3+Open™ LAN Manager
Installation and Setup Guide

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3Com®

3+Open™ LAN Manager
Installation and Setup Guide

A member of the 3+Open family of products. For use with OS/2, version 1.0 or 1.1, and DOS, version 3.1 or higher.

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Preface

This guide explains how to install and set up the 3+Open™ LAN Manager and Server-Adapted Microsoft® Operating System/2 (MS® OS/2) on IBM® and IBM-compatible personal computers. It also outlines the procedure for setting up network users and resources on a server.

The guide assumes you have had a reasonable amount of experience with local area networks, microcomputers, and MS OS/2 or Microsoft Disk Operating System (MS-DOS®). Use this guide in conjunction with Netsetup, the 3+Open LAN Manager Installation and Setup program, and the *3+Open LAN Manager Administrator Guide*.

Conventions Used in This Guide

The following conventions are used throughout the guide.

Keys

The following table shows the symbols used to represent the keys on your keyboard.

Spelling	Key Represented
[Esc]	Escape
[Alt]	Alternate
[Ctrl]	Control
[Backspace]	Backspace
[Space bar]	Space bar
[F1]-[F*x*]	Function keys
	F1 through F*x*
⏎ or [Return] or	Return or
[Enter]	Enter key

Key Combinations

If two or more keys are to be pressed simultaneously, the keys are linked with a plus sign (+). For example, the following key combination resets a netstation:

[Ctrl]+[Alt]+[Del]

Notational Conventions

Throughout this manual, the following conventions are used to distinguish elements of text.

Text Element	Indicates
ALL CAPITAL LETTERS	Command names and filenames.
Bold	New terms.
Bold Courier typeface	Input you enter.
Regular Courier typeface	Screen text.
[Brackets]	Nonalphabetic key names, such as [Enter], or command options.
Italics	Variable command option names.

Procedural Conventions

Information you should enter is shown in blue. Terms shown in italics should be replaced with specific information. For example:

```
makedisk   n:↵
```

means that you type the command MAKEDISK followed by a drive identifier (*n:*) and press [Return].

Procedure Format

Procedures are organized in two levels. The first level, shown in bold type, describes the precise action you must take. The second level, in regular type, provides further explanation of the step. If you are repeating a procedure you have performed before, it should be sufficient to refer only to the bold steps.

For example:

first level: **1.**   **Insert the *LAN Mgr. Server #1* diskette into a high-density drive.**

second level: The 3+Open LAN Manager Advanced System comes with two sets of high-density diskettes, each with identical software. It does not matter which set you install. The 3-1/2-inch diskettes must be read in a 1.44 MB drive, and the 5-1/4-inch diskettes must be read in a 1.2 MB drive.

Finding Further Information

The following manuals are included with 3+Open MS OS/2 LAN Manager:

* *3+Open MS OS/2 LAN Manager Administrator Guide*

* *3+Open MS OS/2 LAN Manager Administrator Reference*

* *3+Open MS-DOS LAN Manager User Guide*

* *3+Open MS-DOS LAN Manager User Reference*

* *Managing Combined Networks: 3+Open and 3+*

Chapter 1: Overview of 3+Open and LAN Manager Installation

This chapter provides an overview of 3+Open, 3+Open LAN Manager, and Server-Adapted MS OS/2, including examples of network environments where you can use 3+Open. It also provides an overview of the procedure for installing the 3+Open LAN Manager software.

3+Open

3+Open is a family of local area network products based on the multitasking operating system, MS OS/2. Its open architecture enables you to operate a wide variety of standard MS OS/2, MS-DOS, and Macintosh computers on a network. It uses the many features of MS OS/2 while maintaining compatibility with MS-DOS computers and applications.

3+Open supports several network protocols, including Xerox Network Systems (XNS), NetBIOS Protocol (NBP), and IBM Data Link Control (DLC).

3+Open provides a standardized full-screen interface. This interface is modeled on IBM's Systems Application Architecture (SAA) interface standards. The interface makes it easy to learn and use 3+Open. You can also use 3+Open with the standard MS OS/2 and MS-DOS command line interface.

3+Open LAN Manager

At the core of 3+Open is the 3+Open LAN Manager, the network system software.
3+Open LAN Manager has the following features:

- Security system that allows the network administrator to regulate access to network resources and to audit resource use.

- Logon scripts and user profiles that give the user automatic access to the same network resources, regardless of where the user logs on.

- Error logging and compilation of network usage statistics.

- PostScript® despooler and a facility for administering it.

- 3+Open DOS Manager, which provides a window-oriented file management feature for DOS netstations and memory-saving applications for DOS computers.

- Netsetup, the program that automates installation of the LAN Manager on personal computers, sets tuning parameters to standard values, and configures printer services.

- Enhanced version of the MS OS/2 software.

3+Open LAN Manager is described in greater detail in the *3+Open MS OS/2 LAN Manager Administrator Guide* and the *3+Open MS OS/2 LAN Manager User Guide*.

Versions of 3+Open LAN Manager

Three versions of 3+Open LAN Manager software exist. They provide the same function, but differ in the number of network workstations (netstations) they support.

- 3+Open LAN Manager Advanced System is licensed for installation on one server and an unlimited number of netstations.

- 3+Open LAN Manager Entry System is licensed for installation on one server and up to five netstations. Only one Entry System can exist on a network.

- 3+Open LAN Manager Entry System II is licensed for installation on one server and up to ten netstations. Only one Entry System II can exist on a network.

The 3+Open LAN Manager software runs on 3Com 3Server servers and IBM or IBM-compatible personal computers. This guide helps you install the software only on IBM and IBM-compatible personal computers. The *3+Open for 3Servers Installation and Setup Guide* explains how to install the software on a 3Server.

3+Open Network Environments

You can use 3+Open in a variety of network environments, including the following:

- Networks consisting of one server and multiple netstations all using the same protocol. This is the "basic" network configuration.

- Basic networks extended to support multiple protocols concurrently. In this configuration, not all netstations use the same protocol. For example, some use XNS, while others use DLC.

- Networks connected by a server bridge. The server could have multiple network adapters and, if necessary, use multiple protocols to link multiple networks.

- Concurrent communications between servers and netstations using 3+Open, 3+Share®, and 3+Share for Macintosh software.

This guide discusses basic network installation. If you are installing the 3+Open LAN Manager Advanced System software, refer to *Managing Combined Networks: 3+Open and 3+* for information on 3+Open to 3+ communications.

Installation Overview

This section provides an overview of the basic procedures you follow to install the 3+Open LAN Manager software and Server-Adapted MS OS/2 software on a personal computer and to set up network resources.

The installation instructions in this guide assume you have already performed the following tasks:

*   Installed network adapters in your server and netstations. (Refer to the documentation that came with your adapter for installation instructions.)

*   Connected your server and netstations using Ethernet or token ring cable. (Refer to your network cable documentation for information.)

Installation Process Flow Diagram

The process for installing and setting up the 3+Open LAN Manager software consists of three steps:

*   Installing and setting up the server

*   Setting up LAN Manager users and resources

*   Installing and setting up OS/2 and DOS netstations

Figure 1-1 illustrates this process. Refer to the chapters indicated in the figure for information about each part of the process.

```
┌─────────────────────────────┐
│░░░░░░░░░░░░░░░░░░░░░░░░░░░░░░░│
│░░░░░░Before Installing░░░░░░░│
│░░░3+Open LAN Manager░░░░░░░░░│
│░░░░░░░░░░░░░░░░░░░░░░░░░░░░░░░│
│░░░░┌──────────────────┐░░░░░░│
│░░░░│  Install Network │░░░░░░│
│░░░░│     Hardware     │░░░░░░│
│░░░░└──────────────────┘░░░░░░│
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│     Install OS/2 or DOS     │      See Chapter 2
│        on Computers         │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│   Install and Set Up Server │      See Chapter 3
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│      Set Up Users and       │      See Chapter 4
│     Network Resources       │
└─────────────────────────────┘
```

┌──────────────────────┐   ┌──────────────────────┐
│ Install LAN Manager │   See Chapter 5   │ Install LAN Manager │
│ on OS/2 Netstations │   │ on DOS Netstations │
└──────────────────────┘   └──────────────────────┘
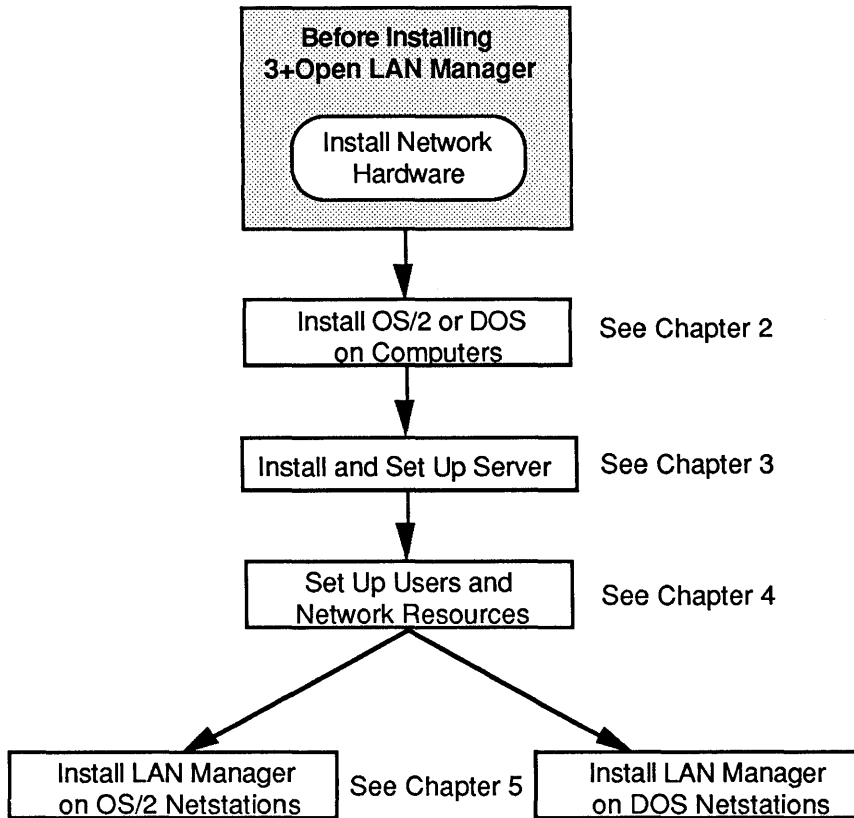
Figure 1-1. Overview of LAN Manager Installation

Chapter 2: MS OS/2 Installation and Disk Cache

Before you can install the 3+Open LAN Manager software on your server, you must install OS/2 version 1.0 or 1.1 software on your server. It is recommended that you install the Server-Adapted MS OS/2 version 1.1 software that is shipped with the 3+Open LAN Manager software. However, you can use other vendors' versions of the software.

This chapter leads you through the installation of the Server-Adapted MS OS/2 software on your server. You should install this software only on a server, not on a netstation, as per your license agreement. The chapter also includes instructions on setting up your MS OS/2 disk cache.

Server-Adapted OS/2 Software

Server-Adapted MS OS/2 software offers these benefits:

- Disk-caching to speed up performance.

- Hard disk partitions of up to 4 gigabytes (GB) in size.

- Maximum file size of 2 GB.

System Requirements

To set up and use MS OS/2, your server must be a personal computer with the following features:

- An 80286 or 80386 processor.

- At least 4 megabytes (MB) of random-access memory. If you have added extra memory to your computer, make sure the memory is extended memory, not expanded memory.

- At least 8.2 MB of space available on drive C.

- One high-density floppy disk drive.

Installing MS OS/2

Before you begin installing MS OS/2, make sure you have the following five diskettes handy:

- *OS/2 Server Adaptation Installation Disk*

- *OS/2 Server Adaptation Disk #1*

- *OS/2 Server Adaptation Disk #2*

- *OS/2 Server Adaptation Disk #3*

- *OS/2 Server Adaptation Disk #4*

To install the OS/2 software, follow these steps:

1. **Insert the *LAN Manager OS/2 Server Adaptation Installation Disk* into your floppy disk drive.**

2. **Start your server. If your server is already running, press [Ctrl]+[Alt]+[Del].**

   The installation program displays a welcome screen, explaining that the program will lead you through the installation of the MS OS/2 software, and prompting you to insert the other installation disks when needed.

The remainder of this section contains additional information that you might need while installing the MS OS/2 software.

Formatting the Hard Disk Before Installation

One of the first questions that the installation program asks you is whether or not you want to use the FDISK utility to create, modify, or resize partitions on your server's hard disk. You must run this utility for a new server and for servers that have been running an operating system other than MS-DOS or MS OS/2. Refer to the *MS OS/2 User's Guide* for information on how to use the FDISK utility.

NOTE: Before you run the FDISK utility on a server that has been running an operating system other than MS-DOS or MS OS/2, you must do a low-level format of the server's hard disk. Refer to the manufacturer's documentation for instructions.

The recommended range for the MS OS/2 partition size is from 16 to 127 MB. Although the FDISK utility accepts other values, partitions that are larger or smaller than the recommended sizes make less efficient use of the hard disk.

⚠ **CAUTION:** Back up your hard disk before adding, deleting, or changing partitions with the FDISK utility; modifying partitions erases data from the hard disk.

Choosing an MS OS/2 Environment

The installation program prompts you to choose one of three MS OS/2 environments:

- Presentation Manager, a graphics-based screen environment with windows and menus. In this environment, you can run several screen groups simultaneously, each in its own window, with a different program in each.

- Program Selector, a command-line environment that supports multiple screen groups. This environment uses 1 MB less memory than Presentation Manager. It is also the mode you must choose if you are going to use the server as a dedicated server (a server that is only a server, not a server and a netstation).

- Minimum Shell, a command-line environment that supports only one screen group. The single screen group restriction is for security; unauthorized users cannot start a new screen group in order to circumvent security.

MS OS/2 Disk Cache

A disk cache improves server performance by using memory to temporarily store data that is moving between programs and the hard disk. There are two types of disk caching: read caching and write caching, also known as lazy write.

With read caching, blocks of data are read from the disk into a program and into the cache. If the same data is requested again, it is instantly available from the cache.

With write caching, data destined for the hard disk is temporarily stored in the cache until the server can write it to the disk without taking processing time away from other activities. Write caching can also save writes to the disk by updating data while it is still in the cache.

CAUTION: With write caching, data in the cache is lost if you turn your server off without first clearing the cache, or if power to your server is interrupted. To avoid data loss, perform one of the following steps:

- Press [Ctrl]+[Alt]+[Del] to restart the server.

- Stop the cache with the command:

  `cache /stop`

- Stop write caching with the command:

  `cache /lazy:*:off`

For more information about the CACHE command, refer to "CACHE Command" later in this chapter.

Setting Default Cache Size

The default cache size at installation is 512 KB. The minimum allowable cache size is 64K, and the maximum allowable cache size is 7.2 MB. To change the default cache size, edit the diskcache= entry in the CONFIG.SYS file. To set the default size to 1 MB (1024K), for example, change the diskcache= entry to:

```
diskcache=1024
```

There are no rules for cache size other than the minimum and maximum sizes stated earlier. However, the larger your cache, the better it works. For example, it is a good idea to set your default cache size to 1 MB or more if you can spare the memory. Use the CACHE command to change the cache size as you work, if necessary.

CACHE Command

The CACHE command lets you view or change the configuration of your disk cache. The syntax for the command is as follows:

```
cache options
```

The options for the CACHE command are listed and explained in Table 2-1.

Table 2-1. CACHE Command Options

Option	Function
/help	Displays CACHE command option information.
/start	Starts the cache. By default, the cache is started when you start up your system.
/size:n	Sets the size of the cache, in kilobytes, overriding the diskcache= entry in the CONFIG.SYS file. The cache must be at least 64 KB. When you restart the server, the cache size reverts to the CONFIG.SYS file value.
/caching:drive:on|off	Starts or stops read caching. MS OS/2 allows only two disk drives: C and D. You can use an asterisk (*) in place of a specific drive letter to start or stop caching for both drives.
/lazy:drive:on|off	Starts or stops write caching. You can use an asterisk (*) in place of a drive letter to start or stop caching for all drives.
/stop	Stops the cache. If you restart the cache with the CACHE command, the configuration is as it was when you last stopped the cache, provided you have not restarted the server.
/options	Displays the cache configuration. Figure 2-1 shows a sample option display.
/stats[:u|:c]	Displays current cache statistics. If you use the /stats option without either of its options, you will see statistics that reflect recent cache activity. To view a dynamic display that is updated every second, add the :u option. To reset all statistics to 0, use the :c option. Figure 2-2 shows a sample cache statistics display.

```
Cache Options
— — — — — — — — — — — — — — — — — — — — — — —
Status                            Running
Cache Size (Kbytes)               512
Drive C is enabled with Lazy Write selected.
```

Figure 2-1. Cache Options

n the figure, Lazy Write selected indicates that write caching is enabled. If the last line in the display is Write Through selected, write caching is not enabled.

```
Cache Statistics
— — — — — — — — — — — — — — — — — — — — — — —
Read Requests   —  1364    Disk Reads              —    480

Write Requests  —   136    Disk Writes             —     43
                           Lazy Write Bypasses     —     26
                           Lazy Write Flushes      —     66

Cache Hits      —    65%   Lazy Write Errors Disk C —    0
```

Figure 2-2. Cache Statistics

The statistics in the display represent numbers recorded since the statistics were last reset. Table 2-2 lists and explains the entries on the cache statistics display.

Table 2-2. Cache Statistics Entries

Statistic	Represents
Read Requests	Number of read requests issued to the cache.
Disk Reads	Number of times data has been read from the disk. Subtract Disk Reads from Read Requests to find the number of disk reads the cache has saved.
Write Requests	Number of write requests issued to the cache.
Disk Writes	Number of times data has been written to the disk. Subtract Disk Writes from Write Requests to find the number of disk writes the cache has saved.
Lazy Write Bypass	Number of times write requests have bypassed the cache and gone directly to the disk. This can happen if the cache is not large enough to handle the volume of incoming write requests.
Lazy Write Flushes	Number of times the system has cycled through the cache, writing the oldest data to the disk.
Cache Hits	Percentage of time requested data was in the cache. The higher the percentage, the more value you are getting from the cache. If the percentage is low, try increasing the cache size.
Lazy Write Errors	Number of times the write-behind process encountered a bad sector on the disk during a cache flush. The cache sends an alert when a lazy write error occurs. If enough errors occur, the cache shuts off.

Chapter 3: Installing LAN Manager on a PC Server

This chapter explains how to install and set up 3+Open LAN Manager on an IBM or IBM-compatible personal computer. Refer to the *3+Open for 3Servers Installation and Setup Guide* for information on installing 3+Open LAN Manager on 3Com servers.

You install 3+Open LAN Manager with the Netsetup program. Netsetup also helps you set up users and share network resources. Before you begin the installation procedures, read "Hardware and Software Requirements" and "Information, Materials, and Decisions Needed." These sections list the configuration of hardware and software required for 3+Open LAN Manager and discuss the decisions and information you need to answer the questions that the Netsetup program asks.

The installation instructions in this chapter assume you have already installed all network and server hardware, and have installed the MS OS/2 software on the computer you will use as a server.

Hardware and Software Requirements

This section lists the configuration of hardware and software you must have for
3+Open LAN Manager.

Required Hardware

* IBM AT®; IBM PS/2® Model 50, 60, 70, or 80; or compatible computer.

* High-density 3-1/2-inch or 5-1/4-inch diskette drive to read the installation
  diskettes.

* Hard disk with at least 9 MB of space available for the LAN Manager software.

* At least 4 MB of RAM (5 MB with Presentation Manager) for the basic LAN
  Manager configuration. Additional memory may be required, depending on the
  number of users and the services you plan to use. Refer to the *3+Open LAN
  Manager Release Notes* for recommended memory configurations.

* Network adapter.

* Monitor and adapter, color recommended.

It is recommended that you also have a mouse.

Required Software

You must have MS OS/2 1.0 or 1.1. It is strongly recommended that you install the 3Com Server-Adapted MS OS/2 1.1 software that you received with 3+Open LAN Manager on your server. For information about installing the MS OS/2 software, refer to Chapter 2: MS OS/2 Installation and Disk Cache.

If you plan to use a server as a dedicated server, you must install Server-Adapted MS OS/2 1.1 and you must select the Program Selector when prompted for an MS OS/2 environment .

Information, Materials, and Decisions Needed

Before you begin installing the LAN Manager software, you must gather information, assemble installation materials, and make a few decisions.

Information Needed

- Name of the CONFIG file the server uses for MS OS/2. This is usually CONFIG.SYS; however, if you installed a version of MS OS/2 with the dual boot feature, the file is CONFIG.OS2.

- For the network adapter:

    - Manufacturer name (3Com or IBM)
    - Model
    - Communication settings. These are the jumper or software settings for Interrupt, IO Base Address, and so on. Refer to the adapter documentation for further information.

- Whether the LAN Manager was installed previously on this server, and at what location on the server's disk.

Materials Needed

The following diskettes are required to install 3+Open LAN Manager on a server:

LAN Mgr. Server #1
LAN Mgr. Server #2
OS/2 Netstation
DOS Netstation (Basic)
DOS Netstation (Enhanced)
OS/2 Drivers
DOS Drivers

3+Open LAN Manager is shipped on 3-1/2-inch 1.44 MB diskettes and 5-1/4-inch 1.2 MB diskettes. The Advanced System version includes both sizes. The Entry System and Entry System II versions are available on both sizes; you specify the size that you need when you order the software.

Decisions

You must make decisions about the following issues before you start the installation procedures:

• **Type of server installation**

Decide if the server will be both a server and a netstation (concurrent server) or a server only (dedicated server). If the server will be a dedicated server, you must use the Server-Adapted MS OS/2 1.1 software shipped with the LAN Manager, and you must select the Program Selector as the MS OS/2 environment when prompted during MS OS/2 installation.

- **Source drive and target path for the LAN Manager software**

  Choose the drive where you will insert the installation diskettes (source drive), and the directory on the target drive where the Netsetup program will write the 3+Open LAN Manager software (target path). The source drive does not need to be on the server itself, as long as there is a network connection between the drive and the server.

- **Server name**

  This name identifies the server to the network. You must spell it according to NetBIOS conventions. It must be unique on the network, no more than 15 characters long, and composed of letters, numbers, or the following characters:

  $ % ; - _ @ { } ~ ` ! # ( )

  The name cannot contain embedded spaces. If you want to separate name elements, use the underscore (_) character.

- **Password**

  Netsetup will ask you for a password for the server. The password can be up to 14 characters long.

- **Type of security to set up on the server**

  Decide whether the server will use user-level or share-level security. For superior security, choose user-level security. This is the installation default.

  The differences between user-level and share-level security concern how access permissions are assigned and the way passwords are used.

  Permissions define which operations, such as reading, writing, and executing files, are allowable for a given user. Passwords limit access to server resources: if a password is required and a user does not know the password, the user is denied access to the resource. The network administrator assigns permissions and passwords.

Under user-level security, each resource has a list of users or groups of users that can use the resource in a given way. When administrators set up resources on a server with user-level security, they create accounts for individual users and for groups of users. Subsequently, when a resource is shared on the network, the administrator creates a sharename for the resource and adds the names of user and group accounts to the resource's access list. Each account is given specific access permissions. Only the accounts that are on an access list can use the resource, and only in accordance with their particular set of permissions.

Under user-level security, one or more users can link to a directory tree using a single sharename. They can then change to the specific subdirectories to which they have access. A separate sharename is not required for each subdirectory.

Under share-level security, sharenames control operations with shared resources. Sharenames can be protected with passwords. One shared resource may have many sharenames, with each sharename having a different set of permissions and a different password. By creating different sharenames with different permissions, and giving certain sharenames to separate groups of users, the network administrator can assign different access permissions for different people using the same resource. Sharenames are assigned to files, directories, printers, communication devices, and other network resources that are to be shared.

You must choose one type of security for a server. However, both types of security can coexist on networks with more than one server.

For more information on server security, refer to the *3+Open MS OS/2 LAN Manager Administrator Guide*.

- **Type of protocol to install**

  The available protocols are NetBIOS Protocol (NBP), Xerox Network Systems
  (XNS), Data Link Control (DLC), and NBP/XNS. The protocol you install on
  the server must be compatible with the application software used.

  Use the **XNS** protocol when compatibility with 3+Share software is required,
  or if applications are installed that require XNS, such as the 3+Open Mail or the
  3+Open Start programs.

  Use the **DLC** protocol if communication with IBM servers using DLC is
  required.

  Use the **NBP** protocol in a workgroup where performance and DOS memory
  size are important and no protocol-specific applications or interoperability is
  required.

  Use the **NBP/XNS** protocol option when you want to use NBP for all LAN
  Manager functions, such as file, print, or SQL, and you also need to use XNS-
  specific applications, such as 3+Open Mail. If you are installing multiple
  servers on a network, only the servers where the server portion of the XNS-
  specific applications are installed require the NBP/XNS protocol. Select the
  NBP protocol for the other servers.

  All three protocols support the NetBIOS interface, and therefore support
  NetBIOS-specific applications.

  NOTE: When you view the servers available on your network, you will see a
  list of the servers on the network that use the same primary protocol as the
  netstation or concurrent server you are using. For example, if your netstation is
  configured with XNS, you cannot view servers on the network that are
  configured with NBP, DLC, or NBP/XNS.

- **Servers using XNS or NBP/XNS protocols only:**

  Should the Locator service be installed on this server? The Locator service keeps track of NetBIOS names on a network using the XNS protocol. The service must be installed on one and only one server or netstation on the network. It is recommended that you install it on a server, although you can install it on an OS/2 netstation.

  NOTE: A network using XNS will not function without the Locator running. Therefore, you must install it on a server or netstation that will not be turned off while other servers or netstations on the network are running.

- **Concurrent servers only:**

  Who will be the primary user of the netstation, and what will be this person's user name? The user name you choose must follow NetBIOS spelling conventions (refer to the discussion of server names earlier in this section).

  What is the name of the server where the primary netstation user will maintain a home directory? This does not have to be the same server as the one you are currently installing.

Netsetup

Netsetup, the 3+Open LAN Manager installation and setup program, copies LAN Manager software to a disk you designate and sets LAN Manager operating parameters. The program also has options to let you configure network printers, to display and modify the basic LAN Manager settings you have chosen, and to upgrade or remove a LAN Manager installation.

Besides copying the LAN Manager software, Netsetup does the following:

- Configures the LANMAN.INI and PROTOCOL.INI files. These are the LAN Manager configuration files.

- Modifies the CONFIG file, the STARTUP.CMD file, and the initialization batch file for sessions.

- Shares basic network resources on all servers. On user-level servers, creates several user and group accounts. Refer to Chapter 4: Setting Up Network Users and Resources for a list of accounts and resources initially set up by the Netsetup program.

- On dedicated PC servers:

  Writes a command in the server's STARTUP.CMD file to log the server on by server name rather than user name.

  Writes a command in the STARTUP.CMD file to run the LAN Manager Net Console program. This program puts a server that is running under either type of security into a restricted mode of operation, called console mode. Console mode limits user access to server facilities. (Users can still review printer and communication device status at the server.) You can protect console mode with a password, so that it can be exited only if the proper password is supplied.

  Restricts creation of new MS OS/2 sessions. This makes it difficult for a user to circumvent console mode by starting a new session.

Before You Start the Netsetup Program

If 3+Open LAN Manager is already installed, there are two occasions when you must stop the LAN Manager (3Com's or other vendors') before you start Netsetup:

- When you want to use the Netsetup program to remove the LAN Manager.

- When you want to use the Netsetup program to reinstall the LAN Manager over the currently-installed LAN Manager.

If you want to use the Netsetup program in either of these situations, you must perform the following actions first:

1. **Stop the LAN Manager by typing:**

    ```
    net   stop   workstation   /y↵
    ```

    The /y option suppresses any confirmation prompts.

2. **If the MS OS/2 cache utility is running, stop it by typing:**

    ```
    cache   /stop↵
    ```

3. **If any detached processes or memory-resident programs reside in or use files in any of the directories beneath the 3OPEN directory, stop them by doing the following:**

    a. Edit the startup batch file (STARTUP.CMD or AUTOEXEC.BAT) either by inserting REM ahead of the command line that starts the process, or by deleting the command line altogether, to disable the command lines that start the detached process or memory-resident program.

    For example:

    ```
    rem mminder2   /color=on
    ```

    b. Restart the server.

    c. Repeat steps 1 and 2 of this procedure.

Starting the Netsetup Program

You can run Netsetup in the MS OS/2 protected mode, in the MS OS/2 real mode, or under MS-DOS. The program can be run from the installation diskettes or from the server hard disk after you have installed it there. Netsetup is in the directory \3OPEN\SERVER\LANMAN\NETPROG.

NOTE: If you are viewing Netsetup on a monochrome monitor and the text on the screen is blanked out in certain areas, exit Netsetup and restart it by typing:

```
netsetup  /mono⏎
```

Running the Program from the Installation Diskettes

To start the program:

1.   **Insert the *LAN Mgr. Server #1* diskette into a high-density drive.**

     The 3+Open LAN Manager Advanced System comes with two sets of high-density 3+Open installation diskettes, each with identical software. It does not matter which set you use to install the system. The 3-1/2-inch diskettes must be read in a 1.44 MB drive, and the 5-1/4-inch diskettes in a 1.2 MB drive.

     When you install the server, the Netsetup program copies all of the 3+Open LAN Manager files from the installation diskettes to the server's hard disk. Included are the Netsetup program file, NETSETUP.EXE, and the files required for OS/2 and DOS netstation installation. This gives you the option of running NETSETUP.EXE at the server and creating DOS startup diskettes using the server hard drive as the source drive and the diskette drive as the target drive—without using the installation diskettes.

     Furthermore, if a communication link exists between the server and a netstation, you also have the option of installing the netstation software directly from the server. Chapter 5: Installing LAN Manager on Netstations has more information on installing netstation software from the server.

2.   Make the drive where you inserted the diskette the current drive, then type:

   `netsetup⏎`

3.   Follow the instructions on the screen to install the LAN Manager.

Running the Program from the Server's Hard Disk
To run Netsetup at the server, type:

`netsetup⏎`

Main Menu
The Main Menu (Figure 3-1) shows the seven Netsetup options.

```
┌──────────────────────────────────────────────────────────────────┐
│                        Netsetup Program                          │
├──────────────────────────────────────────────────────────────────┤
│                          MAIN MENU                               │
│                                                                  │
│   Use the cursor or tab keys, or press the highlighted letter    │
│   key to select option, then press [Return]:                     │
│                                                                  │
│           ┌──────────────────────────────────────┐              │
│           │ Install LAN Manager software         │              │
│           │ Configure network printers           │              │
│           │ Modify configuration settings        │              │
│           │ Display configuration settings       │              │
│           │ Upgrade LAN Manager Software         │              │
│           │ Remove LAN Manager Software          │              │
│           │ Quit Netsetup                        │              │
│           └──────────────────────────────────────┘              │
│                                                                  │
│   Install 3+Open LAN Manager software                            │
├──────────────────────────────────────────────────────────────────┤
│   [Return]=Accept [Esc]=Previous Menu [F10]=Main Menu [F1]=Help  │
└──────────────────────────────────────────────────────────────────┘
```

Figure 3-1. Netsetup Program Main Menu

On-line Help

Netsetup provides two forms of on-line help:

- One-line messages displayed at the bottom of each menu. These messages provide information about the menu option or data field currently highlighted.

- Help message screens that you display by pressing [F1]. You can use the [F1] key whenever a menu or error message is displayed.

Press [F1] twice within any screen to list the keys that perform the following functions:

- Control help message screens

- Select menu items

- Enter and edit data fields

- Control cursor movement within fields

- Move forward and backward within the program

Installing LAN Manager Software

1.   **Back up the following server files:**

    •   The OS/2 system configuration file (CONFIG.SYS or CONFIG.OS2).

    •   The startup batch file, STARTUP.CMD.

    •   The batch file for session initialization, if the server has one. This is the
        file named in the PROTSHELL line of the server's CONFIG file.
        Standard filenames are OS2INIT.CMD and INITENV.CMD.

    Netsetup prompts you for the names and paths of the configuration and
    startup batch files and modifies them. If it does not find them at the end of
    the path you give, it asks you whether it should create them. The program
    also modifies the session initialization file if it finds one. If none exists, the
    program does not create one.

    Netsetup restores these files to their original state if you halt the installation
    before completion. However, you should back them up in case you want to
    restore the server's preinstallation environment at a later date.

2.   **Start Netsetup (refer to "Netsetup" earlier in this chapter).**

3.   **Select Install LAN Manager software from the Main Menu and proceed
     through the menus until the installation is complete.**

     NOTE: Make note of the password you select during the installation process.
     You will need this password when you start up the server after installation.

     Press [F1] to get help at any step along the way. Press [F1] twice at any step
     to get directions on how to move around the Netsetup screens, how to enter
     answers to Netsetup questions, and how to use the on-line help.

Optional: Configuring Network Printers

You can use Netsetup to configure parallel and serial printers connected to the server. The Configure network printers option creates separator page files for printer queues and sets selected COM port parameters for serial printers.

A separator page file contains instructions for printing banner pages and escape sequences for resetting the printer before each print job. Separator files are located in the directory 3OPEN\SERVER\LANMAN\SPOOL and have the extension .SEP.

The program provides a standard banner page file, called 3OPEN.SEP, and reset sequence files for several common printers. 3OPEN.SEP prints a standard banner page. You combine reset sequence files, such as those provided by the program, with 3OPEN.SEP to create separator files for printers. The program also allows you to define reset sequences for other kinds of printers, which you can then combine with 3OPEN.SEP.

If you want to create custom banner pages and separator files, refer to the *3+Open MS OS/2 LAN Manager Administrator Guide* for instructions. Keep the files in the SPOOL directory.

To configure printers follow these steps:

1. **After installing the 3+Open LAN Manager software, quit Netsetup and restart the server.**

    You must restart the server before you can configure printers. This allows Netsetup to inventory the hardware ports on the server.

2. **Select configure network printers from the Main Menu.**

    Use [F1] for help, as needed.

3. **Return to the Main Menu when you are done.**

The COM port parameters set by Netsetup are a subset of the parameters you can set with the MS OS/2 MODE command. Netsetup writes the parameter values to the file, SETMODE.CMD, which is located in the root directory of the server's startup drive. Whenever you start the server hardware, this program runs. You can edit this file to add parameters for other serial devices, such as modems. Refer to your MS OS/2 documentation for information on the MODE command.

Optional: Displaying and Modifying Basic Setup

You can use Netsetup to modify or display basic settings, such as server name, protocol, and network adapter.

To display installation settings without modifying them:

1. **Select Display installation settings from the Netsetup Main Menu.**

    Press [F1] for help with the program.

2. **Press [F10] to return to the Main Menu when you are done.**

To examine and modify installation settings:

1. **Select Modify installation settings from the Netsetup Main Menu.**

    Press [F1] for help with the program.

2. **Press [F10] to return to the Main Menu when you are done.**

Optional: Upgrading 3+Open LAN Manager Software

You can use Netsetup to upgrade your LAN Manager software from the current version to a newer one. Before replacing the LAN Manager software, refer to "Before You Start Netsetup" earlier in this chapter.

To upgrade your LAN Manager software:

1. **Select Upgrade LAN Manager software from the Netsetup Main Menu.**

   Press [F1] for help with the program.

2. **Press [F10] to return to the Main Menu when you are done.**

Optional: Removing 3+Open LAN Manager Software

You can use Netsetup to remove your LAN Manager software from the server. Before removing the LAN Manager software, refer to "Before You Start Netsetup" earlier in this chapter.

To remove your LAN Manager software:

1. **Select Remove LAN Manager software from the Netsetup Main Menu.**

   Press [F1] for help with the program.

2. **Press [F10] to return to the Main Menu when you are done.**

NOTE: This option deletes all files in the 3OPEN directory and all the subdirectories below it, including user files and services.

Quitting and Restarting

After you finish installing the 3+Open LAN Manager software, quit Netsetup and restart the server hardware to start the LAN Manager.

Optional: Modifying STARTUP.CMD

Netsetup adds a block of lines at the top and at the bottom of the server STARTUP.CMD file. These lines are labeled "===OS/2 LAN MANAGER===".

You may want to modify one or more of the lines in the upper block. The block contains lines similar to these:

```
CD \3OPEN\SERVER\LANMAN\NETPROG
net start server
hwinfo2
logon2
net load srvshare.pro
net use e: \\server2\os2apps
```

You might, for example, want to modify the line *net load srvshare.pro*. This line loads a standard server profile that shares several network resources. After you share additional network resources using the procedures in Chapter 4, you might want to create a new profile file that you could then substitute for *srvshare.pro*. Alternatively, you could overwrite the SRVSHARE.PRO file using the Net Admin program (see Chapter 4: Setting up Network Users and Resources) and not change the line in STARTUP.CMD.

Before you modify STARTUP.CMD, you should acquaint yourself with the various NET commands listed. Refer to the *3+Open MS OS/2 LAN Manager Administrator Guide* and the *3+Open MS OS/2 LAN Manager Administrator Reference* for information on the commands.

Special Note: Dedicated Servers

When you restart a dedicated PC server, the Net Console program runs automatically. This program restricts access to the server by unauthorized users.

The first action you must take after restarting the server is to assign a password to console mode to prevent users who are not administrators from exiting the console and displaying a command prompt.

When you set up users and resources on a dedicated server (see Chapter 4), you must either exit Net Console and run Net Admin at the server, or remotely administer the server from an OS/2 netstation on the network.

If you do not want the Net Console program to run, remove the net console line from the STARTUP.CMD file. Note, however, that if you remove the net console line from the file, the server is no longer a dedicated server and does not have the security of a dedicated server.

Chapter 4: Setting Up Network Users and Resources

This chapter outlines the procedures for setting up network users and sharing network resources (directories, printers and other output devices, and modems) on a server. You must install 3+Open LAN Manager on the server before you can set up users and resources. If you have not yet installed the 3+Open LAN Manager software, install it now, referring to Chapter 3 for instructions.

Read this chapter in conjunction with the *3+Open MS OS/2 LAN Manager Administrator Guide*, which you received with your 3+Open LAN Manager software.

Terminology

The following terminology is used in this chapter:

Group
A set of users for whom an account exists on a server with user-level security. A group is identified by a name, and its members share a defined set of access rights. Netsetup automatically creates two groups: Users and Admins.

Home directory
A directory created for a user's private information. Access to a home directory is restricted.

Permission
Specific kind of access to a directory resource, for example, read access (abbreviated R), or execute access (abbreviated X). Refer to the *3+Open MS OS/2 LAN Manager Administrator Guide* for more information.

Resource
A directory, file, network device (printer, modem, and so on), or reserved administrative resource (IPC$ or ADMIN$).

Sharename
A name by which network users access a specific resource on a server. Under user-level security, access rights can be assigned to user accounts and to group accounts.

User
A person who has an account on a server that has user-level security. A user is identified by a user name. Users can belong to groups. Netsetup automatically creates two users on a server with user-level security: Admin and Guest.

In general, someone who works at a concurrent server or a netstation on a network.

Overview

The user and resource setup process has two phases:

*   Survey and plan

*   User and resource setup

Survey and Plan

The survey and plan process is divided into three steps:

*   Identifying users and groups

*   Identifying network resources

*   Mapping out resource allocation

If you have a large network, you may find it helpful to create worksheets for recording user needs and resource allocation. This process also produces a record of users and resources that will help the network administrator manage the network after it has been set up.

Identifying Users and Groups

The first step in your survey should be to identify all the people who will be using the network. You should then list their resource needs and group them accordingly.

You might group users on the basis of their physical location or along functional lines (accounting department, stockroom, and so on). Certain individuals— managers, for example—might have broader needs and therefore need broader access rights. Special project teams might require special resources or access rights.

On servers with user-level security, Netsetup creates several users and groups. Table 4-1 shows these initial users and groups.

Table 4-1. Initial Users and Groups on Servers with User-Level Security

User	Member of Group	Access Privileges
Admin	Users, Admins	Admin
Guest	none	Guest

The Admin user has full administrative capabilities. It is initially created with a password you supply during installation.

The Guest user provides limited network access to users who do not have an account on the server. It is optional and, on networks where security is especially important, you should consider deleting it or putting a password on it.

Identifying Network Resources
There are two steps to identifying network resources:

- Examine the resources set up initially by Netsetup.

- List additional resources to share.

Netsetup automatically sets up basic resources on the server and gives them the sharenames listed in Table 4-2. These resources are shared at startup according to commands read from a standard profile file named SRVSHARE.PRO. At any time, you can use the Net Admin program to see what sharenames, users, and groups exist. Refer to "Logging On and Running Net Admin" later in this chapter for instructions on running the program.

NOTE: The sharename USERDIRS is set up only on a server with user-level security. The paragraphs following the table provide detailed information about each sharename.

Table 4-2. Resources Initially Shared on Servers

Sharename	Link at Startup	Directory Path	Group	Access
USERDIRS	OS/2 & DOS netstations: H: drive	\3open\users	Users	RX
OS2APPS	OS/2 netstations: E: drive	\apps\os2apps	Users	RX
DOSAPPS	DOS netstations: E: drive	\apps\dosapps	Users	RX
FAMAPPS	none	\apps\famapps	Users	RX
APPSADMN	non	\apps	Admin	RWCADPX
PROFILES	none	\3open\server\lanman\profiles	Users	RX
ADMIN$	none	\3open\server\lanman	n/a	n/a
IPC$	none	none	n/a	n/a
A$	none	a:\	n/a	Admin only
B$	none	b:\	n/a	Admin only
C$	none	c:\	n/a	Admin only

USERDIRS is the sharename on a server with user-level security that is associated with the directory 3OPEN\USERS, the recommended parent directory for users' home (private) directories. When you create an account for a user using the NET ADMIN command, the LAN Manager helps you set up a home directory for that user. You should plan to set up a subdirectory for each user under this directory. The group Users has read and execute access to USERDIRS (but not to any subdirectories you create—unless you specifically give access to them).

When you install 3+Open LAN Manager on a netstation, Netsetup writes a NET USE command in the netstation startup batch file that links the user's H drive to the sharename USERDIRS on the home server. Logging in at a DOS netstation also logs you in as the default user. Refer to the *3+Open MS OS/2 LAN Manager Administrator Reference* for information on the NET USE command.

The directories **DOSAPPS, OS2APPS,** and **FAMAPPS** are created to help organize application files on the server. Copy your application programs to these directories so users can access them. DOS programs should go in DOSAPPS, OS/2 programs in OS2APPS, and applications that run in either environment (including the DOS environment of OS/2) in FAMAPPS. Users can access these directories by linking to their sharenames. The group Users created on servers with user-level security have read and execute access to these directories.

APPSADMN is an administrator sharename for the directory APPS, which is the parent directory to DOSAPPS, OS2APPS, and FAMAPPS. It provides the administrator full access rights to DOSAPPS, OS2APPS, and FAMAPPS. It is protected by the password you select for the Admin user during LAN Manager installation.

When you install 3+Open LAN Manager on an OS/2 netstation, Netsetup writes a NET USE command in the netstation startup batch file that links the user's E drive to the sharename OS2APPS. The E drive on DOS netstations is linked to the sharename DOSAPPS. No links are initially made to FAMAPPS or APPSADMN.

The directory **PROFILES** is for server and user profiles. Profiles contain commands to establish a particular resource share environment or to link to a particular sharename. The PROFILES directory initially contains a single file, SRVSHARE.PRO, which is a server profile. This profile is loaded automatically when you start the server. The profile shares the server resources that Netsetup sets up. After you set up additional resources on the server, you may want to modify SRVSHARE.PRO so that it shares the new resources as well. This is discussed later in this chapter in "Saving the Server Profile." Refer to the *3+Open MS OS/2 LAN Manager Administrator Guide* for further information about profiles.

ADMIN$** and **IPC$ permit remote administration of a server. They are accessible to users with Admin privileges and are protected by the password you establish during LAN Manager installation. Refer to the *3+Open MS OS/2 LAN Manager Administrator Guide* for further information.

A$, B$, C$, and so on, are associated with the physical drives A, B, C, and so on, on the server. The number of physical drive sharenames depends on how many diskette drives and hard disk partitions the server has. These sharenames allow administrators to access all directories on the respective drives. They are protected by the password you establish for the Admin user during LAN Manager installation.

Mapping Out Resource Allocation

Once you know what network resources Netsetup provides, what additional
network resources you have, who the potential users are, and what those users'
needs are, you can map out who gets access to which resources.

User-level security provides access to network resources via user and group
accounts. As you allocate resources, you should make the following decisions:

- **What user accounts to set up**

  Different users can be given different access rights, depending on their needs or
  authority. For example, a manager might have access to all directories for all
  project teams reporting to him. Each user account can be associated with a
  private home directory where the user can keep personal files. Choose a home
  directory name and sharename that will be easy for the user to remember.
  Directory names must follow MS OS/2 filename conventions. Sharenames
  must follow MS OS/2 and MS-DOS filename spelling conventions.

  Not every network user has to be given a private user account. Intermittent or
  casual users can be restricted to the Guest user account, whose access rights can
  be limited.

- **What groups to set up**

  Group individual user accounts on the basis of shared needs. For example,
  members of a project team might need a private project directory and project
  printers that only they can use.

- **What resources to allocate to each user and group**

  Access to network resources is provided through access lists. User and group accounts must be added to the list for a resource in order to be able to use that resource.

  Under share-level security, there are no user and group accounts. Access to resources is regulated by means of sharenames and passwords. Individual users can be given home directories just as they can under user-level security. Groups of individuals can also be given access to their own group resources. As you set up resources, you should make the following decisions:

  - The directory name, sharename, and password for each user's home directory

    The name of the directory and the sharename could be based on the user's name to make it easier to identify the owner of the directory. Directory names and sharenames must follow MS OS/2 filename conventions.

  - Which resources should be accessible to all users

    Choose sharenames for these resources. No passwords should be necessary because these resources are accessible to all users.

  - Which resources need to be restricted to groups or to individuals

    Assign sharenames and passwords accordingly.

Improving Security

Servers with user-level security provide a high degree of security for network resources by giving access through password-protected user accounts and groups. Guidelines for creating groups and users can be found later in this chapter in "Creating Groups" and "Setting Up Users."

At your option, you can take the following steps to increase the security of a server with user-level security. These steps further restrict access to network resources (refer to the *3+Open MS OS/2 LAN Manager Administrator Guide* for additional information).

• Remove the keyboard and monitor from the server.

• Lock the server in a room.

• Run one and only one copy of the Netlogon service on the network.

• Add users to only a single server.

• Delete the Guest user. The LAN Manager automatically attempts to log in a user as Guest if it does not recognize the user's login name. Thus, an unauthorized user can gain access to the network through Guest. You can also restrict Guest access by using the access control features of a server with user-level security.

• Restrict Admin permission to only one user on the network.

• Log on as Admin only when performing administrator functions, then immediately log off.

• Assign users with multiple accounts different passwords for each account. In multiserver networks, it is sometimes desirable to create an account for a user on several servers. You can give each account a different password for better security.

At your option, you can take the following steps to increase the security of a server using share-level security. These steps further restrict access to network resources (refer to the *3+Open MS OS/2 LAN Manager Administrator Guide* for additional information).

- Remove the keyboard and monitor from the server.

- Lock the server in a room.

- Put passwords on all sharenames and restrict who is given the passwords.

- Create private home directories for each user.

- Selectively grant permissions to sharenames.

Setting Up Users and Resources

During this phase of the user and resource setup process, you will perform the following functions:

- Log on to the server and run the Net Admin program.

- For a server with user-level security, create users and groups.

- For a server using share-level security, create private home directories for each user.

- Share network resources on the server.

- Optionally, save the server profile.

Logging On and Running Net Admin

There are three procedures for logging on and starting the Net Admin program: one for concurrent servers using user-level security, one for concurrent servers using share-level security, and one for dedicated servers. For detailed information on using the Net Admin program, refer to the *3+Open MS OS/2 LAN Manager Administrator Guide*.

Concurrent Servers with User-Level Security

To log on and run the Net Admin program from a concurrent server with user-level security, perform the following steps:

1. **Restart the server hardware if you have not done so since installing 3+Open LAN Manager.**

2. **When prompted for a user name, type:**

   `admin↵`

3. **When prompted, enter the password you gave during LAN Manager installation.**

   When you ran Netsetup, you supplied the program with an administrator password. Type that password.

4. **When the MS OS/2 prompt is displayed, start the Net Admin program by typing:**

   `net admin↵`

   The Net Admin program helps you set up users and resources and helps administer the server.

Continue setting up your server by following the procedures in the sections titled "Creating Groups" and "Setting Up Users" later in this chapter.

Concurrent Servers with Share-Level Security

To log on and run the Net Admin program from a concurrent server using share-level security, perform the following steps:

1. **Restart the server hardware if you have not done so since installing 3+Open LAN Manager.**

2. **When prompted for a user name, press [Return].**

3. **When prompted for a password, enter a password and press [Return].**

   This password will be applied to the default user name used in step 2.

4. **When the MS OS/2 prompt is displayed, start the Net Admin program by typing:**

   `net admin↵`

   The Net Admin program helps you set up users and resources and helps administer the server.

5. **When prompted, enter the password you gave during LAN Manager installation.**

   When you ran Netsetup, you supplied the program with an administrator password. Type that password.

Continue setting up your server by following the procedure in "Sharing Directories on a Server with Share-Level Security" later in this chapter.

Dedicated Servers

To log on and run the Net Admin program from a dedicated server, perform the
following steps:

1. **Restart the server hardware if you have not done so since installing 3+Open
    LAN Manager.**

    When the server restarts, it automatically runs the Net Console program. This
    program puts the server in console mode and displays the main console menu
    and a prompt for a password.

2. **When you are prompted for a password, enter one and press [Return].**

    Give the password to the network administrator. The password helps prevent
    unauthorized users from exiting console mode and accessing other parts of the
    system.

3. **Display the MS OS/2 program selector by pressing [Ctrl] + [Esc].**

4. **To start an MS OS/2 session, select the MS OS/2 command prompt, then
    press [Return].**

5. **If your server has user-level security, when you are prompted for a user
    name, type:**

    `admin⏎`

6. **When prompted, enter the password you gave during LAN Manager
    installation.**

    When you ran Netsetup, you supplied the program with an administrator
    password. Type that password.

7. **When the OS/2 prompt is displayed, start the Net Admin program by typing:**

    `net   admin⏎`

    The Net Admin program helps you set up users and resources and helps
    administer the server.

For servers with user-level security, continue setting up your server by following
the procedures in "Creating Groups" and "Setting Up Users" later in this chapter.

For servers with share-level security, continue setting up your server by following the procedure in "Sharing Directories on a Server with Share-Level Security" later in this chapter.

Creating Groups

When you use the LAN Manager to set up groups and users on a server with user-level security, you can save a step by creating groups first. Then, when you add users, you will be able to assign them to groups at the same time.

1.   **Pull down the Accounts menu.**

2.   **Select Users/groups.**

3.   **Choose New from the Groupname list box on the Users/Groups dialog box, and select Add.**

4.   **Type the name of the group in the Add Group Account dialog box.**

5.   **Optionally move the Admin and/or Guest user to the Members list box.**

6.   **Select OK.**

Refer to the *3+Open MS OS/2 LAN Manager Administrator Guide* for additional details.

Setting Up Users

Refer to Chapter 8: Managing User-Level Security in the *3+Open MS OS/2 LAN Manager Administrator Guide* for details on setting up users. Observe the following guidelines when you create users:

Skip steps 1 and 2 if you just completed step 6, above.

1. **Pull down the Accounts menu.**

2. **Select Users/groups.**

3. **Choose New from the Username list box and select Add.**

4. **Fill out the Add User Account dialog box, referring to the instructions in Table 4-3 as needed. Table 4-3 describes the items listed in the User Account dialog box.**

5. **Select OK.**

6. **If the message "The specified directory does not exist" appears, select OK to create it.**

7. **When the Edit File Permission dialog box is displayed, press [Return].**

    Only the user should be given access to the home directory, and the default permissions are normally appropriate.

Refer to the *3+Open MS OS/2 LAN Manager Administrator Guide* for additional information.

Table 4-3. Items from the Add User Account Dialog Box

Item	Instructions
Username	Spell user names as described in the *3+Open MS OS/2 LAN Manager Administrator Guide,* with the following exception: Names cannot be longer than 15 characters. The recommended length is 8 characters, so that the user name can be identical to the home directory name. On DOS netstations, the user name is the same as the server name. When you run Netsetup to install 3+Open LAN Manager for this user, be sure to use the same user name. This will permit proper functioning of the auto-logon commands written by Netsetup.
Privileges	The default is *user* privilege. Give user privilege to all or most users. To reduce the security risk, the minimum number of users should be given Admin access.
Password	Optional, but recommended.
Directory	Enter the name of user's home (private) directory. This directory need not already exist; LAN Manager will create it for you after you fill out the form. The name must follow OS/2 and DOS filename conventions. If you do not specify a path, LAN Manager puts the directory in the following path: \3open\users\homedirectory
Script	Refer to the *3+Open MS OS/2 LAN Manager Administrator Guide* for information on creating and using scripts and their relationship to logon security. The LAN Manager provides the standard script, which is named in the script field. You can examine this script with a text editor.
Member of	Assign the user to the proper groups by moving group names from the "Not a member of" list box to the "Member of" list box.

Increasing the User Accounts Maximum

When Netsetup installs the Advanced System version of 3+Open LAN Manager, it sets a limit of 50 user accounts. You can raise this limit with the GROWACC utility, as described in the *3+Open MS OS/2 LAN Manager Administrator Guide*.

You cannot increase the maximum number of accounts for the two Entry System versions of 3+Open LAN Manager.

Sharing Directories on a Server with User-Level Security

You can now set up additional directories for user and group accounts. Unlike servers with share-level security, servers with user-level security do not require each directory resource to have a sharename. Users can access a directory via a common sharename and then select the subdirectories to which they have been given explicit access on access lists. For example, the sharename OS2APPS *could* link all users to the directory C:\APPS\OS2APPS. However, only those users with specific access rights to the subdirectory C:\APPS\O2SAPPS\SPRDSHT would be able to access files and directories under SPRDSHT.

You do not need to use the OS/2 MKDIR command to create directories. When you share a directory that does not yet exist, the Net Admin program creates it for you.

Refer to the *3+Open MS OS/2 LAN Manager Administrator Guide* for more
information on setting up directories.

1. **Pull down the View menu and select This server.**

2. **Select Add share in the Resources This Server is Sharing dialog box.**

3. **Select OK to choose Disk directory.**

4. **Fill out the Share a Disk Resource With the Network dialog box, then select OK.**

   Sharename. Choose a suitably mnemonic sharename. Spell it according to
   OS/2 filename conventions.

   Path. If the path does not exist, the program will create it for you.

   Max users. You might want to restrict the number of users who can access
   the directory at one time as an added security measure.

5. **Respond OK to create the directory, if prompted.**

6. **Edit file permissions to indicate what users and groups can access the
   directory, and with what rights.**

Sharing Directories on a Server with Share-Level Security

You should set up a home (private) directory for each user to store his or her personal files. In addition, you can share public directories with more restricted access than OS2APPS, DOSAPPS, and FAMAPPS. You can, of course, limit access to those directories, too.

You do not need to create directories with the OS/2 MKDIR command. When you share a directory that does not yet exist, the Net Admin program creates it for you.

Share a directory as follows (refer to the *3+Open MS OS/2 LAN Manager Administrator Guide* for details):

1. **Pull down the View menu and select This server.**

2. **Select Add share on the Resources This Server is Sharing dialog box.**

3. **Select OK to choose Disk directory.**

4. **Fill out the Share a Disk Resource With the Network dialog box.**

    When setting up home directories, use the path:

    \3open\users*homedirectory*

    Assign passwords to home directories and accept default permissions.

    You can vary access rights to other directories by creating a specific sharename for each kind of access to the directory and assigning specific access permissions and a password to that sharename.

5. **Respond OK to create the directory, if prompted.**

Sharing Printers

You can now share the printers you configured when you installed 3+Open LAN Manager. The basic process is as follows:

* Create one or more queues for each printer.

* Assign a sharename to each queue. A sharename should be mnemonic, identifying either the type of printer or the user or group.

Different users may need different levels of access to a printer. They may also require unique banner pages to identify their printer output. By creating and sharing custom queues, you can provide users with the printer access they need.

Printers that use the same reset sequence can also be pooled under the same queue. This is especially useful when the number of users producing printer output is high. When you pool printers, a user's output is printed on the first available printer in the pool.

The following steps explain how to share a printer. If you are sharing a PostScript printer, you should also refer to the next section, "Sharing PostScript Printers."

1. **Pull down the View menu and select This server.**

2. **Select Add share.**

3. **Choose Spooled printer and select OK.**

4. **Fill out the Share a Print Queue With the Network dialog box, and select OK.**

5. **Choose OK to create the print queue if prompted.**

6. **Fill out the Printing Options for Queue dialog box, and select OK.**

   The following fields must be filled in as indicated:

   Printer device: Choose the OS/2 device ID, such as LPT1 or COM1, that
   the printer is connected to.

   Separator file: Type the name of the separator file for this printer with
   extension .SEP. For example, SALES.SEP. Separator files
   created during the installation process are kept in this
   directory:

           \3open\server\lanman\services

7. **For servers with user-level security, select the users and groups that can use
   the queue in the Add Permission dialog box.**

Sharing PostScript Printers

Share your PostScript printers according to the instructions in the preceding
section, "Share Printers," with the following differences:

1. **When you fill out the Printer Options for Queue dialog box fill out the
   following fields as indicated:**

   Printer device: NUL
   Separator file: (leave empty)
   Print processor: \3open\server\lanman\services\psdspl.exe
   Parameters: PHYSDEV=*deviceID*, SEPFILE=*separatorfile*

   deviceID is the LPT or COM port where a printer is connected. Enter a
   PHYSDEV=deviceID parameter for each printer associated with this queue .

   separatorfile is the separator file you specified when you ran the Configure
   network printers option of Netsetup. If you do not specify a path, the LAN
   Manager assumes the file is in the 3OPEN\SERVER\LANMAN\SPOOL
   directory.

2.   **After you share the printer, use an editor to add references to your PostScript dictionaries and font files in the server's LANMAN.INI file.**

The LANMAN.INI file contains server configuration information and is located in the directory \3open\server\lanman.

If any PostScript printers are connected to the server, you may need to add information about the printer's PostScript dictionaries and font files to the [postscript] section of LANMAN.INI. Add the lines below the [postscript] label. If the LANMAN.INI file does not contain a [postscript] section, add one at the end of the file.

A PostScript dictionary contains information required by the interpreter residing in a PostScript printer. Some application programs such as Microsoft Word and Aldus Pagemaker® package their own dictionaries with the program. If your network users will use either of these programs to print documents to a PostScript printer, you must add entries for these dictionaries in the [postscript] section to enable the PostScript print processor to locate and download the dictionary information. For example, if the Microsoft Word dictionary, POSTSCRP.INI, is located in a directory called C:\WORD, then you must add the following entry to the LANMAN.INI file:

```
dictionary:msdict  =  C:\WORD\POSTSCRP.INI
```

NOTE: Use uppercase or lowercase letters as required for a dictionary name. In the example above, the correct spelling is "msdict", not "MSDICT". Case is important.

Similarly, if the Microsoft Windows dictionary, PSPREP.TXT (used by Pagemaker) is located in a directory called C:\PM, then you must add the following entry to the LANMAN.INI file.

```
dictionary:windict  =  C:\PM\PSPREP.TXT
```

A PostScript printer contains resident fonts, which are always in its memory.
In addition, the PostScript print processor can download fonts into the
printer's memory. If your LAN users will use application programs that
download fonts, you must add entries for those font files in the [postscript]
section of the LANMAN.INI file. For example, if a document requires a font
named Old-English to be downloaded and its file is called OLDENG.FNT,
then you must add an entry like the following to the LANMAN.INI file:

```
fontfile:old-english  =  C:\LANMAN\FONTS\OLDENG.FNT
```

You must add an entry for every font name that will be downloaded. This
procedure is required only for those application programs that conform to the
Adobe® conventions for downloadable fonts. Application programs which
send the fonts automatically with the document do not require this procedure.

The following is a sample [postscript] section:

```
[postscript]
  dictionary:msdict  =  c:\word\postscrp.ini
  dictionary:windict  =  c:\pm\psprep.txt
  fontfile:old-english  =
  c:\3open\server\lanman\services\fonts\oldeng.txt
```

NOTE: 3+Open LAN Manager does not include PostScript dictionaries or
font files.

Sharing Communication Devices

3+Open LAN Manager allows you to share many different kinds of communication devices, including serial printers, scanners, and modems. Communication devices are connected to a COM port on the server.

To share a communcations device connected to a COM port on a server, perform the following steps:

1. **Pull down the View menu and select This server.**

2. **Select Add share on the Resources This Server is Sharing dialog box.**

3. **Choose Comm queue and select OK.**

4. **Fill out the Share a Device Resource With the Network dialog box, and select OK.**

5. **If you are configuring a server with user-level security, identify the users and groups that can use the resource with the Add Permissions dialog box.**

Saving the Server Profile

Now that you have shared network resources, you may want to make a record of the share environment you have set up. You can do this by creating a profile file. A profile is a record of your currently-shared resources. If you save a profile, you can load it later, and it will automatically share the resources again.

To save a server profile perform the following steps:

1.   **Concurrent servers—perform these steps first:**

      a. Pull down the View menu.
      b. Select This workstation.
      c. Delete resources being used by the workstation.

      This step excludes netstation NET USE commands from the server profile. (Normally, you do not need to have these commands in the server profile.)

2.   **Pull down the Config menu.**

3.   **Select Save profile.**

4.   **Type a filename for the profile and select OK.**

      Netsetup created a profile file named SRVSHARE.PRO that set up the basic shares described earlier in the chapter. The server STARTUP.CMD file contains a command to load SRVSHARE.PRO whenever you start the server hardware.

      You can save your current share profile in SRVSHARE.PRO, or you can select a different filename with the extension .PRO. The advantage of using SRVSHARE.PRO is that you will not need to modify STARTUP.CMD if you want the server to automatically load the new profile when you restart the server hardware.

Chapter 5: Installing LAN Manager on Netstations

This chapter explains how to install 3+Open LAN Manager on OS/2 and DOS netstations. The installation instructions assume that you have already installed all netstation hardware, and that you have installed MS OS/2 or MS-DOS.

Hardware and Software Requirements

Requirements are different for OS/2 and DOS netstations. For OS/2 netstation requirements refer to "OS/2 Netstations," next; for DOS netstation requirements, refer to "DOS Netstations," later in this chapter.

OS/2 Netstations

To use a computer as an OS/2 netstation, you must have the following hardware:

- IBM AT; IBM PS/2 Model 50, 60, 70, or 80; or a compatible computer.

- High-density 3-1/2-inch (1.44 MB) or 5-1/4-inch (1.2 MB) diskette drive.

- Hard disk with at least 2 MB of space available for the LAN Manager software.

- At least 2 MB of RAM for the basic LAN Manager configuration on OS/2 version 1.0, or 2.5 MB of RAM on OS/2 version 1.1.

- Network adapter card.

- Monitor and adapter. Color recommended.

It is recommended that you also have a mouse.

To use a computer as an OS/2 netstation, you must have the following software:

- OS/2. Versions supported are MS-OS/2 1.0 or later, IBM-OS/2 version 1.0 or 1.1, and other vendors' adaptations of MS-OS/2 version 1.0 or 1.1. 3+Open LAN Manager is compatible with the dual boot feature of some versions of OS/2. (The dual boot feature allows you to select OS/2 or DOS when you start up the computer.)

- Optional: the DOS compatibility environment of OS/2.

DOS Netstations

To use a computer as a DOS netstation, you must have the following hardware:

- IBM PC, XT®, AT, PS/2, or a compatible personal computer. The 3Com 3Station® product line is also supported.

- One of the following drives:

    One high-density 3-1/2-inch (1.44 MB) or 5-1/4-inch (1.2 MB) diskette drive, *or* a network connection to a source for the 3+Open LAN Manager DOS software, is required for installing the software.

    One high-density or low-density (3-1/2-inch 720K or 5-1/4-inch 360K) diskette drive, or a hard disk with 360K of free space.

    NOTE: 3Com 3Station stations and other netstations that use 3+Start™ or 3+Open Start™ software require no local drives.

- At least 640K of RAM.

- Network adapter.

- Monitor and adapter. Color recommended.

It is recommended that you also have a mouse.

To use a computer as a DOS netstation, you must have the following software:

- DOS. Versions supported are as follows: MS-DOS versions 3.1, 3.2, 3.3, 3.31, or 4.0; PC-DOS™ versions 3.1, 3.2, 3.3, or 4.0. Note that DOS 4.0 is not supported on netstations that use the 3+Start software.

Information, Materials, and Decisions Needed

Before you begin installing the LAN Manager software, you should gather
information, assemble installation materials, and make a few decisions.

Information Needed

- Version number of your operating system.

- Name of the netstation CONFIG file. On DOS computers and most OS/2
  computers, this is CONFIG.SYS. On computers that use the OS/2 dual boot
  feature, the file is CONFIG.OS2.

- For OS/2 netstations: total of real (base) and extended computer memory, in
  kilobytes. Many computers display the size of their memory after they are
  turned on. Make a note of the number displayed.

- For the network adapter:

  - Manufacturer name
  - Model
  - Communication settings. These are the jumper or software settings for
    Interrupt, IO Base Address, and so on. Refer to the adapter documentation
    for further information.

Materials Needed

You can copy OS/2 or DOS netstation software directly from a 3+Open LAN Manager server to the netstation startup disk. The next section, "Decisions," explains how to do this. If you must copy the netstation software from diskettes instead of from the server, you will need the following diskettes:

OS/2 netstations: *OS/2 LAN Mgr. Server #1*
                    OS/2 Netstation
                    OS/2 Drivers

DOS netstations: *OS/2 LAN Mgr. Server #1*
                    DOS Netstation (Basic) or *DOS Netstation (Enhanced)*
                    DOS Drivers

These diskettes are shipped in two sizes: 3-1/2-inch 1.44 MB and 5-1/4-inch 1.2 MB. The Advanced System version of 3+Open LAN Manager includes both sizes. The Entry System and Entry System II versions include one size or the other.

You need a newly formatted DOS startup diskette for each DOS netstation. The diskette is recommended as a backup but is not required if you are installing directly onto the netstation hard disk.

Decisions

You must make decisions about the following before you start the installation
procedure:

• **Source of LAN Manager software**

You can install the LAN Manager software from the distribution disks on a
netstation that has a hard disk or a high-density floppy disk.

If you are installing the LAN Manager software on a netstation with a hard disk
and the software is already installed on a server, you can install the software
from the server. To install the software from the server, create a generic
netstation boot diskette at the server or at a netstation that is already installed,
then start the netstation with that diskette. Once the netstation is ready, log on
to the server and run Netsetup to install the software from the server to the
netstation's hard disk.

If you install the LAN Manager software on a netstation with only a floppy disk
drive, you must create a customized boot diskette for the netstation at the server.

• **Source drive and target path for the LAN Manager software**

Netsetup needs to know what drive you are going to insert the installation
diskettes into, and on what target drive (and directory, if the drive is a hard
disk) to install 3+Open LAN Manager. The source drive can be on a server or a
netstation. When the source and target drives are on netstations, they can be on
different netstations, provided they are connected by a network link (for
example a 3+Share link).

The target drive for an OS/2 netstation must be its hard disk, normally drive C.
OS/2 netstations must be started from the hard disk.

The target drive for a DOS netstation can be one of the following:

- One of the server diskette drives. You can build a DOS netstation startup diskette at the server if the server has a diskette drive. You may find it more convenient to create startup diskettes for all DOS netstations at the server, rather than at each individual netstation.

- A diskette drive or a hard drive at the DOS netstation. If you use a diskette drive at the netstation, it must be different from the source drive. DOS netstations can be started from diskette or hard disk.

If you are creating DOS startup diskettes, you can use the diskette drive of the server (for example A) as the target drive, and the hard disk where 3+Open LAN Manager was installed (for example C) as the source drive, and not use the installation diskettes.

- **Name of user's home server**

  Netsetup writes commands in the netstation startup batch file that link the netstation to a server when the netstation is started.

- **Type of security**

  Choices are user-level and share-level. Refer to the "Decisions" section in Chapter 3 for information on types of security.

- **Type of protocol to install**

  The protocol you choose for a netstation depends on the protocol you chose for the servers on the network.

  If you chose XNS for all servers on the network, you must choose XNS for the netstations. You must choose this option for the netstation if interoperability with 3+Share is required.

  If you chose DLC for the servers, you must choose DLC for the netstations.

  If you chose NBP for all servers on the network, you must choose NBP for the netstations.

  If you chose NBP for some servers on the network and NBP/XNS for other servers on the network, you can choose either NBP or NBP/XNS for the netstations. The protocol you choose for the netstation depends on whether the netstation user wants to use the 3+Open Mail™ software. You must select the NBP/XNS protocol option for netstations that use 3+Open Mail because the software requires XNS.

- **Type of 3+Open LAN Manager netstation software to install**

  The type of LAN Manager software you choose for a netstation is based on the operating system the netstation uses and the number of LAN Manager services that it uses.

  If the netstation runs the MS OS/2 operating system, you must install the 3+Open LAN Manager software.

  If the netstation runs the MS-DOS operating system, you can install either MS-DOS LAN Manager Basic or MS-DOS LAN Manager Enhanced software. MS-DOS LAN Manager Basic provides basic functionality to the user, including normal file, print, and security operations. Install this version on netstations that require maximum memory for applications rather than the additional features of MS-DOS LAN Manager Enhanced.

MS-DOS LAN Manager Enhanced provides the functionality of the Basic version plus additional features such as messaging, named pipes and mail slots. The added features of the Enhanced version of the software are required by some applications. Refer to the *3+Open MS-DOS LAN Manager User Guide* and the *3+Open MS-DOS LAN Manager User Reference* for more information on the two versions of the 3+Open LAN Manager software.

• **User name**

A user name is required for each netstation running 3+Open LAN Manager or MS-DOS LAN Manager Enhanced. A user name identifies the person who usually works at the netstation. The name you supply is added to the LAN Manager configuration file, LANMAN.INI.

The name must follow Net BIOS conventions. It must be no more than 15 characters long, and it must be composed of letters, numbers, or the following characters:

$ % ; - _ @ { } ~ ' ! # ( )

A user name is not required when you install MS-DOS LAN Manager Basic. However, the user must enter a user name when logging on to the system.

• **Netstation name**

A name is required for each netstation. The name must be unique on the network and must follow NetBIOS conventions. It must be no more than 15 characters long, and it must be composed of letters, numbers, or the following characters:

$ % ; - _ @ { } ~ ' ! # ( )

A netstation name is not required when you install MS-DOS LAN Manager Basic. If you do not supply one, one is generated automatically when a user logs on to the system.

- **XNS Locator (MS OS/2 server or netstation only)**

    If the XNS or NBP/XNS protocol is used in a network, you must install the
    Locator on one server or OS/2 netstation on the network. Install the Locator on
    only one server or netstation. If you install the Locator on a netstation, the
    netstation must always be on.

Installing LAN Manager Software

The following procedure tells you how to install 3+Open LAN Manager netstation
software. You can install the software on a hard disk, if the netstation has one, or
on a diskette. Except where noted, the steps apply to all OS/2 netstations and to
DOS netstations with or without a hard disk.

NOTE: If you are installing 3+Open LAN Manager onto a 360K diskette, you must
install the Basic version of the DOS Netstation software. In addition, use the
following rules for selecting a protocol and a version of DOS:

- If you select the NBP protocol, select any DOS version from 3.10 to 4.01

- If you select the XNS protocol, select any DOS version from 3.10 to 3.30

- If you select the DLC protocol, select DOS version 3.10

Advanced System installers: If the netstations you are installing will be used with
3+ servers as well as 3+Open servers, you should refer to *Managing Combined
Networks: 3+Open and 3+* for further information.

1.   **DOS netstations without hard disk. Prepare a startup diskette as follows:**

Format a low- or high-density diskette using the /S switch. (/S copies DOS to
the diskette.)

OS/2 netstations. Back up the following files:

*   The OS/2 system configuration file (CONFIG.SYS or CONFIG.OS2).

*   The startup batch file, STARTUP.CMD.

*   The batch file for session initialization, if the netstation has one. This is
    the file named in the PROTSHELL line of the server's CONFIG file.
    Standard filenames are OS2INIT.CMD and INITENV.CMD.

NOTE: The program automatically backs up CONFIG.SYS and
AUTOEXEC.BAT on DOS netstations. The program creates a new file with
the name CONFIG or AUTOEXEC and with the extension .001 (or the next
available higher number).

Netsetup prompts you for the names and paths of the configuration and
startup batch files and modifies them. If it does not find them at the end of the
path you give, it asks you if it should create them. The program also modifies
the MS OS/2 session initialization file if it finds it. If none exists, the
program does not create one.

The program restores these files to their original state if you halt the
installation before completion. However, you should back them up in case
you want to restore the server's preinstallation environment at a later date.

2. **Insert the target diskette in the correct drive, or make a network link between source and target drives.**

An OS/2 netstation target disk must always be a hard disk. A DOS target disk can be a floppy or a hard disk. Refer to the discussion of source and target drives in "Decisions", earlier in this chapter, for information on source-target drive possibilities.

3. **Start Netsetup, then select Install LAN Manager software.**

To start Netsetup on the server where 3+Open LAN Manager is installed, set up a sharename for the parent subdirectory for the 3OPEN directory (usually the root directory of the drive). The sharename can be read only. Type:

```
net  share  3open  c:\
```

Link to the sharename that you established for the 3OPEN directory by typing:

```
net  use  X:  \\server_name\3open
```

where X is the drive letter (such as F or G) that you want to link to the directory.

Start the Netsetup program.

```
X:\server\lanman\netprog\netsetup
```

where X is the drive you linked to the 3OPEN directory. Use this drive letter when Netsetup prompts you for the target path.

4. **Proceed through the menus until the installation is complete.**

Press [F1] to get help at any step along the way.

Netsetup does the following:

Copies all 3+Open LAN Manager software to the target path.

Configures the LANMAN.INI file. Netsetup creates two completely different LANMAN.INI files for OS/2 and DOS netstations. The OS/2 version contains LAN Manager configuration information. The DOS version contains translations of aliases that are used by the DOS netstation.

Configures the PROTOCOL.INI file. This is a LAN Manager configuration file.

Modifies the CONFIG file, STARTUP.CMD or AUTOEXEC.BAT, and the OS/2 session initialization file.

5. **When the installation is complete, return to the Main Menu and quit the program or, optionally, display or modify basic installation settings.**

Refer to "Displaying and Modifying Basic Setup" and "Quitting and Restarting the Netstation" later in this chapter for information.

You must restart the netstation after installation in order to start the LAN Manager.

Displaying and Modifying the Basic Setup

At your option, you can use Netsetup to modify the most important installation
settings for OS/2 or DOS netstations. Additionally, you can use the program to
display a list of basic OS/2 netstation settings. One of the settings you can display
and modify with the program is the name of the netstation's home server.

To display OS/2 netstation settings without modifying them:

1. **Select Display installation settings on the Netsetup Main Menu.**

   Press [F1] for help with the program.

2. **Return to the Main Menu when you are done.**

To modify settings for either type of netstation:

1. **Select Modify installation settings on the Netsetup Main Menu.**

   Press [F1] for help with the program.

2. **Return to the Main Menu when you are done.**

Optional: Upgrading 3+Open LAN Manager Software

You can use Netsetup to upgrade your LAN Manager software from the current version to a newer one. Before replacing the LAN Manager software, refer to the section, "Before You Start Netsetup" in Chapter 3.

To upgrade your LAN Manager software:

1.   **Select Upgrade LAN Manager software from the Netsetup Main Menu.**

     Press [F1] for help with the program.

2.   **Press [F10] to return to the Main Menu when you are done.**

Optional: Removing 3+Open LAN Manager Software

You can use Netsetup to remove your LAN Manager software from the server. Before removing the LAN Manager software, refer to the section, "Before You Start Netsetup" in Chapter 3.

To remove your LAN Manager software:

1.   **Select Remove LAN Manager software from the Netsetup Main Menu.**

     Press [F1] for help with the program.

2.   **Press [F10] to return to the Main Menu when you are done.**

NOTE: This option deletes all files in the 3OPEN directory and all the subdirectories below it, including services and user files.

Quitting and Restarting the Netstation

After you finish installing the 3+Open LAN Manager software, you must quit
Netsetup and restart the netstation hardware in order to start 3+Open LAN
Manager.

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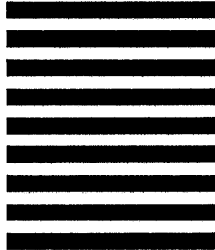
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