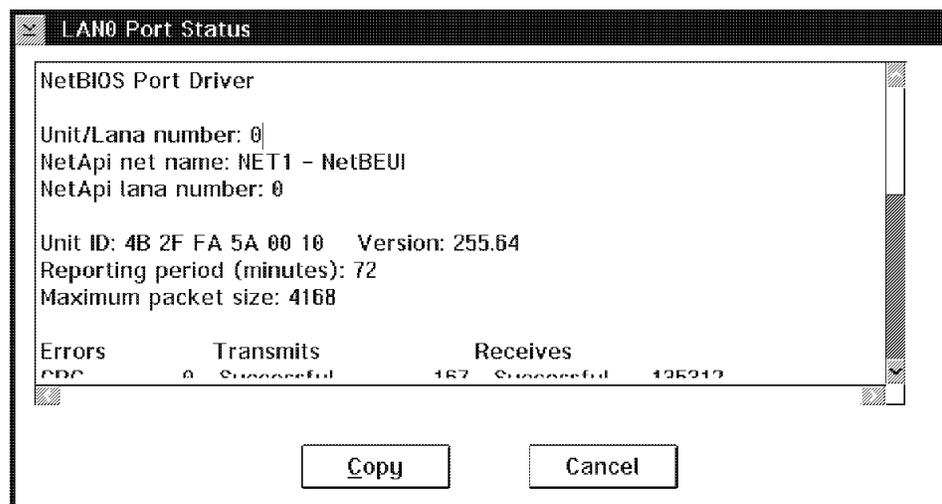


Figure 132. Port Status Panel

4.6.2.1 NetBIOS Port Status Example

Here is a sample of the display of the NetBIOS port status which has been collected on SERWARP.

```

NetBIOS Port Driver

Unit/Lana number: 0
NetApi net name: NET1 - NetBEUI
NetApi lana number: 0

Unit ID: CC 12 C4 5A 00 10   Version: 255.64
Reporting period (minutes): 1135
Maximum packet size: 4168

Errors          Transmits          Receives
CRC             0 Successful          5616 Successful    1872867
Alignment      0 Aborted              0   Dropped      24
Collision      0 Retransmitted      3

Control Blocks (NCBs)          Sessions
Free                215          Current          9
Configured          225          Configured       130
Maximum             225          Maximum          130

Name              Num Status
SERWARP           . 2 04h registered
SERWARP           . 3 04h registered
ITSC              . 4 84h registered group
SERWARP           + 5 04h registered
IRISNAMESEVER 3 6 84h registered group
xSERWA2...R.%D.' 7 04h registered
xSERWAA...R.%D.. 8 04h registered
xSERWA:...Rk..[h 9 04h registered

LSN State          Local Name          Remote Name          Receives Sends
5 01h listening   SERWARP             . *                  0 0
79 03h connected  SERWARP             + xHiden0...Rh,...   0 1
115 01h listening SERWARP             + *                  0 0
179 03h connected SERWARP             + xKalmaj...@.P..6   0 1
193 03h connected SERWARP             + ....."%Z..        0 1
114 01h listening IRISNAMESEVER 3 *                  0 0
97 03h connected  xSERWAA...R.%D..   SERVNT              + 0 1
98 03h connected  xSERWAA...R.%D..   SERWIN95            + 0 1
202 03h connected xSERWA:...Rk..[h   SERVNT              + 0 1

```

Figure 133. NetBIOS Port Status Example

4.6.2.2 TCP/IP Port Status Example

Here is a sample of the TCP/IP port status which was collected on SERWARP.

```

TCP/IP Port Driver
Transport Provider: TCP

Notes Session    Local Address      Foreign Address
097A0004         *.*                9.19.195.12.1352
0950000D         *.*                9.19.195.18.1352
0957000C         *.*                9.19.195.18.1352
0953000E         *.*                9.19.195.26.1352
09560003         9.19.195.12.1352  195.195.195.2.2001
0956000F         9.19.195.12.1352  195.195.195.3.1538
09570010         9.19.195.12.1352  9.19.195.17.1034
09570011         *.1352            *.*

```

Figure 134. TCP/IP Port Status Example

Note: The Notes Server uses TCP port number 1352 (*lotusnotes 1352/tcp* in the notation of SERVICES) by default.

4.6.2.3 Showing Task Status

You can use the SHOW TASKS server command to see the status of Notes server tasks. With this command, you can verify the activity of the Notes communication ports.

If the ports are up and running, some database server tasks will also be shown with the SHOW TASKS command. Here is a sample of the result of the SHOW TASKS command.

```

Lotus Notes TM Server (Build 132.2 (Test Build 2) for OS/2v2) 11-10-95

Server name:          SERWARP/ITSC_Dallas - Server R4.0 for Warp
Server directory:    D:\NOTES\DATA
Elapsed time:        22:43:50
Transactions/minute: Last minute: 0; Last hour: 1; Peak: 232
Peak # of sessions: 6 at 11-10-95 10:25:27 AM
Transactions:        1059
Pending mail: 0      Dead mail: 0

      Task                Description

Database Server       Perform console commands
Database Server       Listen for connect requests on TCPIP
Database Server       Listen for connect requests on LAN0
Database Server       NetBIOS name server for LAN0
Database Server       Listen for connect requests on COM1
Database Server       Idle task
Database Server       Server for Int15 ITSC/ITSC_Dallas on TCPIP
Database Server       Server for Kalman Hajdu/ITSC_Dallas on LAN0
Database Server       Server for SERWIN95/ITSC_Dallas on LAN0
Database Server       Server for Hidenobu Yamamoto/ITSC_Dallas on TCPIP
Agent Manager         Executive '1': Idle
Admin Process         Idle
Agent Manager         Idle
Stats                 Idle
Indexer               Idle
Router                Idle
Replicator            Idle

```

Figure 135. Result of SHOW TASKS Console Command

4.6.3 How a Workstation Looks Up Servers

Notes workstations must know the network address of the home server, where the user's mailbox resides. Notes users access the home server more frequently than any other server.

The home server also plays the role of "name server." To access another server, the workstation looks up its network address on the name server and then locates it.

Figure 136 on page 105 shows an example of the name service. Assume that the workstation's home server is SERWARP and it is searching for the other server SERVAIX.

1. The workstation asks SERWARP for the name service to look up the location of SERVAIX.
2. The home server SERWARP, also acting as the name server, returns SERVAIX's network address.
3. The workstation can connect to SERVAIX using the network address.

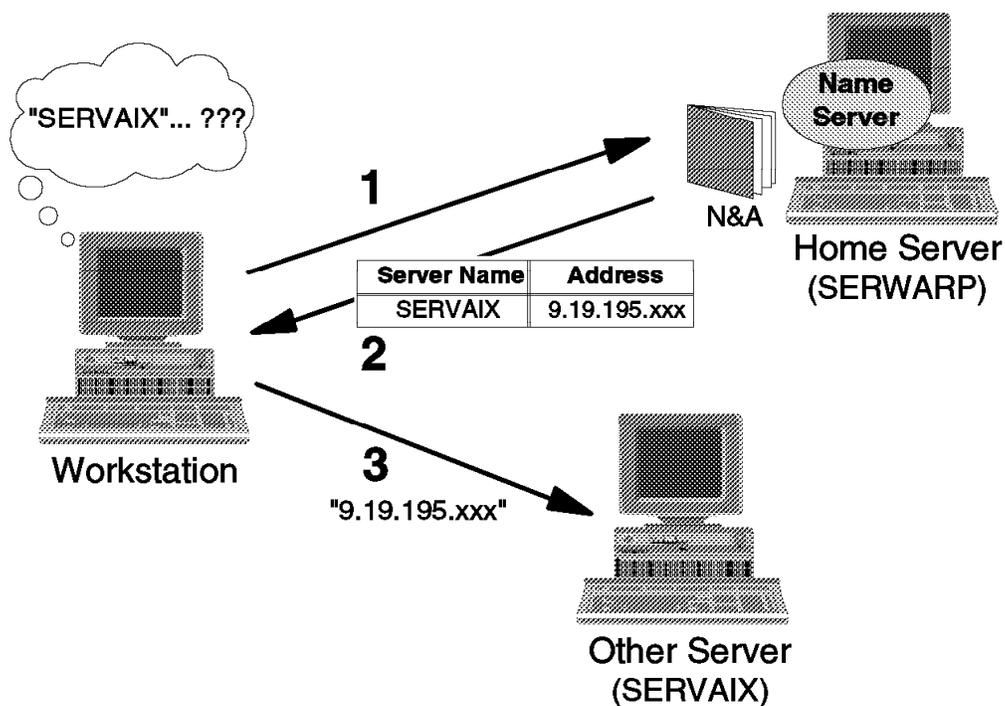


Figure 136. Notes Name Service, In Case of TCP/IP

4.6.4 Lotus Notes and NetBIOS

On each Notes Server with NetBIOS, a name server thread runs and listens for the NetBIOS groupname IRISNAMESEVER and the workstation looks up its home server using that groupname. Therefore, when running Notes on NetBIOS, you may define whatever server names you like regardless of the NetBIOS names.

Each server provides information about other servers including the relationship between server name and NetBIOS name, so that the workstation can locate other servers. All servers, not only the home server, provide the name service. Therefore, if the home server is down, any other NetBIOS server can provide the name service function.

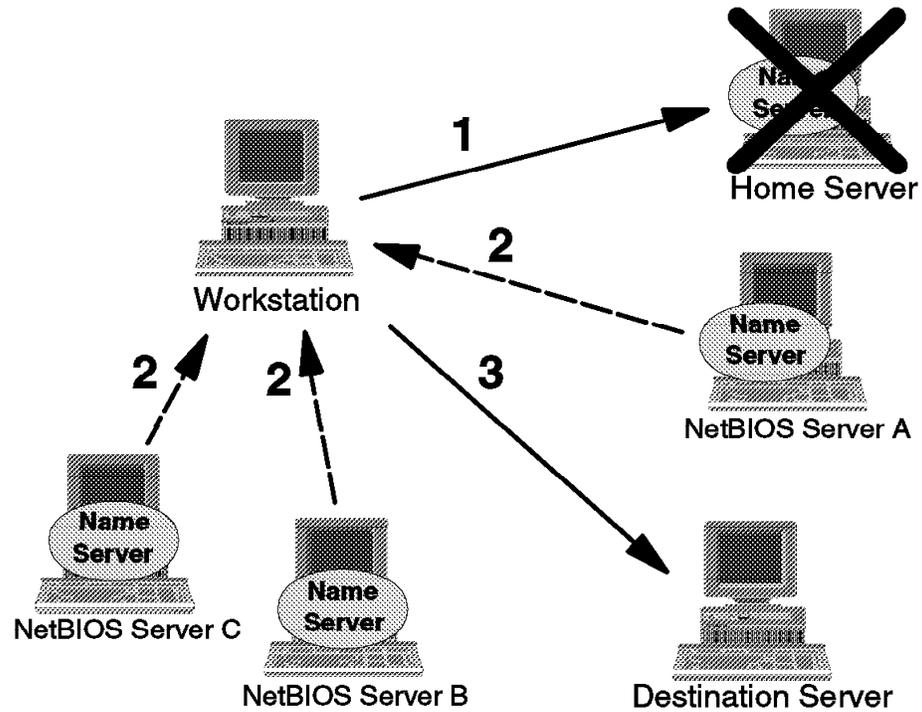


Figure 137. NetBIOS Notes Name Server

4.6.5 Lotus Notes and TCP/IP

With TCP/IP, you should give the server the same name as the hostname. The workstation regards the server name as the hostname when it tries to look up the home server.

The entry for the home server must exist on your site's Domain Name Service (DNS) machine or in the HOSTS file on each workstation.

Note: The HOSTS file is C:\MPTN\ETC\HOSTS for an OS/2 Warp system and /etc/hosts for all UNIX systems.

The home server provides information about other servers including the relationship between server name and hostname, or IP address, so that the workstation can locate other servers. If the Notes name server returns a hostname, the workstation resolves the hostname into the IP address using either the HOSTS file or a DNS server.

You may specify a secondary name server for the TCP/IP port of Notes, because if the home server is down, the workstation cannot connect to any servers.

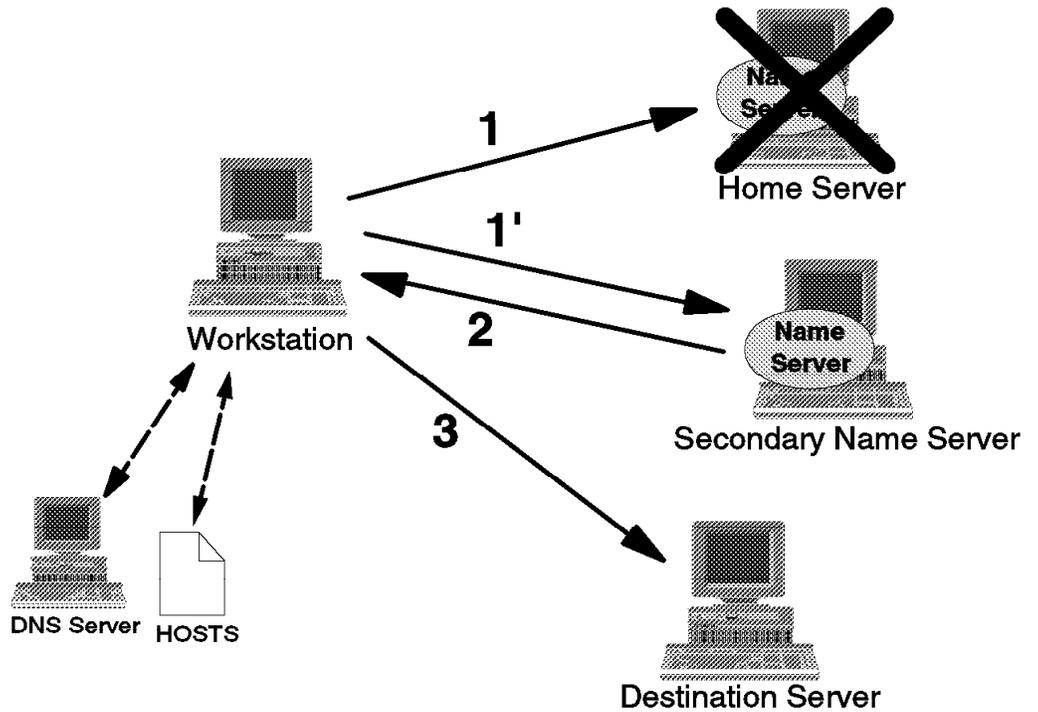


Figure 138. Secondary TCP/IP Notes Name Server

4.6.5.1 Configuring a Secondary Name Server

For TCP/IP workstation, you can specify a secondary name server.

To configure the secondary name server, select **File - Mobile - Edit Current Location** to open the document for the current location. Location Documents reside in the Local Name & Address Book on Notes workstations. In our scenario, if we set up the workstation for a network connection via LAN, the current location must be Office (Network).

The information for the secondary name server is placed under the Advanced section of the document.

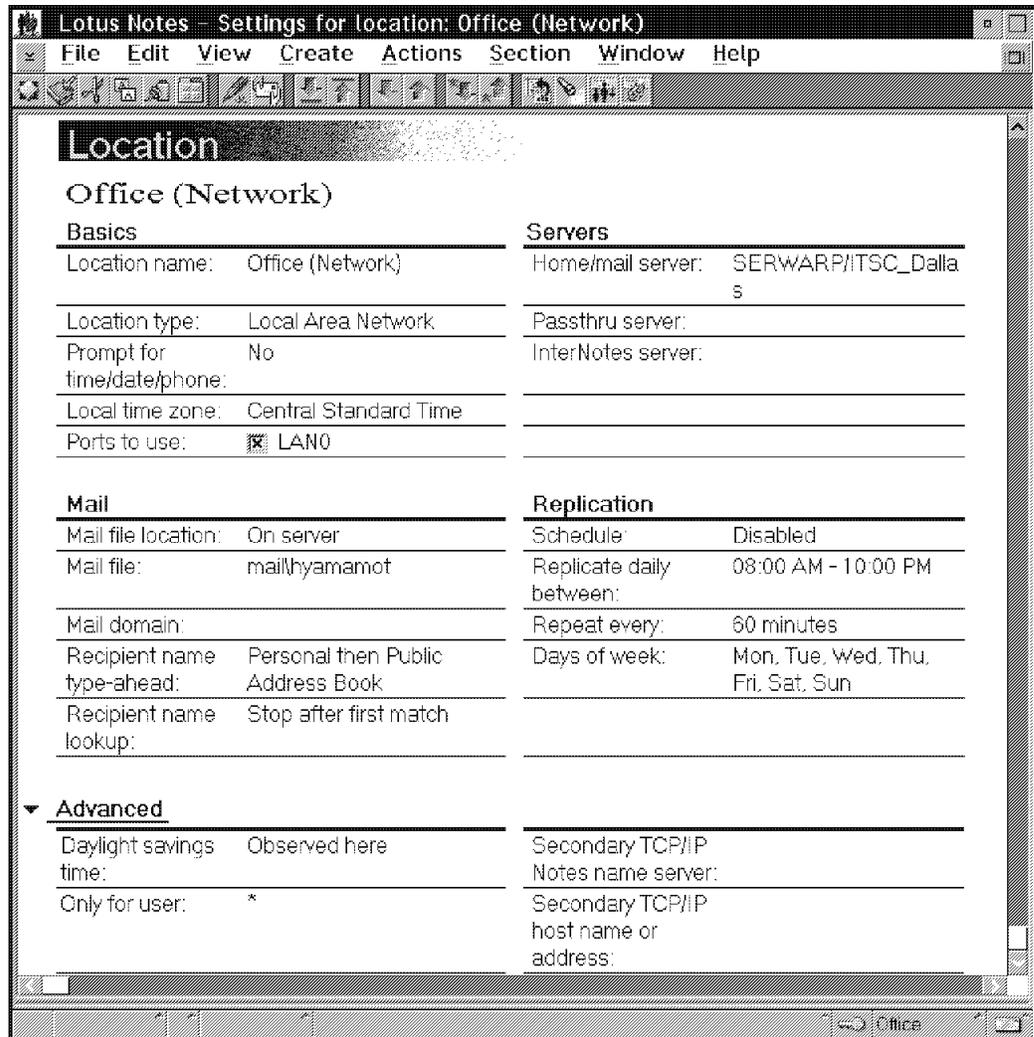


Figure 139. Location Document

In the Secondary TCP/IP Notes name server field, you can enter the Notes server name, such as SERVAIX or SERVAIX/ITSC_Dallas. In the Secondary TCP/IP host name or address field, you can enter the IP address or the hostname. If you specify only the server name, the Notes workstation must use DNS or the local HOSTS file to resolve the name into an IP address.

This information is located in the Location Document, therefore, you can use a different secondary name server for each location.

4.7 Mail Routing

The same multidomain scenario as we used for replication was used to test Mail Routing for this project. See Figure 96 on page 71 for a review of our testing scenario.

4.7.1 How is Mail Routed in Lotus Notes?

- Same Domain and Same Network Name in the Server Document

This is different from the replication scenario in that no Connection Document is needed to route mail between servers within the same network.

The Notes Mail Router, which resides on all Notes Servers, takes care of storing and forwarding the mail between the different Servers' Mail Boxes, that is, the MAIL.BOX files. In Notes Release 3, the Router in the recipient Mail Server transfers all the incoming mail in the recipients personal mail files. In Notes Release 4, it is possible to set up a single message store for mail sent to multiple users. See section 4.7.2, "Shared Mail Database in Notes Release 4" on page 112.

- Same Domain and Different Network Names or Different, Adjacent Domains

A Connection Document or an adjacent Domain Document is needed. See Figure 111 on page 83 for an example of a Connection Document.

The Route at once if field in the Connection Document establishes a threshold for the mail to be routed, for example, if two messages are pending.

The *Routing cost* field in the Connection Document provides a number related to more or less good routing choices. The Notes Mail Router can select alternate routes by keeping a short-term history of connection failures. This history determines the routing costs. Initially each connection within the same network has a cost of one and each remote connection has a cost of five.

- Non-adjacent Domains and Foreign Domains

A Domain Document needs to be created by selecting **Create - Server - Domain**.

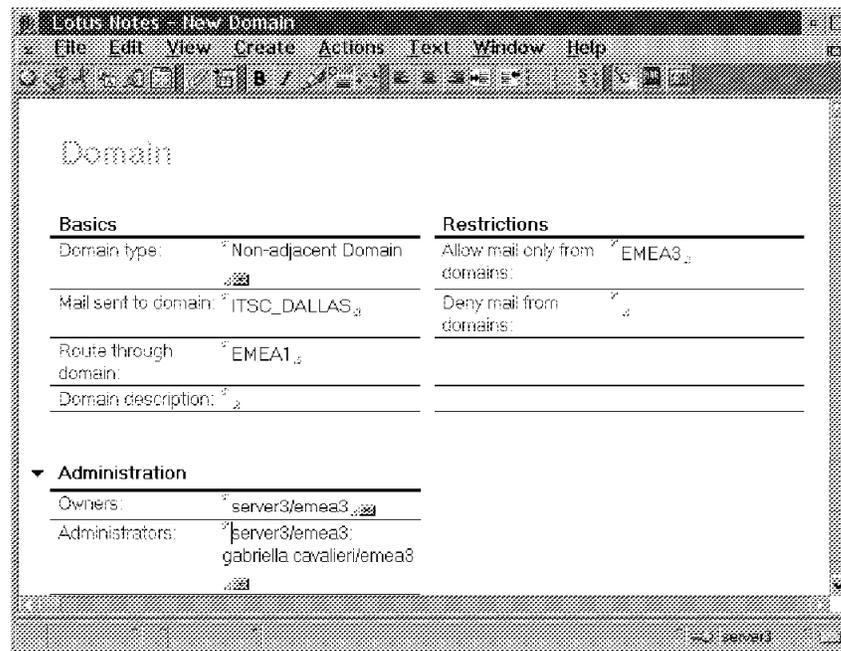


Figure 140. Domain Document

In this example, the EMEA3 domain routes mail to the domain ITSC_DALLAS via the domain EMEA1. EMEA1 must have a Connection Document or an adjacent or non-adjacent Domain Document to reach the domain ITSC_DALLAS.

The Domain type field is a keyword field with the choices shown in the following figure.

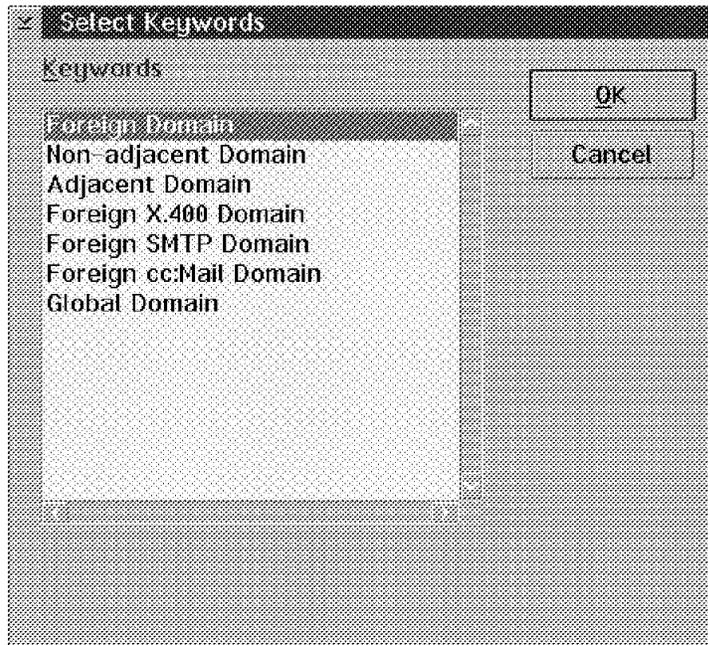


Figure 141. Domain Type

Select **Domain type = Foreign Domain** to tell the router to go to a certain Domain through a gateway.

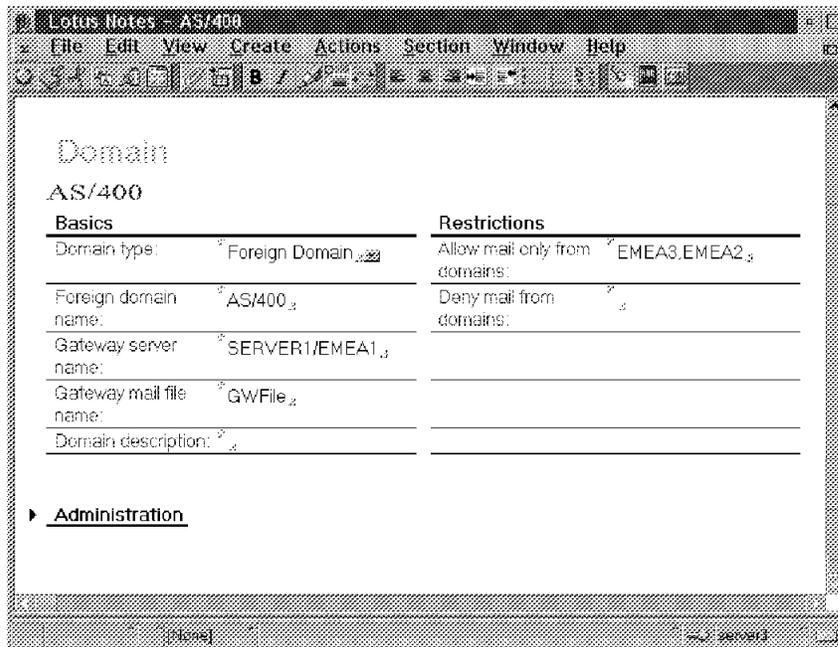


Figure 142. Foreign Domain

In this example, mail is routed to the Domain AS/400 via a gateway residing on the server SERVER1/EMEA1.

Mail can also be routed to a non-adjacent Domain via a passthru Connection Document.

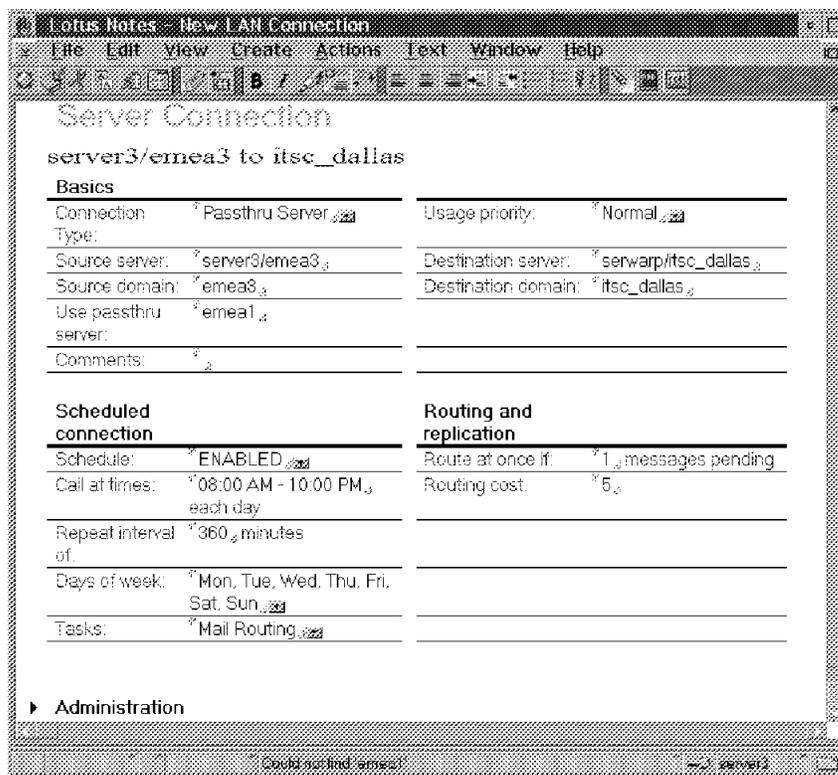


Figure 143. Passthru Connection Document

When is mail routed?

- During scheduled replication
- When the threshold established in the Connection Document is reached
- When high priority mail is pending
- When the ROUTE server <name> command is typed at the Server console

4.7.1.1 Mail Tracing

With Notes Release 4, it is now possible to trace a mail message between the source and the destination.

The trace option is enabled via:

- Choosing the **Delivery options** pushbutton in the standard memo form and selecting **Delivery - Trace entire path**. See Figure 157 on page 122.
- Performing the following administration action: **File - Tool - Server Administration - Mail - Send Mail Trace**.

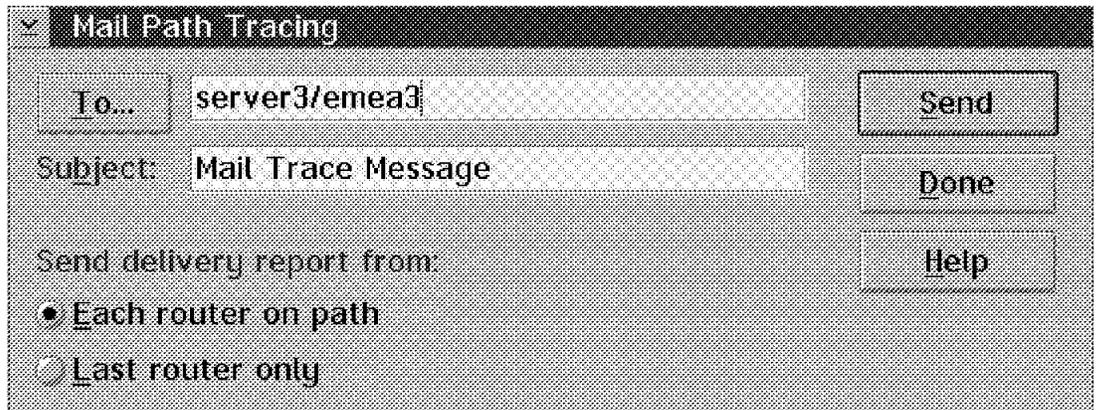


Figure 144. Mail Tracing

- Select **File - Tool - User Preferences - Ports - Trace Connections** and choose the appropriate Log Option for either Full Trace Information, Nothing, Errors only, Summary Progress Information, Detailed Progress Information, or Full trace Information.

Mail tracing can be a very effective tool to determine the fastest way between servers.

4.7.2 Shared Mail Database in Notes Release 4

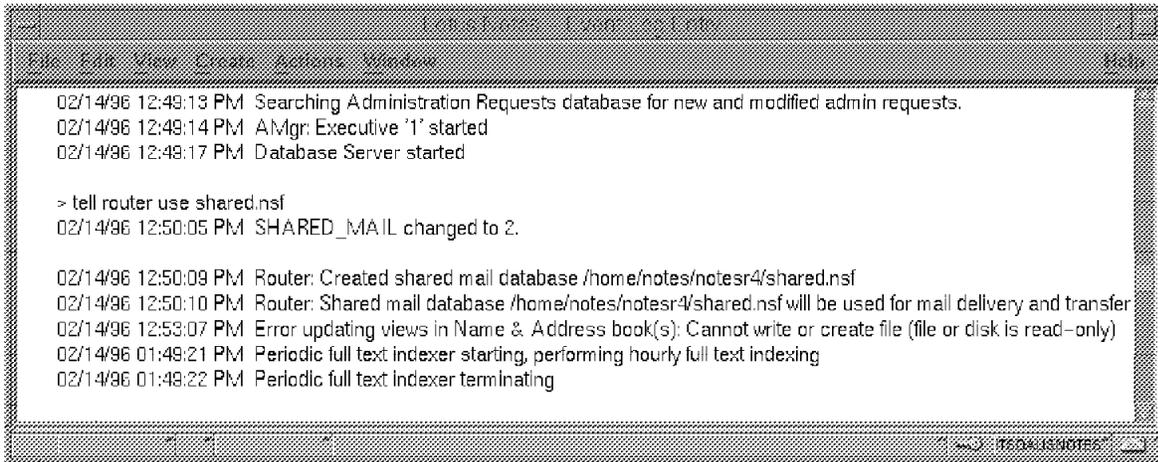
All Release 3 Mail databases can be converted to the new Release 4 Mail template via the Convert command at the Notes Server console. It is also possible to perform mail database conversion at the Notes desktop via **File - Database - Replace Design - Mail (Release 4)**. See section 5.2.4, "Upgrading the Mail Databases" on page 142 for a detailed description on this migration task.

In Notes Release 3, if a user sends a mail item to 20 people on the same Server, 20 copies of the same item are created and delivered to each individual's mail database.

In Notes Release 4, the administrator can create and enable the shared mail database, sometimes called the "single copy object store". This administrative function is done on a server by server basis. Using a shared mail database is completely transparent to users. With a shared mail database, the Mail Router stores the header portion of the mail item in each user's mail database and stores the body of the message in the shared mail database.

The shared mail database is created by issuing the `tell` router command on the server console. An example of the format of this command is as follows:

```
tell router use shared.nsf
```



```
02/14/96 12:49:13 PM Searching Administration Requests database for new and modified admin requests.
02/14/96 12:49:14 PM AMgr: Executive '1' started
02/14/96 12:49:17 PM Database Server started

> tell router use shared.nsf
02/14/96 12:50:05 PM SHARED_MAIL changed to 2.

02/14/96 12:50:09 PM Router: Created shared mail database /home/notes/notesr4/shared.nsf
02/14/96 12:50:10 PM Router: Shared mail database /home/notes/notesr4/shared.nsf will be used for mail delivery and transfer
02/14/96 12:53:07 PM Error updating views in Name & Address book(s): Cannot write or create file (file or disk is read-only)
02/14/96 01:49:21 PM Periodic full text indexer starting, performing hourly full text indexing
02/14/96 01:49:22 PM Periodic full text indexer terminating
```

Figure 145. Tell Router Command - Shared Mail Database

In this case, a shared mail database called *shared.nsf* was created. The SHARED_MAIL parameter in NOTES.INI is set equal to 2. A database link is also created called MAILOBJ.NSF. MAILOBJ.NSF always points to the actual shared mail database. At this point, MAILOBJ.NSF contains one line of text which is the directory and filename of the shared mail database. On our AIX Server, for example, it contains one line which says */home/notes/notesr4/shared.nsf*.

After you have created and enabled a shared mail database, you can change the SHARED_MAIL parameter by either editing NOTES.INI directly or by causing NOTES.INI to be updated by editing the SHARED_MAIL parameter in the Server Configuration Document. The following discussion shows how you can create a Server Configuration Document.

When you click on the Public Address Book and select **Create - Server - Configuration** , as shown in Figure 146, you will be able to create the Configuration Document.

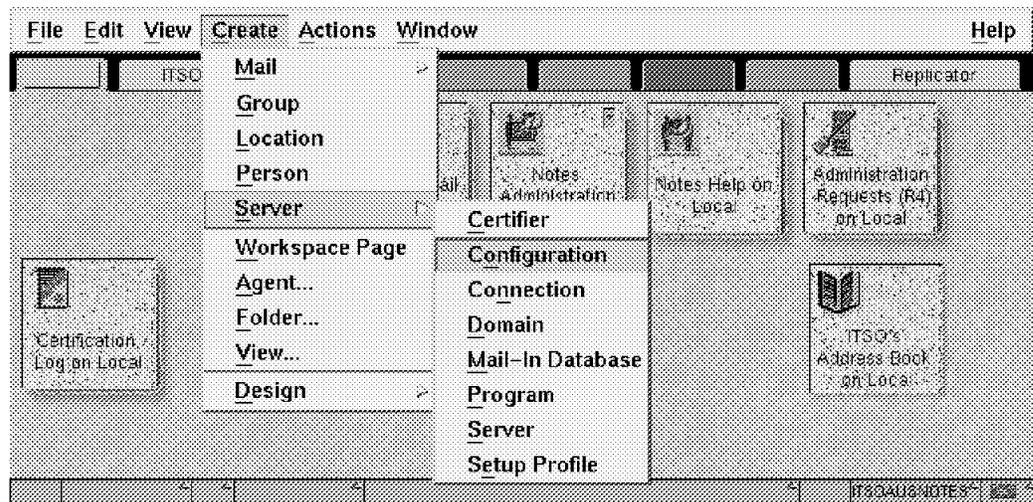


Figure 146. Create - Server - Configuration

Initially you will see a blank Server Configuration Document. You can then type in the name of the server on which you want to implement the Shared Mail Database as shown in the following figure.

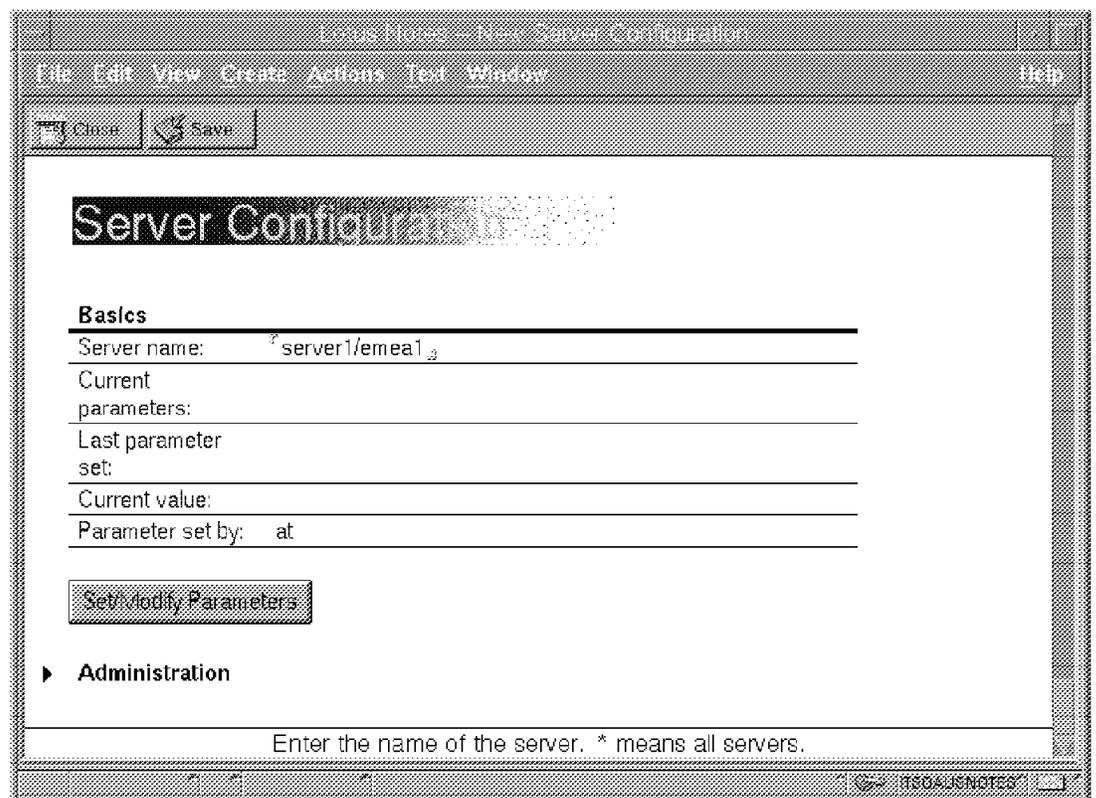


Figure 147. Server Configuration Document

To set the various Server Configuration Document parameters, select **Set/Modify Parameters**. Highlight the SHARED_MAIL parameter by clicking on it as shown in Figure 148 on page 115 and click on **OK**.

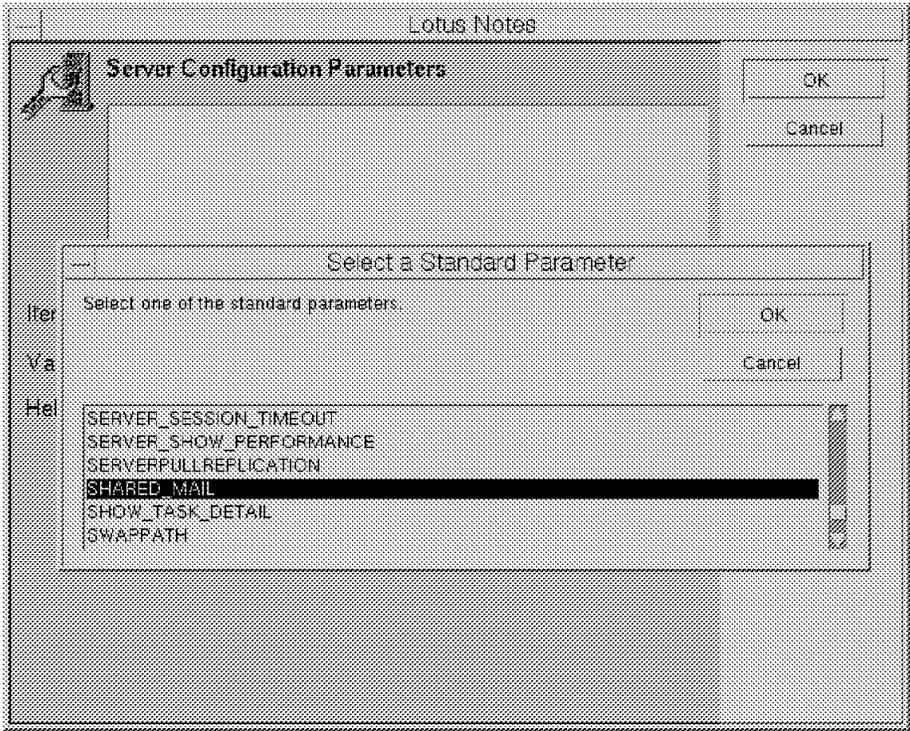


Figure 148. Server Configuration Parameters

You must also choose a numeric value for the SHARED_MAIL parameter. A value of 0 means that the shared mail database is not used. If you set the value to 1, then only those messages that are received by 2 or more recipients on the same server will be stored in the shared mail database. If a message has only one recipient, then the message is stored in the user's mail file and is not linked to the shared mail database. A value of 2 says that *all* mail that is delivered or transferred to the server will be stored in the shared mail database. Click on **OK** after you have set a value for SHARED_MAIL.

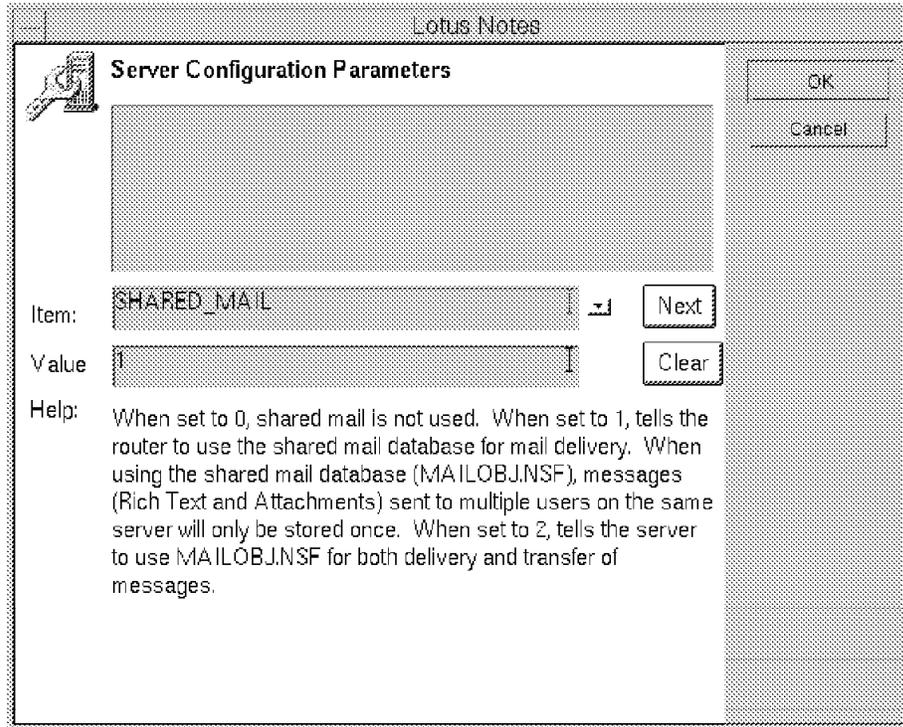


Figure 149. Set a Value for SHARED_MAIL

The following figure shows how the Server Configuration Document has been altered. Click on **Save** to save the Server Configuration Document in the Public Address Book.



Figure 150. Server Configuration Document - Updated

To move existing messages from a user's mail database, for example, from the gcavalie.nsf mail database to the shared mail database, the following command should be issued at the server console:

```
load object link gcavalie.nsf shared.nsf
```

If gcavalie.nsf was a Release 3 mail database, the load object link command would also convert the database to the Release 4 template.

If you have many users with existing mail, you may want to link the entire mail directory instead of each individual's mail database. In that case, the server command would be:

```
load object link mail shared.nsf
```

The following figure shows the Notes Log related to the Object Store Manager Linking for existing mail databases.

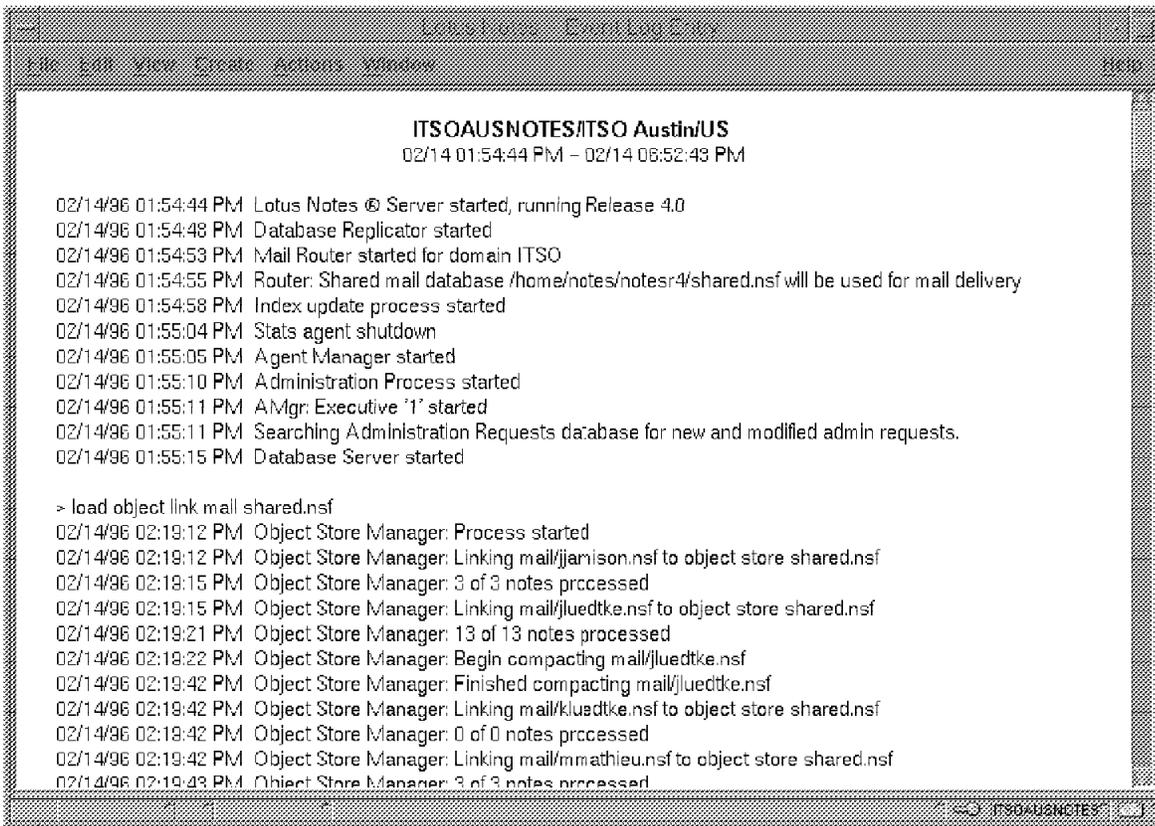


Figure 151. Notes Log for Moving Existing Mail to Shared Mail Database

4.7.3 Mail Setup

When the administrator creates a new user via **File - Tools - Server Administration - People - Register Person**, one of the setup categories is called Mail.

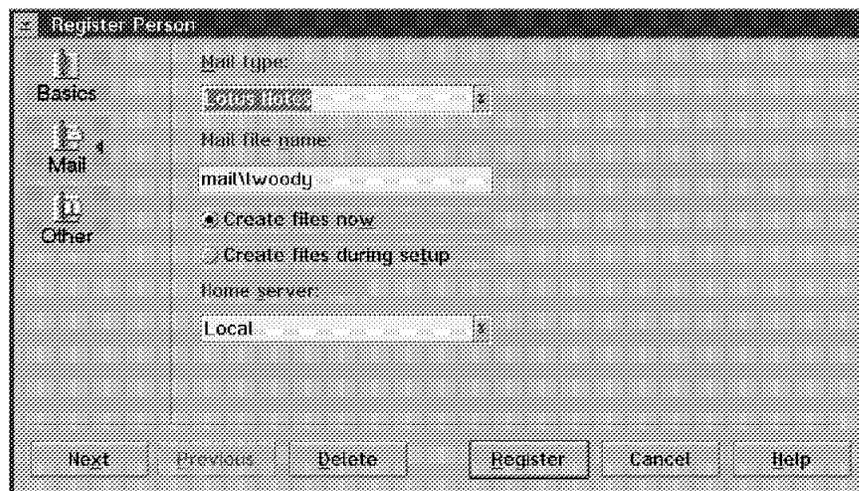


Figure 152. Register a Person - Mail Options

Notes asks you to make the following choices related to Mail:

- Mail type - This can be either Lotus Notes, cc:Mail, Other VIM Mail, or None.

- Mail file name - If the name of the new person is Lisa Woody, the default mail file name is lwoody.nsf.
- Home Server - This is the name of the new user's Mail Server.

A Notes user can, at any time, change his/her Mail settings via selecting **File - Tools - User preferences - Mail**.

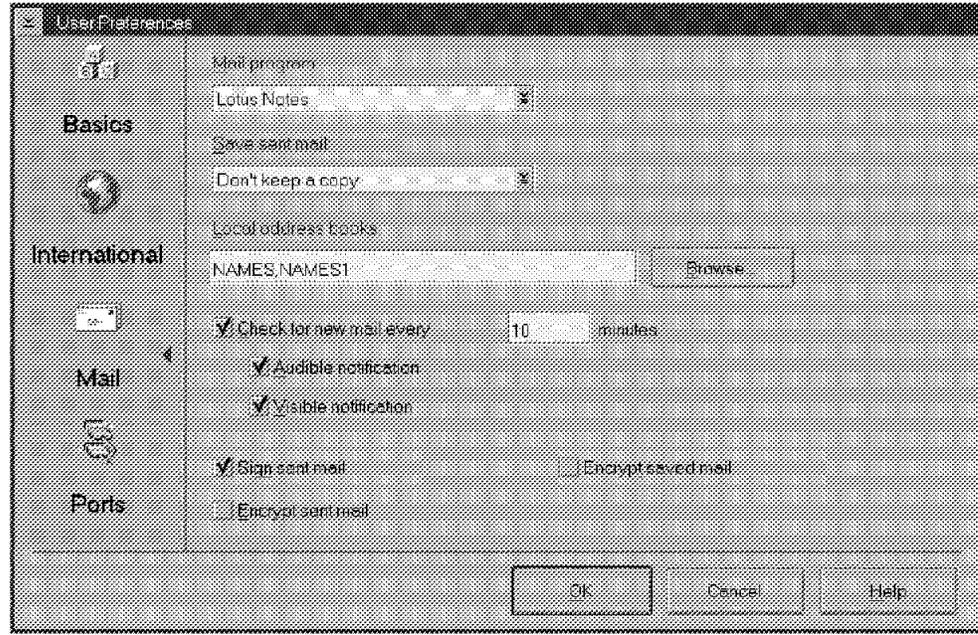


Figure 153. User Preferences - Mail

The user can make additional choices for the following options:

- Save sent mail - The selections are: Don't keep a copy, Always keep a copy, or Always prompt.
- Local address books - This field reflects the *NAMES=* parameter in the NOTES.INI file, and specifies the address book files that Notes will prompt the user with when mail is sent. Addresses also can be "dragged and dropped" from the Address Book panel and the Addresses panel. See Figure 158 on page 123.

If the **Browse** push button is selected, the user can graphically choose which address book files to add to the field.

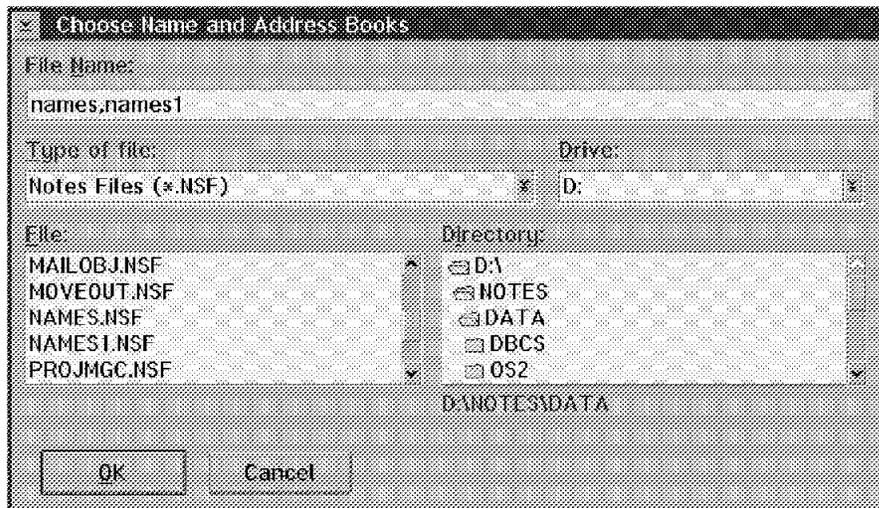


Figure 154. Server Local Address Books

- Check new mail every - The default is 15 minutes.
- Audible notification and/or Visible notification - This notification is for new mail.
- Sign sent mail - Notes creates a unique signature code based on the Sender's ID.
- Encrypt sent mail.
- Encrypt saved mail.

4.7.3.1 Disconnected User Setup

The disconnected User Setup for Mail and Replication is done via the Location Document. See section 4.5, "Locations" on page 86 for an extensive explanation of the "Location" concept. To see/update the Location Document for a remote user select **File - Mobile - Edit current location**.

The Recipient name type-ahead field specifies which address books Notes should check when performing the type-ahead address book function. The choices are - Disabled, Personal Address Book only, or Personal then Public Address Book.

The type-ahead function allows Notes to pre-fill the complete address of a recipient as soon as the sender types the beginning of the recipient address. This is also referred to as the quick-address feature.

The Recipient name lookup field specifies how Notes should check for the validity of the Recipient address. The choices are to either **Stop after first match** or **Exhaustively check all address books**.

4.7.4 Using Mail

Notes Release 4 has a new, cc:Mail-like mail user interface.

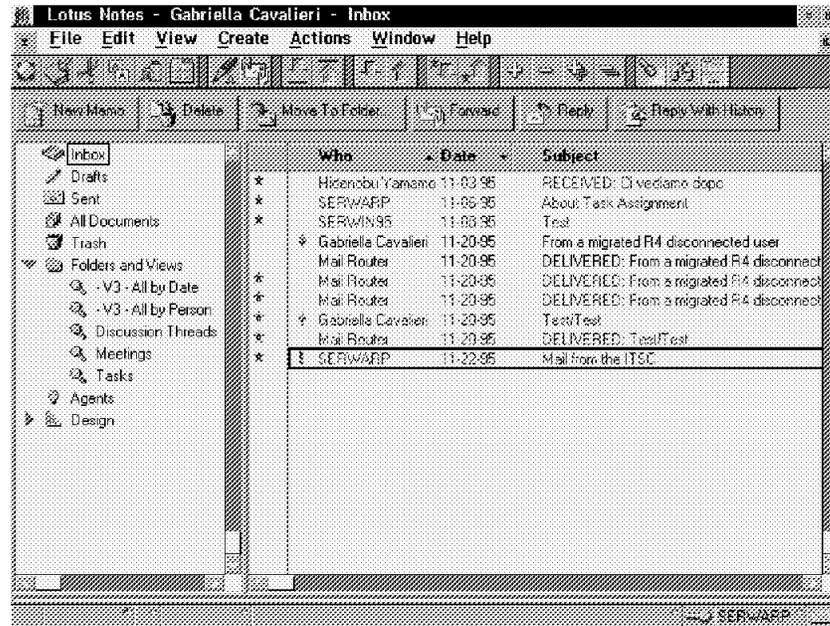


Figure 155. Mail In-Basket in Notes Release 4

The figure above shows the Notes Release 4 in-basket. The user can drag and drop between the list of mail items and the folders in the navigation panel on the left. Some folders are already provided by Notes, like Inbox, Drafts, Sent, Trash, All Documents, All by date, All by person, Discussion Threads which views group messages that are part of the same discussion, and so on. The user can create personal folders via selecting the Move to folder pushbutton in the action bar at the top.

Mail items moved to the Trash folder are kept there until the Trash folder is emptied. This can happen in various ways, for example, by selecting the trash folder and then selecting the **empty trash** pushbutton, or when the in-basket database is closed and the related selection has been made in the User Preferences panel - **File - Tools - User Preferences - Empty trash folder**. The selections are either Prompt me during database close, Always during database close, or Manually.

By selecting **Action - Mail - Tools**, it is possible to Add Sender to Address Book and Archive selected documents.

From the in-basket, the user can open the new mail by simply double clicking the selected item.

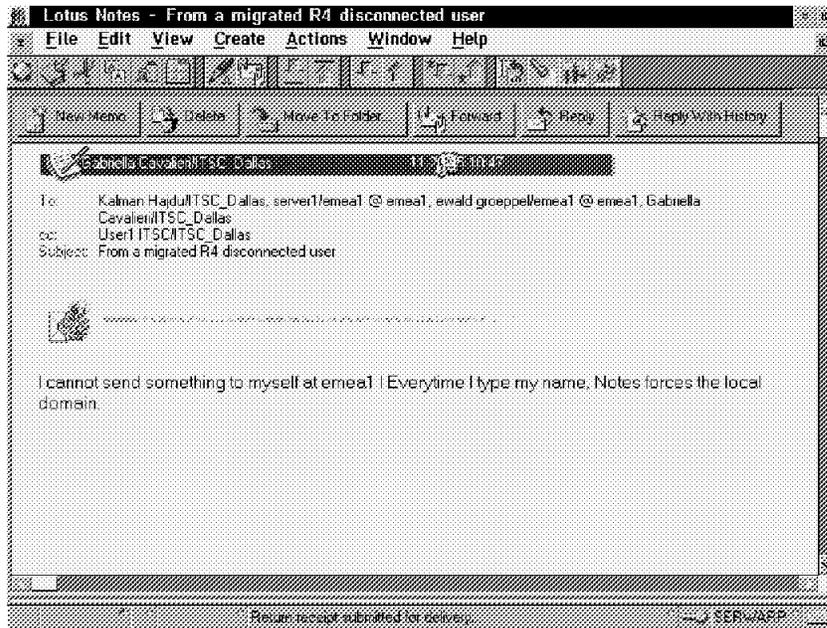


Figure 156. Viewing Received Mail

The user can now select many possible actions from the action bar at the top, for example, New Memo, Delete, Move to Folder, Forward, Reply, or Reply with history.

- New Memo - This selection allows the user to create and send a new Mail item.

When **Delivery Options** is selected the following screen appears:



Figure 157. Delivery Options

Under the Importance columns the user can select High, Low, or Normal. He can also add a "mood" icon that can be chosen from Flame, Confidential, Reminder, Personal, Private, Joke, Thank you, and so on. Each selection adds a related icon to the New Mail item.

Under the Delivery columns the user can select Confirm Delivery, None, Only on Failure, or Trace entire path and Low, High, or Normal.

By choosing the **Address** pushbutton, the user can drag and drop addresses from the address books on the local server to the send to panel.

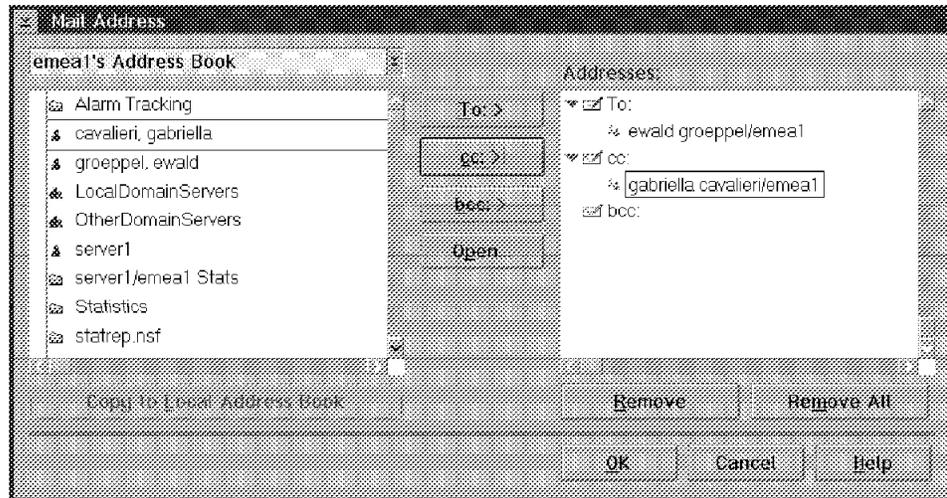


Figure 158. Mail Addresses

The user can, of course, type addresses not present in the Local Name & Address Books, directly into the To: / cc: /bcc: fields of the New Memo panel.

Once the Addresses and the content of the New Memo are ready, the user can choose to **Send**, to **Send and File** or to **Save as draft** the New Memo item.

The New Memo panel is different in a Release 4 migrated from Release 3 workstation. It resembles the old Release 3 panel.

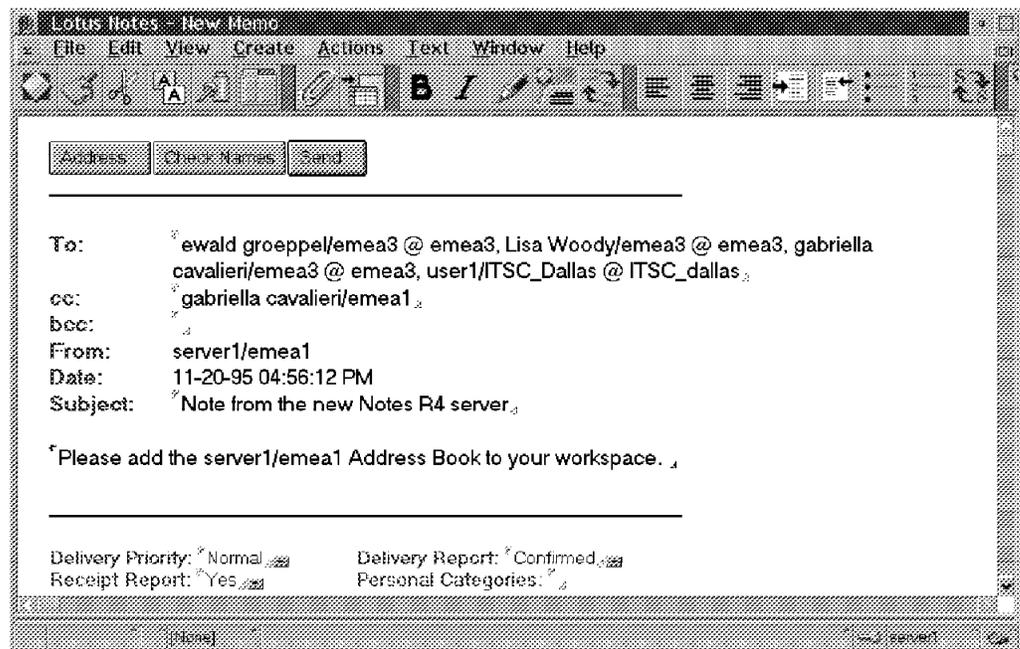


Figure 159. New Memo

- Reply with original text - When **Reply with original text** is selected, the sender's note is attached at the bottom of the new note.
- Sending/Receiving Mail as disconnected user - Once the user has created a mail item and chosen the Send option, the mail is stored in the Outgoing Mail (mail.box) file.

The mail gets actually sent when one of the following occurs:

- The mail pending threshold of the Location Document is reached.
- The user exits Lotus Notes and answers yes to the prompt to send mail.
- Via the Replicator tab - In this example, the user has chosen the **send and receive mail** pushbutton in the action bar.

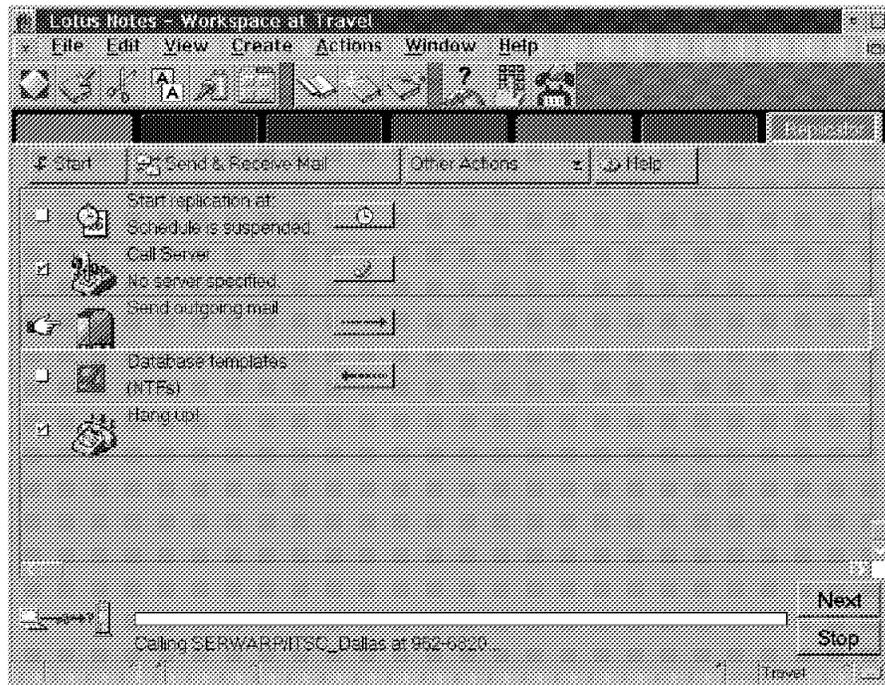


Figure 160. Sending and Receiving Mail / Disconnected User

4.8 Remote Connection

Notes Servers on different networks can communicate over a telephone line, null modem, or other medium. In addition, users can dial-up the server to access databases and send and receive mail remotely.

If you didn't select a serial port during Server Setup, read the next few sections to set up the server for remote communication. The tasks include:

- Adding and enabling the serial port
- Setting up the modem in Notes

4.8.1 Adding and Enabling the Port

For the new Notes Server to communicate with a remote Notes system, you must first attach an analog telephone line and a modem to the server. Then configure the serial port and modem from the workstation tools program.

To configure a serial port:

1. Shut down the Notes Server if it's running.

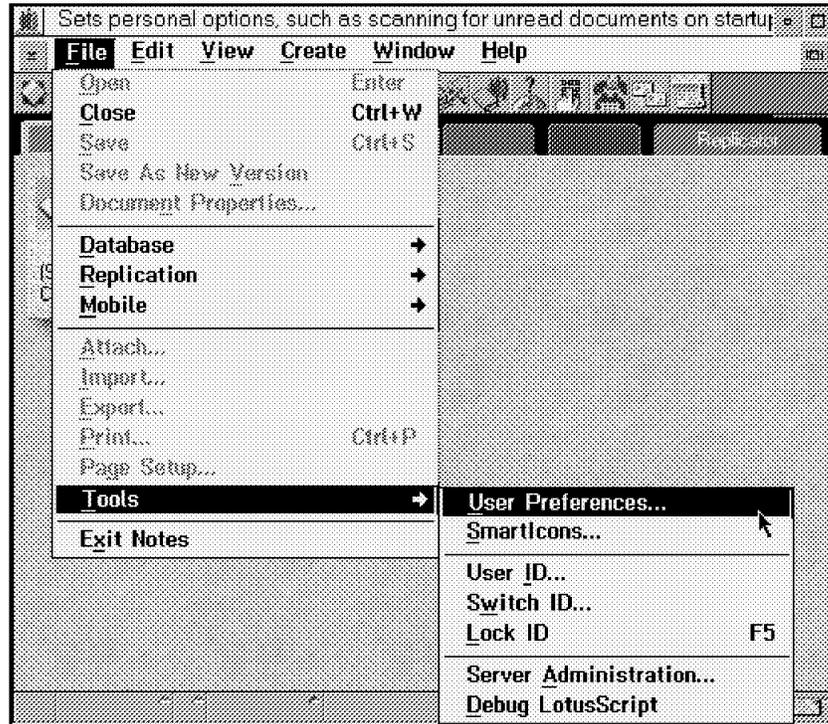


Figure 161. Enabling a Serial Port

2. From the Notes workstation program, choose **File - Tools - User Preferences...**. The Notes Preferences screen appears.

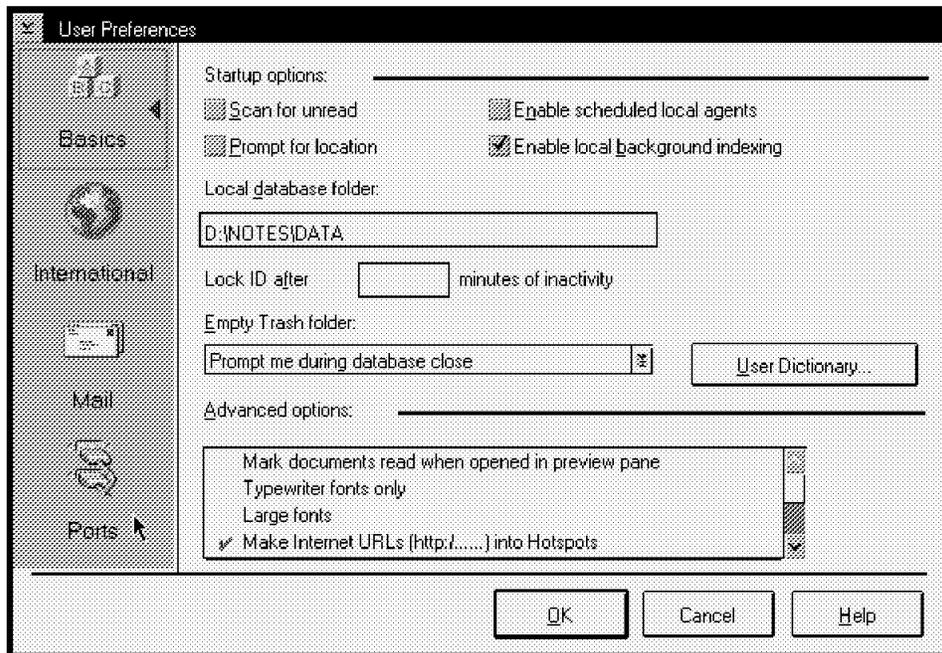


Figure 162. Notes Preference Screen

3. In this screen, there are four functions you can configure. For additional details about these functions, see the *Lotus Notes Administrator's Guide*.
4. To enable a serial port, click the **Ports** area as shown in the following figure.

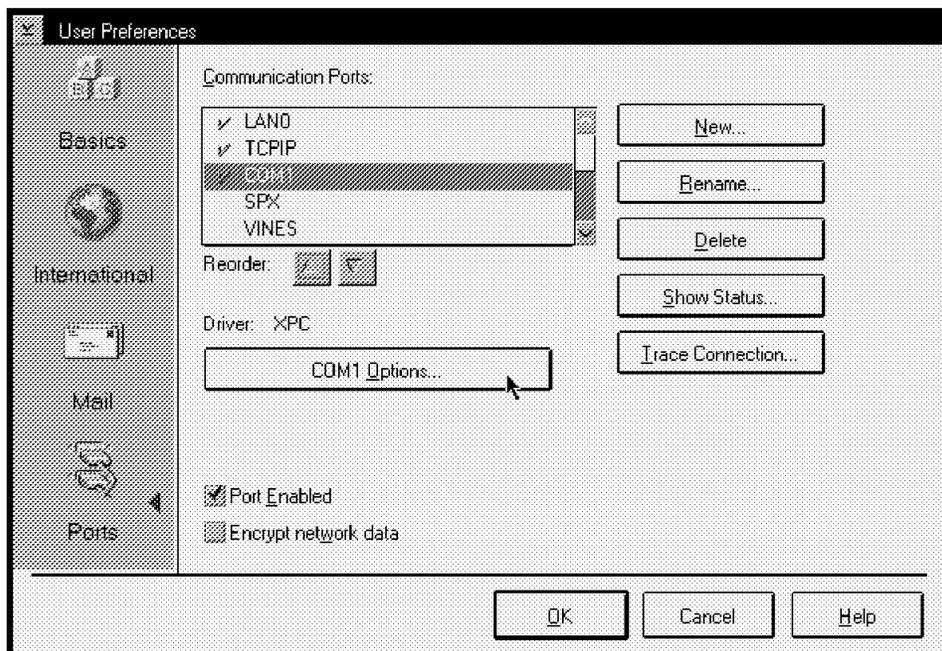


Figure 163. Configure a Port

5. Select a serial port to connect to a modem. For instance, we chose COM1.
 - Highlight COM1.
 - Click the radio button **Port Enabled**.

- Click the **COM1 Options...** button.

4.8.2 Setting up a Modem

The following steps describe the procedure for setting up or changing modem settings.

1. When you click on **COM1 Options...**, the Additional Setup dialog box appears.

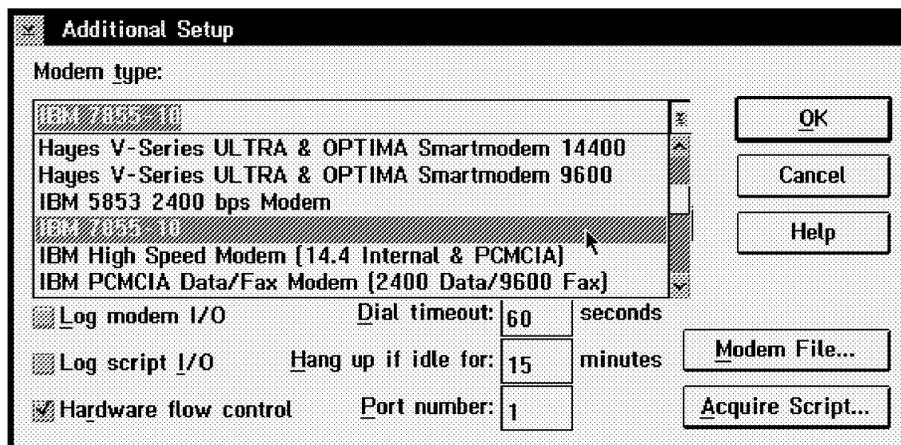


Figure 164. Additional Setup Dialog box

2. Select your modem's command file from the Modem Type list box. Modem command files are located in the Notes data directory with the file extension `.MDM`.
3. Select these modem options:
 - **Maximum Port Speed** - Notes uses the LESSER of the speed you select here and the maximum speed specified in the `.MDM` file. For example, if you select 19,200 bps here and the `.MDM` file specifies 9600 bps as the maximum, Notes will use 9600 bps.
 Fall back to a lower speed if you are having trouble with a noisy phone line or can't establish the carrier with a remote modem.
 - **Speaker Volume** - The default is Off, meaning you won't hear the modem. To hear the modem dialing and establishing carrier, set it.
 - **Dial Mode** - Leave Tone selected unless your modem requires pulse dialing.
 - **Log Modem I/O** - The Log Modem I/O option records modem control strings and responses in the Miscellaneous Events Folder in the server's Notes Log. Select it if you suspect a problem with the modem, however, be aware that this option adds a lot of extra information to the Notes Log.
 - **Log Script I/O** - The Log Script I/O option records asynchronous script file responses in the Miscellaneous Events Folder in the server's Notes Log. Select it if you suspect a problem with a script file, however, this option also adds a lot of extra information to the Notes Log.
 - **Hardware Flow Control** - This option controls data flow between the computer and the modem. Normally, Hardware Flow Control is selected. Deselect it only if the modem doesn't support flow control, or if using certain null modem connections or some add-on equipment.

For more information about this topic, please refer to the *Lotus Notes Administrator's Guide*.

- **Dial Timeout** - If the server cannot connect to another, it times out after a number of seconds. Adjust the timeout period according to the real calling distance and performance.
- **Hangup if idle:** - The Hangup if idle feature forces a hang-up if there is a modem connection but no user data is passing through for a long time.
- **Port Number** - Here is the physical serial port number of this Logical port.

In the Configure a Port screen, as shown in Figure 163 on page 126, we can create a new logical port by pressing the New button. If there are some devices that can support a multiple serial port sharing one physical serial port address, we can create more logical serial ports on one physical address.

4. When you have completed the modem setup, select **OK** to return to the Notes workspace.

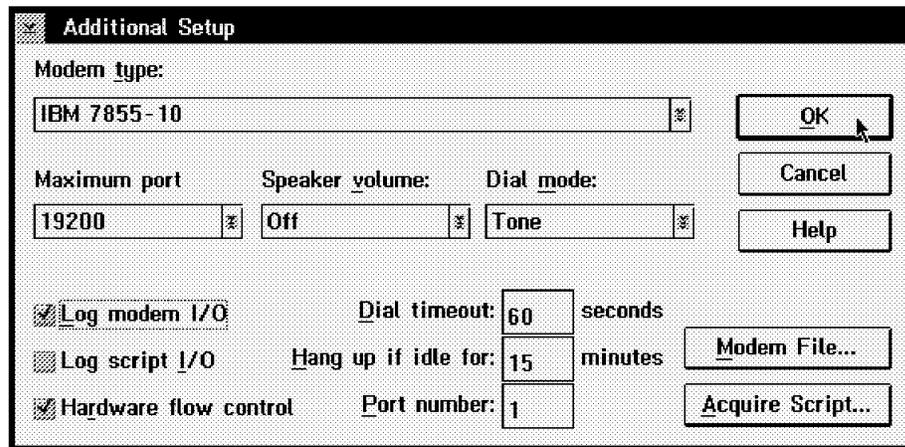


Figure 165. Modem Type - Additional Setup

5. Start the Notes Server again.

4.9 Summary

We have discussed many administrative tasks in this chapter. We have discussed how to register a server, add new users, replicate databases, setting up your network, mail routing, and remote connections. There are many more administrative tasks which you can perform in the Lotus Notes environment. We have tried to reference those administrative tasks which can help you get your Lotus Notes network up quickly. For more detailed information, please see the Lotus Notes Administrative Help database, HELPADMIN.NSF, which is available when you install the Notes Server.

Chapter 5. Coexistence and Migration

This chapter describes how to plan for and perform coexistence activities between Lotus Notes Release 3.x and Lotus Notes Release 4. We also discuss our experiences in migrating our systems from Note Release 3.x to Notes Release 4.

5.1 Coexistence

Coexistence is just a period of time when different Notes versions work together in the same system. What will happen? We will try to show you our experiences with coexistence in this section.

We designed three scenarios for different kinds of coexistence situations. First, we established a pure Notes Release 3.x environment. It contained the following systems:

- *SERVNT33*: - Windows NT 3.51, Notes Server Release 3.32
- *SERWARP3*: - OS/2 Warp, Notes Server Release 3.32
- *CLI313*: - Windows 3.1, Notes Workstation Release 3.31

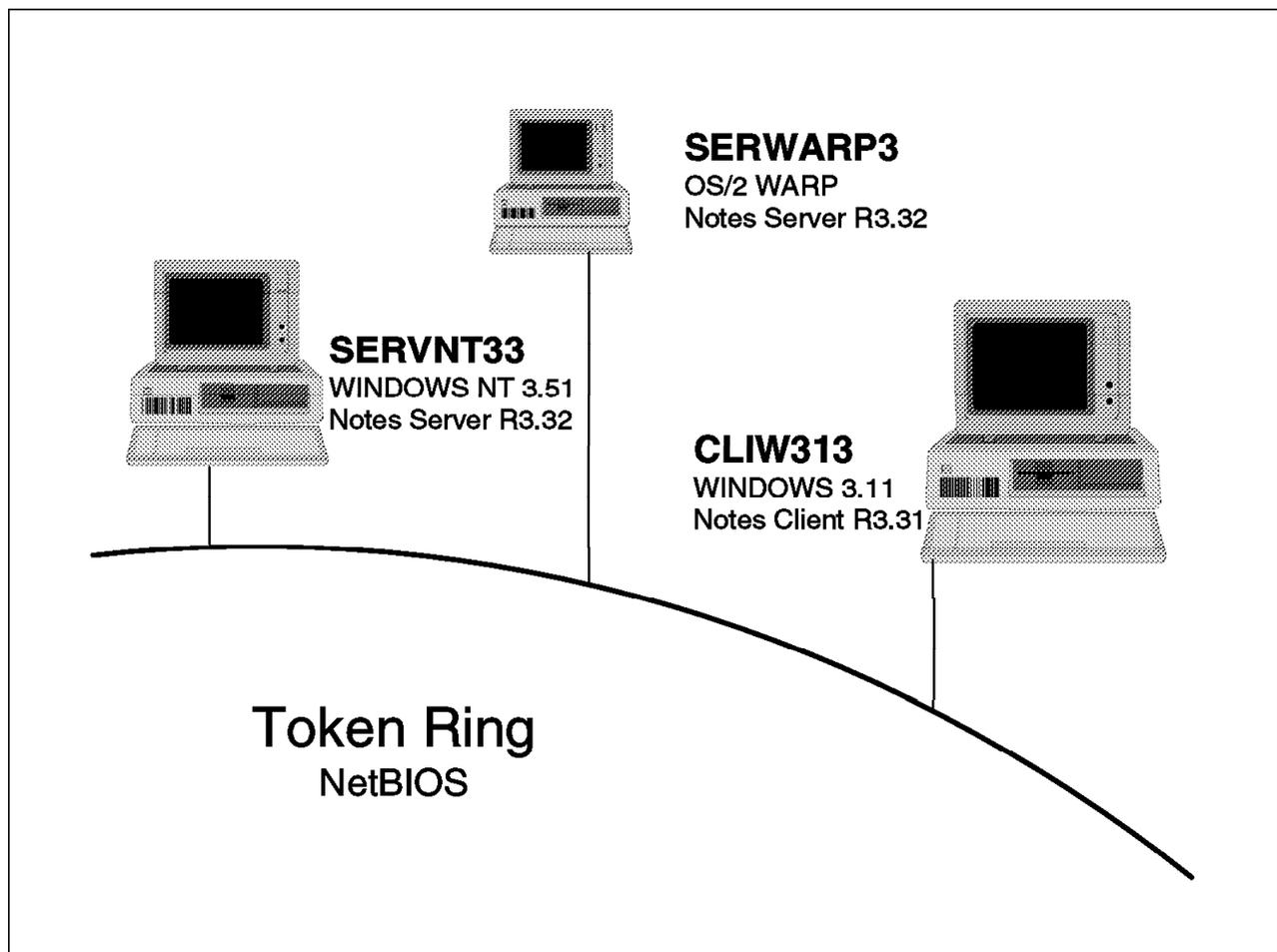


Figure 166. Notes Release 3.x Environment

Then, we developed some applications working in this environment:

1. Phone Book on SERWARP3
2. Lotus Notes 4.0 Discussion on SERWARP3
3. News on SERVNT33
4. Reservation Scheduler Unit 1 on SERVNT33

After the pure Notes Release 3.x environment was established and the applications were running well in that environment, we changed the environment. First, we added some Notes Release 4 clients to the system, emulating a complex situation.

There are a lot of questions related to a multiplatform and multirelease system. First, is the coexistence different for platforms in a network? This question is related to networking. You will find some answers to this question in section 4.6, "Networking" on page 93.

In this chapter, you will find our experiences related to the coexistence of Notes Release 4 and Notes Release 3.x in the same system.

There are multiple possibilities for coexistence:

1. Release 4 Servers and Release 3.x Servers
2. Release 4 Servers and Release 3.x workstations
3. Release 3.x Servers and Release 4 workstations
4. Release 4 workstations and Release 3 workstations
5. Release 4 and Release 3.x Notes programs on the same workstation

Coexistence scenarios 1 and 4 have the same result. The Notes databases are stored on the servers. Release 4 and Release 3.x databases could also be stored on the same server at the same time. The real question is, how can you access these different databases at the same time from either Release 4 or Release 3.x workstations?

For this scenario, we added three Notes Release 4 workstations to our pure Notes Release 3 environment:

- *CL195*: - Windows 95, Notes Workstation Release 4
- *CLIWARP*: - OS/2 Warp, Notes Workstation Release 4
- *CLIW31*: - Windows 3.1, Notes Workstation Release 4

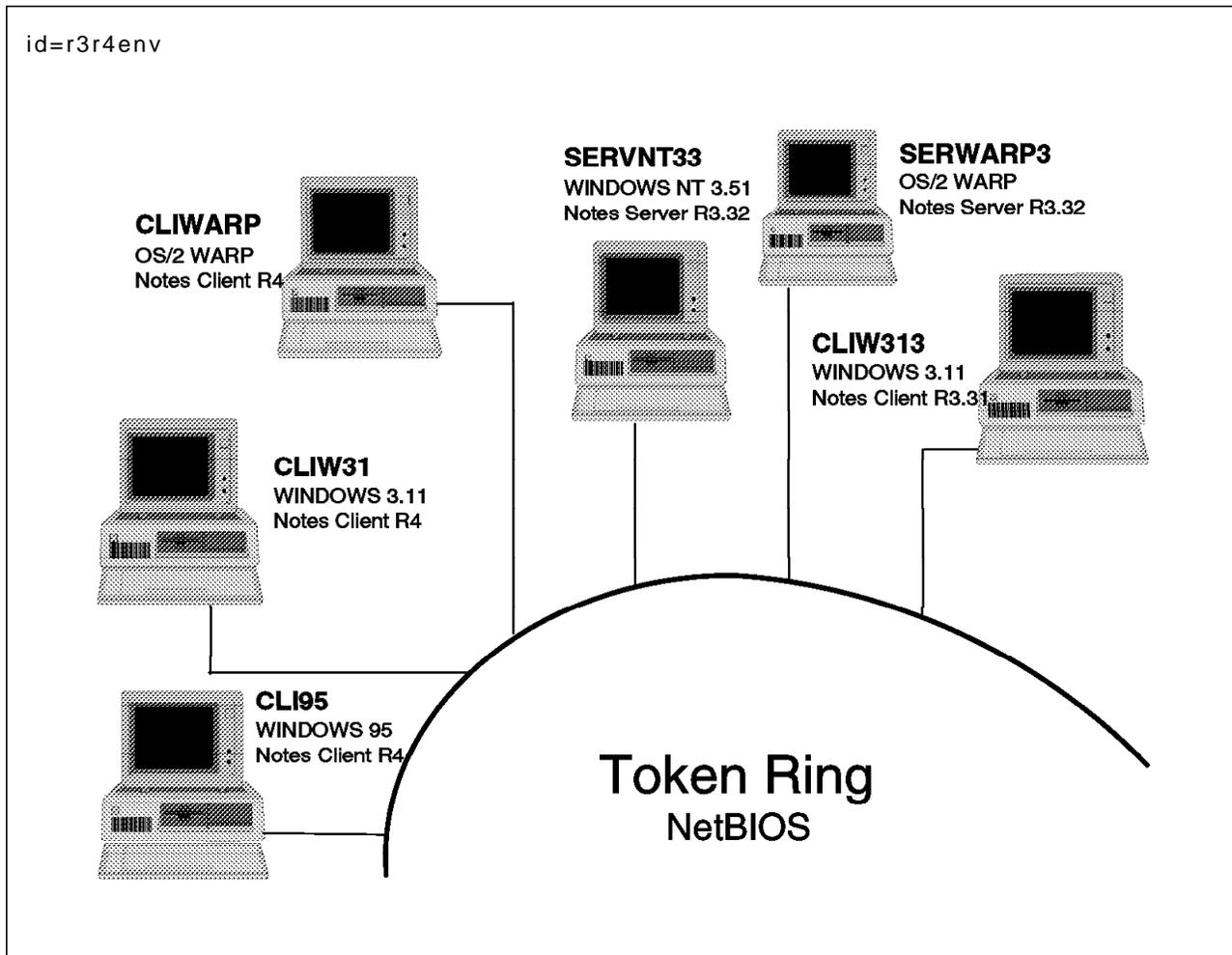


Figure 167. Notes Release 3.x Server and Release 4 Client Environment

5.1.1 Notes Release 4 and Notes Release 3.32 on the Same Workstation

We installed Notes Release 4 on a workstation that runs Windows 3.1 or Windows 3.11 for Workgroup with Notes Release 3.x. This may be a very common situation. You work with the old databases of Notes Release 3.x and at the same time you are doing application development with the new Release 4.

Before installing any new code:

1. Make a backup copy of all Notes files as a precaution.
2. Create separate directories for Notes Release 4 code and for Notes Release 4 data files. Save the NAMES.NSF file and the user ID files in the new Notes Release 4 data directory. Also, save all local databases that you want to use in the Release 4 session. Save the DESKTOP.DSK file, too.
3. Remove your Notes directories from the PATH statement in the AUTOEXEC.BAT if it was there.
4. Move your Release 3.x NOTES.INI file from the Windows directory
`\WINDOWS\NOTES.INI`
 to the Release 3.x directory and delete it from the Windows directory.

5. Install Notes Release 4. See section 3.2.4, "Installing Windows 3.1 Workstation" on page 41.

After installing:

1. Move the \WINDOWS\NOTES.INI file to the Release 4 Notes directory.
2. Delete all lines in the file except the lines beginning with Notes, KitType, and Directory. Delete NOTES.INI from the \WINDOWS directory.
3. Highlight the Notes Release 3 icon.
4. Select **File - Properties** for the Notes Release 3 icon and adjust the properties for the Notes Release 3 icon as shown in Figure 168.
5. Select **OK**.

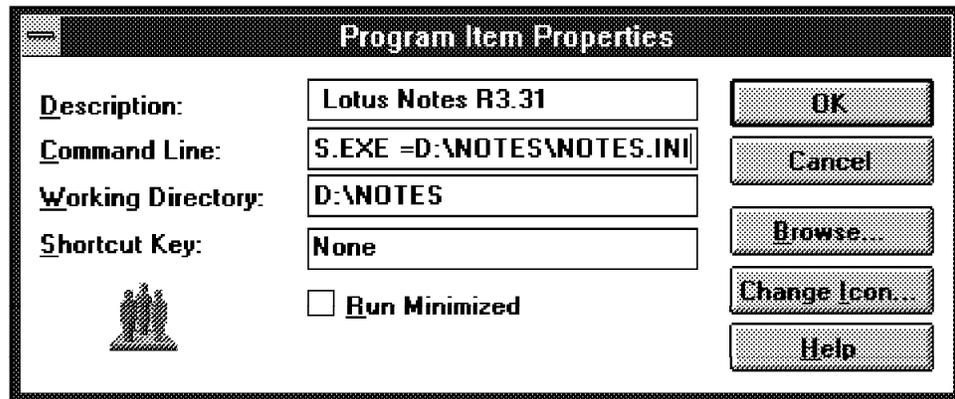


Figure 168. Adjust the Properties for the Notes Release 3.x Icon

6. Highlight the Notes Release 4 icon.
7. Select **File - Properties** for the Notes Release 4 icon and adjust the properties for the Notes Release 4 icon as shown in Figure 169.
8. Select **OK**.

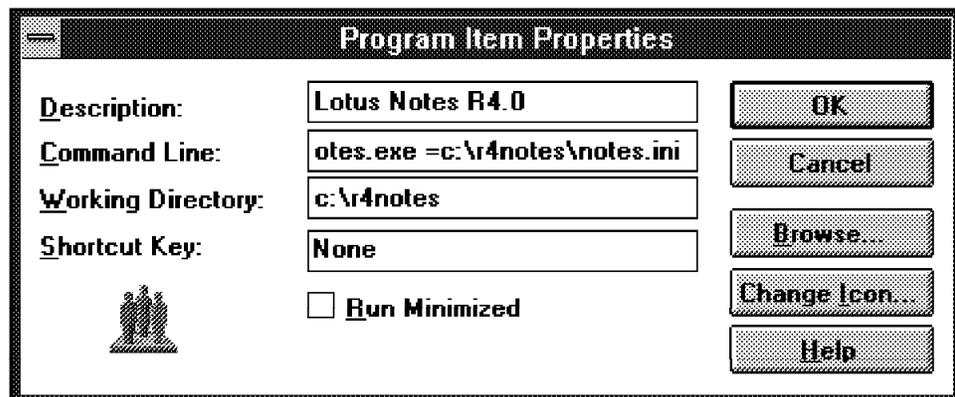


Figure 169. Adjust the Properties for the Notes Release 4 Icon

You can run either version of Notes.

Note: You can only open the Lotus Notes Workstation program by double clicking on the icons. The trickier method for opening the workstation program,

for example, to open it by double clicking on one .NSF file in File Manager, does not work!

5.1.2 Notes Release 4 Workstation and Release 3.32 Server

In some situations, we did not have enough resources to migrate our system from the old Notes release to the new one. Also, we do *not* recommend that you migrate workstations to Release 4 before the home servers are converted to Release 4.

Release 4 workstations are fully compatible with Release 3.32 servers. However, there are limitations. In such a situation, the user would not be able to correctly use the following features:

- Folders
- Many types of agents
- Selective replication
- Many mail functions
- Exchange read marks

Compatibility between Release 3.32 macros and newly created Release 4 agents must be tested! Generally, it will be best if you can avoid any application development in a mixed release environment.

We have tested the functionality of exchanging Notes mail between a Release 3.32 server and Release 4 and Release 3.31 clients. In our test environment, the Mailbox database was set up on the SERWARP3 machine which was a Notes Release 3.32 Server. All of the clients stored their personal mail files in this Mailbox database.

The items in the Mail View menu on Release 3.32 clients are the same as the items under the headings Folders and Views in the navigator parts of a Notes Release 4 mail window. This view works properly. However, you cannot use the folders and agents, which were created on the Notes Release 4 client. They cannot work with the documents in the Mailbox database on a Release 3.32 server. If you attempt to create or to edit a new agent, open a mail database on the Release 3.32 server, **Create - Agent** or **View - Agent**, you will get the following error message:

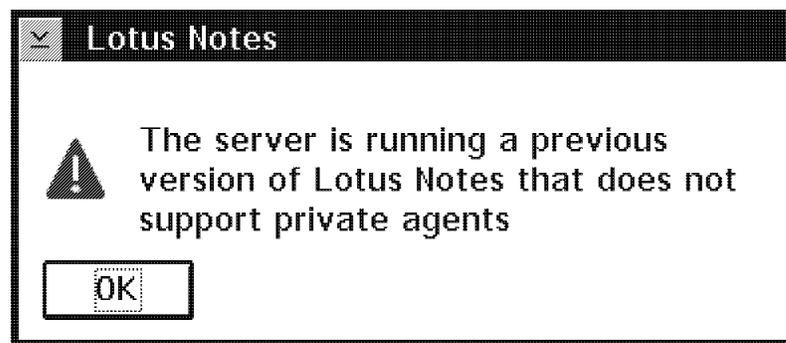


Figure 170. Message - Previous Version

Even more confusing are the folders and the shared fields. You can create a new folder or shared field, however, you could get an error message if you try to

use the created folder or shared field with a mail database on the Release 3.32 server.

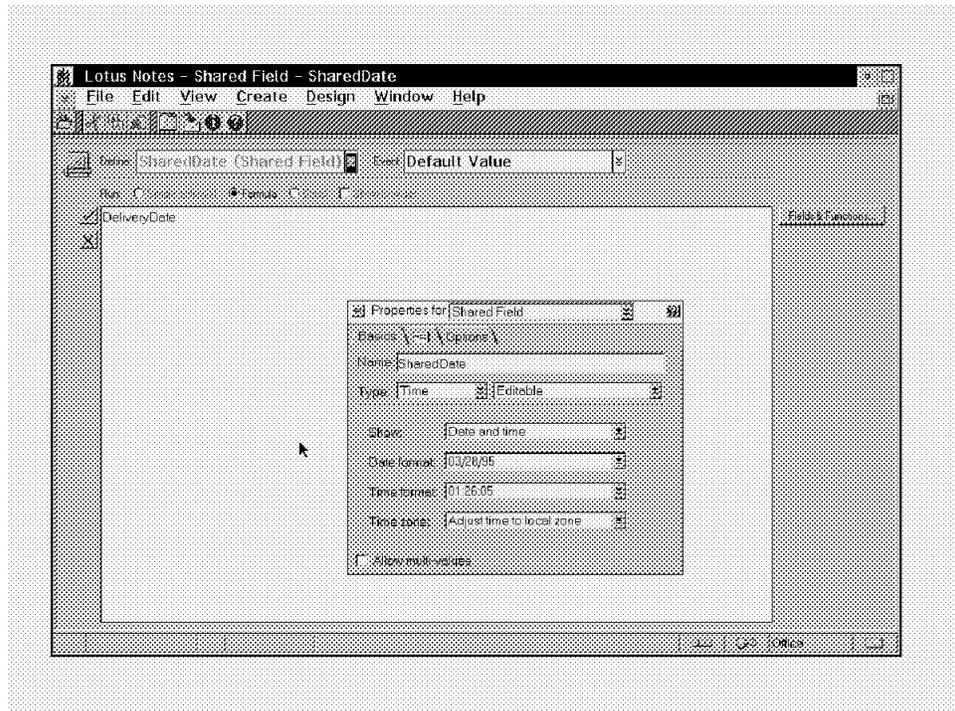


Figure 171. Create Shared Field

There are some new features that you cannot use with a Release 3.x mail database. For example, we got the following message when using a new feature of Release 4 workstation with the Address Book on the Release 3.32 server.

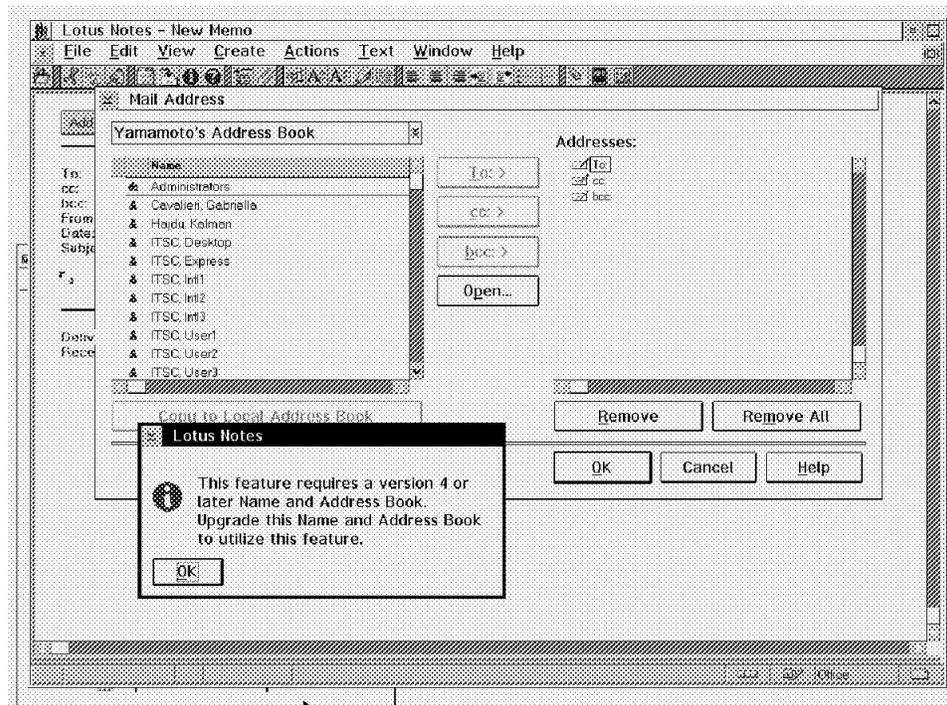


Figure 172. Search Mail Address in Release 3 Names & Address Book

5.1.3 Notes Release 3.x Workstation and Release 4 Server

Notes Release 4 servers are fully compatible with Release 3.x workstations. A Release 3.x workstation can access a database created in Notes Release 4 if that database resides on a Release 4 server. It doesn't matter whether that database has a .NS3 or a .NST extension. In all other instances, if an Release 3 workstation attempts to access a Release 4 database, Notes returns the message Invalid NSF Version.

Lotus Notes Release 4 has a new standard mail template, StdR4Mail, template file MAIL4.NTF. This standard mail template includes new features such as folders that store incoming mail, sent mail, drafts of mail and mail you want to delete. The new mail template also includes action bars and default agents that perform commands automatically.

The Release 3.x mail template is called StdNotesMail, MAIL.NTF. Notes Release 4 did not delete this template during the install program. You must upgrade the design of your mail databases. See section 5.2.4, "Upgrading the Mail Databases" on page 142.

Once your mail databases are upgraded, you cannot convert your mail databases back to their original design. Be aware that the users who are on the Release 3.x workstations cannot use the new features of Release 4, such as folders.

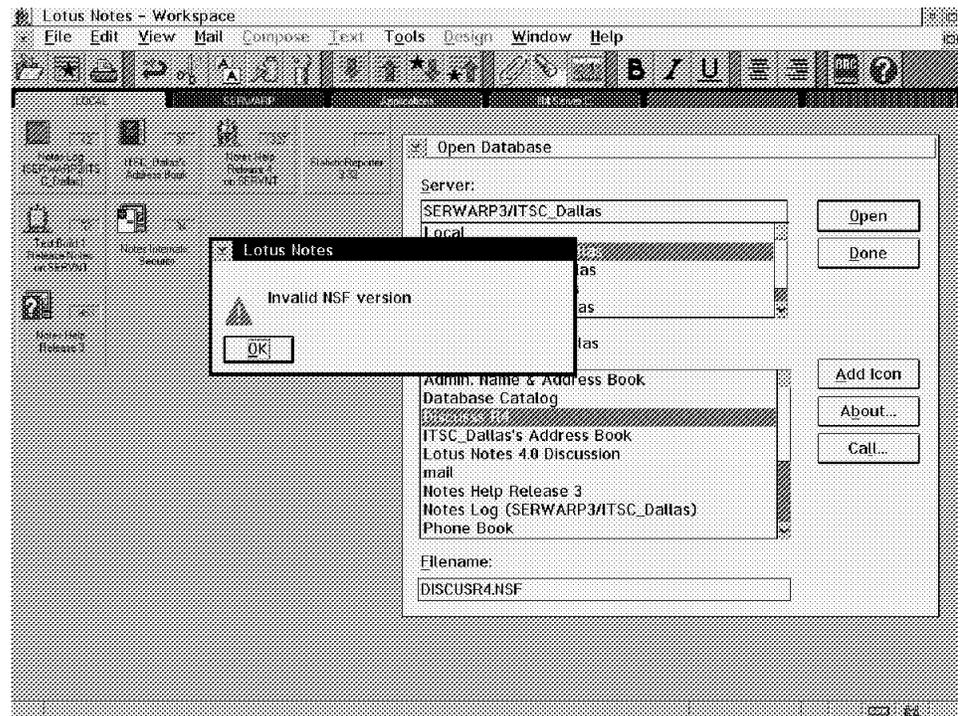


Figure 173. Invalid NSF Version

In this test case, we created the DISCUR4.NSF database on a Release 4 server and replicated to a Release 3.x server.

As an additional security tool you can hide the database design, hide formulas and LotusScript. This is a new functional capability of Notes Release 4. Databases whose designs are hidden, however, cannot be used by Release 3.x

users. See section 5.2.5, “Upgrading All Other Applications Databases” on page 144 for more information.

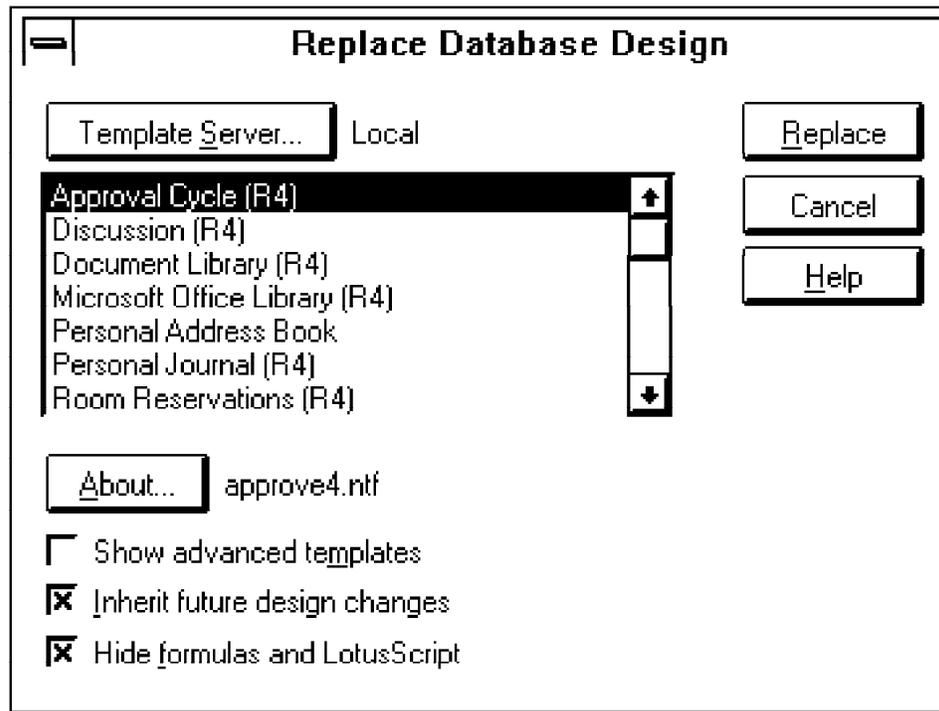


Figure 174. Disabling all Design Changes

5.1.4 Notes Release 4 Workstation and Release 3.32 Workstation

This will probably be the most frequent situation. If you create a new database on a Release 4 server, you can use a template file on a Release 3.32 server. You cannot physically copy, that is, you cannot do a binary copy using the operating system copy function of a database created on a Release 4 server to a Release 3.32 server. The databases created on a Release 4 server and on a Release 3.32 server have different database structures. You must recreate the database file. Do not rename it. When you recreate the database file, give it a file name that ends with an .NS3 extension, otherwise, you will get the error message Invalid NSF Version.

There are at least three different ways to recreate a database with an .NS3 extension you.

1. Select **File Replication - New Replica** -- This method can result in some authorization difficulties.
2. Select **File Database - New** -- This method creates a new database, but you will lose all the old records.
3. Select **File Database - New Copy** -- This is a local copy.

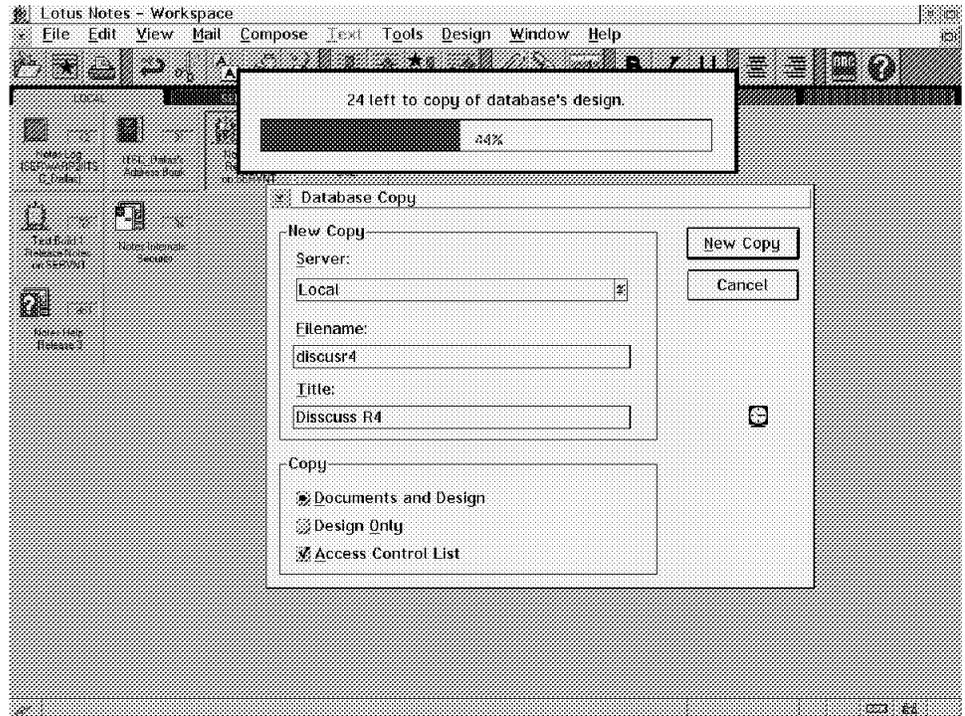


Figure 175. Transform Database with Copy

The .NS3 extension allows a database to retain the Notes Release 3 internal database structure. Without a .NS3 extension the database could be transformed unintentionally into a new Release 4 internal design structure. If you plan to use a mixed server environment for an extended period of time, it is recommended that you recreate all of your Notes Release 3.32 databases with a .NS3 extension.

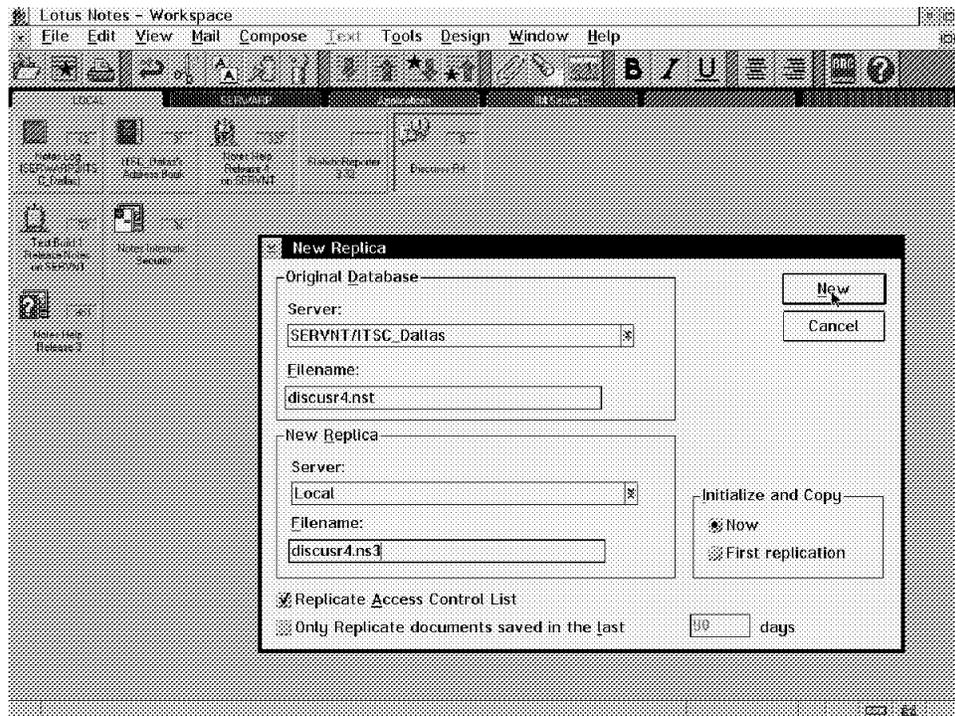


Figure 176. Transform Database with Replica

You can open .NS3 databases from either a Release 4 workstation or a Release 3 workstation. Your Release 3 workstation can also access Release 4 databases, with a .NSF extension, that exist on a Release 4 server.

5.2 Migration

The biggest part of the migration is the planning and preparation process. From a technical point of view the migration is a very simple task. You must only install the new servers and workstations. Information on installing servers and workstations can be found in other chapters in this book. You can find guidelines of how to plan, schedule and monitor a migration in the *Lotus Notes Migration Guide*. The following is a list of the technical migration tasks:

1. Backing up the servers
2. Installing Lotus Notes Release 4 on the Servers
3. Upgrading the public Names & Address Book
4. Updating the statistics and event reporting, if they are already being used
5. Installing and setting up Lotus Notes Release 4 workstations
6. Upgrading the mail databases
7. Updating all the other applications databases

5.2.1 Backing Up a Server

Make a backup copy of the following files: DESKTOP.DSK, NOTES.INI, the server ID, certifier IDs, the administrator's user ID, NAMES.NSF, LOG.NSF, MAIL.BOX and all other Public Address books listed in NOTES.INI after the NAMES= setting.

Make a backup copy of any custom template files (.NTF) on the server.

Make a backup copy of all database files (.NSF), database directory links (.DIR) and databases pointed to by database directory links. Make a backup copy of any customized or private CLS file also. Notes Release 4 includes new CLS files.

5.2.2 Installing Notes Release 4 on the Server

In Chapter 3, "Installing Lotus Notes Release 4" on page 11, you will find detailed instructions on how to install a Lotus Notes Release 4 Server on the following platforms: AIX, OS/2 Warp Connect, Windows NT and Windows 95.

The Notes Release 4 installation program for OS/2 does not test the machine for older version of Lotus Notes. It does check for prior releases on a Windows NT server and workstation.

If you install Notes for OS/2 in the same directory as an earlier version, check the button Overwrite files. This will install the Lotus Notes Release 4 Server program on the server in the same directories as the Release 3.x files.

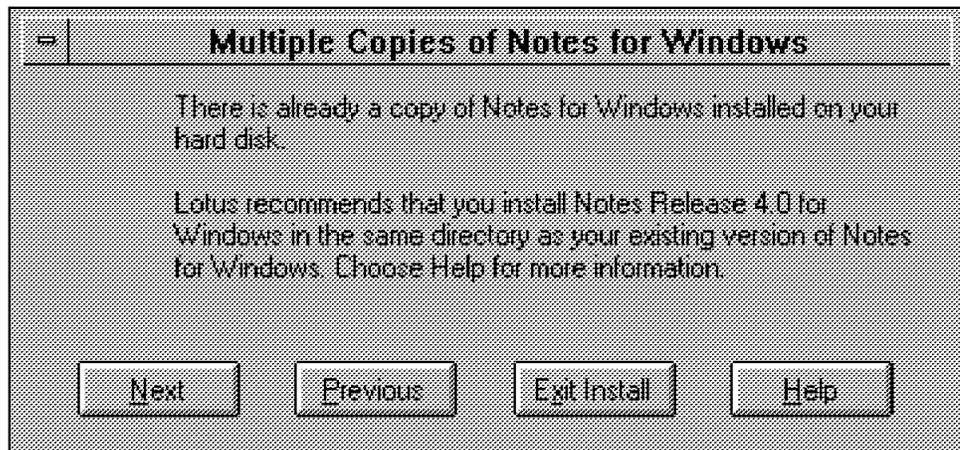


Figure 177. Install Notes Release 4 in the Existing Notes Directories

The installation program for Lotus Notes Release 4 writes over any existing Release 3.x system templates. Therefore, if you have customized any of the system templates, for example, MAILBOX.NTF, CATALOG.NTF, and so on, add your customizations to the templates, but do not write over the Release 4 system templates that Notes installed.

5.2.3 Upgrading the Public Name & Address Book

If you customized the Release 3.x Public Address Book, document these customizations. Start the Notes workstation program on the server. When Notes asks whether you want to update the Name & Address Book select **Yes**.

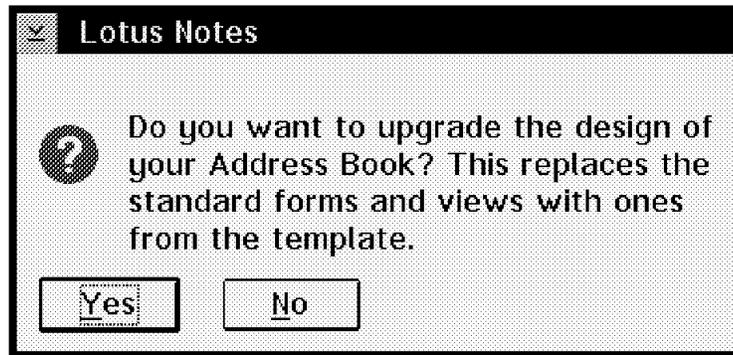


Figure 178. Upgrade the Design of Address Book

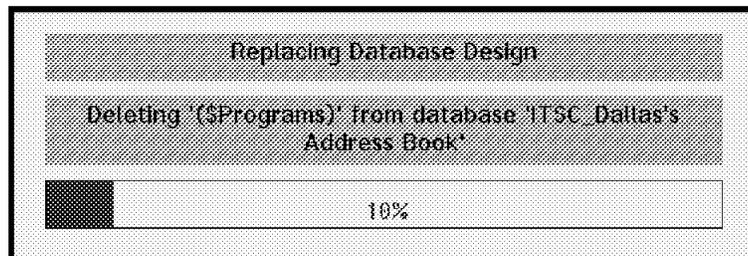


Figure 179. Replacing Database Design

To upgrade the access Control List with the new roles in Release 4, choose **Actions - Upgrade Access Control List**. Click **OK**.

In addition, if you see the screen shown in Figure 180, then your address book needs design refreshing.

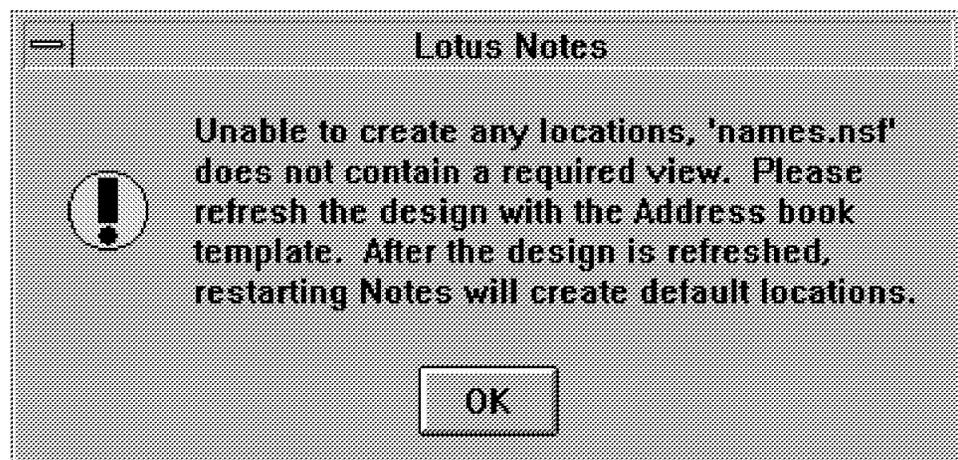


Figure 180. Address Book Needs Refreshing

1. Select the database and choose **File - Database - Refresh Design**.

2. Select the Notes Server that stores the design templates. In this case it is Local. Click **OK**.
3. Click **Yes** to confirm the redesigning.

Refreshing a design allows you to change individual forms, views, shared files, or agents without affecting the overall database design. Design elements that do not allow Design Replace or Refresh are excluded from updates.

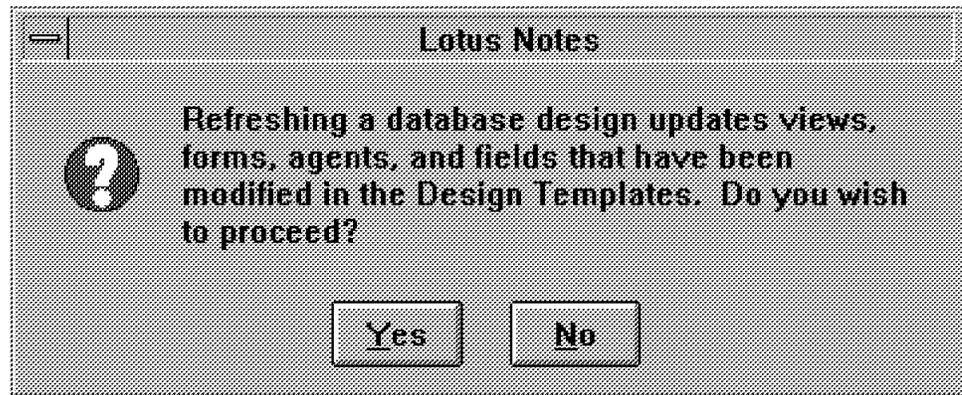


Figure 181. Verification for Address Book Refreshing

Run the UPDALL program to rebuild the view indices. Notes Release 4 includes new .CLS files. Due to the change in the .CLS collation tables, it is important to rebuild all views by running UPDALL on the Public Address Book before bringing up the server. Be very careful if you are using customized or private .CLS files. Back them up before the migration and check them after restoring.

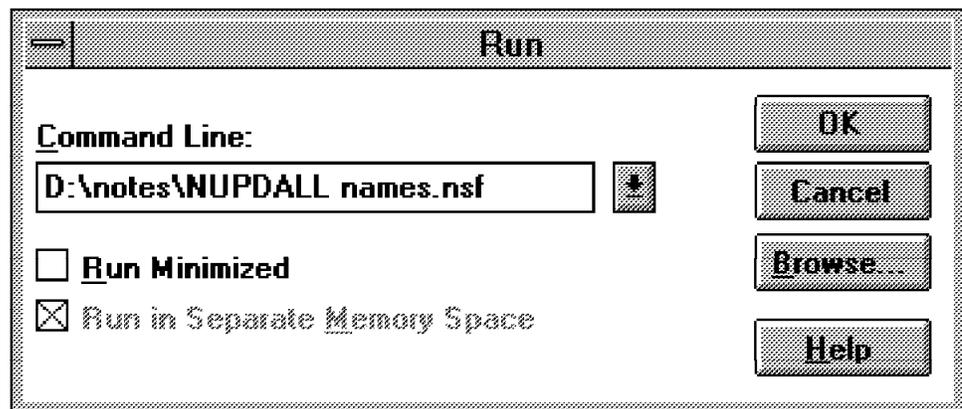


Figure 182. Index Update Process

Run the COMPACT program to change the Public Name & Address Book to Release 4 format. Before you run the COMPACT program you must very carefully examine your databases. Running the COMPACT program on the server involves updating the view indices and converting the database to Release 4 file format.

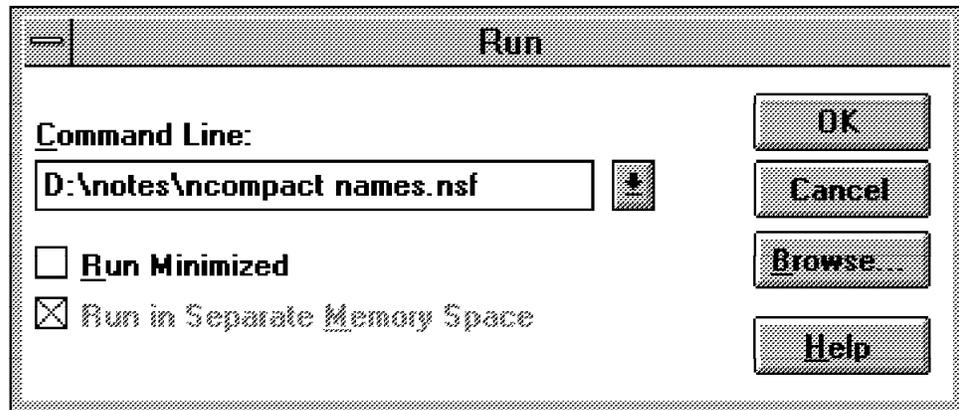


Figure 183. Change the Database to Release 4 Format

If for some reason you decide that you want to downgrade the application to Release 3.x file format, you would use the database compactor with the `-r` argument. For example, on the Windows NT server the command would be: `NCOMPACT Names.nsf -r`

The commands are:

```
iupdall names.nsf and icompact names.nsf (for OS/2 Warp)
updall names.nsf and compact names.nsf (for AIX)
```

5.2.4 Upgrading the Mail Databases

Release 4 has a new standard mail template: StdR4Mail (MAIL4.NTF). The standard mail template includes new features such as folders, action bars and default agents. To use these Release 4 mail features, you must upgrade the mail template to StdR4Mail and use Release 4 workstations. There are two methods of upgrading mail databases to the Release 4 mail template.

- Use the mail conversion utility, CONVERT server program, at the server console to upgrade several mail databases.
Use this method to upgrade many mail databases simultaneously or upgrade large mail databases.
- Use an agent provided with the Release 4 mail template.
To use this agent, end users must replace the design of their current mail database with StdR4Mail and then use the agent to create folders for categories, and so on. This agent is available to them only after they replace the design of their mail databases with StdR4Mail.

Once the design of mail databases is upgraded, you cannot convert them back to their original design. Notes converts categories to folders.

5.2.4.1 Upgrading Mail Databases with the Mail Conversion Utility

1. Delete all replicas, however, do not delete the original mail databases.
2. Copy all private forms, views, and macros to a temporary database.
3. Start the Notes Server.
4. Temporarily shut down the router at the server console by typing:
`tell router exit`

5. Load the mail conversion utility. It is the following in our case:

```
load convert c:\notes\data\mail.nsf stdnotesmail mail4.ntf
```

 Type the full path name. You can use also the '*' wildcard character.
6. Restart the router at the server console by typing:

```
load router
```
7. Copy the customized forms, views, and macros into the upgraded mail database. Make sure the customized forms, views, and macros do not use the same name as the forms, views, and macros in the new template.
8. If necessary, create new replicas.

5.2.4.2 Upgrading a Single Mail Database

1. Start the Notes workstation.
2. If the user has replicas of the mail database delete the replicas.
3. Copy the customized forms, views, and macros to a temporary database.
4. Select the mail database icon on the workspace.
5. Choose **File - Database - Replace Design**.

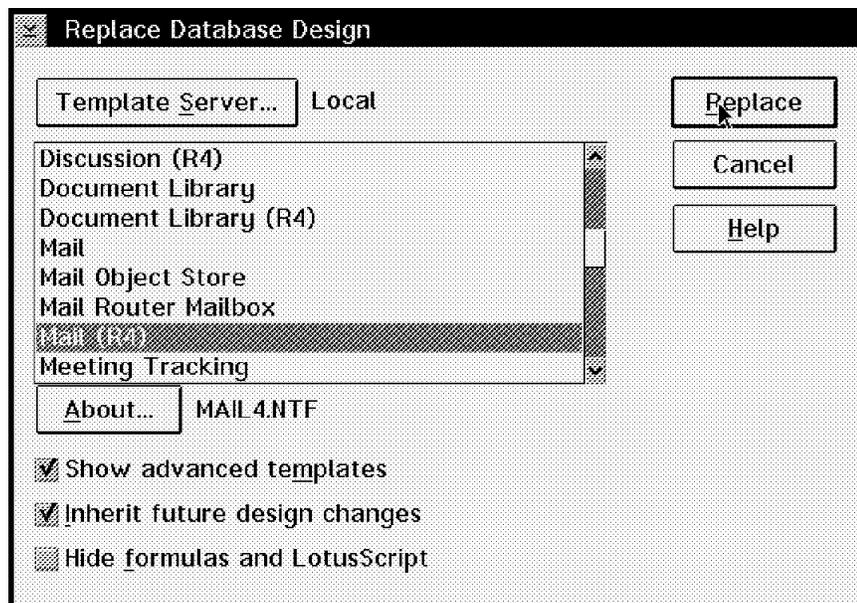


Figure 184. Replace Mail Database Design

6. Check the box Show advanced templates. Select the Standard Notes Mail design template MAIL (Release 4). You will see on the lower part of the active window the name of the template database MAIL4.NTF.
7. Click **Replace**.
8. Click **Yes**.

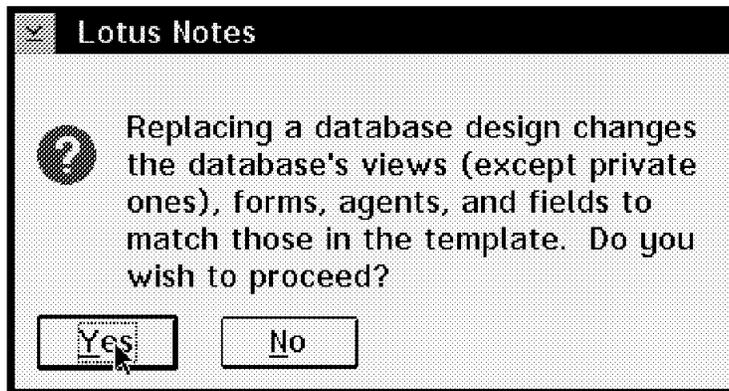


Figure 185. Confirm Replacing Mail Database Design

9. Choose **Actions - Mail Tools - Convert Categories to Folders.**

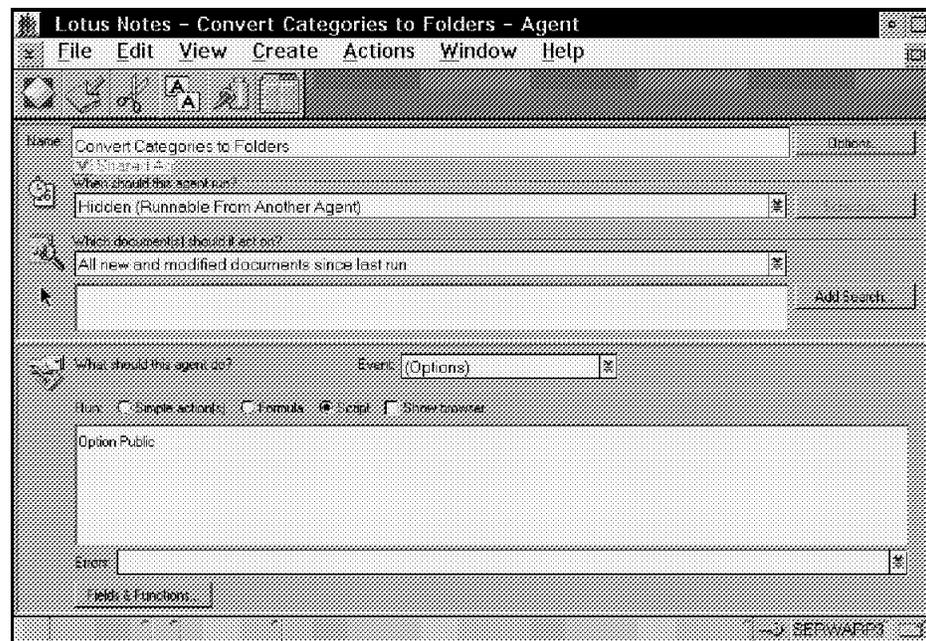


Figure 186. Convert Categories to Folders

10. Copy the customized forms, views, and macros into the upgraded mail database.
11. Create new replicas.

5.2.5 Upgrading All Other Applications Databases

There are two ways to upgrade application databases:

1. Modify the Release 3.x applications to insure that features are working appropriately and add only Release 4 features that do not need the Release 4 file formats. This keeps the whole functionality of all Release 3.x workstations.
2. Convert the file format of the application to use specific Release 4 features. It is very important to be aware that if you add Release 4 features to an application, the Release 3.x users will not be able to use these new features.

See section 5.1.3, "Notes Release 3.x Workstation and Release 4 Server" on page 135 for more information.

You need to upgrade databases to make sure they work correctly in Release 4 or add new Release 4 features:

- Enforce a consistent Access Control List on replicas of local databases.
- Set a limit on the database size to control the hard disk space on the server.
- Use field level replication. See section 4.3.3, "What's New in Notes Release 4?" on page 75.
- Use selective replicas. See section 4.3.3, "What's New in Notes Release 4?" on page 75.

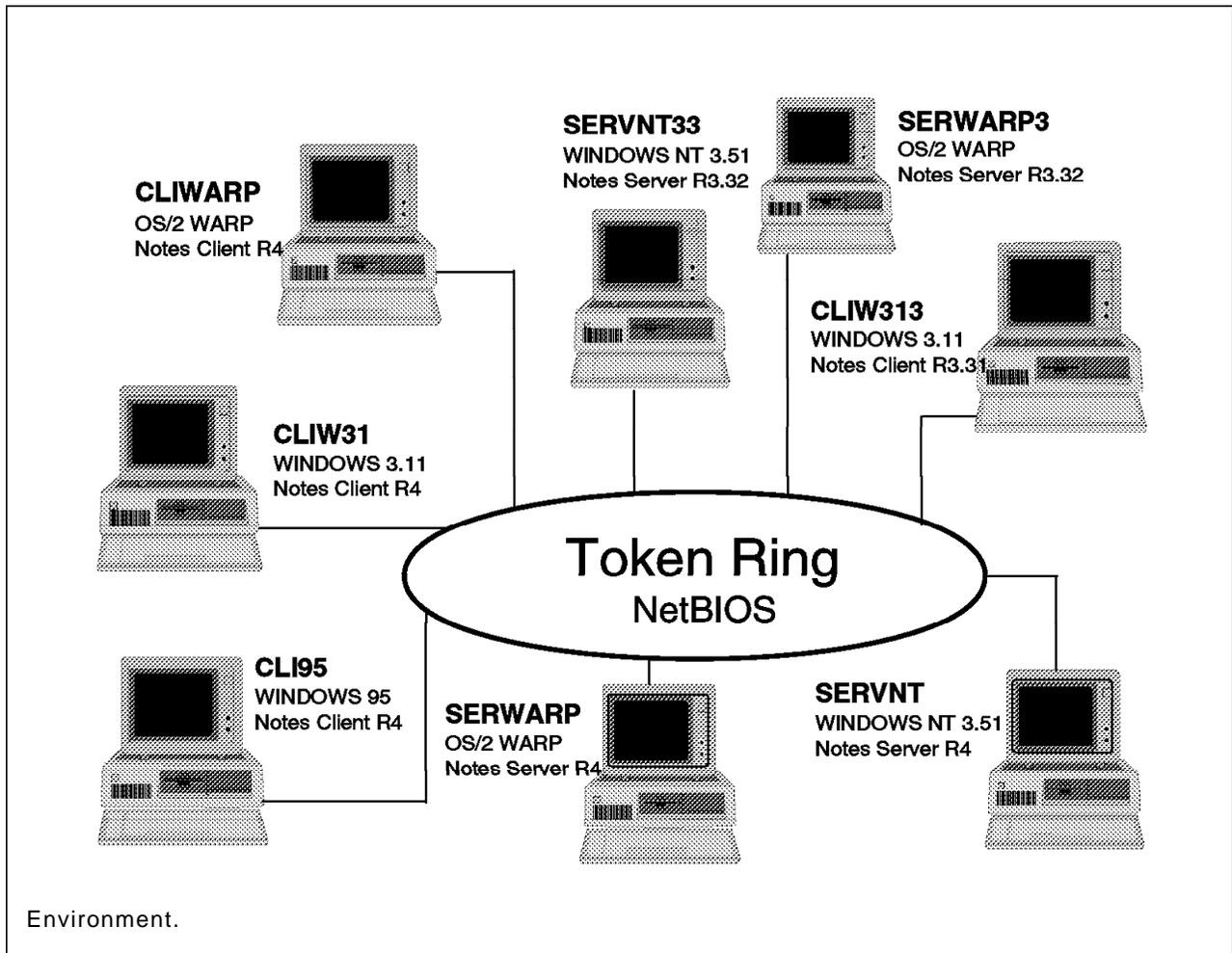


Figure 187. Lotus Notes Release 3.x Server and Release 4 Server

5.3 Conclusion

In this redbook, we have discussed many installation and administration tasks which are necessary to setup a working Lotus Notes network. We have also discussed planning, migration and coexistence issues which should be thoughtfully considered before you begin installing Lotus Notes Servers and Clients in a multiplatform environment.

We hope that you will find this book useful as a reference handbook and that it will help you to successfully install, rollout, and live with your Lotus Notes network on a day-to-day basis.

List of Abbreviations

AIX	Advanced Interactive Executive	NetBIOS	Network Basic Input/Output System
API	Application Programming Interface	NetBEUI	NetBIOS Extended User Interface
DNS	Domain Name Service	NIC	Network Interface Card
IBM	International Business Machines Corporation	NLM	NetWare Loadable Module
IPX	Internetwork Packet Exchange	NTS/2	Network Transport Services/2
ITSO	International Technical Support Organization	OS/2	Operating System/2
LAN	Local Area Network	PPP	Point-to-Point Protocol
LAPS	LAN Adapter Protocol Support	RAM	Random Access Memory
MPTS	Multiple Protocol Transport Services	SLIP	Serial Line IP
NDF	Network Definition File	SNA	System Network Architecture
		SPX	Sequenced Packet Exchange
		TCP/IP	Transmission Control Protocol/Internet Protocol
		VIM	Vendor Independent Messaging

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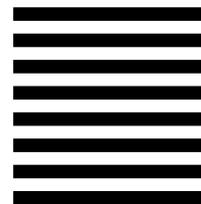
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