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**PCSA**

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# **VAXmate Services for MS-DOS Administration Guide**

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# About This Manual

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## Manual Objectives

The purpose of this guide is to help the system administrator install and maintain the VAXmate system software on a server in a network. This guide assumes:

- The network, including cables, workstations, VAX computers, and other hardware, is physically connected. For information on connecting the network, refer to the *Overview* and *Network Troubleshooting Guide*. For information on assembling the workstation, refer to your system handbook.
- The VAXmate Expansion Box Option is installed for at least one VAXmate workstation. See the *VAXmate Expansion Box Installation Guide and Owner's Manual* (EK-RCD31-OM-001) for information on installing this option.

## Intended Readers

This guide is intended for persons performing the tasks of a system administrator. The guide assumes that persons using it are familiar with the associated documentation:

- Your system handbook
- *MS-DOS Reference Manual*
- *Microsoft Windows User's Guide*
- *DOS Enhancements*
- *Network Troubleshooting Guide*
- *Network Commands Reference Manual*
- *DECnet-DOS Network Management Guide*

## Manual Organization

The following table can help you find information in this manual.

Chapter 1	Contains information on installing your VAXmate server.
Chapter 2	Contains information on VAXmate server operations.
Chapter 3	Contains VAXmate server commands.
Chapter 4	Contains information on VAXmate server configurations.
Chapter 5	Contains VAXmate server messages.
Appendix A	Provides a chart of ASCII characters.
Appendix B	Provides a table of VAXmate server qualifier ranges.

## Conventions Used

Follow these conventions while using this manual:

<b>Convention</b>	<b>Meaning</b>
<code>Ctrl/Alt/Del</code> <code>Ctrl/Alt/Del</code>	While you hold down the Ctrl and Alt keys, press the Del key.
<code>Ctrl/P</code>	While you hold down the Ctrl key, press the P key.
<code>Ctrl/S</code>	While you hold down the Ctrl key, press the S key.
<code>Ctrl/PrtSc</code>	While you hold down the Ctrl key, press the PrtSc (Print Screen) key.
<code>Shift/PrtSc</code>	While you hold down the Shift key, press the PrtSc (Print Screen) key.
<code>Return</code>	Press the Return key.
<code>/</code>	A forward slash (/) indicates that a command qualifier follows.
<code>[ ]</code>	Square brackets in a command line indicate the optional command qualifiers. Do not type the brackets when entering information enclosed in the brackets.
vertical list of options	A vertical list of options without square brackets ([ ]) indicates that you can specify any number of options or in some cases, none, if the defaults apply.
<code> </code>	A vertical bar ( ) in a command line indicates that you have a choice between two or more entries. You must select one entry unless the entries are optional.
<code>...</code>	An ellipsis following an entry in a command line indicates that the entry can be repeated any number of times. An ellipsis following a file name indicates that additional parameters, values, or information can be entered.
<code>.</code> <code>.</code> <code>.</code>	A vertical ellipsis means that not all the data is shown that the system would display in response to the command, or that not all the data is shown that a user would enter.
black type	In examples, what the computer shows on the screen is printed in black.
red type	In examples, what you enter is printed in red.
case	You can enter commands and parameters in uppercase or lowercase letters, or in a combination of both.

---

<b>Convention</b>	<b>Meaning</b>
enter	Enter all letters, spaces, and punctuation marks exactly as they are printed. Then press the Return key.
key labels	On the DIGITAL LK250 keyboard, the keys on the two keypads on the right of the keyboard are referred to by their blue labels.
numbers	All numbers shown in this manual are in decimal form, unless otherwise noted.
two-line commands	<p>Some commands are continued on a second line. In VMS, a continued command may be indicated by a hyphen (-) at the end of the first line. Enter the hyphen, and press Return. The system displays the _\$ prompt. Continue entering the text that follows the _\$ prompt in your manual.</p> <p>In DOS, no hyphen is displayed at the end of the first line. Continue entering text without pressing the Return key.</p>
NOTE	Contains information of special importance.
CAUTION	Contains information to prevent damage to equipment or software.
WARNING	Contains information essential to the safety of personnel.

---

# 1

## Installing the VAXmate Server

---

This chapter describes how to install the VAXmate server. The procedure is divided into two parts:

- Before installing the VAXmate server
- Installing the VAXmate server

In addition, this chapter tells you how to register the first node.

If an error message is displayed during this procedure, see Chapter 5 of this guide. Also see the *Network Commands Reference Manual* and the *MS-DOS Reference Manual*.

### Before Installing the VAXmate Server

Before you install the VAXmate server, you must:

1. Know the DECnet node name and address for the VAXmate server and the first workstation. Make note of these now.
2. Locate the VAXmate server software diskettes. Handle these diskettes very carefully; you only have one copy of each.
3. Install the VAXmate server's expansion box according to the instructions in the *VAXmate Expansion Box Installation Guide and Owner's Manual*.
4. Initialize the hard disk with the FDISK command to make partition C the startup partition, setting partition C to be as large as possible (at least 10 Mbytes).
5. Format the partitions with the FORMAT command. Use the /S qualifier when formatting the C partition, so you can start the MS-DOS operating system from that partition.

For more information on preparing your hard disk, see the FDISK and FORMAT commands in the *MS-DOS Reference Manual*.

## 1-2 Installing the VAXmate Server

6. Make a copy of the PCSA VM Server Install V2.2 diskette:
  - a. Insert the PCSA VM MS-DOS V3.3 diskette into drive A.
  - b. Change to drive A by entering:  

```
C> A:
```
  - c. Then enter:  

```
A:\> DISKCOPY A: B:
```
  - d. When prompted for the source diskette, insert the PCSA VM Server Install V2.2 diskette into drive A and press the Return key.
  - e. When prompted for the target diskette, remove the PCSA VM Server Install V2.2 diskette and insert a blank diskette into drive A. Press the Return key.
  - f. When the copy operation is finished, set aside the original PCSA VM Server Install V2.2 diskette. Use the target diskette in the procedure for installing the VAXmate server.
7. Install PCSA VAXmate MS-DOS Version 3.3. For information about doing this, see the *MS-DOS Reference Manual*.
8. Install DECnet VAXmate Version 2.1. For information about doing this, see the *DECnet-VAXmate Installation Guide*.

## Installing the VAXmate Server

This section describes how to install the VAXmate server software onto the VAXmate server's hard disk. The VAXmate server software includes the MS-DOS operating system, the VAXmate server program (SERVER.EXE), and the VAXmate network software.

### NOTE

If you are installing to an existing VAXmate server, you must shut down the server.

In the following procedure, the INSTALL program copies files. If you have any files with the same name but a later date than the file to be copied, the program issues a warning message and asks you if you want to copy the file anyway.

1. Insert your copy of the PCSA VM Server Install V2.2 diskette into drive A, and reboot the VAXmate server by entering:

2. Select your keyboard. Use the arrow keys to locate your selection, then press the Return key.
3. Set the date and time.

After you set the date and time, the INSTALL program starts and the installation of the PCSA VM operating environment begins.

4. The INSTALL program prompts you for:

- a. Workstation node name —

Enter the DECnet node name of the VAXmate server.

- b. Workstation node address —

Enter the DECnet node address of the VAXmate server.

- c. Drive for software installation [C:] —

Enter the drive letter for the partition that you initialized and formatted earlier in this procedure. The partition must be at least 10 Mbytes. To accept the default drive (C), press the Return key.

5. The INSTALL program asks:

Do you wish to install server (Y/N)?

Enter Y and press the Return key.

## 1-4 Installing the VAXmate Server

If the DECnet installation procedure was used correctly to install DECnet VAXmate, the INSTALL program issues a warning message about an existing CONFIG.SYS file, and asks you if you want to copy the file anyway. If you see this message, answer yes at the prompt, as follows:

```
WARNING: The file, CONFIG.SYS already on your system
has a later date than the file on this kit.
Copy the file anyway (Y/N)? Y
```

### 6. The INSTALL program asks:

```
Do you wish to install PCSA VM Networks V2.2 (Y/N)?
```

If you enter N, proceed to step 7.

If you enter Y, the INSTALL program prompts you to insert the PCSA VM Networks V2.2 diskette into drive A.

### 7. When prompted, insert the copy of the PCSA VM Server Install V2.2 diskette into drive A and press the Return key.

The INSTALL program copies the files to the appropriate directories (for example, \DECNET) on the VAXmate server. (The INSTALL program creates the directories for you if they do not already exist.)

When the installation is complete, the INSTALL program displays the message:

```
Installation of PCSA VM Operating Environment completed.
```

After the installation is complete, remove the copy of the PCSA VM Server Install V2.2 diskette from drive A.

### 8. Reboot the VAXmate server. The reboot initialization procedure automatically installs the network for the server, and then starts the server.

Subsequent reboots of your system do not install the network software if it is already installed. The server may display the following message:

```
Could not initialize the DECnet database initialization file
```

If the server displays this message, either of the following conditions may exist:

- You have not installed DECnet VAXmate Version 2.1
- You need to delete the file C:\DECNET\DECPARM:DAT and reboot the server again

When all the software is installed on the VAXmate server hard disk, the `INSTALL` program creates:

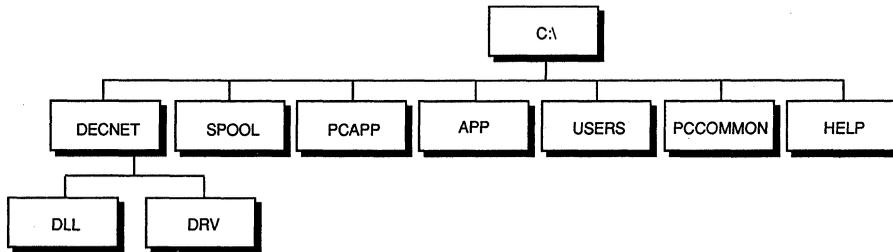
- A `CONFIG.SYS` file that is required to properly boot the MS-DOS operating system for the VAXmate networking environment.
- An `AUTOEXEC.BAT` file that sets the prompt and path, and starts the VAXmate server with the appropriate network settings when you turn the server on.
- A `SERVE.BAT` file in the DECNET directory. This batch file lets you restart the VAXmate server with the default server switches after stopping the VAXmate server with the `STOP` or `SHUTDOWN` command. To use the `SERVE.BAT` file, enter `SERVE` at the MS-DOS operating system prompt when you want to restart the VAXmate server.
- A `SERVER.INI` file contains `SHARE` commands that specify the available network resources. The `INSTALL` program automatically shares the following resources:
  - The root directory on drive C with read, write, and create permissions under the writeable alias `CROOT` with the password `ADMIN`. A writeable alias allows you to read, write, and create files in the directory that the alias represents. Passwords are assigned to writeable aliases to prevent users from changing or deleting files. This lets you, as the system administrator, maintain the security of the directory structure.
  - The `APP` directory with read permission under the read-only alias `APP`. This lets users access the unrestricted MS-DOS applications in the `APP` directory while protecting against inadvertent file changes or deletions. The `APP` directory is also shared with read, write, and create permissions under the alias `APPW` with the password `MAINTAIN`. This allows you, as the system administrator, to make changes to the directory.
  - The `PCCOMMON` directory with read, write, and create permissions under the writeable alias `PCCOMMON`. This lets users access the common directory. A common directory allows multiple users to store data files accessible by all.

**NOTE**

For security reasons, you should edit the SERVER.INI file in the DECNET directory to change the default passwords for aliases that grant read, write, and create permissions. To protect the VAXmate server system files, only authorized system administrators should know these aliases and passwords. For more information on editing files, see the EDLIN command in the *MS-DOS Reference Manual*.

Figure 1-1 shows the directory structure the INSTALL program creates.

**Figure 1-1 VAXmate Server Directory Structure**



MR-2078-RA

## Registering the First Node

Add to the network database the DECnet node names and addresses of each workstation that will be a workstation (client) for the VAXmate server.

1. Reset the VAXmate server by pressing:

The server software is automatically started. The `Server>` prompt indicates that the VAXmate server is now running.

2. Use the `DEFINE NODE` command to add one or more nodes to the network database. For example, to add the node `SYSADM (1.2)`, enter the following command line and press the Return key:

```
Server> DEFINE NODE SYSADM 1.2 
```

See the *Installing DECnet/PCSA Client with DOS Diskettes* documentation to install the client software on the VAXmate server.

Now that you have completed the installation procedures, continue with Chapter 2 to perform further VAXmate server operations, such as adding users, printers, and applications.

DECLIT AA VAXMATE JU52C

VAXmate services for MS-DOS  
administration guide



# 2

## VAXmate Server Operations

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This chapter describes certain tasks that help you maintain your VAXmate server and your network. You may perform some of these tasks daily and some not at all, depending on your network configuration and the needs of your users. The tasks are:

- Starting the VAXmate server
- Stopping the VAXmate server
- Adding a user
- Removing a user
- Installing an application
- Removing an application
- Adding a printer
- Removing a printer
- Modifying the SERVER.INI file
- Backing up the VAXmate server
- Displaying the VAXmate server's log file

These procedures instruct you to boot your workstation from your hard disk. Therefore, you must perform these tasks at your workstation, and, to use these procedures, you must have created a bootable hard disk during the installation procedure. See the *Installing DECnet/PCSA Client with DOS Diskettes* documentation for more information.

### NOTE

Make sure that you created the VAXmate server directory structure on the VAXmate server. The procedure to create the directory structure is described in Chapter 1.

## Starting the VAXmate Server

If you installed the VAXmate server with the INSTALL program, the VAXmate server starts automatically every time you turn it on. To restart the VAXmate server after using a STOP or SHUTDOWN command, at the MS-DOS operating system prompt enter:

```
C:\> SERVE
```

SERVE is a batch file created by the INSTALL program that starts the VAXmate server with the appropriate settings and initialization file.

The Server> prompt indicates the VAXmate server is running and users can access the VAXmate server's shared resources. Therefore, once you start the VAXmate server, you should leave it running.

## Stopping the VAXmate Server

You should use the REFUSE CONNECTIONS command and wait until all VAXmate server connections are closed normally before stopping the VAXmate server.

To stop the VAXmate server, use the STOP or SHUTDOWN command. You must stop the VAXmate server to use any MS-DOS operating system commands.

If there are active sessions when you enter the STOP or SHUTDOWN command, the VAXmate server notifies you and asks if you want to continue shutdown. If you answer "yes," the VAXmate server ends all sessions without notifying the users. If you answer "no," the VAXmate server does not stop.

## Adding a User

You can add users to the network and to the VAXmate server at any time. Usually you add users when you first set up the VAXmate server and when new users come into your organization.

### NOTE

If the VAXmate server no longer recognizes a node you already defined, delete the node with the CLEAR NODE command and redefine it with the DEFINE NODE command.

Before you start, make sure that the workstation is physically connected to the network.

To add a user to the VAXmate server, you must first perform some steps at your workstation and then other steps at the VAXmate server.

1. Boot your workstation.
2. Connect to the root of the VAXmate service. Enter the USE command with the following format:

```
USE drv: \\nodename\CROOT [password|*]
```

#### Where:

drv:	Is the drive you want to be associated with the root of the VAXmate server.
nodename	Is the unique DECnet node name (1 to 6 alphanumeric characters, including at least one alphabetic character), identifying the new user.
CROOT	Indicates the root of the VAXmate server.
password	Is any combination of letters and numbers (maximum of 16) that allows access to the personal directory. You cannot use spaces in passwords. You can use an asterisk (*). If you use an asterisk, the VAXmate server prompts you for the password when you start the VAXmate server. Using an asterisk prevents the password from being displayed.

3. Make sure that the user has a personal directory.

If the user's workstation does not have a hard disk that contains a personal directory, you must create a personal directory on the VAXmate server. You can create a personal directory with the MS-DOS MKDIR command.

At the DOS prompt, change to the drive used in the previous step. Specify the drive using the following format, and press the Return key:

```
drv:
```

At the DOS prompt, change to the USERS directory. Enter the following command line, and press the Return key:

```
CD \USERS
```

Make each user's directory a subdirectory under the USERS directory. It is a good practice to name each subdirectory after the user. For example, Bruce Brown's directory should be \USERS\BROWN. The MS-DOS operating system limits directory names to eight characters.

4. Use an editor, such as Edlin, to share the personal directory by adding a SHARE command to the SERVER.INI file. The SERVER.INI file is in the \DECNET directory on the drive connected to the VAXmate server. The SHARE command qualifiers control which users can access a directory and the type of access granted. The SHARE command format is:

```
SHARE alias=drv:pathname [password] [/permissions] [/U:n]
```

Where:

alias	Is a name representing the drive and path name for the personal directory. It can be any combination of letters and numbers (maximum of 16).
drv:pathname	Is the drive and path name of the personal directory (64 characters maximum).
password	Is any combination of letters and numbers (maximum of 16) that allows access to the personal directory. You cannot use spaces in passwords. You can use an asterisk (*). If you use an asterisk, the VAXmate server prompts you for the password when you start the VAXmate server. Using an asterisk prevents the password from being displayed.

- `/permissions` Controls the user's ability to modify or create files in the directory. If you do not specify any permissions, the VAXmate server grants read, write, and create permissions. A slash (/) preceding any one or combination of the following letters creates one or a combination of the following permissions on the directory:
- R Read permission lets the user read and copy files in that directory.
  - W Write permission lets the user change the files in that directory. Combine write permission with read permission.
  - C Create permission lets the user create files in the shared directory.
- `/U:n` Restricts access to the personal directory to a specified number of workstations (1 to 30) at a time. After `n` workstations are connected, the VAXmate server denies subsequent requests until one or more workstations disconnect from the personal directory.

5. At the VAXmate server, at the `Server>` prompt, add the user's DECnet node name and DECnet node address to the network databases with the VAXmate server `DEFINE NODE` command:

```
DEFINE NODE nodename nodeaddress
```

**Where:**

- `nodename` Is the unique DECnet node name (1 to 6 alphanumeric characters, including at least one alphabetic character), identifying the new user.
- `nodeaddress` Is a unique numeric identification for the DECnet node name. The node address includes an area and node (area.node).

For more information on the `DEFINE NODE` command, see Chapter 3.

If either the DECnet node name or node address is already known to the VAXmate server, the VAXmate server displays a warning message. You must define the new node on each server the workstation uses.

6. At the `Server>` prompt, enter the same `SHARE` command you added to the `SERVER.INI` file in step 4. This `SHARE` command shares the personal directory without stopping and restarting the VAXmate server.

## 2-6 VAXmate Server Operations

7. Connect to the user's personal directory. To automatically make this connection when the user's workstation is booted, use an editor to add a command line in the following format to the AUTOEXEC.BAT file on the user's workstation:

```
USE drv: \\nodename\alias password
```

**Where:**

<b>drv:</b>	Is the drive that you want to be associated with the user's personal directory.
<b>nodename</b>	Is the node name of the VAXmate server.
<b>alias</b>	Is the alias that you specified with the SHARE command for the user's personal directory.
<b>password</b>	Is the password you specified with the SHARE command that allows access to the personal directory. If you use an asterisk, the VAXmate server prompts you for the password. Using an asterisk prevents the password from being displayed.

## Removing a User

To remove a user from the VAXmate server, you must first perform some steps at the VAXmate server and then other steps at your workstation.

1. Remove access to the user's personal directory by entering:

```
SHARE alias /D
```

**Where:**

**alias**                    Is the name representing the user's personal directory.

This only needs to be specified if the user has a private alias.

2. Remove the node entry from the network database with the CLEAR NODE command:

```
CLEAR NODE nodename
```

**Where:**

**nodename**                Is the user's DECnet node name.

For more information on the CLEAR NODE command, see Chapter 3.

If the DECnet node name is not known to the VAXmate server, the VAXmate server displays a warning message.

3. Boot your workstation.
4. Connect to the root of the VAXmate service. Enter the USE command with the following format:

```
USE drv: \\nodename\CROOT [password|*]
```

**Where:**

**drv:**                    Is the drive you want to be associated with the root of the VAXmate server.

**nodename**                Is the node name associated with the VAXmate server.

**CROOT**                    Indicates the root of the VAXmate server.

**password**                Is the password defined by the SHARE command. If you use an asterisk, the VAXmate server prompts you for the password. Using an asterisk prevents the password from being displayed.

## 2-8 VAXmate Server Operations

At the DOS prompt, change to the drive used in the previous step. Specify the drive using the following format, and press the Return key:

drv:

At the DOS prompt, change to the USERS directory. Enter a command line in the following format, and press the Return key:

```
CD \USERS\username
```

Where:

username            Is the name of the personal directory of the user you are removing.

5. Use the MS-DOS BACKUP command with the /S qualifier to copy the files in the user's personal directory to a diskette. Then, delete the files and the personal directory.
6. Use an editor, such as Edlin, to remove access to the workstation's personal directory by deleting the relevant SHARE command in the SERVER.INI file. The SERVER.INI file is in the \DECNET directory on the drive connected to the VAXmate server.

## Installing an Application

An MS-DOS application directory stores applications for remote access. You can set applications to be unrestricted or restricted.

### Unrestricted Applications

Unrestricted applications have no restrictions on the number of users that can connect to that application at one time. You can install unrestricted applications in the APP directory, which is created as part of the VAXmate server directory structure. The INSTALL program shares this directory with read-only permission under the alias APP so that all users can use the applications in the APP directory, but cannot delete or otherwise inadvertently destroy the files. The INSTALL program also shares this directory with read, write, and create permissions under the alias APPW with the default password MAINTAIN so you, as the system administrator, can maintain the directory.

#### NOTE

Read the application's software license first, to determine if the application is unrestricted.

To install an unrestricted application on the VAXmate server:

1. Boot your workstation.
2. Connect to the root of the VAXmate service. Enter the USE command with the following format:

```
USE drv: \\nodename\CROOT [password|*]
```

Where:

drv:	Is the drive you want to be associated with the root of the VAXmate server.
nodename	Is the unique DECnet node name (1 to 6 alphanumeric characters, including at least one alphabetic character), associated with the VAXmate server.
CROOT	Indicates the root of the VAXmate server.
password	Is the password for the alias as defined by the SHARE command. If you use an asterisk, the VAXmate server prompts you for the password. Using an asterisk prevents the password from being displayed.

3. Install the application in the \APP directory on the VAXmate server according to the instructions provided with the manufacturer's documentation.

**NOTE**

Some applications require that you specify read, write and create access. Read the manufacturer's documentation to determine if files need to be writeable in order for the application to run. If there are writeable files, install the application in its own directory and share it with write privileges.

4. If the application requires a Program Information File (PIF), copy or create the application's PIF in the application directory. A PIF is required if the application is to be used with MS-Windows and was not designed for MS-Windows. For more information on PIF files, see the *Microsoft Windows User's Guide*.

To automatically connect to the application when the workstation is booted, modify the user's AUTOEXEC.BAT file:

1. Add a USE command line, using one of these formats:

- a. For read access only:

```
USE drv: \\nodename\APP
```

- b. For read, write, and create access:

```
USE drv: \\nodename\APPW password
```

**Where:**

drv	Is the drive that you want to be associated with the application.
nodename	Is the node name associated with the VAXmate server.
password	Is the password that allows access to the application directory. If you use an asterisk, the VAXmate server prompts you for the password. Using an asterisk prevents the password from being displayed.

2. Add the directory drive to your path, using the following format:

```
drv: \appdir
```

**Where:**

drv	Is the drive that you want to be associated with the application.
appdir	Is the directory where the application is installed.

## Restricted Applications

Restricted applications have a password, a limit to the number of users that can connect to that application at one time, or both.

### NOTE

Various DIGITAL and DOS-based applications can be installed on the VAXmate server. Check the application license agreement to be sure you have the correct license and permission to install and operate the application on the server.

You are responsible for ensuring that correct licenses are obtained prior to installing and operating a restricted application.

You should install restricted applications in separate directories. A restricted application should have two aliases associated with it:

- One with read-only access for the application users
- One with read, write, and create access for you, the system administrator

To install a restricted application on the VAXmate server, you must perform some steps at your workstation.

1. Boot your workstation.
2. Connect to the root of the VAXmate service. Enter the USE command with the following format:

```
USE drv: \\nodename\CROOT [password|*]
```

Where:

drv:	Is the drive you want to be associated with the root of the VAXmate server.
nodename	Is the unique DECnet node name associated with the VAXmate server.
CROOT	Indicates the root of the VAXmate server.
password	Is the password that allows access to the application's directory. If you use an asterisk, the VAXmate server prompts you for the password. Using an asterisk prevents the password from being displayed.

3. Using the MS-DOS MKDIR command, create a directory, on the drive you connected to the VAXmate server, for the restricted application.
4. Install the application in the directory according to the instructions provided with the manufacturer's documentation.

5. Some applications are installed by running a batch file called, for example, `INSTALL.BAT`. Some batch files assume your application will be installed on drive C. If your application runs from a batch file, use an editor such as Edlin to modify the commands in the batch file. Be sure the batch file copies the application to the correct drive (C or another drive).
6. Some applications require that you specify read, write and create access. Read the manufacturer's documentation to determine if files need to be writeable in order for the application to run. If there are writeable files, protect all the non-writeable files from being accidentally deleted by using the MS-DOS `ATTRIB` command. For more information about the `ATTRIB` command, see the *MS-DOS Reference Manual*.

Run the application. If you receive error messages, note the names of the files causing the messages. Most likely, the error messages occur because the files need write access.

7. Use an editor, such as Edlin, to share the application by adding a `SHARE` command to the `SERVER.INI` file. The `SERVER.INI` file is in the `\DECNET` directory on the drive you connected to the VAXmate server.

The `SHARE` command qualifiers control which users can access a directory and the type of access granted. The `SHARE` command format is:

```
SHARE alias=drv:pathname [password] [/permissions] [/U:n]
```

Where:

- |              |  |
|--------------|--|
| alias        | Is a name representing the drive and path name for the application. It can be any combination of letters and numbers (maximum of 16).  |
| drv:pathname | Is the drive and path name of the directory containing the application (64 characters maximum).  |
| password     | Is any combination of letters and numbers (maximum of 16) that allows access to the application. You cannot use spaces in passwords. You can use an asterisk (*). If you use an asterisk, the VAXmate server prompts you for the password when you start the VAXmate server. Using an asterisk prevents the password from being displayed on the screen. |

`/permissions` Controls the user's ability to modify or create files in the directory. If you do not specify any permissions, the VAXmate server grants read, write, and create permissions. A slash (/) preceding any one or combination of the following letters creates one or a combination of the following permissions on the directory:

R Read permission lets the user read and copy files in that directory.

W Write permission lets the user change the files in that directory. Combine write permission with read permission.

C Create permission lets the user create files in the shared directory.

To let users use the application but prevent them from inadvertently deleting or otherwise destroying the files, use `/R`.

`/U:n` Restricts access to the application to a specified number of workstations (1 to 30) at a time. After `n` workstations are connected, the VAXmate server denies subsequent requests until one or more workstations disconnect from the application. This qualifier is useful for limiting the number of workstations using an application with licensing restrictions.

8. If the application requires a Program Information File (PIF), copy or create the application's PIF in the application directory. A PIF is required if the application is to be used with MS-Windows and was not designed for MS-Windows. For more information on PIF files, see the *Microsoft Windows User's Guide*.
9. At a VAXmate server, enter the same SHARE command you added to the SERVER.INI file. This shares the application without stopping and restarting the VAXmate server.

## Removing an Application

You can remove access to unrestricted and restricted applications.

### Unrestricted Applications

To remove access to an unrestricted application from the VAXmate server, at your workstation:

1. Boot your workstation.
2. Connect to the root of the VAXmate service. Enter the USE command with the following format:

```
USE drv: \\nodename\CROOT [password|*]
```

Where:

drv:	Is the drive you want to be associated with the root of the VAXmate server.
nodename	Is the node name associated with the VAXmate server.
CROOT	Indicates the root of the VAXmate server.
password	Is the password that allows access to the CROOT alias. If you use an asterisk, the VAXmate server prompts you for the password. Using an asterisk prevents the password from being displayed.

3. If you want a copy of that application's files, use the MS-DOS COPY command to back up the files to a diskette.

At the DOS prompt, change to the drive used in the previous step (the drive you are connected to). Specify the drive using the following format, and press the Return key:

```
drv:
```

At the DOS prompt (that indicates the drive you are connected to), change to the APP directory. Enter the following command line, and press the Return key:

```
CD \APP
```

4. Use the MS-DOS ATTRIB command to change the read-only file attribute so you can delete the files.
5. Delete that application's files from the \APP directory on the drive you connected to the VAXmate server.

## Restricted Applications

To remove access to a restricted application on the VAXmate server, you must first perform some steps at the VAXmate server and then other steps at your workstation:

1. At the VAXmate server, remove access to the restricted application with the SHARE command:

```
SHARE alias /D
```

Where:

alias            Is a name representing the application.

2. Boot your workstation.
3. Connect to the root of the VAXmate service. Enter the USE command with the following format:

```
USE drv: \\nodename\CROOT [password|*]
```

Where:

drv:            Is the drive you want to be associated with the root of the VAXmate server.

nodename        Is the node name associated with the VAXmate server.

CROOT           Indicates the root of the VAXmate server.

password        Is the password that allows access to the CROOT alias. If you use an asterisk, the VAXmate server prompts you for the password. Using an asterisk prevents the password from being displayed.

At the DOS prompt, change to the drive to which you are connected. Specify the drive using the following format, and press the Return key:

```
drv:
```

At the DOS prompt (that indicates the drive to which you are connected), change to the directory where the application is installed. Enter a command line in the following format, and press the Return key:

```
CD \appdir
```

Where:

appdir           Is the name of the directory where the application is installed.

4. Use the MS-DOS ATTRIB command to change the read-only file attribute so you can delete the files.
5. If you want a copy of the application files, use the MS-DOS COPY command to back up the files to a diskette.
6. Delete the application files from the directory.
7. Delete the restricted application directory.
8. Use an editor, such as Edlin, to remove access to the application by deleting the SHARE command in the SERVER.INI file. The SERVER.INI file is in the \DECNET directory on the drive you connected to the VAXmate server.
9. Any users that connect to this APP service should remove the USE command line from their AUTOEXEC.BAT file and the associated drive from their path.

## Adding a Printer

Before you add a printer, install the printer at the VAXmate server according to the instructions provided with the printer.

### NOTE

You can use the MS-DOS MODE command to specify the communication port (COM1:) as a printer port. If you do, add the MODE command to the VAXmate server AUTOEXEC.BAT file and then restart the VAXmate server. For more information on the MODE command, see the *MS-DOS Reference Manual*.

To add a printer to the VAXmate server, you must first perform some steps at your workstation and then other steps at the VAXmate server.

1. Boot your workstation.
2. Connect to the root of the VAXmate service. Enter the USE command with the following format:

```
USE drv: \\nodename\CROOT [password|*]
```

Where:

drv:	Is the drive you want to be associated with the root of the VAXmate server.
nodename	Is the node name associated with the VAXmate server.
CROOT	Indicates the root of the VAXmate server.
password	Is the password that allows access to the CROOT alias. If you use an asterisk, the VAXmate server prompts you for the password. Using an asterisk prevents the password from being displayed.

3. Use an editor, such as Edlin, to grant access to a printer by adding a SHARE command to the SERVER.INI file. The SERVER.INI file is in the \DECNET directory on the drive you connected to the VAXmate server.

The SHARE command qualifiers control which users can access the printer. The SHARE command format is:

```
SHARE alias=printer [password] [/U:n]
```

Where:

alias	Is a name representing the printer. It can be any combination of letters and numbers (maximum of 16).
printer	Is any valid printer (LPT1:, LPT2:, or LPT3:).
password	Is any combination of letters and numbers (maximum of 16) that will allow use of the printer. You cannot use spaces in passwords. You can use an asterisk (*). In this case, the VAXmate server prompts you for the password when you start the VAXmate server. Using an asterisk prevents the password from being displayed.
/U:n	Restricts access to the shared resource to a specified number of workstations (1 to 30) at a time. After n workstations are connected, the VAXmate server denies subsequent requests until one or more workstations disconnect from the printer.

4. At the VAXmate server, enter the same SHARE command you added to the SERVER.INI file. This shares the printer without stopping and restarting the VAXmate server.

To automatically allow users to connect to the printer service, modify the user's AUTOEXEC.BAT file to include a USE command line in the following format:

```
USE printer: \\nodename\alias [password|*]
```

Where:

printer	Is any valid printer (LPT1:, LPT2:, or LPT3:).
nodename	Is the node name associated with the VAXmate server.
alias	Is the name, specified by the SHARE command, that represents the printer.
password	Is the password that will allow access to the printer. If you use an asterisk, the VAXmate server prompts you for the password. Using an asterisk prevents the password from being displayed.

For information about setting up for printing at the workstation, see the *Printing Guide* documentation.

## Removing a Printer

To remove a printer from the VAXmate server, you must first perform some steps at the VAXmate server and then other steps at your workstation.

1. At the VAXmate server, remove access to the printer with the SHARE command:

```
SHARE alias /D
```

Where:

alias            Is a name representing the printer.

2. Boot your workstation.
3. Connect to the root of the VAXmate service. Enter the USE command with the following format:

```
USE drv: \\nodename\CROOT [password|*]
```

Where:

drv:            Is the drive you want to be associated with the root of the VAXmate server.

nodename       Is the node name associated with the VAXmate server.

CROOT          Indicates the root of the VAXmate server.

password       Is the password that allows access to the root of the VAXmate server. If you use an asterisk, the VAXmate server prompts you for the password. Using an asterisk prevents the password from being displayed.

4. Use an editor, such as Edlin, to remove access to the printer by deleting the SHARE command in the SERVER.INI file. The SERVER.INI file is in the \DECNET directory on the drive you connected to the VAXmate server.

## Modifying the SERVER.INI File

You can modify the server initialization file with the ECHO and REMARK commands. To use these commands, first stop the server with the STOP or SHUTDOWN commands, then edit the SERVER.INI file using an editor such as EDLIN.

### NOTE

Before you issue the STOP or SHUTDOWN commands, make sure there are no workstations connected to the server. Issue the REFUSE CONNECTIONS command.

An initialization file is read when the VAXmate server is started. The INSTALL program created an initialization file called SERVER.INI in the DECNET directory. This initialization file is automatically used each time you start the VAXmate server with the SERVE batch file. For more information on initialization files, see Chapter 4.

## Displaying Server Initialization Commands

Normally, the VAXmate server initialization commands are not displayed when the server is started. To see VAXmate server initialization commands as they are processed, add the ECHO ON command to the SERVER.INI file. The default is ECHO OFF (so that items such as passwords are not displayed).

1. Make sure there are no workstations connected to the server. At the `Server>` prompt, issue the REFUSE CONNECTIONS command.
2. When the message "All server connections have closed" is displayed, stop the server using the STOP or SHUTDOWN command.
3. Edit the SERVER.INI file located in the DECNET directory. Add the ECHO command to display or not display command lines using the format:

```
ECHO [ON|OFF|message]
```

4. Exit the editor and restart the server using the SERVE command.

The following example illustrates a SERVER.INI file which uses the ECHO feature:

```
SHARE CROOT=C:\ADMIN
SHARE PCCOMMON=C:\PCCOMMON
ECHO ON
SHARE APP=C:\APP /R
SHARE APPW=C:\APP MAINTAIN
```

The following example illustrates the output at the server for the initialization file of the preceding example:

```
Reading command file 'C:\DECNET\SERVER.INI'...
ok
ok
Server> SHARE APP=C:\APP /R
ok
Server> SHARE APPW=C:\APP MAINTAIN
ok
Server's net name is MAJOR(8.568)
```

### Adding Comments to the SERVER.INI File

To add comments to a VAXmate server initialization file without affecting the VAXmate server, use the REMARK command. When the VAXmate server encounters the REMARK command, it ignores the comment and proceeds to the next line in the file. To use the REMARK command, edit the SERVER.INI file using an editor such as EDLIN. You may, of course, use this command to add comments to other files.

To add comments to the SERVER.INI file:

1. Make sure there are no workstations connected to the server. At the Server> prompt, issue the REFUSE CONNECTIONS command.
2. When the message "All server connections have closed" is displayed, stop the server using the STOP or SHUTDOWN command.
3. Edit the SERVER.INI file located in the DECNET directory. Add the REMARK command using the format:

```
REMARK [text]
```

Where:

text                    Is the comment you want to add to the file.

The following example illustrates a comment line in an initialization file:

```
REMARK This resource shared when VAXmate server is started.
SHARE APP=C:\APP /R
```

## Backing Up the VAXmate Server

To prevent losing information stored on the VAXmate server hard disk, you should back up (save) the files on the hard disk on a regular basis.

You back up files on the VAXmate server hard disk with the MS-DOS BACKUP command. To copy only the files that were modified since the last backup, use the /M qualifier:

```
C:\> BACKUP C:\*.* /M
```

For more information on the BACKUP command, see the *MS-DOS Reference Manual*.

## Displaying the VAXmate Server's Log

The VAXmate server maintains an event log that records the 20 most recent events that occur on the network. To display messages contained in the log, use the `SHOW LOG` command. After you enter this command, the VAXmate server clears the messages from the log file. For more information on the `SHOW LOG` command, see Chapter 3. For a description of the messages, see Chapter 5.



# 3

## VAXmate Server Commands

---

This chapter describes all the VAXmate server commands. Use these VAXmate server commands to manage the VAXmate server to enhance the performance of your network and monitor the daily use of the VAXmate server.

Table 3-1 lists alphabetically the VAXmate server commands. Enter these commands at the `Server>` prompt. To prevent information from scrolling off the screen, you can use the `Ctrl/S` keys, which pauses the displaying of information for 15 seconds. You can press any key to continue.

### NOTE

While the VAXmate server is running, you cannot use the `Ctrl/PrtSc`, `Shift/PrtSc`, and `Ctrl/P` key screen printing functions at the server keyboard.

You can abbreviate the VAXmate server commands to the three unique characters of the command verb. This guide, however, uses the complete verb in all command formats and examples.

**Table 3-1 VAXmate Server Commands**

<b>If you want to ...</b>	<b>Use the command ...</b>
Let workstations connect to the VAXmate server	ACCEPT CONNECTIONS
Let any workstation connect to the VAXmate server	ACCEPT UNREGISTERED
Remove a workstation from the network database	CLEAR NODE
End a connection with the VAXmate server	CLOSE CONNECTION
Close a file	CLOSE FILE
End a session	CLOSE SESSION
Add a workstation to the network database	DEFINE NODE
Get help	HELP
Restrict the VAXmate server to a limited group of VAXmate server commands	LOCK
Start the VAXmate server	SERVE NET START SERVER
Check the print queue	PRINT
Cancel a print job	PRINT CANCEL
Remove a print job from the print queue	PRINT KILL
Stop the printer	PRINT OFF
Start the printer	PRINT ON
Set the printer initialization mode	PRINT RESET
Restart a print job	PRINT RESTART
Separate print jobs	PRINT SEPARATOR
Change the printer setting for an alias	PRINT SETUP
Refuse connections to the VAXmate server	REFUSE CONNECTIONS
Refuse connections from unregistered workstations	REFUSE UNREGISTERED
Add or remove resources from the VAXmate server	SHARE
Display the VAXmate server configuration	SHOW CONFIGURATION
Display a list of the workstations connected to the VAXmate server	SHOW CONNECTIONS

**Table 3-1 (Cont.) VAXmate Server Commands**

---

<b>If you want to ...</b>	<b>Use the command ...</b>
Display the counter values	SHOW COUNTERS
Display file status information	SHOW FILES
Display the status of the session layer	SHOW LINKS
Display the messages in the event log	SHOW LOG
Display information about the nodes on the network	SHOW NODE
Display the current sessions	SHOW SESSIONS
Display the status of the network	SHOW STATUS
Display the version of the VAXmate server software	SHOW VERSION
Stop the VAXmate server	STOP SHUTDOWN
Remove the restriction on which VAXmate server commands can be used	UNLOCK

---

## Allowing Connections

To accept connections from workstations that establish a session with the VAXmate server, use the ACCEPT CONNECTIONS command.

The default is to accept connections. Use this command only after using a REFUSE CONNECTIONS command.

### *Format*

ACCEPT CONNECTIONS

### *Example*

To allow workstations to connect to resources on the VAXmate server, enter:

```
Server> ACCEPT CONNECTIONS  
Ok  
Server>
```

## Accepting Connections from Unregistered Workstations

To accept connections from unregistered workstations, use the `ACCEPT UNREGISTERED` command. The VAXmate server considers a workstation to be registered if the workstation's DECnet node name and node address are in the network database.

Use the `REFUSE UNREGISTERED` command to refuse connections from unregistered workstations. The default is to refuse connections from unregistered workstations.

### *Format*

```
ACCEPT UNREGISTERED
```

### *Example*

To allow unregistered workstations to connect to resources on the VAXmate server, enter:

```
Server> ACCEPT UNREGISTERED
Ok
Server>
```

## Removing a Workstation

To remove a workstation from the network database, use the **CLEAR NODE** command. If the DECnet node name is not known to the VAXmate server, the VAXmate server displays a warning message.

### *Format*

```
CLEAR NODE nodename
```

### **Where:**

**nodename**                    Is the DECnet node name (1 to 6 alphanumeric characters, including at least one alphabetic character) to be deleted.

### *Example*

To remove the node **ORION** from the network database, enter:

```
Server> CLEAR NODE ORION
```

```
Server>
```

## Closing a Connection

To close one or more connections to a resource on the VAXmate server, use the `CLOSE CONNECTION` command. Do not confuse a connection with a session. A workstation only has one session with a server, but can have multiple connections.

If you specify an asterisk (\*) with the `CLOSE CONNECTION` command, the VAXmate server ends all connections and sessions. The VAXmate server prompts you for confirmation. With an asterisk, the command is equivalent to the `CLOSE SESSION *` command.

### *Format*

```
CLOSE CONNECTION alias|/ID=identifier
```

### Where:

alias	Is a name that represents the complete path name of the shared resource. The VAXmate server closes all connections with this alias.
identifier	Is the unique connection identification number (assigned to each connection to a resource on the VAXmate server) to be closed. You can find this number with the <code>SHOW CONNECTIONS</code> command.

### *Example*

To close all connections with the `SPREADSHEET` alias, enter:

```
Server> CLOSE CONNECTION SPREADSHEET
Close all connections to SPREADSHEET\? y
Closing connection to SPREADSHEET\ with ARENA(9.214)
Closing connection to SPREADSHEET\ with HOSTEL(9.215)
```

```
Server>
```

## Closing a File

To close a file, use the **CLOSE FILE** command. You might need to close a file if a user leaves a file unattended and it is open in such a way that no other workstation can open it. You can display a list of open files with the **SHOW FILES** command.

Enter the **CLOSE FILE** command at the VAXmate server that shared the directory containing the files in question.

Do not close a file that is currently in use. If you do, you disrupt all the users who are working with the file. The VAXmate server does not notify the users when it closes a file.

If you specify an asterisk (\*) with the **CLOSE FILE** command, the VAXmate server closes all open files. The VAXmate server prompts you for confirmation.

### *Format*

```
CLOSE FILE pathname|/ID=identifier
```

### **Where:**

<b>pathname</b>	Is the complete path name of the open file.
<b>identifier</b>	Is the file identification number of the open file. Use the <b>SHOW FILES</b> command to display the open file identification number.

### *Example*

To close a file (named **OUTSTAND.DAT** in the **PCCOMMON\ACCOUNTS** directory in drive C), enter:

```
Server> CLOSE FILE C:\pccommon\accounts\outstand.dat
Close file C:\PCCOMMON\ACCOUNTS\OUTSTAND.DAT opened
by HOSTEL(9.215)? y
Ok
Server>
```

## Closing a Session

To close a session, use the `CLOSE SESSION` command. When the VAXmate server closes a session, the VAXmate server closes any files currently open by the workstation. The VAXmate server does not notify the workstation that the session is being closed.

Use the `SHOW SESSIONS` command to list the sessions.

If you specify an asterisk (\*) with the `CLOSE SESSION` command, the VAXmate server closes all sessions. The VAXmate server prompts you for confirmation.

### *Format*

```
CLOSE SESSION nodename|/ID=identifier
```

### **Where:**

<code>nodename</code>	Is the DECnet node name (1 to 6 alphanumeric characters) of the workstation with the session to be closed.
<code>identifier</code>	Is the number of the session to be closed. To determine this number, use the <code>SHOW SESSION</code> command.

### *Example*

To close a session with a workstation called `HOSTEL`, enter:

```
Server> CLOSE SESSION HOSTEL
  Close session 0 with HOSTEL(9.215)   ? y
Ok

Server>
```

## Adding a Workstation to the Network Database

To add a workstation to the network database, use the `DEFINE NODE` command. For more information on all the steps for adding a user to the network, see Chapter 2.

You must define the new node on each server the workstation is to use.

There are two network databases:

- The permanent database stores all the DECnet node names and addresses on the VAXmate server hard disk.
- The volatile database stores only the DECnet node names and addresses marked MS-NET in memory.

If the VAXmate server no longer recognizes a node you defined, delete the node with the `CLEAR NODE` command and redefine it with the `DEFINE NODE` command.

If you attempt to define a node with a name or a number that is already recognized by the VAXmate server, the VAXmate server displays an informational message.

### *Format*

```
DEFINE NODE nodename area.node
```

### Where:

`nodename`

Is the unique DECnet node name (1 to 6 alphanumeric characters, including at least one alphabetic character) to be added.

If you are responsible for assigning DECnet node names and addresses for your network, use the `SHOW NODES` command to list the nodes defined on your network. Then, assign a DECnet node name and address that is unique to the list of known nodes.

If you are not responsible for assigning DECnet node names and addresses for your network, see the person in your organization who is responsible.

If either the DECnet node name or node address is already known to the VAXmate server, the VAXmate server displays a warning message.

area.node	Is a unique numeric identification of a specific node.
Where:	
area	Is a number in the range of 1 to 63. If you do not specify an area, the VAXmate server's area number is the default.
node	Is a number in the range of 1 to 1023.

*Example*

To add a node named ORION with a node address 9.15 to the network, enter:

```
Server>DEFINE NODE ORION 9.15
```

```
Server>
```

## Getting Help

To display a list of the information you can obtain, use the **HELP** command.

### *Format*

HELP

### *Example*

To display a list of the information you can obtain, enter:

```
Server> HELP
```

Information is available on the following VAXmate Server commands:

ACCEPT	CLEAR	CLOSE	DEFINE	ECHO	HELP
LOCK	PRINT	REDIRECTOR	REFUSE	REMARK	SERVER
SHARE	SHOW	SHUTDOWN	STATUS	STOP	UNLOCK
VERSION					

and the following network topics:

Connection	Network Database	Redirector
Server	Session	Spool Directory
Troubleshooting	Workstation Registration	

For additional help, enter **HELP** followed by one of the above topics.

```
Server>
```

## Locking the VAXmate Server Commands

To restrict the VAXmate server to a limited group of VAXmate server commands, use the LOCK command. This prevents unauthorized individuals from entering VAXmate server commands.

The VAXmate server prompts you for a password that can be a combination of letters and numbers (maximum of 16). While the LOCK command is in effect, the Ctrl/Alt/Del key combination does not work.

Use the UNLOCK command to remove the restrictions placed on the number of VAXmate server commands that can be used.

### *Format*

LOCK [level]

### Where:

level Is a number that indicates the restriction level (1 to 3) placed on the lock. The default is level 3. The following list identifies the commands you can use with each level:

Level 1	HELP	SHOW CONFIGURATION
	PRINT	SHOW CONNECTIONS
	PRINT CANCEL	SHOW COUNTERS
	PRINT KILL	SHOW FILES
	PRINT OFF	SHOW LOG
	PRINT ON	SHOW NODE
	PRINT RESET	SHOW SESSIONS
	PRINT RESTART	SHOW STATUS
	PRINT SEPARATOR	SHOW VERSION
	PRINT SETUP	UNLOCK
	REMARK	
Level 2	HELP	SHOW FILES
	PRINT	SHOW NODE
	REMARK	SHOW SESSIONS
	SHOW CONFIGURATION	SHOW STATUS

### 3-14 VAXmate Server Commands

	SHOW CONNECTIONS	SHOW VERSION
	SHOW COUNTERS	UNLOCK
Level 3	REMARK	UNLOCK
	SHOW VERSION	ECHO

#### *Example*

To restrict the VAXmate server commands with a password, enter:

```
Server> LOCK
Password for LOCK:
Confirm:
Console locked at level 3
```

```
Server>
```

If you try to enter another command, such as the SHARE command, the VAXmate server displays:

```
Server> SHARE printer /D
Command is restricted
Server>
```

You must unlock the VAXmate server by entering the UNLOCK command and entering the password.

## Starting the VAXmate Server

If you installed the VAXmate server with the INSTALL program, the VAXmate server starts automatically every time you turn it on. To restart the VAXmate server after using a STOP or SHUTDOWN command, enter SERVE at the MS-DOS operating system prompt. This invokes the SERVE batch file that was tailored for you by the INSTALL program to start the VAXmate server with the appropriate settings and initialization file.

You can also start the VAXmate server with the NET START SERVER or NET START SRV command at the MS-DOS operating system prompt. The NET START SERVER command does not start your VAXmate server with all the defaults set during the installation of the VAXmate server.

The Server> prompt indicates the VAXmate server is running and users can access the VAXmate server's shared resources. Therefore, once you start the VAXmate server, you should leave it running.

To use MS-DOS operating system commands on the VAXmate server, you must stop the VAXmate server with the STOP or SHUTDOWN command. However, you can perform most MS-DOS operations for the VAXmate server from a workstation. For more information on stopping the VAXmate server, see the STOP or SHUTDOWN command in this chapter.

The MSNET.INI file in the DECNET directory contains configuration qualifiers that create your network environment.

You can override the values by entering new qualifiers on the NET START SERVER command in the SERVE.BAT file in the DECNET directory.

For more information on the MSNET.INI file qualifiers, see Chapter 4.

### 3-16 VAXmate Server Commands

#### *Format*

NET START SERVER

#### *Example*

To restart the VAXmate server with the SERVE batch file, enter:

```
C:\> SERVE
```

```
C:\> NET START SERVER /O:32 /N:16 /C:80 /I:C:\DECNET\SERVER.INI  
/S:C:\SPOOL
```

```
Network Kernel Version V2.1.0
```

```
Datalink Version V1.19 Startup Version V2.1.0
```

```
DECnet DNP Version V2.1.03
```

```
NETbios/DECnet Session Version V2.2.0
```

```
PSPRINT v2.2.0
```

```
MS-DOS Server for VAXmate, Version 2.2
```

```
Copyright (C) 1985-1989 by Digital Equipment Corporation
```

```
(C) 1984-1988 by Microsoft Corporation
```

```
Configuration:
```

Buffer size	4096
# buffers	32
# sessions	16
# connections	80
# files	48
# offers	32
# locks	50

```
Using default Network Database: \DECNET\DECNODE.DAT
```

```
Reading command file 'C:\DECNET\SERVER.INI'...
```

```
Ok
```

```
Ok
```

```
Ok
```

```
Ok
```

```
Server's net name is SERVER(1.1)
```

```
Server>
```

## Checking the Print Queue

To display the names of the files in the print queue, use the PRINT command. Use this command to determine where a file is in the print queue, or to check the name of a file you want to remove from the print queue.

If you have more than one printer connected to the VAXmate server, the VAXmate server PRINT command affects the printer currently operating.

The following information is displayed from left to right:

- The spool file name assigned to the print job by the VAXmate server
- The printer name
- The DECnet node name of the workstation that requested the print job
- The size of the file in bytes
- The first few words in the file

### *Format*

PRINT

### *Example*

To display the files in the print queue, enter:

```
Server> PRINT
Printer is on
```

```
Printer is busy
```

```
PQ001 (LPT2:) ERIS          13824 The following issue
PQ002 (LPT1:) BADGER       4420  Memo on the distrib
Server>
```



## Canceling a Print Job

To stop printing the current job and remove it from the queue, use the PRINT CANCEL command.

If you have more than one printer connected to the VAXmate server, the VAXmate server PRINT CANCEL command affects the printer currently operating.

### *Format*

PRINT CANCEL

### *Example*

To cancel the current print job, enter:

```
Server> PRINT CANCEL
  Canceling current print file
Ok
Server>
```

The message "File cancelled by operator" is printed on the print job.

## Removing a Print Job from the Print Queue

To remove a job from the print queue, use the PRINT KILL command.

### *Format*

```
PRINT KILL spoolname [, spoolname ...]
```

### *Where:*

**spoolname** Is the unique name assigned to the print job that you want to remove from the print queue. If you specify an asterisk (\*), the VAXmate server deletes all printer requests.

### *Example*

To delete a particular job from the print queue, find the spool file name by entering:

```
Server> PRINT
Printer is on

Printer is busy

PQ009 (LPT1:) LAVERN (1.9) 551 The following memo is
PQ010 (LPT1:) LAVERN (1.9) 635 In regards to your letter
Server>
```

To remove spool file name PQ010 from the print queue, enter:

```
Server> PRINT KILL PQ010
Spool file removed: C:\SPOOL\PQ010
Server>
```

## Stopping and Starting the Printer

To start a printer, use the PRINT ON command. To stop a printer after the current printing task has completed, use the PRINT OFF command.

If you have more than one printer connected to the VAXmate server, the VAXmate server PRINT ON and PRINT OFF commands affect all the printers.

Stopping the printers with the PRINT OFF command does not clear the print queues. Users can continue to place jobs in the printer spool directories, but the VAXmate server does not print them until you enter a PRINT ON command.

To stop users from entering print jobs, use the SHARE command with the /D qualifier to remove access to the shared printer. When you remove access to a resource on the VAXmate server, the VAXmate server tells you whether workstations are currently using the resource. You can remove the resource, which disconnects any workstations currently using the resource, or try again later.

To see if the printers are on, enter the PRINT command with no parameters.

### *Format*

```
PRINT [ON|OFF]
```

### *Example*

To stop the printers, enter:

```
Server> PRINT OFF
Printer off
Server>
```

To start the printers, enter:

```
Server> PRINT ON
Printer on
Server>
```

## Setting the Printer Initialization Mode

To set the normal printer mode of operation, use the `PRINT RESET` command. Use this command when you initially connect your printers to the network. You should add this command to the `SERVER.INI` initialization file in the `DECNET` directory. The `INSTALL` program created the `SERVER.INI` initialization file when you installed the VAXmate server.

Because the `PRINT SETUP` command can change the printer mode of operation, the printers must be reinitialized to their normal mode of operation after each print job. The VAXmate server sends the `PRINT RESET` command to the printers automatically after each print job is completed.

If you do not specify a parameter with the `PRINT RESET` command, the VAXmate server displays the current mode for each printer.

### *Format*

```
PRINT RESET [printer setup-string]
```

**printer** Is a valid printer name (LPT1:, LPT2:, or LPT3:) that you want to initialize.

**setup-string** Is the printer set-up string that changes the settings of the printer. Enclose the printer set-up strings in double quotation marks.

See your printer documentation for a description of the printer set-up strings for your particular printer. If the character can be displayed, use the character. If the character cannot be displayed, find the ASCII value of the character from the ASCII chart in Appendix A. Enter the decimal ASCII value after a backslash (\). The most common character that cannot be displayed in printer set-up strings is the escape character (decimal value of 27), represented as \27.

### *Example*

To reset the LPT1: printer to DIGITAL printer mode, enter:

```
Server> PRINT RESET LPT1: "\27[?581"  
Ok  
Server>
```

## Restarting a Print Job

To stop the print job currently printing and restart it, use the PRINT RESTART command. This command is useful for reprinting a job after fixing a problem with the printer.

If you have more than one printer connected to the VAXmate server, the VAXmate server PRINT RESTART command affects the printer currently operating.

### *Format*

```
PRINT RESTART
```

### *Example*

To restart printing the job currently printing, enter:

```
Server> PRINT RESTART
  Canceling current print file
  Restarting printer
Server>
```

The message "File cancelled by operator" is printed on the cancelled print job.

## Separating Print Jobs

To print a separator page between each print job, use the PRINT SEPARATOR ON command. The default is to print a separator page. To stop printing a separator page, use the PRINT SEPARATOR OFF command.

If you have more than one printer connected to the VAXmate server, the VAXmate server PRINT SEPARATOR command affects the printer currently operating.

If you do not specify a parameter with the PRINT SEPARATOR command, the VAXmate server displays a message indicating whether the print separator parameter is on or off.

The separator page contains the name of the workstation that requested the print job.

You should print a separator page to distinguish between the different print jobs.

### *Format*

```
PRINT SEPARATOR [ON|OFF]
```

### *Example*

To stop printing a separator page between print jobs, enter:

```
Server> PRINT SEPARATOR OFF  
Ok  
Server>
```

To start printing a separator page between print jobs, enter:

```
Server> PRINT SEPARATOR ON  
Ok  
Server>
```

## Changing the Printer Settings

To change your printer settings, use the PRINT SETUP command. A printer setting controls how a document is printed, such as the pitch.

If you do not specify a parameter with the PRINT SETUP command, the VAXmate server displays the current printer settings for each printer.

You can create a maximum of eight printer settings.

### *Format*

```
PRINT SETUP [alias setup-string]
```

### **Where:**

- |                     |   |
|---------------------|---|
| <b>alias</b>        | Is the alias of the printer you want to change.   |
| <b>setup-string</b> | <p>Is the printer set-up string that changes the settings of the printer. Enclose the printer set-up string in quotation marks. To delete an existing printer set-up string, use the alias with two quotation marks ("").</p> <p>See your printer documentation for a description of the printer set-up strings for your particular printer. If the character can be displayed, use the character. If the character cannot be displayed, find the ASCII value of the character from the ASCII chart located in Appendix A. Enter the decimal ASCII value after a backslash (\). The most common character that cannot be displayed in printer set-up strings is the escape character (decimal value of 27, represented as \27).</p> |

*Example*

If you have the LA75 Companion printer, you can emulate the DIGITAL printer mode or the Proprinter mode. Use two set-up strings to identify the two different settings.

To share the LA75 Companion printer, enter:

```
Server>SHARE LA75=LPT1:  
Ok  
Server>SHARE INDSTD=LPT1:  
Ok  
Server>
```

To emulate the DIGITAL printer mode, enter:

```
Server>PRINT SETUP LA75 "\27[?581"  
Ok  
Server>
```

To emulate the Proprinter mode, enter:

```
Server>PRINT SETUP INDSTD "\27[?58h"  
Ok  
Server>
```

If a user uses the LA75 alias, the LA75 Companion printer emulates the DIGITAL printer mode. If a user uses the INDSTD alias, the LA75 Companion printer emulates the Proprinter mode.

## Refusing Connections

To refuse subsequent connections to the VAXmate server, use the REFUSE CONNECTIONS command. Existing connections and their respective sessions remain intact. When the VAXmate server ends all sessions normally, the VAXmate server displays a message.

This command is useful for initiating an orderly stopping of the VAXmate server.

After all the sessions are closed normally, you can use the SHUTDOWN or STOP command to stop the VAXmate server.

You can use the ACCEPT CONNECTIONS command to accept connections to the VAXmate server after issuing the REFUSE CONNECTIONS command.

### *Format*

```
REFUSE CONNECTIONS
```

### *Example*

To refuse subsequent connections to the VAXmate server, enter:

```
Server> REFUSE CONNECTIONS
Ok
Server>
  All server connections have closed

Server>
```

## Refusing Unregistered Connections

To refuse subsequent connections to the VAXmate server by unregistered workstations, use the REFUSE UNREGISTERED command. Existing connections and their sessions remain intact. The VAXmate server considers a workstation to be registered if the workstation's DECnet node name and node address are in the network database.

The default is to refuse connections from unregistered workstations.

### *Format*

```
REFUSE UNREGISTERED
```

### *Example*

To refuse subsequent connections to the VAXmate server by unregistered workstations, enter:

```
Server> REFUSE UNREGISTERED
Ok
Server>
```

## Sharing Resources

Use the SHARE command to:

- Share resources on the VAXmate server with workstations
- Remove resources on the VAXmate server
- Find information about shared resources

To share a directory or a printer with the users, use the SHARE command on the VAXmate server. The SHARE command qualifiers control which users can access a directory and the type of access granted.

You can share one or more printers connected to a VAXmate server. When a workstation executes a network PRINT command, the VAXmate server transfers a copy of the file to be printed to the VAXmate server's printer spool directory. After the printer prints the file, the VAXmate server removes it from the printer spool directory. The group of files in the printer spool directory is known as the print queue.

To share the network resources automatically each time you start the VAXmate server, the INSTALL program created an initialization file of SHARE commands. The initialization file is called SERVER.INI in the DECNET directory. Use an editor to add any additional SHARE commands to this file.

You can use SHARE commands to restrict access to different levels of a directory structure. For example, you can share an entire directory structure with read permission, then share subdirectories individually with less restricted access. This is useful if you have a directory that contains information many users need to see, but only a few need to change.

You can also use the MS-DOS ATTRIB command to set file attributes. For more information on the ATTRIB command, see the *MS-DOS Reference Manual*.

You can use the SHARE command without any qualifiers or parameters to display information under the following headings:

Access/Status	Are the permissions for that directory (R for read, W for write, C for create). Three asterisks (***) indicate a printer.
Network Alias	Is the alias for the shared resource.

- Path** Is the drive and complete path name of the shared resource. A series of dots (...) display when the complete path name of the file is too long to be displayed.
- Workstations** Are the DECnet node names and addresses of the workstations using the resource. If the workstation name is not known to the server, only the node address is displayed.

**Format**

```
SHARE [alias=drv:pathname [password] [/permissions] [/U:n]]
SHARE [alias=printer [password] [/U:n]]
SHARE [alias /D]
```

**Where:**

- alias** Is a name representing the drive and path name of the shared resource. It can be any combination of letters and numbers (maximum of 16). Using an alias to refer to a resource lets you change the location of a shared resource without affecting the workstations.
- drv:pathname** Is the drive and path name of the directory being shared, 64 characters maximum.
- password** Is any combination of letters and numbers (maximum of 16) that allows access to files in a protected directory. You cannot use spaces in passwords. If you specify an asterisk (\*), the VAXmate server prompts you for the password when you share the resource. Using an asterisk prevents the password from being seen on the screen.
- /permissions** Controls the user's ability to modify or create files in the directory. If you do not specify any permissions, the VAXmate server grants read, write, and create permissions. A slash (/) with any combination of the following letters creates the following permissions on the shared directory:
- R** Read permission lets the user read and copy files in that directory.
  - W** Write permission lets the user change the files in that directory. Combine write permission with read permission.
  - C** Create permission lets the user create files in the shared directory.

- /U:n** Restricts access to the shared resource to a specified number of workstations (1 to 30) at a time. After n workstations are connected, the VAXmate server denies subsequent requests until one or more workstations disconnect from the resource. This parameter is useful for limiting the number of workstations using an application with licensing restrictions. Place this application in a separate directory so you do not limit access to other applications contained in the same directory.
- printer** Is any valid printer (LPT1:, LPT2:, or LPT3:).
- /D** Removes access to the specified resource from users on the network. When you remove access to a resource, the VAXmate server tells you whether there are workstations currently using the resource. You can remove the resource, which disconnects any workstations currently using the resource, or try again later.

*Example 1*

To display the shared resources, enter:

```
Server> SHARE
```

Access/ Status	Network Alias	MS-DOS Path	Workstations
RWC	CROOT	C:\	
***	LPT1		
R--	APP	C:\APP	
RWC	APPW	C:\APP	
RWC	PCCOMMON		
C:\PCCOMMON			

```
Server>
```

*Example 2*

To share a directory PCCOMMON\ACCOUNTS on drive C of the VAXmate server for reading only, enter:

```
Server> SHARE ACCOUNTS=C:\PCCOMMON\ACCOUNTS /R
Ok
Server>
```

The users who want to access this directory refer to it as ACCOUNTS rather than entering the complete path name in the NET USE command.

*Example 3*

To share the printer called LPT1:, enter:

```
Server> SHARE PRINTER=LPT1:
Ok
Server>
```

The users who want to use the printer refer to it as PRINTER in their NET USE command.

*Example 4*

To limit the number of users using a particular resource to one user, for example, a directory that contains the MULTIPLN software package, enter:

```
Server>SHARE MP=C:\MULTIPLN /U:1
Ok
Server>
```

Only one user can use the MULTIPLN directory at a time.

*Example 5*

To share the same directory for different permissions, use different aliases. For example, to share a directory APP on drive C of the VAXmate server once for only reading files, and again for reading, writing, and creating files, enter:

```
Server> SHARE APP=C:\APP /R
Ok
Server> SHARE APPW=C:\APP MAINTAIN
Ok
Server>
```

The users who use the APP alias can read files in the APP directory. The users who use the APPW alias and know the password MAINTAIN, can read, write, and create files in the APP directory.

*Example 6*

To remove access to the directory PCCOMMON\ACCOUNTS that has an ACCOUNTS alias, enter:

```
Server> SHARE ACCOUNTS /D  
Ok  
Server>
```

Users can no longer access the PCCOMMON\ACCOUNTS directory on the network.

## Displaying the VAXmate Server Configuration

To display the current VAXmate server configuration, use the SHOW CONFIGURATION command.

### *Format*

```
SHOW CONFIGURATION
```

### *Example*

To display the current VAXmate server configuration, enter:

```
Server> SHOW CONFIGURATION
Printer driver is installed
Print spool directory is C:\SPOOL
Config: Buffer Size 4096      # Buffers 32      # Sessions 16
        # Connections 80    # Files 48       # Offers 32
        # Locks 50
```

```
Server>
```

## Displaying a List of the Connected Workstations

To display a list of connections to the VAXmate server, use the SHOW CONNECTIONS command. This command displays:

- The unique connection identifier
- The workstation's DECnet node name and node address
- The session number of the workstation
- The path name of the resource

A workstation is displayed more than once if it is connected to more than one resource on the VAXmate server.

### *Format*

SHOW CONNECTIONS

### *Example*

To display a list of connections to the VAXmate server, enter:

```
Server> SHOW CONNECTIONS
Conn      MS-DOS      Network
id        Workstation  Session    Path        Alias
-----
1         ATHENA(9.27)  0         C:\PCCOMMON\  COMMON
2         ATHENA(9.27)  0         C:\APP\        APP
```

Server>

## Displaying the Counter Values

To display the values of various counters maintained by the underlying layers of the network, use the `SHOW COUNTERS` command. These values include:

Collisions	The number of times packets of data collide while being sent over the network.
Retransmissions	The number of times a packet of data is retransmitted over the network due to a collision.
Abandoned Transmissions	The number of times a transmission of a packet of data is discontinued because it is rejected too many times.
Packets Sent	The number of packets of data successfully transmitted over the network.
Packets Received	The number of packets of data successfully received over the network.

These values are the same as displayed by the DECnet Network Control Program (NCP). This command is useful for checking the network without stopping the VAXmate server to use (NCP). For more information about how the network is functioning, use the Network Control Program (NCP). For more information about NCP, see the *DECnet-DOS Network Management Guide*.

### *Format*

```
SHOW COUNTERS
```

### *Example*

To display the counter values, enter:

```
Server> SHOW COUNTERS
Collisions:                4
Retransmissions:          0
Abandoned Transmissions:  0
Packets Sent:              1378
Packets Received:         12225
Server>
```

## Displaying File Status Information

Use the SHOW FILES command to display:

- The file identification numbers (unique number assigned to the open file)
- The open files
- The workstations with the open files
- The number of byte range locks placed on the files by the workstation

If you do not specify a parameter with the SHOW FILES command, the VAXmate server displays the status for all open files.

A series of dots (...) displays when the complete path name of the file is too long to be displayed.

### *Format*

```
SHOW FILES [drv:pathname]
```

### **Where:**

**drv:pathname**            Is the path name of the file for which you want to obtain information.

### *Example*

To display file status information, enter:

```
Server> SHOW FILES
File id  Name of Open File                Workstation  Locks
-----
   1      C:\APP\INFOUSER.C01                ZEPHYR(9.15)  0
   2      C:\APP\INFOUSER.I01                ZEPHYR(9.15)  0
```

```
Server>
```

## Displaying the Status of the Session Layer

To display the current status of the session layer, use the **SHOW LINKS** command. This information is useful when developing networking applications.

The **SHOW LINKS** command displays the following information:

- The number of active sessions
- The number of pending “receive datagram” commands
- The number of pending “receive any” commands
- A table of session information including:

- The local session number (LSN)

The local session number is the session number maintained by the session layer software. Do not confuse the local session number with the session numbers maintained by the VAXmate server (shown in the **SHOW SESSIONS** and **SHOW CONNECTIONS** commands). They are different.

- The state of the session:

<b>LISTEN</b>	(waiting for a connection)
<b>CALL</b>	(trying to make a connection)
<b>ACTIVE</b>	(established a connection)
<b>HANGUP</b>	(trying to close a connection)
<b>CLOSED</b>	(closed a connection)
<b>ABORTED</b>	(closed a connection abnormally)

- The number of pending receive and transmit packets of data
- The workstation name
- The server name

The VAXmate server may not contain enough memory to include all the session information. If this happens, the VAXmate server displays a message that not all of the session data is displayed.

### *Format*

**SHOW LINKS**

### 3-38 VAXmate Server Commands

#### *Example*

To display information about the current status of the session layer, enter:

```
Server> SHOW LINKS
```

```
Number of sessions: 1
```

```
Pending Receive Datagrams: 0    Pending Receive Any: 0
```

LSN	State	Pending Receives	Pending Transmits	Workstation	Server Name
2	Active	1	0	HOSTEL	LAVERN

```
Server>
```

## Displaying the Event Log

To display a list of the 20 most recent messages contained in the event log, use the SHOW LOG command. The log file is a record of events that occurred on the network. After you enter this command, the VAXmate server clears the messages from the log file.

For a description of the messages, see Chapter 5.

### *Format*

```
SHOW LOG
```

### *Example*

To display the event log, enter:

```
Server> SHOW LOG
```

```
Event Log:
```

```
-----  
09:44:20 Gorgon Net error: No resources available  
09:53:01 R2D2 Net error: Session ended abnormally  
09:53:01 IBEX(9.252) [Receive]  
Net error: Session ended abnormally
```

```
Server>
```

## Displaying Information About Nodes

To display information about a particular node, use the `SHOW NODE` command. The VAXmate server searches the network database for the corresponding DECnet node name or node address.

There are two network databases:

- The permanent database stores all the DECnet node names and addresses on the VAXmate server hard disk.
- The volatile database stores only the MS-NET marked DECnet node names and addresses in memory.

If you specify an asterisk (\*), the VAXmate server displays the DECnet node name and address for all known nodes.

### Format

```
SHOW NODE nodename|nodeaddress
```

### Where:

<b>nodename</b>	Is the DECnet node name (1 to 6 alphanumeric characters) of the desired node.
<b>nodeaddress</b>	Is a unique numeric identification of a specific node. The node's address includes an area and node in the form area.node. See the section on <code>DEFINE NODE</code> for an explanation of area.node.

### Example

To display the DECnet node names and addresses of the known nodes, enter:

```
Server> SHOW NODE *
Node Name          Flags          Database
-----
VIKING(9.5)        MS-NET LAT    PERM VOL
CAJUN(9.214)       MS-NET        PERM VOL
LAVERN(9.281)     MS-NET        PERM VOL
AMUN(9.587)       MS-NET        PERM VOL
ARENA(9.213)      VOL           VOL
Server>
```

## Displaying the Current Sessions

To display information about the session layer, use the **SHOW SESSIONS** command. The following information displays:

- Local session number
- Session state:
  - ACTIVE (active)
  - ENDING (terminating)
  - LISTEN (waiting for a server connection)
  - SWSBUF (waiting for a send buffer)
- Number of connections made by a workstation
- Current operation in progress for that session:
  - Badcmd (processing an invalid command)
  - Check path (checking a directory path)
  - Close file (closing a file)
  - Close spool (closing a printer spool file)
  - Connect (establishing a connection)
  - Create dir (creating a directory)
  - Create file (creating a file)
  - Create new (making a new file)
  - Create temp (making a temporary file)
  - Del dir (deleting a directory)
  - Del file (deleting a file)
  - Disconnect (disconnecting a connection)
  - Disk attrib (determining the disk attributes)
  - Extended (using an extended protocol function)
  - Flush file (writing the buffer to a file)
  - Get attrib (determining file attributes)
  - Get queue (examining the printer queue)
  - Idle (waiting for the next request)
  - Lock bytes (locking a byte range lock within a file)

Negotiate	(negotiating the protocol)
Open file	(opening a file)
Open spool	(opening a printer spool file)
Process exit	(processing a workstation exit)
Read file	(reading from a file)
Rename file	(renaming a file)
Search dir	(searching a directory)
Seek in file	(positioning a file pointer)
Set attrib	(setting file attribute)
Unlock bytes	(unlocking a byte range lock within a file)
Write file	(writing to a file)
Write spool	(writing to the printer spool file)

- Workstation's DECnet node name and node address

### *Format*

SHOW SESSIONS

### *Example*

To display information about the current sessions, enter:

```
Server> SHOW SESSIONS
Sess  State  Nconn  Command          Workstation
-----
  1    ACTIVE  2      Idle             INEZ(9.34)
  2    SWSBUF  1      Create file      ZEPHYR(9.15)
  4    ENDING  0      Disconnect       ATHENA(9.27)
Pending session requests: 2
Server>
```

## Displaying the Status of the Network

To display the status of the network, use the `SHOW STATUS` command. The following information displays:

- The directories currently shared, their aliases, path names, and permissions
- The VAXmate server's DECnet node name and node address
- The spool file names to be printed
- The files currently being sent to the printer
- The number of workstations accessing a directory
- The name of the printer spool directory
- The overall state of the network including file usage statistics:
  - Buffer size
  - Maximum number of buffers
  - Maximum number of sessions
  - Maximum number of connections
  - Maximum number of files that can be in use by workstations at the same time
  - Maximum number of VAXmate server shared resources
  - Number of byte range locks
  - Number of open files

A series of dots (...) displays when the complete path name of the file is too long to be displayed.

### *Format*

`SHOW STATUS`

### 3-44 VAXmate Server Commands

#### *Example*

To display the status, enter:

```
Server> SHOW STATUS
```

```
19:23:04
```

```
Server's net name is JSTRAW(9.885)
```

```
Access is restricted to registered users
```

```
Printer driver is installed
```

```
Print spool directory is C:\SPOOL
```

```
Config: Buffer Size 4096      # Buffers 32      # Sessions 16
```

```
      # Connections 80      # Files 48      # Offers 32
```

```
      # Locks 50
```

```
Print queue = <PQ001 (LPT1)>
```

```
Open spool files = <>
```

```
Number of open files: 2
```

```
Pending session requests: 0
```

Shared Resources:

Access/ Status	Network Alias	MS-DOS Path	Workstations
RWC	CROOT	C:\	ARENA(9.213)
R--	APP	C:\APP	
RWC	APPW	C:\APP	ARENA(9.213)
RWC	PCCOMMON	C:\PCCOMMON	ARENA(9.213)
***	LA75	LPT1:	ARENA(9.213)

```
Server>
```

## Displaying the Version of the VAXmate Server Software

To display the version of the VAXmate server software, use the SHOW VERSION command.

### *Format*

```
SHOW VERSION
```

### *Example*

To display the version of the VAXmate server software, enter:

```
Server> SHOW VERSION
MS-DOS Server for VAXmate, Version V2.2
Copyright (C) 1985-1989 by Digital Equipment Corporation
          (C) 1984-1988 by Microsoft Corporation
Server>
```

## Stopping the VAXmate Server

To stop the VAXmate server, use the STOP or SHUTDOWN command. The STOP and SHUTDOWN commands are equivalent.

You should use a REFUSE CONNECTIONS command and wait until all VAXmate server connections are closed normally before using a STOP or SHUTDOWN command.

If there are active sessions when you enter the STOP or SHUTDOWN command, the VAXmate server notifies you and prompts you to continue shutdown. If you answer "yes," the VAXmate server ends all sessions without notifying the users. If you answer "no," the VAXmate server does not stop.

To restart the VAXmate server, enter SERVE at the MS-DOS operating system prompt. SERVE is a batch file created by the INSTALL program that restarts the VAXmate server with the appropriate network settings and initialization file.

### *Format*

```
STOP  
SHUTDOWN
```

### *Example*

To stop the VAXmate server, enter:

```
Server> STOP  
Server> Shutdown pending  
Server shutting down  
Command completed successfully.
```

```
C:\>
```

If you stop the VAXmate server while one workstation is connected, the following messages display:

```
Server> STOP
There is 1 active session
Shutdown will close all sessions.
Continue shutdown? y
Server> Shutdown pending
  Server shutting down
Command completed successfully.
```

```
C:\>
```

## Unlocking the VAXmate Server Commands

To remove the restriction placed on the number of VAXmate server commands that can be used, use the UNLOCK command. The VAXmate server prompts you for the password used to lock the VAXmate server.

### *Format*

UNLOCK

### *Example*

If you lock the VAXmate server by entering the LOCK command and entering a password, the VAXmate server displays:

```
Server> LOCK
Password for LOCK:
Confirm:
Console locked at level 3
```

Server>

If you try to enter another command, such as the SHARE command, the VAXmate server displays:

```
Server> SHARE printer /D
Command is restricted
Server>
```

You must unlock the VAXmate server by entering the UNLOCK command and entering the password. The VAXmate server displays:

```
Server> UNLOCK
Password for UNLOCK:
Console is now unlocked
```

Server>

# 4

## VAXmate Server Configuration

---

This chapter describes the VAXmate server portion of the MSNET.INI file and explains how that file changes the configuration of the VAXmate server.

The MSNET.INI file lists the actions that perform the functions requested with NET commands. When you enter a NET command, the VAXmate server searches the MSNET.INI file for the NET command and performs the actions listed beneath that command.

You can override the configuration qualifiers in the MSNET.INI file by adding the desired qualifiers to the NET START SERVER command in the SERVE.BAT file in the DECNET directory.

### NOTE

You can only override qualifiers already specified in the MSNET.INI file. Any changes made to the MSNET.INI file do not take effect until the VAXmate server is restarted.

The MSNET.INI file sets qualifiers that configure the network. The best settings for these qualifiers vary with each network. For example, if you have a small network where few workstations are connected at one time, you can configure your network so that most memory is available in a few large buffers for fast performance. If you have a large network with many workstations, you should have a large number of smaller buffers.

## Net Start Server Command

When you start the VAXmate server, the SCH, DLL, DNP, SESSION, SHARE, PSPRINT, and SERVER programs execute.

The following portion of the MSNET.INI file starts the VAXmate server:

```
start server
start srv
  sch
  dll /irq:5 /t:2
  dnp
  session /msn:-1 /rem:1 /nbs:-1 /cmd:-1 /lan:-1 /nam:-1
  m:e /i2a:-1

  \netrun share /f:7500
  \netrun psprint
  server /*
```

### Where:

SCH	Starts the network scheduler that manages the priorities for network processes.
DLL	Starts the data link layer that passes messages between the physical machine and the transport layer.
DNP	Starts the transport (DECnet) layer.
SESSION	Starts the session layer that passes messages from the VAXmate server to the DECnet transport layer.
SHARE	Starts the MS-DOS program that allows file sharing. For more information on the MS-DOS SHARE program, see the <i>MS-DOS Reference Manual</i> .
PSPRINT	Starts the program that manages the VAXmate server printers.
SERVER	Starts the VAXmate server that provides network resources to workstations.

The \netrun command places that program into a reserved area of memory (DIGITAL private RAM) so more memory is available for running applications. An asterisk qualifier (/\*) means the default value for each qualifier is used. See the individual server line qualifiers for their default values.

## Location of Network Database

If you do not want to use the default path (C:\DECNET) for the network database and help files, you need to specify the new drive and path name on the DLL line in the MSNET.INI file. The format for specifying a new path is:

```
DLL [drv:\pathname]
```

## SERVER Line Qualifiers

If you do not want to use the default VAXmate server configuration, you can set SERVER line qualifiers.

However, the network system has inherent limits to the configurations it can support, because the memory available for the VAXmate server configuration is fixed. If you set any qualifiers to levels the VAXmate server cannot support, the VAXmate server automatically adjusts all the qualifiers to create an acceptable configuration.

The SERVER line qualifiers specify:

- The printer spool directory
- The maximum number of connections to the VAXmate server
- The maximum number of sessions to the VAXmate server
- The number of shared resources permitted on the VAXmate server
- The number of byte range locks on all the open files
- An initialization file that is read whenever the VAXmate server is started — the default is the \DECNET\SERVER.INI file
- The buffer size used for each workstation connected to the VAXmate server
- The number of VAXmate server files that can be used at the same time

#### 4-4 VAXmate Server Configuration

The qualifiers can be in any combination and order, but they must be on the **SERVER** line. See Appendix B for a table of VAXmate server qualifier ranges. The **SERVER** line has the following format:

```
SERVER [/S:spooldir] [/C:connections] [/N:sessions] [/O:shares]  
      [/L:locks] [/I:filename] [/MB:bufferize] [/X:files]
```

##### Where:

- /S:spooldir** Is the drive and path name of the printer spool directory. If you do not specify the **/S** qualifier, the VAXmate server assumes **\SPOOL** is the printer spool directory.
- /C:connections** Is the maximum number of connections (8 to 200) to the VAXmate server. The default is two times the number of sessions. The connection qualifier specifies how many VAXmate server resources can be used at one time. Each workstation can use more than one of that VAXmate server's resources simultaneously. A connection is created each time a workstation connects to a VAXmate server with a **NET USE** command.
- /N:sessions** Is the maximum number of sessions (1 to 30) to the VAXmate server. A session is created when a workstation connects to a VAXmate server for the first time with a **NET USE** command. The default number of sessions is 16. You should permit a number that is at least as large as the number of workstations that use the VAXmate server at the same time.
- If you change the number of sessions, you must also issue the following DECnet Network Control Program (NCP) command:
- ```
DEFINE EXECUTOR MAXIMUM LINKS number
```
- Number is one greater than the number of sessions you specified in the **/N** qualifier. Be sure to reset the VAXmate server after issuing this NCP command. For more information on NCP, see the *DECnet-DOS Network Management Guide*.
- /O:shares** Is the number of shared resources (1 to 100) the VAXmate server can offer at one time. The default is 12.

- /L:locks** Is the maximum number of byte range locks that all the open files can have at one time. An application places a byte range lock on a portion of a file, which prevents access to that data while it is being used. The minimum is one, and the maximum is limited by available memory. The default is 50.
- /I:filename** Is an initialization file containing VAXmate server commands. It is read whenever the VAXmate server is started. The INSTALL program created the SERVER.INI initialization file in the DECNET directory. The default is SERVER.INI.
- /MB:buffersize** Is the size of the buffers (200 to 4096 bytes) used for sending and receiving messages. The default is 4096 bytes.
- /X:files** Is the number of VAXmate server files that can be open at the same time. This value should not exceed the FILES command in the MS-DOS operating system CONFIG.SYS file, which should be FILES=255. The permitted number of open files does not affect the network's speed of operation. You probably do not need to change the /X qualifier unless each workstation on your network always has more than three files open at the same time.

## Allocating Memory

Your network software allocates the VAXmate server's memory to provide fast service within some built-in guidelines. You can override these guidelines (using the /N and /MB qualifiers) to increase the number of workstations that can use the network simultaneously, or to increase the buffer size to speed operations.

As data passes to and from the VAXmate server, the VAXmate server temporarily stores it in a buffer. Each session has at least one buffer. You can specify the size of the buffers in bytes with the /MB qualifier. Larger buffers mean faster operation, because the VAXmate server transfers data in larger chunks.

When you use the /N qualifier to specify the number of sessions, the VAXmate server tries to maintain one and a half buffers for each session. If the server does not have enough memory to support this, the program either decreases the size of the buffers (if the buffer size was not specified), or it decreases the number of buffers.

Due to memory limitations, you must make some configuration tradeoffs. For example, you cannot select the maximum values for each VAXmate server qualifier. The VAXmate server reconfigures as necessary to fit the available memory.

# 5

## VAXmate Server Messages

---

This chapter contains a list of VAXmate server messages that can be displayed. The message is printed first, followed by an explanation, and advice on how to take care of the problem.

### **NOTE**

If you are unfamiliar with any of the solutions required for these messages, refer to the appropriate person in your organization. Otherwise, DIGITAL offers training and consulting services that can aid you in solving these messages. See the Software Product Description for more information about the services that DIGITAL offers.

### **'Pathname' is not a complete pathname**

The path name you specified is not a complete MS-DOS path name. Try again with a complete path name.

### **Badly formed spool directory name: 'directory'**

You specified the printer spool directory incorrectly. Correct the drive and path name to the spool directory (the /S qualifier on the NET START SERVER line). The INSTALL program creates the C:\SPOOL directory and places the /S:C:\SPOOL qualifier on the NET START SERVER line in the C:\DECNET\SERVE.BAT file. For more information on the /S qualifier, see Chapter 4.

**[Cancelled]**

Either you pressed the ESC key, or the command you entered did not execute because the time allowed for execution of the command expired. Try entering the command again.

**Cannot share a SUBSTed drive**

You specified a drive that was directed to another drive with the MS-DOS SUBST command. Try again with the actual path name.

**Can't open address file: DECNODE.DAT**

When you tried to open the DECNODE.DAT file, the VAXmate server could not find the file. Check that the DECNODE.DAT file exists. You can create this file by using the VAXmate server DEFINE NODE command or the Network Control Program (NCP). See the *DECnet-DOS Network Management Guide* for more information on NCP.

**Can't open initialization file: 'filename'**

The initialization file you specified cannot be found. Check that the file exists. The INSTALL program creates an initialization file called SERVER.INI in the DECNET directory. If the initialization file is missing, create the file. If the initialization file exists, check the drive and path name specified in the NET START SERVER line (the /I qualifier) of the SERVE.BAT file. Specify the complete path name and check the spelling of the file name. For more information on the /I qualifier, see Chapter 4.

**Can't share 'resource'  
Device is redirected**

You are trying to share a resource that is not local to the VAXmate server. Make sure the resource you are trying to share is local to the VAXmate server.

**Duplicate alias and password: 'alias', 'password'**

You have already specified that alias and password combination. To display a list of existing aliases and their passwords, use the SHARE command. Enter another alias or password.

**Duplicate entry in session table**

The DECnet node name or address you entered already exists in the network database. To display a list of all the known node names and addresses, use the SHOW NODE \* command. Enter another node name and/or address that is unique.

**File access error in 'filename'**

A problem occurred while the system was trying to access the network database. Use the MS-DOS ATTRIB command to make sure the network database file (DECNODE.DAT) is not read-only. For more information on the ATTRIB command, see the *MS-DOS Reference Manual*. Try again.

**Illegal node name 'nodename'**

You entered an incorrect DECnet node name. To display a list of DECnet node names in the network database, use the SHOW NODE \* command. The DECnet node name must be a 1- to 6- alphanumeric character name, including at least one alphabetic character. Try again.

**Illegal password**

You entered a password longer than 16 characters. Try again with a password of the appropriate length.

**Illegal value for /U option**

You specified an invalid number in the /U qualifier when you tried to share a resource. The /U qualifier accepts numbers from 1 to 30. Try again using a valid number.

**Insufficient disk space: 'filename'**

There is not enough room on the disk to accommodate the process being performed on the specified file. Delete some files from the disk you are trying to access, and try again.

**Internal error 'number'**

An unusual network condition has occurred. If the problem persists, perform the network troubleshooting procedures in the *Network Troubleshooting Guide* documentation.

**Internal error 'number' in 'filename | operation'**

A problem occurred while using the network software. Retry. If the problem occurs again, restore the network database files (DECNODE.DAT, DECPARM.DAT, and SERVER.HLP) from a back-up copy. Make sure the files are not write protected.

### **Invalid alias or password**

You specified an alias or password that contains an invalid character in the SHARE command. Valid characters include A through Z, 0 through 9, caret (^), hyphen (-), underscore (\_), period (.), percent (%), ampersand (&), tilde (~), and dollar (\$). Try again with another alias or password.

### **Invalid displacement in 'seek' 'read' 'write'**

A problem occurred while using the network software. Try again. If the problem occurs again, restore the network database files

(DECNODE.DAT, DECPARM.DAT, and SERVER.HLP) from a back-up copy. Make sure the file is not write protected.

### **Invalid parameter specified**

Either the qualifiers you specified on the SERVER line of the SERVE.BAT or MSNET.INI file are incorrect or you specified an incorrect qualifier when you started the VAXmate server. Change the incorrect qualifiers and try again. For more information on the valid qualifiers for the SERVER line, see Chapter 4.

### **[Line too long — cancelled]**

You typed too many characters in the last command line. Enter a shorter command line.

### **Local name cannot be deleted**

You tried to delete your own DECnet node name. You cannot delete your own node name.

### **Missing command parameter(s) — Type HELP for help.**

You did not specify the parameter needed to perform the VAXmate server command. Type HELP to determine the missing parameter. Then enter the complete VAXmate server command.

### **Name or address in use:**

When you tried to add a new DECnet node name or address, the node name or address you specified already exists in the network database. To display a list of all the known node names and addresses, use the SHOW NODE \* command. Use another name or address.

### **Network initialization failure—the transport layer is not installed**

The transport layer is not installed. Check the MSNET.INI file to make sure you did not remove the command that starts the transport layer. For more information on the MSNET.INI file, see Chapter 4.

**Network initialization failure—unable to obtain local node information**

The network failed to start because the network software is unable to locate the necessary local node information. To make sure the executor state is ON, use the DECnet Network Control Program (NCP) SHOW EXEC CHARACTERISTICS command. For more information on NCP, see the *DECnet-DOS Network Management Guide*.

**Network not started**

You tried to start the VAXmate server without starting the other layers of the network software. To start the network, use the SERVE batch file.

**Network requires DOS 3.3**

You are trying to use the network with an incorrect version of the MS-DOS operating system. You must use the MS-DOS Version 3.3 operating system.

**No matching entry found  
No matching entry found in session table**

When using the SHOW NODE or CLEAR NODE command, the DECnet node name you specified is not in the network database. To make sure you have the correct DECnet node name, use the SHOW NODE \* command and try again.

**No open file found**

You tried to close a file that was not open. To display a list of open files, use the SHOW FILES command. Check to make sure you typed the correct file name.

**No session resources available**

The session layer is unable to process the command you entered. Try again later.

**No spool directory; can't share 'alias'**

The VAXmate server cannot offer printer spooling services unless it has a spool directory in which to place the printer files. Create a printer spool directory, and specify the printer spool directory with the /S qualifier in the NET START SERVER line of the SERVE.BAT file in the DECNET directory. For more information on the /S qualifier, see Chapter 4.

**No such connection**

The connection you specified in the CLOSE CONNECTION command does not exist. Check to make sure you specified the correct connection, and try again.

**No such file or directory: 'pathname'**

The network database or directory does not exist. If the missing file is SERVER.HLP, copy the file from the VAXmate Networks diskette to the DECNET directory on drive C of the VAXmate server. If the file is DECPARM.DAT, install the software again. If the file is DECNODE.DAT, create the DECNODE.DAT file with the DEFINE NODE command.

**No such resource shared**

You tried to remove a resource that has not been shared, or you tried to define a printer setup string for a nonexistent printer. Check the list of shared resources with the SHARE command or check that you specified the correct printer.

**Not enough memory for buffer structures**

**Not enough memory for buffers**

**Not enough memory for small send buffers**

**Not enough memory for tables**

When you started the VAXmate server, the memory was full. Either the machine the VAXmate server is on does not contain enough memory to operate as a VAXmate server, or you specified invalid qualifiers for the VAXmate server. Check the qualifiers on the NET START SERVER line of the SERVE.BAT file in the DECNET directory and change them as required. For more information on the SERVER line qualifiers, see Chapter 4.

**Number of sessions specified, x, is more than number of sessions actually available. The number of sessions available is y**

The number of maximum sessions, whether specified explicitly with the NET START SERVER command's /N: qualifier or implicitly using the default, is greater than the maximum number in the session layer. The server resets its internal number of maximum sessions to the smallest of the transport layer's number and the session layer's number. You can set the maximum number of sessions (which maps to the maximum number of links) with NCP.

**Out of memory in 'pathname'**

There is not enough room for the MS-DOS operating system to accommodate another open file. Try again later.

**Please be more specific:**

You did not enter enough characters of the VAXmate server command to identify the command. Try again by entering the complete VAXmate server command.

**Print queue full: can't restore all saved entries**

When the VAXmate server starts, the VAXmate server checks the printer spool directory for the saved print queue entries and enters them into the printer queue. However, there are too many entries to place in the printer queue. Resubmit the print jobs missing from the printer.

**Print setup table full**

You tried to maintain more than eight printer setup strings. To enter a new printer setup string, delete an existing printer setup string and enter the new printer setup string.

**Print spool directory not defined**

The printer spool directory you typed on the command line does not exist. Restart the VAXmate server with a valid printer spool directory. You can specify the printer spool directory with the /S qualifier on the NET START SERVER line of the SERVE.BAT file in the DECNET directory. For more information on the /S qualifier, see Chapter 4.

**Printer driver is not installed**

You started the network without installing the PSPRINT driver. To install the PSPRINT driver, use the SERVE batch file to start the network. You cannot share the printer until the PSPRINT driver is installed.

**Server: failure during initialization**

The VAXmate server failed to start. Either the VAXmate server start up configurations are incorrect, or you did not start the VAXmate server with the SERVE batch file or the NET START SERVER command.

**Server's network name is currently in use on another server**

If the server's node name is in use on another server, this message is displayed before the server exits. Each node must have a unique node name. Redefine the server's node name.

**Session layer version 2 required**

If a version 2 session layer is not loaded when the VAXmate sever starts, this message appears before the server exits. The VAXmate server requires version 2 of the session layer.

### **Session table full**

The volatile network database cannot accept any more database entries. Use the CLEAR NODE command to delete any DECnet node names that are no longer being used and try again.

### **SHARE is not installed**

When you started the VAXmate server, the SHARE program was not started. Stop the VAXmate server and restart the server with the SERVE batch file or the NET START SERVER command. For more information on the SHARE program, see Chapter 3.

### **Share table full**

The table containing the list of shared resources is full and cannot accept the new shared resource. To share more resources, stop the VAXmate server and reconfigure the VAXmate server. Reconfigure the server by increasing the number of resources you can share with the /O qualifier on the NET START SERVER line of the SERVE.BAT file. For more information on the /O qualifier, see Chapter 4.

### **Shared directory 'pathname' doesn't exist**

You specified an incorrect path name to share a resource. Try the command with a valid path name.

### **Spool directory 'pathname' does not exist**

The directory you specified as the printer spool directory (or the default printer spool directory, /SPOOL) does not exist. Create a printer spool directory with the MS-Windows Create Directory option or the MS-DOS MKDIR command. For more information on the spool directory, see Chapter 4.

### **Spool file not found: 'spool filename'**

The VAXmate server cannot find the printer file corresponding to a printer queue entry. Resubmit the print job.

### **Syntax error in command**

You specified the command incorrectly. Make sure you are using the correct format for the command, and try again. To display the format of each VAXmate server command, use the HELP command.

**Too many open files opening 'pathname'**

The VAXmate server has too many open files. Try again later.

**Too many successive net errors—server shutting down**

The VAXmate server has encountered too many network problems, so it is stopping. The VAXmate server displays the event log. Check the messages in the event log, and perform the network troubleshooting procedures described in the *DECnet-DOS Network Management Guide*.

**Unable to allocate net buffers**

The VAXmate server memory is full. Either the VAXmate server hardware does not contain enough memory to operate as a VAXmate server, or the workstation specified an invalid qualifier. Check the /MB and /S qualifiers on the SERVER line of the SERVE.BAT file or the MSNET.INI file in the DECNET directory. For more information on the /MB and /S qualifiers, see Chapter 4.

**Unexpected network response 'number'**

This message indicates an unusual network condition. If the problem persists, perform the network troubleshooting procedures described in the *DECnet-DOS Network Management Guide*.

**Unknown option 'qualifier'**

You specified an incorrect qualifier in the SERVER line of the SERVE.BAT file or the MSNET.INI file in the DECNET directory. Change the incorrect qualifier, and try again. For more information on the SERVER line qualifiers, see Chapter 4.

**Unknown protocol header: cmd 'number' on session 'number'**

A workstation is using the wrong protocol. For more information on the Server Message Block (SMB) protocol, see the *VAXmate Technical Reference Manual*.

**Unknown SMB command 'number' on session 'number'**

A workstation is using the wrong protocol. For more information on the Server Message Block (SMB) protocol, see the *VAXmate Technical Reference Manual*.

**Unrecognized command. Type HELP for assistance**

You typed a command the VAXmate server does not recognize. Check the command format to make sure you are correctly typing the command and try again.

**Using default network database: 'pathname'**

The VAXmate server cannot find the DECNODE.DAT file. You probably specified an incorrect path name for the DECNODE.DAT file. The default path name is \DECNET \DECNODE.DAT. For more information on the path name to the network database, see Chapter 4.

**Warning: Entry differs from permanent database**

This error occurs when you type in a node address or node name for a node that does not match any node stored in the permanent database. Retype the command with the correct node information.

**Warning: 'number' of 'total number' entries are shown**

There is insufficient memory to accommodate all the entries kept by the SHOW LINKS command. Therefore, only the specified number of the total number are displayed.

**Warning: 'pathname' is on removable media**

You are sharing a resource that is located on a diskette. This diskette must be in the diskette drive for that resource to be accessed. Sharing a resource located on a diskette is not a good practice.

**Warning: Printer driver not installed**

You tried to share a printer, but the printer driver PSPRINT is not installed. Make sure the PSPRINT line is in the SERVER portion of the MSNET.INI file. For more information on the MSNET.INI file, see Chapter 4.

**Warning: Receive completion signal on session 'number' for unexpected net operation 'number'**

This warning indicates an unusual network condition. If the problem persists, perform the network troubleshooting procedures found in the *DECnet-DOS Network Management Guide*.

**Warning: Send completion signal on session 'number' for unexpected net operation 'number'**

This warning indicates an unusual network condition. If the problem persists, perform the network troubleshooting procedures found in the *DECnet-DOS Network Management Guide*.

**Warning: Session 'number:' receive buffer completed with send still outstanding**

The network reissued a request. Such reissuing may occur with normal operation when the network is busy. The problem should disappear.

**Warning—Session can't open address file:  
C:\DECNET\DECNODE.DAT**

The DECNODE.DAT file could not be located. Either the path name to the DECNODE.DAT file is incorrect, or the DECNODE.DAT file does not exist. Correct the path name or create the DECNODE.DAT file. For more information on the path name to the network database, see Chapter 4.

**Warning—Session name/address table overflow**

There are more than 72 MS-NET node names or node addresses in the volatile database. Use the CLEAR NODE command to delete the MS-NET nodes that are no longer used. Then, use the DEFINE NODE command to add the new DECnet node names. See Chapter 3 for explanations of the CLEAR NODE and DEFINE NODE commands.

**Warning: Too many successive net errors  
Server is unable to listen for incoming requests**

A set number of successive listens failed. The server does not exit, because it can still service the existing connections. However, users cannot establish new sessions.



# A

## ASCII Character Chart

Figure A-1 ASCII Character Chart

| DEC | OCT | HEX | CHAR | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 000 | 000 | 000 | NUL  | 032 | 040 | 020 | SP   | 064 | 100 | 040 | @    | 096 | 140 | 060 |      |
| 001 | 001 | 001 | SOH  | 033 | 041 | 021 | !    | 065 | 101 | 041 | A    | 097 | 141 | 061 | a    |
| 002 | 002 | 002 | STX  | 034 | 042 | 022 | "    | 066 | 102 | 042 | B    | 098 | 142 | 062 | b    |
| 003 | 003 | 003 | ETX  | 035 | 043 | 023 | #    | 067 | 103 | 043 | C    | 099 | 143 | 063 | c    |
| 004 | 004 | 004 | EOT  | 036 | 044 | 024 | \$   | 068 | 104 | 044 | D    | 100 | 144 | 064 | d    |
| 005 | 005 | 005 | ENQ  | 037 | 045 | 025 | %    | 069 | 105 | 045 | E    | 101 | 145 | 065 | e    |
| 006 | 006 | 006 | ACK  | 038 | 046 | 026 | &    | 070 | 106 | 046 | F    | 102 | 146 | 066 | f    |
| 007 | 007 | 007 | BEL  | 039 | 047 | 027 | '    | 071 | 107 | 047 | G    | 103 | 147 | 067 | g    |
| 008 | 010 | 008 | BS   | 040 | 050 | 028 | (    | 072 | 110 | 048 | H    | 104 | 150 | 068 | h    |
| 009 | 011 | 009 | HT   | 041 | 051 | 029 | )    | 073 | 111 | 049 | I    | 105 | 151 | 069 | i    |
| 010 | 012 | 00A | NL   | 042 | 052 | 02A | *    | 074 | 112 | 04A | J    | 106 | 152 | 06A | j    |
| 011 | 013 | 00B | VT   | 043 | 053 | 02B | +    | 075 | 113 | 04B | K    | 107 | 153 | 06B | k    |
| 012 | 014 | 00C | NP   | 044 | 054 | 02C | ,    | 076 | 114 | 04C | L    | 108 | 154 | 06C | l    |
| 013 | 015 | 00D | CR   | 045 | 055 | 02D | -    | 077 | 115 | 04D | M    | 109 | 155 | 06D | m    |
| 014 | 016 | 00E | SO   | 046 | 056 | 02E | .    | 078 | 116 | 04E | N    | 110 | 156 | 06E | n    |
| 015 | 017 | 00F | SI   | 047 | 057 | 02F | /    | 079 | 117 | 04F | O    | 111 | 157 | 06F | o    |
| 016 | 020 | 010 | DLE  | 048 | 060 | 030 | 0    | 080 | 120 | 050 | P    | 112 | 160 | 070 | p    |
| 017 | 021 | 011 | DC1  | 049 | 061 | 031 | 1    | 081 | 121 | 051 | Q    | 113 | 161 | 071 | q    |
| 018 | 022 | 012 | DC2  | 050 | 062 | 032 | 2    | 082 | 122 | 052 | R    | 114 | 162 | 072 | r    |
| 019 | 023 | 013 | DC3  | 051 | 063 | 033 | 3    | 083 | 123 | 053 | S    | 115 | 163 | 073 | s    |
| 020 | 024 | 014 | DC4  | 052 | 064 | 034 | 4    | 084 | 124 | 054 | T    | 116 | 164 | 074 | t    |
| 021 | 025 | 015 | NAK  | 053 | 065 | 035 | 5    | 085 | 125 | 055 | U    | 117 | 165 | 075 | u    |
| 022 | 026 | 016 | SYN  | 054 | 066 | 036 | 6    | 086 | 126 | 056 | V    | 118 | 166 | 076 | v    |
| 023 | 027 | 017 | ETS  | 055 | 067 | 037 | 7    | 087 | 127 | 057 | W    | 119 | 167 | 077 | w    |
| 024 | 030 | 018 | CAN  | 056 | 070 | 038 | 8    | 088 | 130 | 058 | X    | 120 | 170 | 078 | x    |
| 025 | 031 | 019 | EM   | 057 | 071 | 039 | 9    | 089 | 131 | 059 | Y    | 121 | 171 | 079 | y    |
| 026 | 032 | 01A | SUB  | 058 | 072 | 03A | :    | 090 | 132 | 05A | Z    | 122 | 172 | 07A | z    |
| 027 | 033 | 01B | ESC  | 059 | 073 | 03B | ;    | 091 | 133 | 05B | [    | 123 | 173 | 07B |      |
| 028 | 034 | 01C | FS   | 060 | 074 | 03C | <    | 092 | 134 | 05C | \    | 124 | 174 | 07C |      |
| 029 | 035 | 01D | GS   | 061 | 075 | 03D | =    | 093 | 135 | 05D | ]    | 125 | 175 | 07D |      |
| 030 | 036 | 01E | RS   | 062 | 076 | 03E | >    | 094 | 136 | 05E | ^    | 126 | 176 | 07E | ~    |
| 031 | 037 | 01F | US   | 063 | 077 | 03F | ?    | 095 | 137 | 05F | _    | 127 | 177 | 07F | DEL  |

MR-2171-RA



# B

## VAXmate Server Qualifier Ranges

---

Table B-1 shows server defaults and min/max configuration qualifiers.

**Table B-1 VAXmate Server Qualifier Values**

| Parameter                          | Default      | Min | Max  |
|------------------------------------|--------------|-----|------|
| alias                              | -            | -   | 16†  |
| area                               | -            | 1   | 63   |
| buffersize (/MB)                   | 4096         | 200 | 4096 |
| connections (/C)                   | 2 X sessions | 8   | 200  |
| drv:pathname                       | -            | -   | 64   |
| locks (/L)                         | 50           | 1   | -    |
| node                               | -            | 1   | 1023 |
| password                           | -            | -   | 16†  |
| nodename                           | -            | 1   | 6†   |
| files (/F)‡                        |              |     |      |
| sessions (/N)                      | 16           | 1   | 31   |
| shares (/O)                        | 12           | 1   | 100  |
| workstation (/U:N)<br>(Max Access) | -            | 1   | 30   |

† alphanumeric

‡ not greater than files = value in CONFIG.SYS

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