

Automating Software Distribution

McAfee's Distribution Module

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SUPPORT

For fast and accurate help, please have the following ready when you contact McAfee:

- Program name and version number
- Type and brand of your computer, hard drive, and any peripherals
- DOS type and version
- Network name, operating system, and version
- Contents of your AUTOEXEC.BAT, CONFIG.SYS, and system LOGIN script
- Specific steps to reproduce the problem.

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About This Document


Who Should Read This Manual

Automating Software Distribution is written for anyone who performs important network functions and oversees software activity across a network. Whether your network consists of a single server or of many servers spanning several locations and incorporating multiple operating systems, the procedures in this book will show you how software distribution simplifies key network administration tasks.

This manual includes instructions for configuring your network, distributing software, viewing distribution activity, and generating distribution reports. Rather than reading this entire document at once, look at the introductory material in this chapter first to decide which tasks are most important to you. The next section outlines the major tasks covered in each chapter.

What You'll Find in This Manual

This user's guide contains the necessary information for using all the features and functions of the Distribution module. Throughout this manual, you'll find clear and easy paths to the procedures you need to use this product effectively.

 *The manual provides full product details and procedures; release notes contain information about any last minute updates made to the product.*

The chapters are organized to give you the information you need in the order in which you'll need it. The following provides a brief description of what you will find in each chapter.

Getting the basics

Chapter 1, “About This Document,” tells you how this book is organized and describes the notation and symbols used throughout the manual.

Chapter 2, “Introducing the Distribution Module,” describes how the Distribution module works, lists its main features and benefits, and provides a walk-through of the major tasks required to implement software distribution on your network.

Chapter 3, “Configuring Your Network,” describes how to set up and configure your servers and workstations for distribution.

Distributing Software

Chapter 4, “Creating Packages,” describes how to prepare a software distribution package, add its contents, and select its recipients.

Chapter 5, “Using Package Options,” describes how to set distribution options, set up package dependencies, create a recipient list by building a query, and view a recipients' hardware and software configuration.

Chapter 6, “Managing Packages,” describes how to edit, rename, and delete packages and how to monitor their activity on the network.

Chapter 7, “Creating and Using Filesets,” outlines the procedures for identifying files to be distributed and for creating filesets.

Chapter 8, “Creating and Using Scripts,” outlines the procedures for using scripts to define specific tasks you wish to perform on workstations throughout your network.

Chapter 9, “Using the Alerting Feature,” describes how to configure the alerting feature for both NetWare and NT environments to notify you of selected distribution events on your network.

Chapter 10, “Generating Distribution Reports,” explains how to generate pre-defined reports as well as add or modify existing ones to suit your administrative needs.

Reference information

Appendix A, "The McAfee Management Console," describes the McAfee Management Console and its features.

Chapter B, "Using the Predefined Packages," describes all of the pre-defined packages that are included with the Distribution module.

Chapter C, "The QuickScript Language," provides the scripting rules and language variables for defining specific functions in QuickScripts.

Chapter D, "Using WinCompare," describes the WinCompare utility and how you can use it to automate software installations.

Chapter E, "Predefined Distribution Reports," shows an example of each of the predefined reports formats, defines each of the fields found on the reports, and lists recommended uses for each report type.

Chapter F, "Troubleshooting," provides a list of messages and recommended actions to correct errors.

Chapter G, "Repairing Corrupt Data Files," explains how to use FIXDB.EXE to repair damaged database files on your server.

Notation and Symbols

This section illustrates the conventions we've used throughout this manual. Our simple, straight-forward style allows you to focus on the important task of distributing software across your network. Take a look at these guidelines now, before you begin using the procedures, so that you'll know how to interpret the information in this manual.

Using Windows 95 and Windows NT 4.0

If you have used Windows but are new to Windows 95 and Windows NT 4.0, McAfee recommends that you refer to the Windows 95 **Help** menu on your desktop and read 'If You've Used Windows Before'. To access this tutorial, click the Start button on your Windows Task bar and then click the **Help** menu item.

Procedures

Procedures for each feature begin with a general description followed by a detailed step-by-step process. Actual text that you should type is indicated in uppercase letters. Placeholders for items, such as file names, that you must supply yourself are shown in lowercase letters.

The procedures in this manual assume a working knowledge of the DOS and Windows environments.



This icon will appear in the margin to indicate where a procedure begins on a page. The following is an example of how procedures appear:

1. Numbered steps indicate what action you should take.

Indicates how the system responds to the actions you have taken in this step.

2. Describes what further action, if necessary, you must perform to complete the step.

Keyboard notation



Some features require a mouse and cannot be performed using only the keyboard.

To use the Distribution module without a mouse, perform the standard Windows keyboard actions to navigate through the program.

Each menu item on the Console menu bar can be accessed using a keyboard command. To open a menu on the menu bar, press the ALT key and the letter that is underlined in the menu title. For example, press the ALT + F keys to display the **File** menu.

Each command in the menu also has a keyboard mnemonic. Once the menu is displayed (i.e., “dropped down”), press the keyboard mnemonic of the command you want to choose. For example, from the **File** menu, press R to choose the Printer Setup command.

Menu item notation

References to menu items and the associated drop-down list entries are shown together, separated by a slash, and printed in bold type. For example, you may be instructed to choose **File/Open**.

Mouse button notation

In some procedures, we may tell you to right-click an item. “Right-click” means pressing Mouse Button 2, instead of the button you would normally use to select an object or menu item. If the mouse is on the right side of your computer, Mouse Button 2 is on the right. If the mouse is on the left side of your computer, Mouse Button 2 is on the left.

Program directory notation

Throughout this manual, the product’s program directory will be referred to as \MCAFEESM, which is the default directory at installation. You may have chosen, however, to load this product either in a different directory or at a location other than the root (MCAFEESM, however, is required and will be appended to whatever path you choose). If this is the case, when procedures in this manual point you to a path that starts with \MCAFEESM, you should use the path in which you installed the product.

Information References



This note contains important information for all users.

Key notation. This notation represents a key on the keyboard. A step-by-step procedure will instruct you to press a single key or a combination of keys to perform a function. For example: press the ENTER key; or, press SHIFT+F10.

Author note. The author note emphasizes information about any of the following:

- Options
- Functions
- Procedures
- References to related information in the current chapter, a different chapter, or another manual.



This note contains Windows-related information.

Windows note. The Windows note emphasizes that the accompanying command or setting only affects, or is restricted to, Windows programs or applications.

Text note. The text note provides supplemental information about options, functions, or procedures.

 *Text notes can be found in overview sections, procedures, or tables.*



Inventory note. The inventory collection note emphasizes information that applies after you have configured both the Distribution and Inventory modules.

Online Help

Online assistance for using the Distribution module is included in the application software. To get information quickly about a feature or procedure, right-click the Software Distribution object in the Console and choose **Help** from the context menu.

Sample Scenarios

To enhance your use of the product, we have included sample scenarios that illustrate how the Distribution module's features can be used with each other or with other McAfee products to accomplish a particular task. The sample scenarios appear in a gray box like the one below.



Sample Scenarios

These gray boxes describe network management scenarios using the Distribution module's features in conjunction with other McAfee products in the Saber LAN Workstation suite. The boxes provide references to other manuals where you will find detailed procedures on using the other products.

Implementing the solutions described in these boxes is by no means required; they are provided merely to enhance your use of the Distribution module.

Welcome



For installation instructions, refer to Chapter 2 in your *Getting Started* Guide.

Welcome to McAfee's Distribution module! This powerful enterprise software distribution tool provides all the resources you need to expertly manage your network files from a single location. Using the Distribution module, you can send software throughout your enterprise at any time without leaving your desk. The Distribution module also gives you Windows 95 and NT compatibility, powerful server-to-server distribution capabilities over both local and wide area networks, and the ability to work with mixed operating systems.

The Distribution module's extensive options and advanced features allow you to expertly coordinate your network file management. From one central workstation you can install, upgrade, replace, and distribute software to any combination of network users, groups, and servers. You can modify files at a network user's workstation in California from your desk in Florida or check the status of a distribution job to 500 workstations throughout the country.

The table below lists this chapter's main topics and their descriptions.

To...	See...
View a overview of software distribution and the flow of information between servers and workstations	"How Software Distribution Works" on page 15
View a list of the Distribution modules's major features and capabilities	"Key Features and Benefits" on page 18
Access information about the Distribution modules features from the Console context menus, scope view, and results view	"Distributing Software from the Console" on page 20

To...	See...
Implement software distribution across your network	"Your Main Steps with Software Distribution" on page 23

How Software Distribution Works

The Distribution module provides enterprise software distribution to workstations and servers without requiring active participation from the end user. This eliminates the need to go from workstation to workstation to install and upgrade software. By managing the network from one location, you can maintain consistency across your enterprise when distributing software.

Figure 2-1 outlines the distribution process.

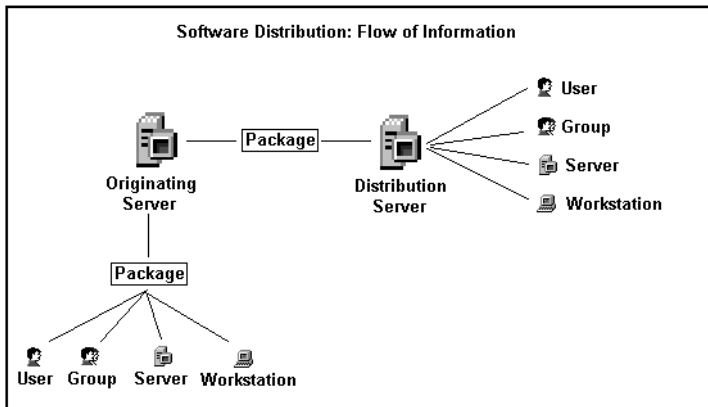


Figure 2-1.

Software distribution begins when you prepare the software distribution package from the Console. After you save the distribution package on the originating server, the SiteExpress NLM or NT Service carries the package to the distribution server. The package remains on the distribution server until the user runs the update program. The update program retrieves the package and distributes the software to the workstation.

The distribution server returns the package to the originating server after the user executes the update program. You create and maintain packages *only* from the originating server. An originating server can also function as a distribution server.

When a user logs in to the network and the update program is executed from the login script, any and all packages that are marked for that user or workstation are processed. An update can involve the delivery of any number of packages, including retries for previously failed packages, new packages, and packages that identify the user name or the workstation as a recipient.

Refer to the sections below for definitions of each of the objects in the above diagram.

Packages


A package is the means by which software is distributed across your network. It not only contains the software files, but all the instructions on when and to whom the software should be delivered. The packages may travel to different servers during the distribution process.

Software distribution servers

A software distribution server is a network server that has the SiteExpress NLM or NT Service loaded. These servers can be used to originate and distribute packages.



You can originate *and* distribute a package from the same server.

 *You can see a list of software distribution servers in the Console's scope view by expanding the Software Distribution object.*

- **Originating server** refers to the server on which you create and save the software distribution package from within the Console. The SiteExpress NLM or NT Service periodically scans for packages and delivers them to the servers that the users log in to.

For example, if a package is originated on server A and the software is being distributed to 20 users who log in to server B, then the package is delivered to server B to be available to those 20 users.
- **Distribution server** refers to the server that distributes the package to the workstations. Upon activation, the package travels from the originating server to this server to be on “standby” until the user runs the update program. This is the server on which the end user has been defined as a member and logs in to.

Update program

After you create a package, it remains available on the distribution server until the update program is run from the user's login script (or otherwise executed from the workstation). When run, the update programs determine exactly which of the specific workstation agents it needs to deliver the package to the recipient machine. To fully automate the package distribution process McAfee recommends adding the Distribution loader programs to each user's login script. This process ensures that network workstations receive Distribution packages regularly. Refer to ["Updating Workstations" on page 40](#) for more information.

Recipients

Each package must have a list of recipients that are selected to receive the software being distributed.

- **Recipient Server** refers to a server that receives software in the same manner as a workstation. If you want to install software directly onto a server, choose that server as a recipient, and the files are decompressed and copied to the specified server.
- **Group** refers to a defined work group on a server that is selected to receive a package. For example, if your network has a group called Sales with the people in your Sales department, you can distribute software to all these people simply by selecting the Sales group from the Recipient tree.
- **User** refers to an individual user who is selected to receive the package. You can select an unlimited number of individual users to receive a package.

If you have installed and configured inventory collection, you can also choose the recipients by sites and workstations.



For use
with inven-
tory collec-
tion.

- **Site** refers to an inventory group that contains both servers and workstations.
- **Workstation** refers to a specific workstation machine that has been identified during inventory collection.



Distributing Automated Installations to your Network Users

With the Distribution module, you can easily send software to your users. Using **PowerScripts**, you can actually install the software files that you are distributing! Creating these PowerScripts with SLW's **WinCompare** is a simple process. With WinCompare, you take an initial snapshot of your machine, install the software you want to send, and then take another snapshot after the installation is complete. WinCompare then compares the two snapshots to determine what needs to be done to the receiving machine to install the software. The resulting information is saved and compiled as a PowerScript, which can be sent to workstations and servers in a package (compiled PowerScripts are included in packages as executables). Using SLW's Distribution module and WinCompare, you not only deliver software to your users, but install it for them as well!

Refer to Appendix C, "Using WinCompare," for complete instructions.

Key Features and Benefits

The Distribution module offers a variety of powerful features. You can:

- Install and upgrade software on DOS, Windows, Windows 95, Windows NT, and OS/2 workstations across local and wide area NetWare and NT networks.
- Install software at users' workstations by creating a package based on a WinCompare snapshots taken of a particular application both before and after an installation.
- Distribute packages to all machines (user workstations and network servers) that log in to a server running the Distribution NLM or NT Service by using the 'Distribute to all workstations on all servers' recipient feature.

✍ Depending on how many servers your users log in to, users may receive more than one copy of a package. Therefore, only enable the 'Distribute to all workstations on all servers' feature from a single server to prevent users from receiving multiple package copies.

- Using OnDemand Software Distribution, you can force a package delivery to any workstation on your network immediately. You no longer have to wait for the Distribution agents to run at a specified time or at machine start-up. You can kick off the Distribution agents at any time to deliver a package to a specified workstation.
- Control failed packages by ensuring that your users have the sufficient environment requirements to receive and use the software before sending the package.
- Reduce administrative follow-up caused by failed packages by choosing to undo actions that took place before a package failed.
- Create virtually unlimited types of reports using Crystal Reports.
- Manage your enterprise traffic by designating a specific route for a package to take when using multiple servers.
- Configure tasks to abort when they encounter errors. McAfee recommends using this option with the Automatically undo failed packages error option (page 72) to revert the recipient machine to its previous status.
- Configure a package tasks to “wait” until any previous tasks are complete before executing.
- Support your users by giving certain people independent control over when they run software updates or by distributing a package to people who have multiple workstations at every machine they log in to.
- Install the included evaluation versions of McAfee’s VirusScan on workstations throughout your network.
- Request event notification (alerting) for a wide variety of distribution events that occur on your network.
- Set up dependencies to confirm that required packages are installed successfully before installing subsequent packages, e.g., make a package with Word for Windows dependent on the success of a package with Windows 95.
- Modify .INI files, add program groups and icons, and perform a variety of other tasks on workstations using PowerScript and QuickScript scripting languages.

- Restrict packages distribution by operating system. Deliver packages configured for 32-bit operating systems to Windows NT & Windows 95 machines only.
- Run the distribution agents with the `\silent` command line switch to prevent users from viewing the package delivery status dialog (Figure 3-12 on page 45).

The Distribution module works with McAfee's Inventory module to provide additional features. After you have set up your inventory collection, you can:




- Distribute software to all workstations in an inventory site.
- View inventory information about a specific workstation to determine if you want to distribute a package to that location.
- Generate recipient lists automatically by using the query feature to select workstations that meet your defined software and hardware criteria—before sending a package.






For use with inventory collection.

Distributing Software from the Console

All of the Distribution module's features are accessed from the McAfee Management Console (the Console). With its Explorer-like interface, the Console contains a scope view with software distribution objects and nodes. As shown in the table below, each entry in the scope view is accompanied by an icon that indicates what type of object it is: server, workstation, fileset, package, or QuickScript.

Icon	Description
	Represents the Software Distribution module.
	(Red screen) Represents a NetWare server.
	(Blue screen) Represents an NT server.

Icon	Description
	Represents a fileset.
	Represents a QuickScript.
	Represents a package.



You begin most procedures by choosing a server from this location in the Console.

When you click the **+** next to the Software Distribution object, the scope view expands to display a list of servers on your network, as shown in Figure 2-2.

The results view to the right also displays your network servers and indicates whether they are NetWare or NT servers.

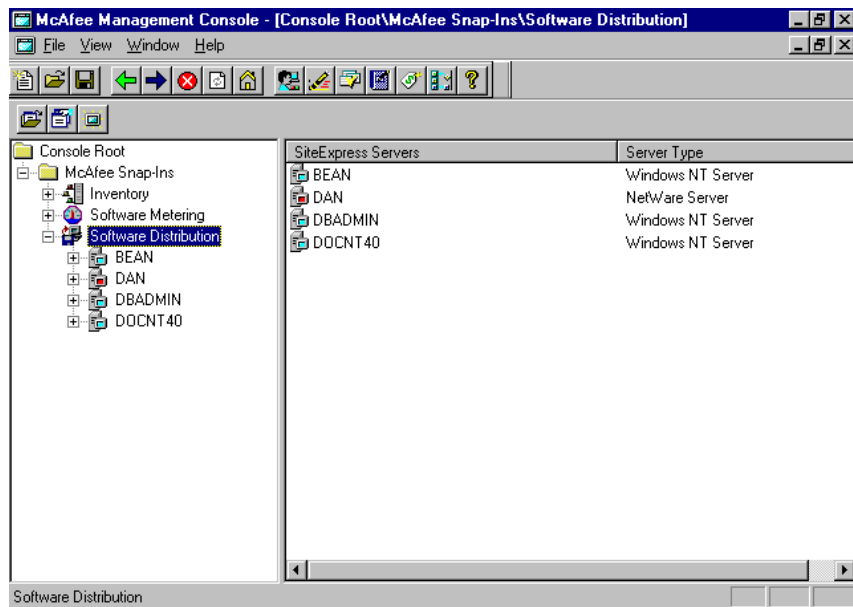


Figure 2-2.

Only the servers which have the software distribution server application (NLM or NT Service) running can be accessed and configured from the Console.

Right-click a server in the scope view to see the configuration menu items. This context menu has two selections. From this location, you can:

- Configure your servers' system settings ([page 36](#))
- Set up the alerting options ([page 122](#)).

If you expand the scope view further by clicking the + next to the desired server, the following three nodes are displayed: Packages, Filesets, and QuickScripts, as shown in Figure 2-3.

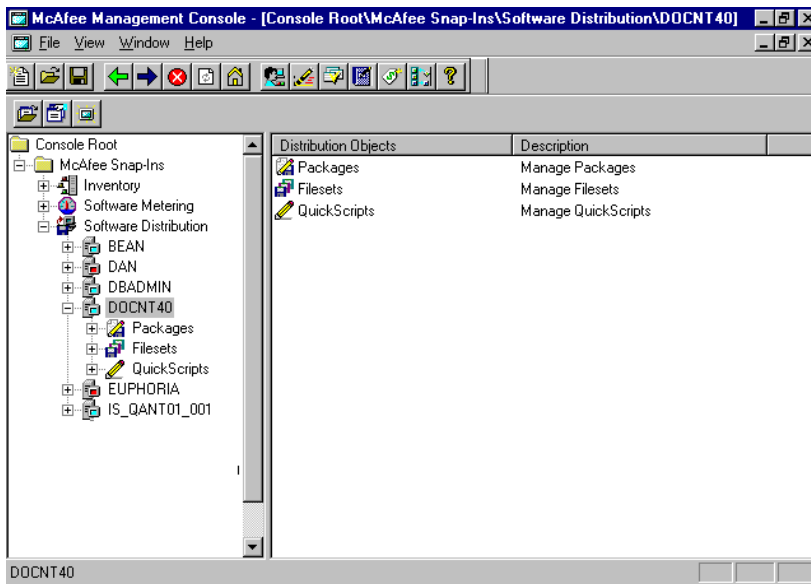


Figure 2-3.


From this point in the Console, you can perform all of the following main software distribution features:

- Server configuration ([page 36](#))
- Package creation and management ([page 49](#))
- Fileset definition and management ([page 96](#))
- Script creation and management ([page 113](#))
- Predefined and custom report generation ([page 153](#)).

You can access a variety of context menus by right-clicking the item in the list or scope view. The context menu is a popup menu with selections relating specifically to that item.

Your Main Steps with Software Distribution

This section lists the steps necessary to explore the Distribution module.

 *Unless otherwise specified, the steps listed below are **required** to successfully set up the Distribution module and its features.*

1. Load the software distribution NLMs (for NetWare servers) and/or install the SiteExpress NT Service (for Windows NT servers).
For NetWare servers, refer to “[Setting Up Your NetWare Servers](#)” on [page 25](#), and for NT servers, “[Setting Up Your NT Servers](#)” on [page 28](#).
2. Configure your servers for software distribution.
Refer to “[Configuring Software Distribution Servers](#)” on [page 36](#).
3. Add loader update agent program to users’ login scripts.
Refer to “[Updating Workstations](#)” on [page 40](#).
4. Create a package.
Refer to [Chapter 4](#), “[Creating Packages](#).”
5. Create a fileset (optional).
Refer to [Chapter 7](#), “[Creating and Using Filesets](#).”
6. Create a script (optional).
Refer to [Chapter 8](#), “[Creating and Using Scripts](#).”
7. Use WinCompare to automate software installations (optional).
Refer to [Appendix D](#), “[Using WinCompare](#).”
8. Monitor your packages and software distribution activity from the Console.
Refer to “[Monitoring Package Activity](#)” on [page 89](#).
9. Configure the alerting feature to notify you of selected distribution events.
Refer to [Chapter 9](#), “[Using the Alerting Feature](#).”
10. Generate a predefined report, such as the Activity Log by Package report.
Refer to [Chapter 10](#), “[Generating Distribution Reports](#).”

Your Main Steps



You must load the NLMs or start the NT Service *before* you can distribute software.

Before taking advantage of the Distribution module's many features, you must configure your network servers and workstations for software distribution. This chapter provides configuration procedures specific to your NetWare and NT servers:

1. Determine your environment(s) and load the server processes.
 - For **Novell NetWare**, see “[Setting Up Your NetWare Servers](#)” on [page 25](#).
 - For **Windows NT**, see “[Setting Up Your NT Servers](#)” on [page 28](#).
2. Create or modify the SERVERS.IP file if you are using TCP to communicate with remote servers for software distribution.

See “[Creating the SERVERS.IP File](#)” on [page 35](#).

3. Configure software distribution server settings.

See “[Configuring Software Distribution Servers](#)” on [page 36](#).

4. Select a Master Domain to configure packages on an NT Server.


See “[Selecting a Master Domain](#)” on [page 39](#)

5. Run the update program at your network workstations to receive distribution packages.

See “[Updating Workstations](#)” on [page 40](#).

Setting Up Your NetWare Servers

You must load the software distribution NLMs on each NetWare server that you will use to distribute or receive software. During installation, the setup program copied the NLMs to the server on which you installed the Console and to any servers you chose for the distribution install. It also modified the AUTOEXEC.NCF file to run the NLMs each time the server is rebooted, if you chose this option.

 *You must run the distribution install at every server which you want to perform software distribution tasks. The NLMs will only be copied to a server if this install has been performed. Refer to Chapter 2 in your Getting Started Guide for instructions on the distribution install.*

The table below briefly describes the two primary NLMs:

NLM	Description
SITEXPRS.NLM	Transfers software distribution packages between servers and reports distribution activity.
DBAPI.NLM	Moves information in and out of databases. This NLM is not used by other McAfee products. This NLM is only needed for DOS distribution agent SXPDOSNW.EXE (which is used for DOS machines logging into a NetWare server and is called directly or indirectly through SXPNWLDLDR.EXE)



The distribution install and the steps to start the server applications only have to be done one time.

Loading the Product NLMs

 *For optimum performance, load McAfee NLMs before other product NLMs.*

To load SITEXPRS.NLM, type the following at the file server console:

```
LOAD SITEXPRS
```

If you wish to distribute software to NetWare DOS workstations via the SXP-DOSNW.EXE agent, type the following at the file server console:

```
LOAD DBAPI
```

To unload the product NLMs, type the following at the file server console:

```
UNLOAD SITEXPRS
```

The SiteExpress NLM (SITEXPRS.NLM) is unloaded.



The DBAPI.NLM is not unloaded automatically. Use the command `UNLOAD DBAPI.NLM` to unload this NLM.

Using NLM Switches

The switches described below give you increased options when loading your software distribution NLM. The switches should be used at the command line following the NLM name, as shown below:

```
SITEXPRS /W10
```

Switch	Description
/W#	Specifies the number of minutes the NLM should wait for a busy remote server when trying to either deliver packages to it or synchronize with it. This switch must be followed by a number (#) that specifies how many minutes it should wait, e.g., w10 for 10 minutes. Valid numbers are 1 through 60; the default is 5.
/R	Causes the NLM to display the route when delivering a package to a distribution server or when synchronizing with an originating server.
/A	Prevents the NLM from trying to fix damaged databases when it recognizes them. Because of the size of some databases, repairing them may take some time. This switch instructs SITEXPRS.NLM to ignore damaged database files.
/T	Identifies and displays the local and remote network server information.
/TD	Identifies and displays the local and remote network server, group, and user information.

The DBAPI.NLM also has one switch: `/t=.` This switch sets the DBAPI requester timeout. During software distribution operations, the DBAPI.NLM allocates memory on the server to the client while the agent is running. The default is 15 minutes. If, however, the operation (e.g., copying a fileset to a server) takes longer than 15 minutes, the memory will be reallocated. If you notice that packages with large filesets fail to be delivered, use this switch to set the timeout to more than 15 minutes. If you load the NLM with a value of less than 15, 15 is still used. You can use any of the following formats to set this option, where X=time in minutes: `/t=X` `/tX` `=t=X` `/tX.`

Viewing NLM status from the server console

The Distribution module displays numerous messages at the server to notify you about the NLMs' status and about the product in general.

These messages are *information-only* and are not configured from the server. The three available status screens are described in the table below:

NLM Screen	Description
SiteExpress NLM	Displays all activity for the SITEXPRS.NLM, including package delivery and communication connections made.
Configuration	Displays information about the SITEXPRS.NLM including its address, its originating server, and the location of the SERVERS.IP file.
SiteExpress Servers	Lists all of the network servers that have the Distribution module loaded and participate in software distribution as well as those that are specified in the SERVERS.IP file.



To view these screens, perform the following steps.

1. From the NetWare server console, press CTRL + ESC for a list of current screens.
2. Select the number corresponding to the SiteExpress NLM Entry and press Enter.

The SiteExpress NLM console screen displays each message by date and time.


3. In the Available Options box, select **View Configuration** and press ENTER.
4. Press ESC to return to the server console message screen.
5. In the Available Options box, select **View SiteExpress Servers** and press ENTER.

Setting Up Your NT Servers

Each Windows NT server that you will use to distribute or receive software must have the NT Service installed. During installation, the NT Service installer was automatically copied to the server on which you installed the Console. To copy the NT Service installer to other servers on your network, you must perform the distribution install on each server individually from the Console. Then you can run the installer from the server console to start the SiteExpress NT Service.



For information on setting up NetWare servers, see [page 25](#).

 *You must run the distribution install at every server that you want to perform software distribution tasks. The NT Service will only be copied to a server if this install has been performed. Refer to Chapter 2 in your Getting Started Guide for instructions on the distribution install.*

Before you can begin using the Distribution module on a Windows NT network, first you must install and start the Distribution NT Services described in the table below.

NT Service	Description
SITEXPRS.EXE	Transfers software distribution packages between servers and reports distribution activity.
AMGRSRVC.EXE	Handles NT alerting tasks.
DBAPI.EXE (McAfee DBAPI)	Provides database access for the Distribution module's DOS workstation agent.


You also must have the .DLL files that support NT alerting and the system drivers.

Installing the SiteExpress NT Service



To install the Distribution module's NT Services, perform the following steps.

1. Launch SVCSETUP.EXE from MCAFEESM\BWORKS directory on the NT server.
2. Review the recommended information and click Next.
3. Click Install to display a list of available services.
4. Select the SiteExpress NT Service and McAfee Alert Manager options and click Next.
5. Log in using your administrative login account and password and click Next.

 *You must have appropriate administrative permissions to read database files and log in to other servers in the necessary MCAFEESM directories.*

The service is installed on the server, and you will be asked if you want to start the services immediately.

6. Click Yes to start the service immediately and complete the installation.

Starting the SiteExpress NT Service

You only need to complete this procedure if you did not choose to start the service immediately upon installation.



To start the SiteExpress NT Service, perform the following steps.

1. Choose the Services icon from the Control Panel.

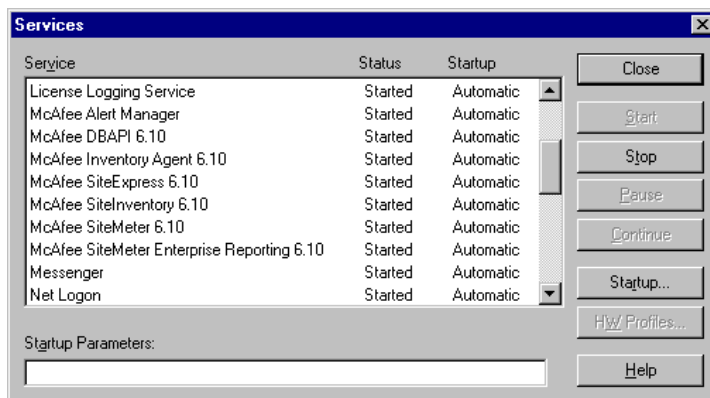


Figure 3-4.

2. Select the SiteExpress NT Service.
3. Enter any desired command-line switches in the Startup Parameters text box.

 Refer to [page 32](#) for a description of the available switches.


4. Click Startup.




Figure 3-5.

5. Select one of the following Startup Types:

- **Automatic** if you want the SiteExpress and Alert Manager NT Services to start automatically each time the server is booted.
- **Manual** if you want to start the SiteExpress and Alert Manager NT Services manually from the Services dialog.

 *If Manual is activated, you must open the NT Service dialog, select SiteExpress and click Start to initiate the software distribution process.*

- **Disabled** to prevent the SiteExpress and Alert Manager NT Services from being loaded.
6. Select 'This Account' in the 'Log On As' group box and enter ADMINISTRATOR in the corresponding text box.
 7. Enter a password in the provided text box. Type it again in the Confirm Password text box.

 *The Distribution module requires a valid username and password. Blank passwords are not accepted. Ensure that this login account has 'Log on as a Service' permissions, Level 2 Access permissions, and full rights to the \SYS\MCAFEES share.*

8. Click OK to return to the Services dialog.

9. Click Start.

Service Control message window is displayed momentarily, followed by the NT Services dialog with the status as Started.

10. Select the Alert Manager NT Service and click Startup.

11. Repeat Steps 5 through 9 for the Alert Manager NT Service.

Using the NT Switches

The switches described below give you increased control over starting your SiteExpress NT Service.

Switch	Description
/A	Prevents the NT Service from trying to fix damaged databases when it recognizes them. Because of the size of some databases, repairing them may take some time. This switch instructs SITEX-PRS.EXE to ignore damaged database files.
/W#	Specifies (in minutes) how long the NT Service should wait for a busy remote server when trying to either deliver packages to it or to synchronize with it. This switch must be followed by a number that specifies how many minutes it should wait, e.g., w10 for 10 minutes. Valid numbers are 1 through 60; the default is 5.

Enter this switch in the Startup Parameters text box of the Services dialog shown in [Figure 3-5 on page 31](#).

Stopping the SiteExpress NT Service

The SiteExpress NT Service must be running in order to distribute software on your network. If you stop the NT Service temporarily, you must restart it so that your packages can be delivered.



To stop the SiteExpress NT Service, perform the following steps.

1. Choose the Services icon from the Control Panel.
2. Select the SiteExpress NT Service and click Stop.
3. Click Yes at the confirmation prompt.
4. If necessary, select the Alert Manager NT Service and repeat Steps 2 through 3.

Viewing distribution activity on an NT server

The NT desktop provides a SiteExpress monitor icon (SXPNTUI.EXE) that you can open to view distribution activity and server configuration information on your network.

The three status screens are described in the table below:

NT Screen	Description
SiteExpress Monitor-Activity	Displays all activity for the SiteExpress NT Service, including package delivery and communication connections made.
Configuration	Displays information about the SITEXPRS.EXE including its address, its originating server, and the location of the SERVERS.IP file.
SiteExpress Servers	Lists all of the network servers that have the Distribution module loaded and participate in software distribution.



To view this information, perform the following steps at the NT server.

1. Double-click on the SiteExpress Monitor icon (SXPNTUI.EXE) in the Windows NT Startup folder.

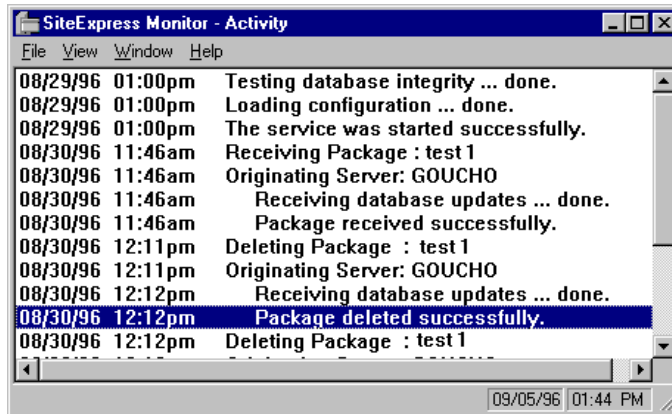


Figure 3-6.

2. Choose **View/SiteExpress Servers** for a list of all distribution servers.

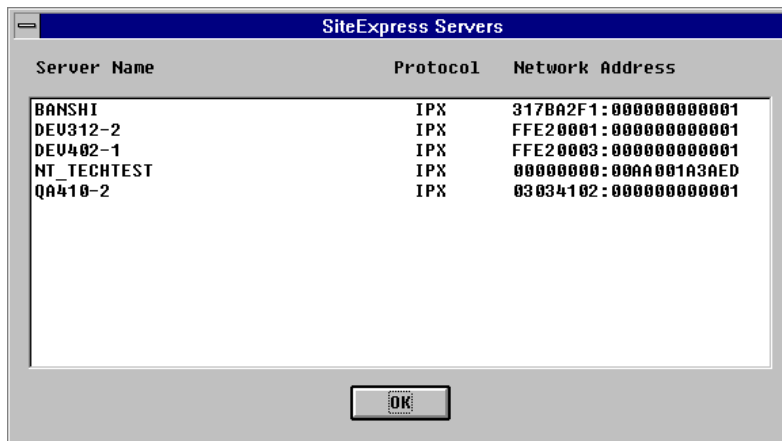


Figure 3-7.

3. Click OK to exit the dialog.

4. Choose **View/Configuration** for detailed configuration information about your server.

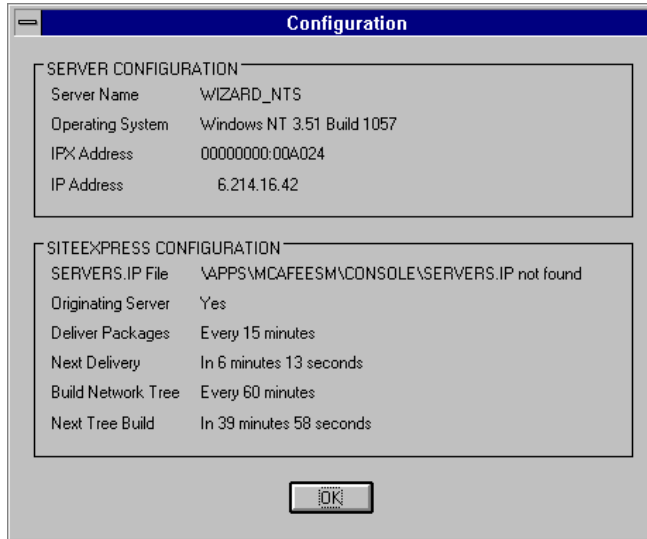


Figure 3-8.

5. Click OK and then choose **File\Exit** to exit the monitor.

Creating the SERVERS.IP File

If you are including remote servers in software distribution on your network, you must create a SERVERS.IP file with the server addresses. This allows the NLM or NT Service to communicate over IP. You need to update this file every time servers are added to your network.

If you are distributing software from one server to another using IPX, you do not need a SERVERS.IP file.



To create the SERVERS.IP file, perform the following steps.


1. Open WordPad or comparable text editor.

If you have set up McAfee's Metering or Inventory modules, the SERVERS.IP file may already exist. If so, open this file to add any new server addresses.

2. Enter the full address for each remote server.

- You can use headings to outline information (begin with # to specify a comment rather than address).
- Enter the full address and the server name. For example:

```
#Server addresses for Region 1
#
#
123.45.6.7      Servername 1
234.5.6.7      Servername 2
245.67.89.8    Servername 3
```

 *The Distribution module requires a static IP address on NT servers. NetWare server names must be in uppercase letters; NT server names are case-sensitive. If you enter a name with the incorrect capitalization, it will not be located by the Distribution module.*

3. Choose **File/Save as**.

4. Name the file SERVERS.IP and save it in \MCAFEESM\CONSOLE.

Configuring Software Distribution Servers

The Distribution module allows you to specify important configuration options for each server on your network, including how often the SiteExpress server should update recipient information and how often it should check servers for active packages to be delivered.



To configure a distribution server, perform the following steps.

1. From the Console, click the + next to the Software Distribution object to display a list of servers under the node.

2. Right-click the desired server and choose **Configure Server**.

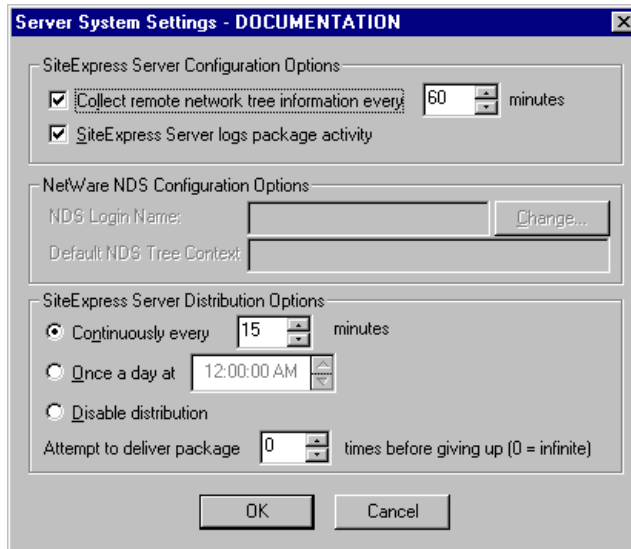


Figure 3-9.

3. Indicate how often the server should collect remote network tree information by entering the desired number of minutes in the spin box (60 is the default). Or deselect this check box to prevent collection.

✍ This option determines how often the Distribution module's NLM/NT Service updates recipient information used when selecting recipients for your packages.

4. If you do **not** want package activity logged, deselect the 'SiteExpress Server logs package activity' check box.

✍ This option, which is the default setting, causes the distribution events on this server to be recorded in the package details log. For more information on this feature, see ["Viewing Package Activity Details"](#) on page 91.

5. If the server is NetWare Directory Service (NDS) authenticated server, enter an NDS authenticated name in the NDS Login Name text box.

✍ This login name must have administrator rights.

6. To modify the login name, click Change to display the User Name and Password dialog.

The User Name and Password dialog is displayed.

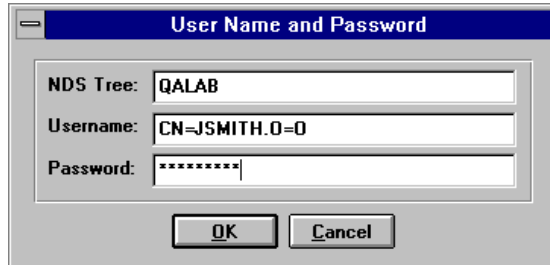


Figure 3-10.



If you distribute to NDS authenticated users or groups, a user name and password is required.

NDS user names and passwords are stored in encrypted format.

7. Enter the new information in the Username and Password text boxes.
8. Click OK.

You are returned to the Server System Settings dialog.

The Console can only configure the primary NDS tree login for servers in that tree. To configure multi-tree configuration, you must authenticate to those trees individually to manage NDS login names for servers in the NDS tree.


9. Select one of the following SiteExpress Server Distribution Options to specify how often you want this server to forward its packages to the distribution servers.
 - To set a continuous interval, specify the desired number of minutes in the spin box. You can select up to 32767 minutes (22 days) or you can manually enter a value up to 65535 minutes. The default is 15 minutes.
 - To set a specific time each day that packages travel from this server to the distribution servers, select the 'Once a day at' option and set the desired time. The package is sent to the distribution server at the local time on the server you are configuring (originating server).
 - To disable distribution from this server, select the Disable Distribution option.

10. Indicate how many times you want the server to retry sending the package by setting a value in the provided spin box.
11. Click OK to save your settings and return to the Console.

Selecting a Master Domain

When configuring packages on an NT server, you can select a Master Domain from which your users and groups will be queried. By selecting a Master Domain, you are increasing the number of available users and groups to choose from when selecting Package recipients (page 56). Without selecting a Master Domain, the users and groups displayed in the Recipients tab (Figure 4-5 on page 58) will be only those defined on your current server. When selecting a Master Domain, the users and groups displayed will be:

- The users defined on your current server.
- The users defined on the current server's primary domain controller.
- The users defined on the Master Domain.

 *The Distribution module will refer to this NT domain for user and group information when selecting package recipients. Your current server's domain must have a trust relationship with the Master Domain.*

Once you have selected a Master Domain for the current server and have configured package recipients, do not select a different Master Domain. If a different Master Domain is selected and some users or groups are not defined on that domain, your packages will not be delivered. In addition, you will have to re-select package recipients each time you select a Master Domain for the current server.



To select the Master Domain from which the Distribution module will obtain user and group information, perform the following steps.

1. From the Console, click the + next to the Software Distribution object to display a list of servers under the node.
2. Right-click the desired server and choose **Select Master Domain**.

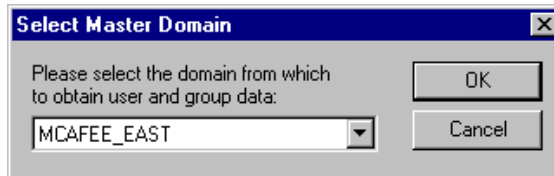


Figure 3-11.

3. Select the NT domain whose groups and users you want to use as package recipients.
4. Click OK to return to the Console.

Updating Workstations

After you create a package (the means by which software is distributed across your network) it remains available on the distribution server until the update program is run from the user's login script (or otherwise executed at the workstation). When the program is executed, it updates the workstation by first locating and then distributing any current packages to the workstation. It is useful to configure these programs to run on the network workstations *before* creating packages as they will not reach destination workstations until the update program is run.



Server recipients do not use update programs. The NLM or NT Service handles this process.

The Distribution module uses two update agent loaders (one for NetWare networks and one for NT networks) that you add to the user's login script. When the user logs in to the network, the loader identifies one or more specific workstation agents that are needed to deliver the package. Upon distribution, the loader determines exactly which of the specific agent programs it needs to run for that specific package and workstation operating system.

There are some special considerations for NT network operating systems. See ["Setting Up Workstation Updates"](#) on page 42 for specific information on updating workstations in these environments.

If you have users who log on to a variety of workstations, the same loader will know how to update each of these workstations. Using the single loader agent, you can consistently provide updates to users who:

- Use different workstations
- Use workstations with dual operating systems
- Use laptop computers
- Upgrade operating systems.


The available loaders are described below.

Update Agent Loader	Operating System
SXPNTLDR.EXE	Windows NT
SXPNWLDR.EXE	Novell NetWare

Workstation update agents

The workstation update agents are the programs that actually perform the software distribution on the workstation. When the loader is executed, it identifies the update agent that can perform the distribution on the workstation and runs that agent.

When the distribution install is performed on a server, the update agents are copied to the \MCAFEESM\SITEXPRS\AGENT directory. The loader program locates the correct agents and executes them from this location.

 *These agents can be manually executed, but the loader automates this process and ensures that the correct agents are used for distribution.*

Setting Up Workstation Updates

To fully automate the update process across your network and to ensure that workstations are updated regularly, add the loader to each user's network login script. Certain rights and permissions are needed in order for users to run the distribution agents, as described in the table below.

Environment	Rights/Permissions	Directory
NetWare	READ, WRITE, MODIFY, ERASE, FILESCAN, and CREATE	MCAFEESM\DATA-BASE\SITEXPRS (and subdirectories)
NT	CHANGE	MCAFEESM\DATA-BASE\SITEXPRS (and subdirectories)

Refer to the following sections for a list of command-line options and individual tables of information for each workstation operating system on your network.




- [“Command-line options” on page 42](#)
- [“Configuring updates on NetWare networks” on page 44](#)
- [“Configuring updates on NT networks” on page 44.](#)

Once you have configured the update program to run, refer to the Workstation Update procedure on [page 45](#).


Command-line options

When you add the loader to the login script, you can add one or more of the following command-line options to customize the update process.

Switch	Description
/log	Creates an output file (MCAFESD.LOG) and logs output to this file. This file can be read in any text editor, such as Windows Notepad. It is located in the directory where the agent was run and includes the node address, site, user, server, and login names, as well as an entry explaining any errors.

Switch	Description
/altlog=	<p>Is used with the /log switch to create an output file with a different file name than MCAFEESD.LOG. For example, if you want to use a log file named JOHN.LOG, you would enter:</p> <p>SXPNWLDR.EXE /LOG /ALTLOG=JOHN.LOG</p> <p> <i>Substitute SXPNTLDR.EXE for NT users.</i></p>
/silent	<p>Allows you to distribute packages without displaying a user interface while packages are being installed (i.e., when users receive packages, the dialog on page 46 will not be displayed).</p>
/server=	<p>Specifies which server to access.</p>
/autoexit	<p>Causes the update status box on Windows NT and Windows 95 workstations to automatically close when the update is completed.</p> <p> <i>McAfee recommends using this switch always.</i></p>
/timeout	<p>The amount of time (in seconds) the agents will wait for a database response before terminating the request.</p>
/retries	<p>The number of times the agents query the database.</p>
/protocol	<p>The method by which the agents communicate over the network. McAfee recommends the following:</p> <p>NBIonly. Use for Windows 3.x machines</p> <p>IPXonly. Use for Windows 3.x, Windows NT, and Windows 95 machines</p> <p>UDPonly. Use for Windows NT and Windows 95 machines</p> <p>NBI. Use for Windows 3.x machines</p> <p>IPX. Use for Windows 3.x, Windows NT, and Windows 95 machines</p> <p>UDP. Use for Windows NT and Windows 95 machines.</p>
/?	<p>Displays the SLW Inventory Agent Help screen which contains all of the command line switches and their descriptions.</p> <p> <i>The following three switches only suppress output for DOS and Windows 3.x workstations.</i></p>
/noshow	<p>Suppresses all output except status windows.</p>

Switch	Description
/page	Pauses output every 23 lines.
/genboot	Retrieves DOS system files and boot image for UPGRADEOS function.

 */AUTOEXIT does not work with some NDS client support and NDS authenticated users. If your users have both Microsoft and NetWare clients, change the network login order to put Microsoft first.*

Configuring updates on NetWare networks


The update agent loader should be used for Windows 3.x, Windows NT, and Windows 95 workstation operating systems. For DOS workstations, refer to [“Setting up DOS Workstations on NT Servers” on page 45](#) in the following section.

To automate updates on your network add the following lines to each user’s login script:

```
MAP G:=SERVER/SYS:MCAFEESM\SITEXPRS\AGENT
DRIVE G:
#SXPNWLDLDR.EXE <switches>
```

Configuring updates on NT networks

The update agent loader should be used for Windows 3.x, Windows NT, and Windows 95 workstation operating systems. For DOS workstations, refer to Setting up DOS Workstations on NT Servers the following section.

 *If a user logs onto the NT server by executing NET LOGON from a DOS prompt, the update agent cannot run due to insufficient memory. In this circumstance, the loader must be run manually from the workstation.*

To automate updates to your users’ workstations, write the following lines to each user’s login script:

```
NET USE G: \\NTSERVER\SYS
G:
CD \MCAFEESM\SITEXPRS\AGENT
SXPNTLDR.EXE <switches>
```

Setting up DOS Workstations on NT Servers

Do the following to set up DOS workstations on NT servers.

DOS workstations

From a DOS prompt, run \MCAFEESM\SITEXPRS\AGENT\XPDOSNT.EXE.

The Workstation Update Procedure

When the update is initiated, a series of steps is performed at the workstation. During this process, the user may be required to answer prompts regarding package options depending upon options that you set when creating a package. For more information about setting these options, see [Chapter 5, "Using Package Options."](#) The user can view the update as it is performed and the results when it is finished.



To execute the workstation update, perform the following steps.

1. Log in to the workstation to execute the login script agent.

A message box is displayed at the workstation indicating that the update process is initializing. It displays user information, distribution results, and a status bar showing the progress of the update.

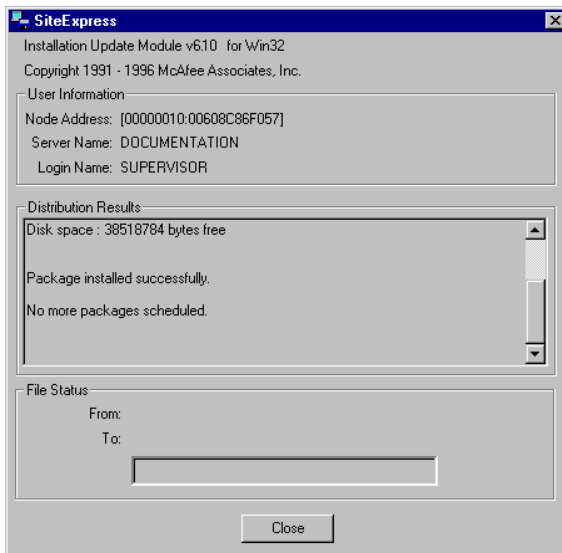


Figure 3-12.

 *DOS and Windows 3.1x workstations will see similar information on the DOS screen.*

2. If there are no package options that require a response, the update process continues without any further prompts. Review the distribution results and click Close to complete the update.
3. If you have been given the option to refuse the package, a dialog prompts you to accept or refuse the package. Click Yes or No.

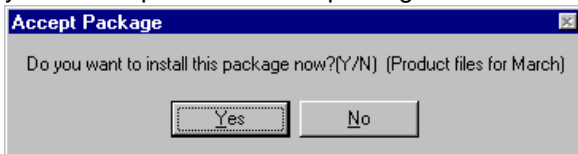


Figure 3-13.

If you choose Yes, the package proceeds. If you choose No, the package is not delivered. If the option to refuse the package has expired, the update either proceeds with the package delivery or abandons the job, depending on the package option settings.

4. If you have been given the option to override the installation path, a dialog prompts you to accept or decline this option. Click Yes or No.

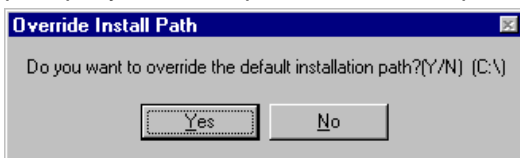


Figure 3-14.

If you choose Yes, a second prompt is displayed.

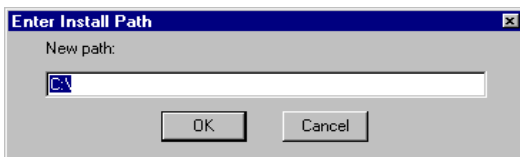


Figure 3-15.

Action: Type in the new installation path and click OK.

The update copies the contents to the specified path.

Backing up your Database Servers

Refer to the following sections for specific backup recommendations for Microsoft SQL Server and FoxPro databases.

Backing up Microsoft SQL Server Databases

McAfee recommends that you back up your SQL server regularly. If you do not practice normal backup procedures, McAfee recommends that you set your transaction log to truncate on CHECKPOINT. If you do not truncate your transaction log it will fill up and your database will become unusable.


Backing up FoxPro Databases

When backing up your FoxPro database servers, McAfee recommends including the following directories and their subdirectories:

MCAFEESM\DATABASE

MCAFEESM\USER

Files backed up in the MCAFEESM\DATABASE directory support SLW's Distribution, Inventory, and Metering modules. Files backed up in the MCAFEESM\USER directory support SLW's Desktop Menuing modules.

 *Before backing up your network, stop all SLW NT Services and unload all SLW NLMs.*

What You'll Find in This Chapter

This chapter describes how to create a package ([page 49](#)) and then view it from the Console ([page 62](#)). For additional information about packages, refer to the table below.

To...	See...
Learn what a package is and how it is beneficial to your network	"What is a Package?" on page 49.
Learn more about what items and tasks you can add to a package to be delivered to your network users' desktops	"Identifying Package Contents" on page 49.
Add tasks and create a new package	"Creating a Package" on page 51.
Expand your list of available network recipients after creating a new package	"Selecting Package recipients" on page 56.
Select recipients using query and Inventory features	"Using recipient options" on page 61.
Maintain a view of software distribution packages after you have begun collecting Inventory	"Managing Inventory Packages" on page 63.

What is a Package?

You can distribute software to servers and workstations across your network using packages that contain files, scripts, and delivery instructions. A package is a process by which you can transport information from one originating point to multiple points across your WAN. When a package is created and named, it is saved to the \MCAFEESM\DATABASE\SITEXPRS\PACKAGES directory on the originating server.

Packages contain all of your instructions and options for distribution jobs—the who, what, where, when, and how of software distribution. Consider the following scenario: You want to distribute Word for Windows 95 to the people in your Sales department the following week. To do so, you would create a package that could have a fileset with the Word for Windows 95 files and directory structure as well as a script that modifies the appropriate line in the user's AUTOEXEC.BAT. Your package would also indicate that the Sales department should receive your package on a specified date.

Preparing Packages


The procedures in this section outline the minimum steps that are required to create a package for software distribution: identifying package contents and selecting recipients.

Identifying Package Contents

The Distribution module lets you do more than just copy files to a workstation. You can install applications, run programs, modify system files, and more. You can also choose what tasks you want to include in your package. For example, you can:

- Identify single files that you want copied to the workstation or drive. This can be useful for small distribution tasks.
- Identify single files that you want copied directly from the originating path so that the latest version is provided to the user. By doing so, you can create one ongoing package that distributes the latest copy of a file each time the user logs in.

- Include groups of files that are compressed to minimize the transfer time between the originating and receiving server or workstation. This is useful for large numbers of files, such as those included with a large application.
- Add scripts to define a set of instructions you want performed on the workstation. You can include a script to carry out tasks like modifying an .INI file or adding a program group and icon to the workstation desktop.
- Include an executable program to run at the time of the update. For example, you might want to include an anti-virus program that would check the workstation before installing the software.
- Create an Installation Script using WinCompare, compile it as a package definition file, and add it as a package task. This task automates enterprise-wide software installation.
- Create a PowerScript that will install software at the receiving machine by using WinCompare to record the events that take place during a software installation.

 *Refer to the scenario described in the gray box on [page 17](#) for an explanation of how WinCompare works with the Distribution module to install software.*

To perform the above network activities, you can include any combination of the following six types of tasks in your package:

Filesets provide an effective means of organizing the files that you want to distribute across your network. You can create a fileset that contains several files and even several directories. You can also indicate that the files should be copied to the same path on the receiving workstation or server. When you create a fileset, the files can be compressed to permit easy delivery. When you include a fileset in a package, these files are decompressed when the package is delivered. Filesets must be prepared before creating a package with these files.

You can add **Executable** files that will run on the receiving workstation at the time of the update. All compiled PowerScripts, including those generated using WinCompare, are added as executable files.

You can add **QuickScripts** or **PowerScripts** that will run at the workstation during the update and perform the tasks outlined in the script. Scripts must be written and successfully compiled before adding them to a package. With a script, you can update a registry, revise a batch file, reconfigure desktops, and install applications. The Distribution module provides sample scripts that demonstrate how common tasks are performed on a workstation as well as pre-defined scripts that are ready to use in special projects, such as installing McAfee's VirusScan evaluation software on your network workstations.

You can use the **File Copy** task to add files to the package that will be copied to the workstation or server when the update is run. This task should only be used for a small number of files since they are not compressed before distribution. If you want to include a large group of files or a very large file, use a fileset, which handles these large tasks more efficiently.

You can use the **Run Time File Copy** task to identify a file that you want copied to the workstation directly from the originating server at the time of the update. This ensures that the latest version of the file is delivered.

You can use the **WinCompare task** to browse for a WinCompare package definition file (PDF). Upon selecting and saving the file, a fileset will be automatically created to include all necessary files. This is to prevent users from receiving the package before the WinCompare directory structure has been replicated on the target server.

Creating a Package



To add tasks and create a new package, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the **+** next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Right-click Packages and choose **New**.

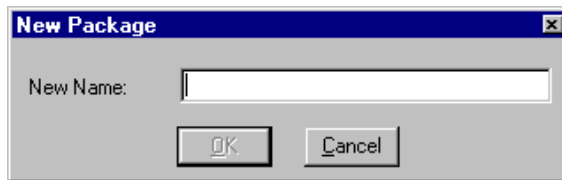


Figure 4-1.

3. Enter a descriptive name for the package and click OK to display the New Package dialog.

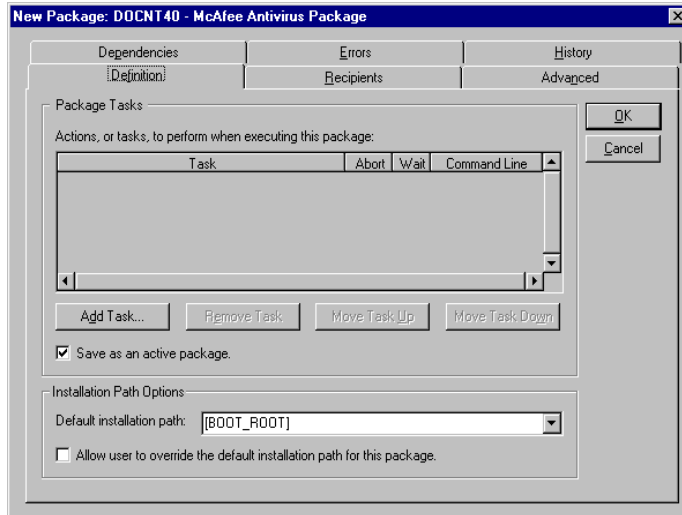


Figure 4-2.

A descriptive name provides an extended label to easily identify the contents, such as McAfee VirusScan 95. Using a label with fewer than 20 characters is recommended for ease-of-use in smaller dialogs.

4. From the Definition tab, click Add Task to add package tasks.

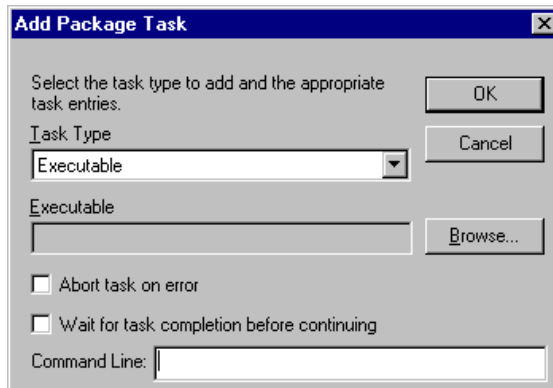


Figure 4-3.

5. Choose one of the following from the Task Type drop-down list.

- **Executable.** Select this task to add an executable file. The executable will run at the recipient machine upon delivery. To configure the task further, do the following:

Enter the desired file name in the Executable text box or click Browse to locate the desired file.



For more information on McAfee's VirusScan, visit the McAfee home page at www.mcafee.com.



Refer to page 49 for a description of these tasks.

- **File Copy.** Select this task to add uncompressed files that you want copied to the recipient machine. The selected file is copied from the specified path to the originating server. When delivered, it is copied to the recipient workstation.

Enter the desired file name in the File Copy text box or click Browse to locate the desired file.

- **Run Time File Copy.** Select this task to add files that you want copied directly from the server at the time of the update.

Enter the file name in the Run Time File Copy text box or click Browse to locate the desired file.

- **Fileset.** Select this task to add a fileset or choose a fileset from the Available Filesets list.

Select the desired Fileset from the Available Filesets list box and click OK.

- **QuickScript.** Select this task and choose a QuickScript from the Available QuickScripts list.

Select the desired QuickScript from the Available QuickScript list box and click OK.



QuickScripts must be compiled successfully to be available for a package.

- **WinCompare.** Select this task to add a package definition file (PDF) created by WinCompare.

Enter the desired file name in the WinCompare file text box or click Browse to locate the desired file.

6. Select the Abort task on error check box to automatically have the package and the remaining tasks abort in the event that this task fails. Previous tasks that were completed successfully will not be undone unless you select the 'Undo' option.
7. Click OK to add your selection to the Actions to Perform list.

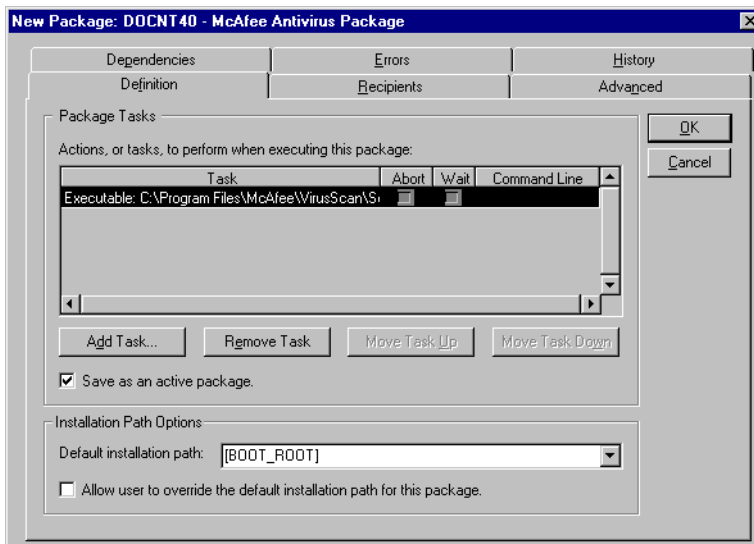



Figure 4-4.

8. Repeat Steps 4 through 7 for each task you want to add.

✍ Your tasks will be performed in the order that they are listed. To move a task up or down in the Actions to Perform list, select it and click the Up or Down button.

9. If you are finished configuring your package, select the 'Save as an active package' check box. If you are not sure you want to distribute the package on the start date, or if you plan on making changes to it before it is distributed, deselect this check box.

 The default setting selects this option so that the package is active on the start date. If the package is inactive on the start date, the package will not be distributed.



You can append these paths to further define the target destination for the files.

10. In the 'Default installation path' field, use one of the following methods to specify where the distributed software will be decompressed and copied.
 - Enter the path as a drive mapping and directory combination (e.g., C:\BIN\DRIVERS).
 - Enter the path as a server, volume, and directory combination (e.g., SERVER/VOLUME:\DIR or VOLUME:\DIR).
 - Select one of the following target path options from the drop-down list.

Option	Description
[BOOT_ROOT]	The root of the receiving workstation's boot disk. (For NetWare recipient servers, this path is interpreted as SYS:\BOOTROOT and for NT recipient servers this path is interpreted as C:\BOOTROOT.)
[HDRIVE]	The receiving workstation's first hard drive.
[NDRIVE]	The receiving workstation's first mapped network drive.
[NETCFG]	The receiving workstation's network configuration path.
[WINDIR]	The receiving workstation's Windows directory. (This is different from the [WINDIR] environment variable.)
[WINSYSDIR]	The receiving workstation's WINDOWS\SYSTEM directory. (This is different from the [WINDIR] environment variable.)

11. To give users the option to override the default installation path for this package, select the provided check box in the Path Options group box.

When the package is delivered, a dialog prompts the user to either accept the default installation path or enter a new one (see [page 46](#)).

12. Continue to the next section to add recipients to your package.

Selecting Package recipients







When you create a new package, the Distribution module automatically generates and displays a list of available network recipients on the Recipients tab. This list includes software distribution servers and inventory sites. By expanding this list, you can access all users, groups, servers, and workstations on your network.



You can only select recipients by machine ID if you have your inventory collection configured.

*You can choose recipients by machine ID or by name. If you choose a workstation or server **machine** as a recipient, any user who logs in to the network from that machine will receive the package. If you choose a user or group **name** as a recipient, the first machine that the user logs in to the network from will receive the package.*

The following table shows the icons that are displayed in the list of available recipients and the corresponding package destinations.

Icon	Description	Where package is delivered
	NT server (light blue monitor)	Package contents are copied to the server.
	NetWare server (red monitor)	Package contents are copied to the server.
	Groups of users	Package contents are delivered to the first workstation that each of these users logs in to.
	Single user	Package contents are delivered to the first workstation that this user logs in to.
	Inventory site	Package contents are copied to each server in the site and delivered to the workstations when any user logs in.
	Inventory computer	Package contents are delivered to this specific server or workstation regardless of the user.

You can choose any number or combination of recipients for your package.

For optimum database performance, McAfee recommends you select recipients by group name for larger distribution jobs.



To add recipients to your package, perform the following steps.

This procedure assumes that you have accessed the New Package dialog, as described on [page 49](#).

1. From the New Package dialog, select the Recipients tab.

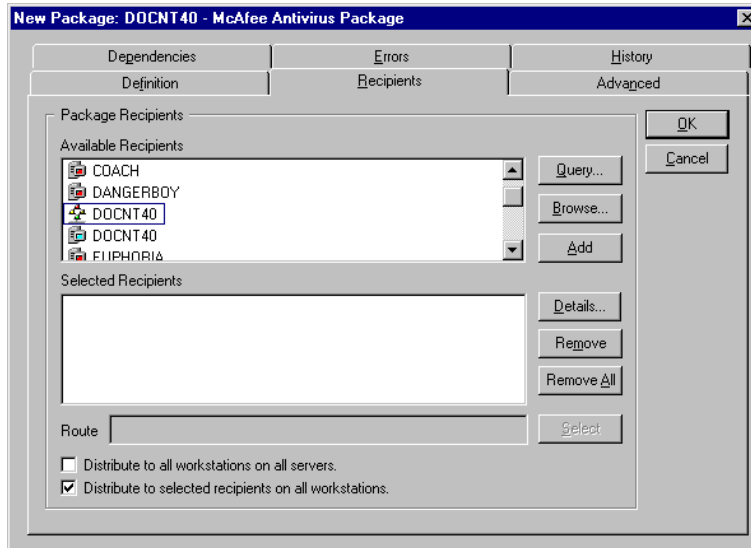


Figure 4-5.



Your inventory collection must be configured to see sites and use the Query ([page 73](#)) and Details buttons ([page 79](#)).

- From the Available Recipients list box, select the server which contains the users' and groups' you want to send a package to and click Browse.

You can also double-click on the server which contains the users and groups you want to send a package to.

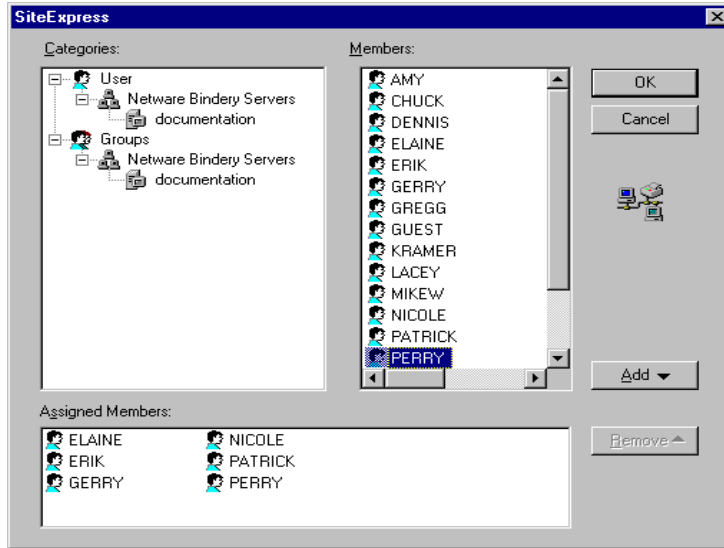


Figure 4-6.

- Expand the + next to user and/or groups to display the servers.
- Double-click the server who users and groups you want to add as recipients.

The users and/or groups are displayed in the Members list box.

- In the Members list box do one of the following to add a user or group to the current package's recipient list:

- Right-click the desired user or group and choose **Add**.
- Double-click the desired user or group.
- Select the user or group and click Add.

The selected users and/or groups are displayed in the Assigned Members list box.



To select multiple entries, press the CTRL key, select the desired users or groups, right-click and choose **Add**.

6. Repeat Steps 1 through 5 for each recipient you want to add.
7. To view a group's members, right-click any group in the Members list box and choose **Details**.



Figure 4-7.

8. In the Assigned Members group box, do one of the following to modify the assigned members:
 - To delete an assigned member from the recipient list, right-click any entry and choose **Remove**.
 - To edit an assigned member, right-click any entry, and choose **Edit**.
 - To add a new assigned member, right-click any entry, and choose **New/User** or **/Group**.
9. When all the users and groups you want to receive the current package are listed in the Assigned Members group box, click OK to return to the Recipients tab.

The selected recipients are displayed in the Selected Recipients list.

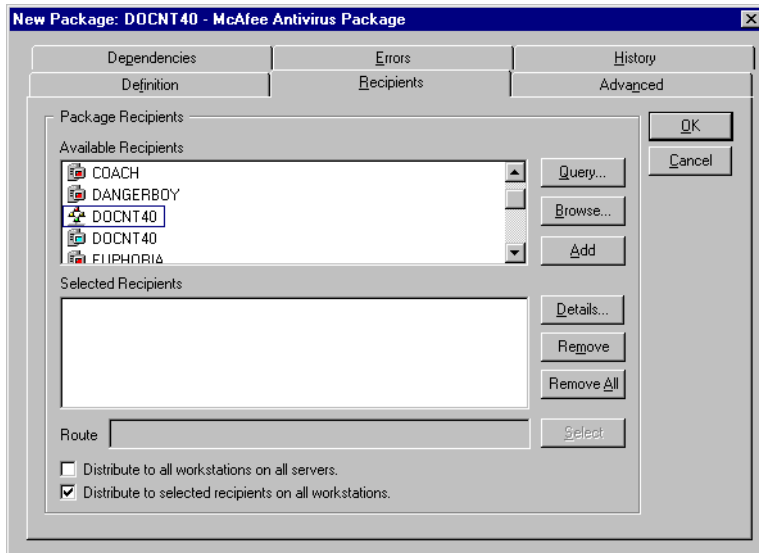



Figure 4-8.

10. If the recipient is a remote server or attached server, either accept the default route (the first known route is automatically displayed and selected for you) or designate an alternate route by clicking Select and choosing an alternate route in the Route text box.

To view the current route to a remote recipient, select the recipient in the Selected Recipients list. The Route is automatically displayed in the route text box.

A remote server is the server where users reside when it is not the originating server. For example, if you create a package on Server A and include a recipient who resides on Server B, Server A is the originating server and Server B is the remote server. When selecting a route to Server B, you can choose any IP or IPX route, even if the server can be seen via local IPX. The Route text box reflects the correct route. If you select a user from the originating server, however, the route text says "N/A Server <servername> is originator."

11. To distribute the package to users at each workstation they log in to, select the 'Distribute to recipients on all workstations' check box.

 *When selected, the package is delivered to every workstation that the users log in to. This allows users to work at multiple workstations and receive the packages at each workstation.*

12. If you want to distribute the package to all users who log in to the server, select the 'Distribute to all workstations on all servers' check box.


The package is sent with the Force distribution option set. If you want the package delivery to be optional, you can turn this option off. Depending on how many servers your users log in to, they may receive more than one copy of a package. Therefore, only enable this feature from a single server to prevent users from receiving multiple package copies.

13. Click OK to save or refer to the sections in the table on [page 64](#) to use the settings on the remaining tabs.

If you click OK, the package will appear in the Console as an object in the tree and results views. Refer to for instructions on viewing your packages.

Using recipient options

You can also select recipients using the **query** feature and view a recipient's machine details using the **details** features.

 *You must have McAfee's Inventory module installed to use these two features.*

Using the **query** feature, you can create a list of recipients based on their hardware or software configuration. For example, if you are distributing an application that will only operate on 486 machines, you can build a query that will in turn build a recipient list containing only those workstations or servers that are 486 machines. This feature relies on information from software and hardware inventory collection by McAfee's Inventory module. For more information, see ["Running a Query to Identify Recipients" on page 73](#).

Using the **details** feature, you can view a machine's station information, hardware, software, and system files information before selecting a certain recipient to receive a package. For example, you can select a recipient user or workstation and then click the details button to determine whether or not the recipient's environment can support the package. For more information, see [“Viewing a Machine's Inventory Data” on page 79](#).

Both of these powerful features allow you to reduce the number of failed packages that result from an incompatible or insufficient environment at the receiving workstation or server.

Viewing Packages

You can view a list of defined packages for a server from the Console by expanding the scope view under the Packages node. By clicking the **+** next to Packages in the scope view, all defined packages for the current server are displayed in the results view, as shown in Figure 4-9.

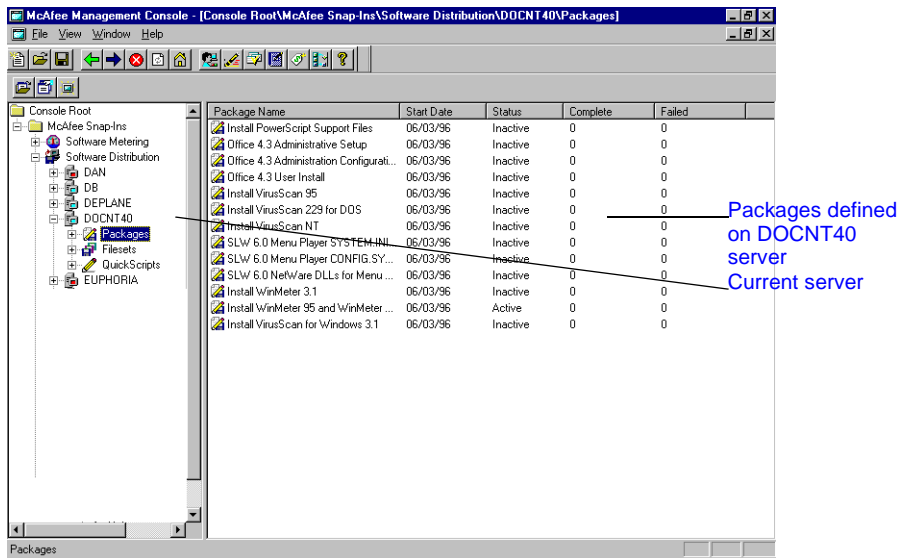


Figure 4-9.



If you have McAfee's Inventory module installed, but you do not want to view inventory packages from this results view, refer to [“Managing Inventory Packages” on page 63](#) to set your Console to display only distribution packages.

From here you can right-click the individual packages in the results view to produce a context menu with the following commands:

- New (page 49)
- Open (page 86)
- Rename (page 87)
- Delete (page 88)
- Activate\Deactivate (page 89)
- Distribute Now (page 83)
- Details (page 91)

Managing Inventory Packages



If you have begun collecting inventory using McAfee's Inventory module, the packages listed for software distribution include the packages that are automatically created during inventory collection. To maintain an orderly view of software distribution packages, you can hide the inventory package from view.

Do not open or edit inventory packages as modifying these packages will adversely affect the operation of McAfee's Inventory module. This feature is only available if you are using the Inventory module.



To display only software distribution packages in the results view, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Right-click Packages and choose **Properties**.

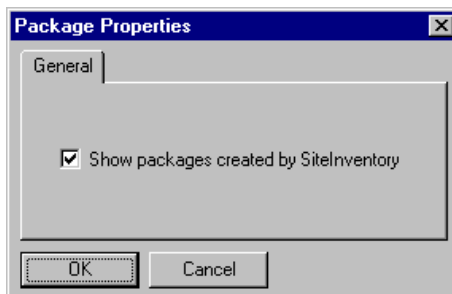



Figure 4-10.

3. Deselect the Show packages created by SiteInventory check box to hide the inventory packages.

 *The inventory packages play an important role in inventory collection, but do not require viewing. If you hide these packages, your distribution packages will be more easily located and accessed.*

4. Click OK to save your setting and return to the Console.

Where to go from here

The above procedures (identifying package contents and selecting recipients) are the only ones that are required to create a package. The Distribution module, however, provides numerous other options that give you increased control over how you distribute software on your network.

At this point, you can further define the package you just created in the Console referring to [Chapter 5, “Using Package Options,”](#) which outlines additional package features and [Chapter 6, “Managing Packages,”](#) which describes how to edit and monitor packages that you have already created. Or you may choose to use the optional settings on the remaining tabs in the New Package dialog. Refer to the table below for a list of options and the location of their related procedures.

To...	See...
Choose delivery and failed package options	“Choosing distribution options” on page 66
Set up package dependencies	“Adding package dependencies” on page 69
Choose advanced Windows-related options	“Selecting error options” on page 71


What You'll find in this Chapter

The Distribution module provides extensive options for defining your packages. [Chapter 4](#), described how to complete the minimum procedures necessary to create a package for distribution: identifying package contents and selecting recipients. This chapter describes all of the additional features and settings you can use to have greater control over how software is distributed to the servers and workstations on your network.

The table below outlines the procedures in this chapter:

To...	See...
Specify distribution options such as forcing a package delivery or allowing it to be optional	"Using Optional Package Settings" on page 66.
Specify the date and time a package becomes available for distribution	"Choosing distribution options" on page 66.
Specify what desktop environments the package should be delivered to	"Choosing distribution options" on page 66.
Prevent the package from being delivered prior to another package on the same desktop	"Adding package dependencies" on page 69.
Configure failed package options such as aborting the delivery or reverting the desktop to its previous status	"Selecting error options" on page 71.
Configure a package when it encounters Windows errors	"Selecting error options" on page 71.

To...	See...
Use the Inventory module to create a package recipient list	“Running a Query to Identify Recipients” on page 73.
Determine the status of network users’ workstations prior to adding them as package recipients	“Viewing a Machine’s Inventory Data” on page 79.

 *The procedures in this chapter assume that you have already created a package with the desired package tasks (fileset, script, executable, etc.) and recipients. If you have not done so, please refer to the procedures on [page 49](#) and [page 56](#).*

In addition to these options, the Distribution module also includes several pre-defined packages. For more information on using these, refer to [Appendix B, “Using the Predefined Packages.”](#)

Using Optional Package Settings

The New Package dialog, where you identified package contents ([page 49](#)) and selected recipients ([page 56](#)), has optional tab settings. This section describes how to use the settings on the following tabs:

- Advanced Options ([page 71](#))
- Dependencies ([page 69](#))
- Errors (below)

The History tab is described in Chapter 6 on [page 89](#).

Choosing distribution options

You can configure package distribution options on the advanced tab. From here you can specify whether a user can refuse a package, when a package becomes available for distribution, and to what specific operating systems the package can be sent.



To select distribution options, perform the following steps.

This procedure assumes that you have already created a package (or are modifying a predefined package), as described on [page 49](#).

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Packages nodes to display the server's existing packages in the results view.
3. Right-click the desired package and choose **Open**.
4. From the Open Package dialog, select the Advanced tab.

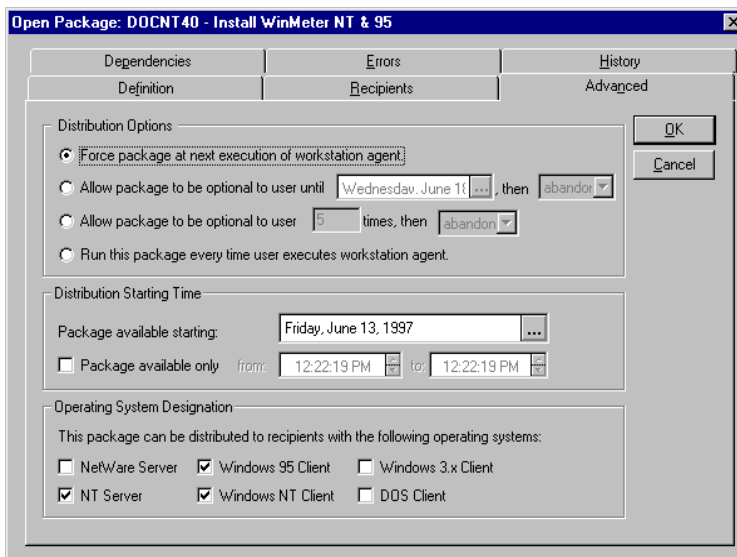


Figure 5-1.

5. Select one of the following workstation delivery options.

This is a required step.

- **Force package at next execution of workstation agent.** Makes the package mandatory, which automatically updates the workstation the next time the user logs in. This option is useful for most software distribution packages and is the default setting in each package.

- **Allow package to be optional to user until [DATE], then [ABANDON, FORCE].** Gives the user the option to refuse the package until a date that you specify, after which the package becomes mandatory on the expiration date or is abandoned.
- **Allow package to be optional to user [# TIMES], then [ABANDON, FORCE].** Gives the user the option to refuse the package a limited number of times, after which the package becomes mandatory or is abandoned when the number of refusals is exceeded.
- **Run this package everytime user executes workstation agent.** Delivers the package every time the user logs in. This option is useful with the Run Time File Copy task to deliver updated files to users daily, e.g., to reset users' workstations in a training environment. For details about Run Time File Copy, see [page 49](#).



6. To select the date and time the package is available to the agents for distribution, click the 'Package available starting at' ellipse button.



Figure 5-2.

7. Use the calendar control to select the date and click OK.

The package will not be delivered prior to this date.

8. To restrict package distribution based on time, set the time range in which the package can be sent in the 'Package only available' From and To spin boxes.

For example, if you want the package to be distributed between the hours of 8:30 a.m. and 5:30 p.m., enter those dates in the spin boxes.

9. To specify operating systems that this package can be delivered to, select the provided check boxes.

Available operating systems include:

- NetWare Server
- NT Server
- Windows 95 Client
- Windows NT Client
- Windows 3.x Client
- DOS Client

10. Click OK to save the package and return to the Console or continue with the next sections to use more options.

Adding package dependencies

You can set up a package to be delivered to a workstation or network drive only if a previous package has already been successfully sent. Using this feature, you can designate the order that you want packages distributed. For example, you may want to install Word for Windows 95 after a package with a Windows 95 upgrade has been distributed. You can make the delivery of the Word package dependent upon the successful installation of the Windows 95 upgrade.

Be careful when setting up package dependencies; in particular, avoid the two scenarios explained below.

- Avoid creating a dependency on a package that is not scheduled to be distributed until much later than the original package. For example, do not make Package A dependent on Package B, which is scheduled for delivery two weeks after Package A.
- Avoid sending your current package with a dependency on another package that has a different recipient list. In this situation, your current package may have recipients who are not on the other recipient list, so their workstations will not have the required software when this package attempts delivery.



To add dependencies to a package, perform the following steps.

This procedure assumes that you have already created a package (or are modifying a predefined package), as described on [page 49](#).

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Packages nodes to display the server's existing packages in the results view.
3. Right-click the desired package and choose **Open**.
4. From the Open Package dialog, select the Dependencies tab.

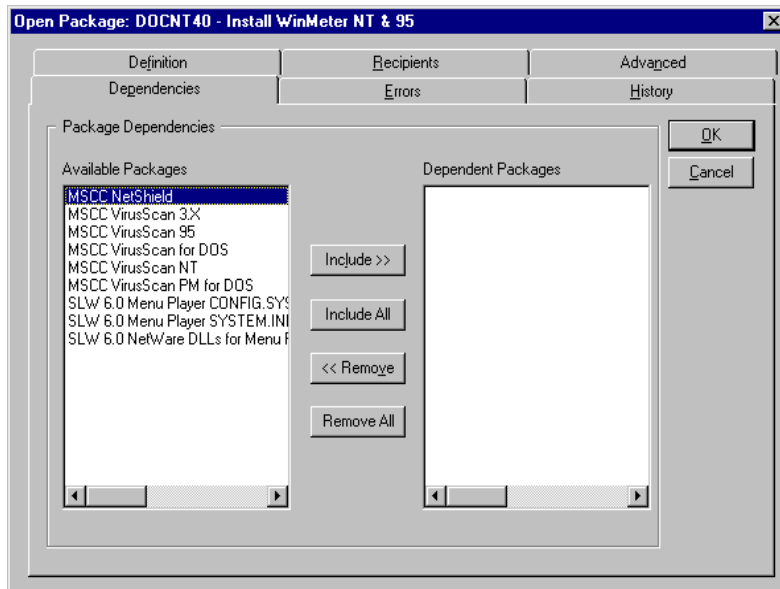


Figure 5-3.



In this figure, the package Word for Windows depends on the Windows 95 Package.

5. Select a package from the Available Packages list that you want the current package (listed in the title bar) to be dependent on and click Include.

Select a package from the dependent Packages list and click Remove to release the current package's dependency on it.

6. Click OK to save the package and return to the Console or continue with the next sections to use more options.

Selecting error options

The Distribution module includes invaluable settings to control failed packages. These settings are located on the Errors tab. You can prevent failed packages by specifying how a package responds to certain errors. You can also specify what a package should do if it encounters a Windows error.



To select error options, perform the following steps.

This procedure assumes that you have already created a package (or are modifying a predefined package), as described on [page 49](#).

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the **+** next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the **+** next to the Packages nodes to display the server's existing packages in the results view.
3. Right-click the desired package and choose **Open**.
4. From the Open Package dialog, select the Errors tab.

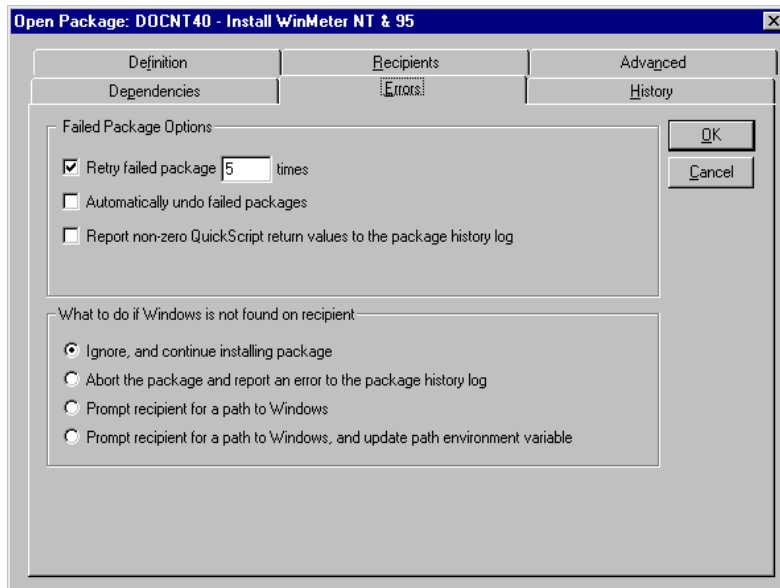




Figure 5-4.

5. Choose any or all of the following options to specify the actions that should occur when a distribution attempt fails.

 *This is an optional step.*

- **Retry failed package [# TIMES].** Generates follow-up attempts for failed packages. Choose the maximum number of attempts to deliver the package.
- **Automatically undo failed packages.** Activates the undo feature to reverse actions this package may have performed on the workstation before encountering a problem and failing. The workstation is reverted back to its previous state.

 **Exceptions:** *Changes from an executable package task and the script functions listed below cannot be undone.*

APPENDPATH	ENDIF	PAUSE	STRCOMPARE
ASSIGN	FINDFILE	REBOOT	STRCOPY
DEFINE	IF	SHELL	UPGRADEOS
ELSE	NUMTOSTR	STRCAT	WRITELN



For information on non-zero values, see “Return values” on page 192.

- **Report non-zero QuickScript return values to the history log.** Generates a record of unsuccessful QuickScript commands. This usually indicates that a script command was not able to execute successfully.
6. To specify what a package should do if it encounters a Windows error, select one of the following:

 *These options are valid for all versions of Windows.*

- **Ignore, and continue installing package.** Detects and logs the error, then proceeds to install the software to the default installation path. Use this option if you want to know that Windows wasn’t found, but you want the package delivered anyway.
- **Abort the package and report an error to the history log.** Detects and logs the error, then stops the distribution process. Use this option if you want to know that Windows wasn’t found, and you want to cancel the package delivery until you can investigate the problem.

- **Prompt recipient for a path to Windows.** Detects and logs the error and then displays a message dialog on the workstation desktop. The dialog prompts the user to enter a path where the package can be installed. Once the user enters a path, the software is installed. Use this option if you are not sure where Windows is located, and you want the user to provide the path.
- **Prompt recipient for a path to Windows, and update path environment variable.** Detects and logs an error, and then displays a message dialog on the workstation desktop. The dialog prompts the user to enter a path where the package can be installed. Once the user enters the path, any directory names that are not in the path are created. Use this option if you are not sure where Windows is located, you want the user to provide a path, and you want any missing directories to be created so that the software can be successfully installed.

7. Click OK to save the package and return to the Console.

Running a Query to Identify Recipients

If you are already collecting inventory using McAfee's Inventory module, you can use the inventory query feature to generate recipient lists based on software and hardware characteristics. You can choose any number of specific workstation requirements for your software distribution. The inventory information is then used to compile a list of the workstations that meet your criteria.



You must have the McAfee Inventory module installed and configured to use the query feature.


Example: You may want to distribute Word for Windows 95 to users who have Windows 95 and a Pentium workstation. To locate all of the workstations that meet these criteria, run a query from the Recipients tab with these two filtering items. The query will then create the recipient list for you and identify each workstation that qualifies for your package.

This feature can save time by eliminating the tedious process of determining machine requirements before sending software. It also avoids failed packages due to insufficient environments at the receiving workstations or servers.

How queries work


A query compares hardware and/or software characteristics to specified values using conditions and expressions that you define. For example, you may want workstations with a mouse, either Windows 3.1 or Windows NT, and CPUs whose speeds are greater than 33 MHz. You can create a query to locate the workstations that meet all three of these requirements.

When the query runs, it uses the information obtained during the latest inventory audit. If your inventory audit or process updates this information weekly and this collection occurred five days ago, the list will be generated based on the information collected five days ago.

 *See the manual Automating Hardware and Software Inventory for more information on how your inventory is collected.*


If you are redistributing a package that has a query-generated recipient list and your hardware and software inventory has changed, you should run the query again before activating the package. This updates the recipient list with the current network information.

Applying a query to a recipients list

 *This procedure assumes that you have already created a package (or are modifying a predefined package), as described on [page 49](#).*



To create a recipient list from a query, perform the following steps.

 *The procedures in this section include the specific steps to create a query that would limit the recipient list to users who have Windows 95 and a Pentium workstation. Using the sample entries is not required; they are included solely to illustrate how a query works. These sample entries are indicated with a note that says **Example**.*

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Packages nodes to display the server's existing packages in the results view.
3. Right-click the desired package and choose **Open**.

4. From the Open Package dialog, select the Recipients tab.
5. Select a site or server from the Available Recipients list and click Query.

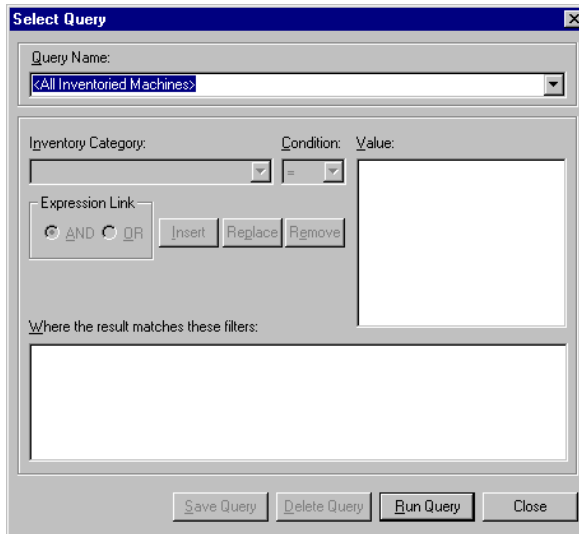


Figure 5-5.



If you want to apply an existing query, select one from the Query Name list and skip to Step 14.

6. In the Query Name text box, enter the name of the query you are creating.

 **Example:** *Users with Windows 95 and a Pentium workstation.*

7. From the Inventory Category drop down list, select the category for the filter you are creating.

 **Example:** *Select Operating System Name.*

8. Select one of the following conditions from the drop-down list box:

- < (less than)
- <= (less than or equal to)
- <> (not equal to)
- = (equal to)
- > (greater than)
- >= (greater than or equal to).


 **Example:** *Select =.*

9. From the Value group box, select the value to which the condition should apply.

The list compiled during inventory collection only displays the values that can apply to the inventory item you have selected. For example, if you have chosen a CPU speed, the values pertaining to MHz will be displayed. This prevents you from having to scroll through version numbers, CPU types, or other unrelated values.

 **Example:** *Select Windows 95.*

10. If you want to filter the results view based on more than one condition, select one of the following Expression links.
 - **AND** specifies that both conditions must be true for the item to appear in the results view.
 - **OR** specifies that either one or both of the conditions must be true for the item to appear in the results view.

 *For example, if your first set of criteria is "Video Monitor = Color" and you are adding a second set "CPU type = 80486", you can choose 'AND' with the second set to require both sets. Then, when defining your third set of criteria, "CPU type = 80486dx", you would choose 'OR' so that either CPU type is included.*


 **Example:** *Select AND.*

11. Click Insert.

The expression is moved to the 'Where the results matches these filters' group box.

12. To add additional criteria, repeat Steps 7 through 10. Then highlight the existing filter in the 'Where the result matches these items' and do one of the following steps.
 - Select the filter you want the new one to precede in the 'Where the result matches these items' and then click Insert.

- Highlight a filter in the in the 'Where the result matches these items' group box that you want to replace and click Replace.

 **Example:** Setup another criteria as follows: *CPUType=Pentium*. Then click Insert.



After saving the query, you can modify any of the data you entered by opening this dialog and making the desired changes.

13. Click Save Query to save the defined query in the query database.

Figure 5-6 illustrates a sample query in which the recipient list will be filtered to show only those workstations that have Windows 95 and a Pentium chip.

Select Query

Query Name: Users with Windows 95 and a Pentium workstation

Inventory Category: CPU Type Condition: = Value: Pentium

Expression Link: ☒ AND ☐ OR

Where the result matches these filters:

Operating System Name	=	Windows 95 Build 950
AND CPU Type	=	Pentium

Figure 5-6.

You must save the query to the database before running a new query or the previous set of criteria will be used.

14. Click Run Query to generate a new recipient list. The qualifying recipients are displayed in the Selected Recipients list box, as shown below.

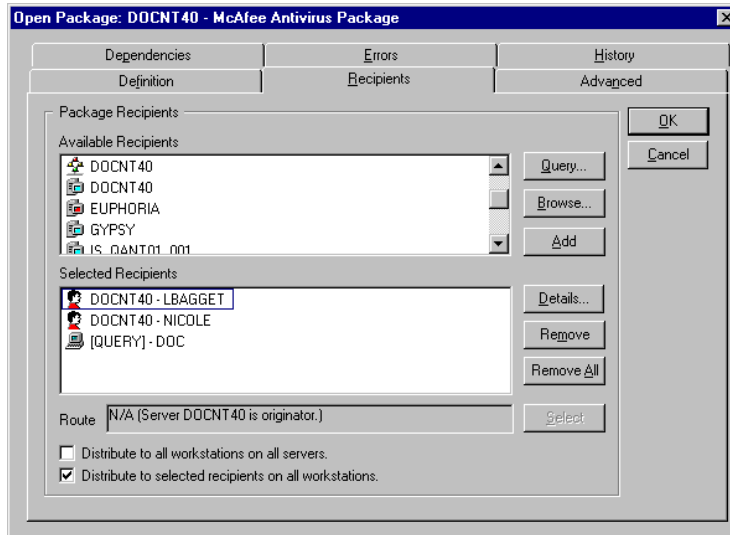



Figure 5-7.

 **Example:** For the sample query created, the only recipient that met the criteria is Doc.


Refer to “[Selecting Package recipients](#)” on page 56 for more instructions about creating your recipient list.

Changing query criteria

If you want to distribute a package to workstations that meet most of the criteria already defined but you want to add or remove some of the criteria, you can edit the query and generate a new recipient list.



To add or remove criteria in a query, perform the following steps.

 This procedure assumes that you have accessed the Open Package dialog, as described on [page 74](#).

1. From the Open Package dialog, select the Recipients tab.
2. Click Query.
3. Select a query from the drop-down list.



To delete a query, just select the query name and click Delete Query.


4. Perform one of the following steps to modify the query:
 - To add criteria, select the inventory category, condition, and value and click Insert.
 - To replace a current query, select the query in the text box that you want to replace, and then click Replace.
 - To remove criteria, select the criteria in the 'Where the result matches these filters' box and click Remove.
5. Click Save Query to update the query database.
6. Click Run Query to display the list of qualifying recipients in the Selected Recipients list box.

Viewing a Machine's Inventory Data

If you have installed the Inventory module, and have run the Inventory collection agents on your network machine, you can view a machine's inventory data before adding it as a package recipient. You can also view inventory data for specific workstations or servers on your network. This information is available when you begin collecting inventory and is updated according to your inventory collection settings.



To view inventory data about a specific workstation or server, perform the following steps.

 *This procedure assumes that you have already created a package (or are modifying a predefined package), as described on [page 49](#).*

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Packages nodes to display the server's existing packages in the results view.
3. Right-click the desired package in the results view and choose **Open**.
4. From the Recipients tab, select the desired workstation or server and click Details.

The Properties dialog is displayed.

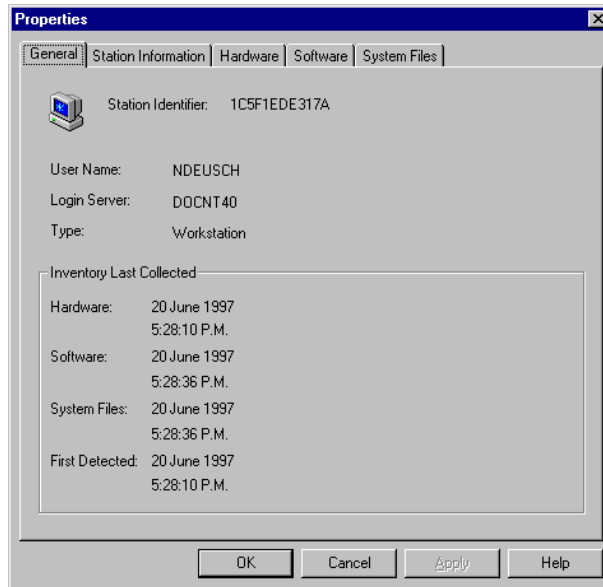



Figure 5-8.

5. Select one or more of the following tabs from the Properties dialog to view the inventoried information about the workstation or server you want to receive a package:

 *For more information on inventory collection, refer to your Automating Hardware and Software Inventory manual.*

- **General.** The General tab displays the last date and time the current machine's hardware, software, and system files were inventoried. This tab also displays the machine's type, station identifier, user name, and primary login server.
- **Station Information.** The Station Information tab displays the detailed information (i.e., computer name, department, user name, etc.) about the specific machine.
- **Hardware.** The Hardware tab displays the detailed hardware information (i.e, mouse, logical drive, CPU type, etc.) about the specific machine.

- **Software.** The Software tab displays the software applications that are installed on the specific workstation (i.e., Excel, Adobe Acrobat, Word for Windows, etc.).
 - **System Files.** The System Files tab displays a list of the machines network system files. It displays the application's version, vendor and category information, installation type and directory.
6. Click Close to return to the Recipients tab.

Overview

The Distribution module offers useful functions that help you manage and monitor your packages. Once you have created packages for distribution, you may need to change some of the settings for the package to reflect changes in the files being delivered, updates to the recipient list, or any other changes on your network. From the Console, you can:

- Distributing Packages OnDemand ([page 83](#))
- Edit packages ([page 86](#))
- Rename packages ([page 87](#))
- Delete packages ([page 88](#))
- Change a package's status ([page 89](#)).

You may also want to track the activity of your packages to see if they have been sent, if they were successful, and which users received them. In addition to using the distribution reports described in [Chapter 10, “Generating Distribution Reports,”](#) you can monitor your package activity from the Console using one of the following methods:

- Viewing package history ([page 89](#))
- Viewing package activity details ([page 91](#)).

Distributing Packages OnDemand

Using OnDemand Software Distribution, you can force a package delivery to any workstation on your network immediately. You no longer have to wait for the Distribution agents to run at a specified time or at machine startup. You can kick-off the Distribution agents at any time to deliver a package to a specific workstation.

Your Main Steps

Your main steps to distributing packages OnDemand are listed below.

1. Run WMSETUP.EXE at each user's workstation.

Refer to [“Configuring Workstations for OnDemand Distribution” on page 83](#) for more information.

2. Create a package and select recipients.

Refer to [“Creating a Package” on page 51](#) and [“Selecting Package recipients” on page 56](#) for more information.

3. Perform OnDemand distribution.

Refer to [“Performing OnDemand Distribution” on page 85](#) for more information.


Configuring Workstations for OnDemand Distribution

The Distribution module and server processes (NLMs and NT Services) work with workstation agents to deliver packages OnDemand. These workstation agents are installed to your network users' workstations through the WMSETUP.EXE installation program. WMSETUP will install one of the following agents:

- **WINMTRNT.** This agent, also referred to as WinMeterNT, is installed to all Windows NT machines.
- **WINMTR95.** This agent, also referred to as WinMeter95, is installed to all Windows 95 workstations.
- **WINMETER.** This agent, also referred to as WinMeter31, is installed to all Windows 3.x workstations.

The Distribution module includes two packages that help automate the WMSETUP installation process. These packages, *Install WinMeter 3.1* and *Install WinMeter 95 and WinMeter NT*, when distributed, will install the appropriate agent and make changes to the user's WIN.INI file (Windows 3.1 and Windows for Workgroups) or system registry (Windows 95 and NT).

To install WMSETUP on your users' workstations using the software distribution packages, follow the procedure below.


 *This procedure can only be performed after the Distribution agents have been configured, the product NLMs (page 25) and NT Services loaded (page 28), and the Console launched.*

1. From the Console, click the + next to the Software Distribution object to expand the scope view. Then click the + next to any server to display the Packages, Filesets, and QuickScripts nodes.


2. Double-click the Packages node.

A list of predefined packages is displayed in the results view.

3. Right-click the "Install WinMeter 95 and WinMeter NT" package and choose **Open**.

 *This package contains one fileset (QuickScript: AGENT32.SDC). The default installation path has been defined as [BOOT_ROOT].*

4. From the Open Package dialog (Definition tab), enter the date you want the package to be available for distribution in the 'Start date' text box.
5. To save the package, select the provided check box and accept the default installation path. (By saving the package you are configuring it for immediate distribution at the specified time intervals.)
6. Select the Recipients tab. From the Available Recipients list box, select the server which contains the users' and groups' you want to send a package to and click Browse.

 *You can also double-click the server containing the users and groups you want to receive the current package.*

7. Expand the + next to user and/or groups to display the servers.

8. Double-click the server who users and groups you want to add as recipients.

The users and/or groups are displayed in the Members list box.

9. In the Members list box do one of the following to add a user or group to the current package's recipient list:


- Right-click the desired user or group and choose **Add**.
- Double-click the desired user or group.
- Select the desired user or group and click Add.

The selected users and/or groups are displayed in the Assigned Members list box.

10. Repeat Steps 6 through 9 for each recipient you want to add.

11. Click OK to return to the Console.

The package is saved and updated in the results view to reflect its 'active' status.

 *If necessary, repeat this procedure for the 'Install WinMeter 3.1' package.*



To select multiple entries, press the CTRL key, select the desired users or groups, right-click and choose **Add**.

Performing OnDemand Distribution



To perform OnDemand Software Distribution, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Packages nodes to display the server's existing packages in the results view.

3. Right-click the desired package and choose **Distribute Now**.

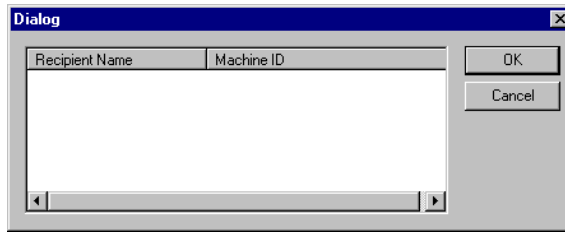



Figure 6-9.

 *The list of recipients displayed in the Dialog are those users and groups that were selected to receive the current package. The Machine ID will only display if these machines were inventoried using the Inventory module. Refer to your **Getting Started guide** for further details.*

4. From the Dialog, select the recipients you want to receive the package and click OK.

Editing Packages

You can change the package settings in an actively scheduled package. For local recipients, the changes apply to any distributions performed after the revised package is saved. For remote recipients, the NLM or NT Service will transfer the updated package to the distribution server when the next distribution cycle occurs.



To edit a package, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Packages nodes to display the server's existing packages in the results view.
3. Right-click the desired package and choose **Open**.
4. From the Open Package dialog, make the desired changes to the package.

For detailed information on choosing package settings, refer to the following procedures:

- “Identifying Package Contents” on page 49
- “Selecting Package recipients” on page 56
- “Choosing distribution options” on page 66
- “Adding package dependencies” on page 69
- “Selecting error options” on page 71.

5. Click OK to save and return to the Console.

Renaming a package

Changing the name of an existing package renames it in the Packages results view in the Console. Only the package's descriptive name will change, not its file name located in the MCAFEESM\DATABASE\SITEXPRS\PACKAGES directory.

 *Actively scheduled packages can be renamed.*



To rename a package, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Packages nodes to display the server's existing packages in the results view.
3. Right-click the desired package and choose **Rename**.



Figure 6-1.

4. Enter the new package name and click OK.

The results view is updated to reflect the new package name.

Deleting a package

If a package becomes outdated or unnecessary, you may want to remove it from the current server's database. Actively scheduled packages, however, cannot be deleted. To deactivate a package, see [“Changing a Package's Status” on page 89](#).



To delete a package, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the **+** next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the **+** next to the Packages nodes to display the server's existing packages in the results view.
3. Right-click the desired package and choose **Delete**.
4. At the confirmation prompt, click Yes to remove the package.



Controlling Package Errors

The key to effective software distribution is a successful package. The Distribution module gives you extensive control over package errors. You can set failed package options on the **Distribution Options** tab to control how your packages are delivered. If your package requires Windows at the receiving workstation or server, you can use one of the **Advanced Options** to tell the Distribution module what to do if Windows is not detected. You can also ensure that your recipients have sufficient environments to receive the package by using the **Inventory and Query buttons** on the Recipients tab. These work directly with SLW's Inventory module to determine what the recipient's environment is before you send the package.

The Distribution module also provides a means of tracking failed packages when they do occur. First, you can configure the **alerting** feature to notify you of package difficulties. Simply enable the “Package delivery failed” alert or some of the more specific messages, such as “Unable to determine install path.” When these instances do occur, you will be notified. You can also use the Distribution module's **Incomplete Package Report**, the **History** tab, and the **Details Log** to find out what packages did not reach their intended recipients.

The Distribution module not only puts powerful preventative measures in your hands, but also gives you diagnostic information to solve package errors.


Changing a Package's Status

You can change the status of a package without opening it. You may want to deactivate a package if it is out-of-date or if you want to delete it.



To change a package's status, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Packages nodes to display the server's existing packages in the results view.
3. Right-click the desired package and choose **Activate/Deactivate**.

 *This menu item serves as a toggle button to change the current status (displayed in the package list) to the alternate status.*

The context menu closes and the status in the package list changes to the new setting.

Monitoring Package Activity

Once you have delivered packages to users across your network, you can track their activity from the Console. Use this feature to answer questions such as: Has the package been delivered to all intended recipients? Have any packages not been run yet?

You can find the answers to these by looking at the History tab in the Open Package dialog. This tab displays a list of all of the recipients included in the package and the status of the distribution for each recipient.

If you are going to redistribute a package, you can **reset** the status to 'Not run yet' using the Reset button. This is useful when a final status is displayed for a package (failed or refused) and you want to redistribute the package to these users. You can reset the status to "Not run yet" and view the new status after redistributing the package.



To view the package history, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Packages node to display the server's packages in the results view.
3. Right-click the desired package and choose **Open**.
4. From the Open Package dialog, select the History tab.

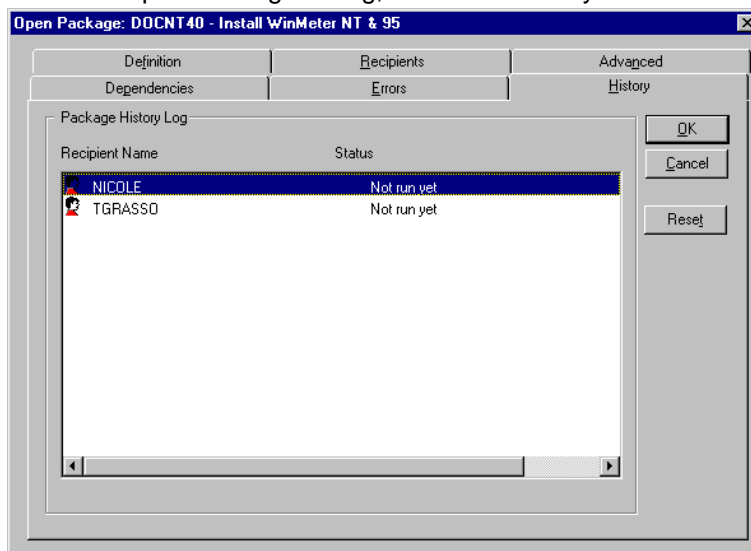



Figure 6-2.

There are six different status types:

Status	Description
Not run yet	The package has not yet been delivered or the option to 'run this package always' has been selected. If this option is used, the status is automatically reset each time the package succeeds. (See "Choosing distribution options" on page 66.)
Completed successfully	The distribution successfully completed all package tasks.

Status	Description
Refused by the user—run again	The user chose to refuse the package, and the package option indicates at least one additional delivery attempt remains.
Refused by the user permanently	The user chose to refuse the package permanently.
Package failed—retry	The package failed and the related package option indicates at least one more attempt remains.
Package failed—will not run again	The package failed and will not be resent.

 *If you have selected the recipients by a group name, the status list does not display the individual names until the update is attempted. This prevents the list from including an extensive list of user names before any activity has occurred. If you select individual user names, you will see each name listed immediately with the status 'Not Run Yet'.*

5. Click OK to return to the Console.

Viewing Package Activity Details


You can view package details, such as when a package got delivered from the Console, whether a package was successful, or what action a package took. The details provide information about package delivery and display any errors that may have occurred. The package detail log also provides useful reference and status information so you can continually monitor distribution activity and manage the distribution of files on your network effectively.

Events are recorded to the detail log chronologically, and each event includes a local date and time stamp. The log displays the workstation address, user and server names, and an event statement.

A variety of events and errors are recorded in the package detail log. Some sample log entries are listed below:

- Package installed successfully

- Error: package delivery failed
- Error [#]: Script [NAME] has not been completed successfully.

 *Nonzero return values for script functions are only logged if this option was selected when creating the package. See [“Selecting error options” on page 71](#) for more information.*



To view a package's logs details, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Packages node to display the server's packages in the results view.
3. Right-click the desired package and choose **Details**.



If there has been no package activity, a message box indicates that there are no log entries to display.

Log Details for: Install WinMeter NT & 95

Log details:

Date	Time	Server	Recipient
06/19/1997	02:12:01 PM	DOCNT40	QA_NJ
06/19/1997	02:12:00 PM	DOCNT40	QA_NJ
06/19/1997	02:06:55 PM	DOCNT40	QA_NJ
06/19/1997	02:06:55 PM	DOCNT40	IS_QAI
06/19/1997	02:06:54 PM	DOCNT40	IS_QAI
06/19/1997	02:01:45 PM	DOCNT40	IS_QAI
06/19/1997	02:01:45 PM	DOCNT40	CLIFFY
06/19/1997	02:01:10 PM	DOCNT40	CLIFFY
06/19/1997	02:01:04 PM	DOCNT40	CLIFFY
06/19/1997	01:59:56 PM	DOCNT40	CLIFFY
06/19/1997	01:59:55 PM	DOCNT40	COACH
06/19/1997	01:59:55 PM	DOCNT40	COACH
06/19/1997	01:54:52 PM	DOCNT40	COACH

OK

Figure 6-3.

4. Review the log details for the current package and click OK to return to the Console.

What is a Fileset?

The key to distributing software across your network is organizing the files that will be delivered to your servers and workstations. Filesets provide a simple and effective means of doing this. A fileset is a list of all files and registry changes to be installed at the receiving workstation or server.

Once you create a fileset, you can use it as one of the building blocks you use when creating a software distribution package. A package contains all of the information and instructions that you specify to transport information from one originating point to multiple points across your WAN. It can contain executables, scripts, and/or filesets.



Filesets are optional. You don't need to create filesets to create packages.

When you define a fileset, you can include any number of files as well as their directory structures. You can choose to store these files in a compressed format to expedite distribution across your network. Once you define a fileset, it can be reused, edited, renamed, copied, and deleted.

Executable files and other files that you want copied to a server or workstation need to be in a fileset. If an executable is added as a package task but is not contained in a fileset, it executes at the time of distribution, rather than being copied to the server or workstation. By distributing the files in a fileset, you ensure that they are saved at their intended destination instead of simply executed there.

Predefined filesets

The Distribution module contains several predefined filesets, which are stored in the \MCAFEESM\DATABASE\SITEXPRS\PACKAGES directory on the server where you installed the Distribution module. These filesets include:

- VirusScan for Windows 3.1 (VSCANW31.SET)
- NetWare .DLLs for SLW Workstations (NETWARED.SET)
- VirusScan NT (VIRUSSCA.SET)
- McAfee VirusScan 229 for DOS (MCAFEEDO.SET)
- WinMeter Setup Files (WINMETER.SET)
- McAfee NetShield NT Setup (MCAFEENO.SET)
- McAfee PM Scan for DOS (MCAFEEMP.SET)
- McAfee VirusScan NT Setup (MCAFEEV1.SET)
- McAfee VirusScan Windows 3.X Setup (MCAFEEV0.SET)
- McAfee VirusScan 95 Setup (MCAFEEVI.SET)
- Current AntiVirus DAT files (CURRENTA.SET)
- McAfee PCMedic 1.01 files (MCAFEEPC.SET)

Refer to [Appendix B, "Using the Predefined Packages."](#) for more information about these filesets.

How filesets work


When you create and save a fileset, it is stored in the \MCAFEESM\DATABASE\SITEXPRS\PACKAGES directory on the originating server. Then, when you create a package, you can access and add the fileset from this location. Later, when the package is delivered, the files are decompressed and the contents are copied to the receiving directory.


Maintaining the directory structure

When you include a file in the fileset, you can include the file's path as well, so it can be copied to the receiving workstation with the same directory structure. A second option instructs the fileset to create the directory structure on the receiving workstation if it does not already exist.

Compressing the files

Once a fileset is named and saved, the files can be compressed if you choose. You can also view the compression information by opening the fileset. Saved filesets provide the information described in the table below.

Column	Description
File Name	Name of the file included in the fileset.
Orig. Size	File size before compression.
Compr. Size	File size after compression.
Ratio	The amount that the file size was reduced as a result of the compression.  <i>Some files may show a 0% compression ratio. This occurs when the file is already compressed or when the file is very small.</i>
Method	The method by which the files are included in the fileset: crushed or stored.
Date	Date the file was originally created.
Time	Time the file was originally created.
Path	Full path for the file if the Include Path option is selected in the Add File dialog (Figure 7-3).

 *The files are decompressed when an active package is delivered and the files are sent to the receiving workstations or servers.*

Creating Filesets



For more information on server and recipient designations, see [page 15](#).

To create a fileset, start by identifying the server that you will use to create the package containing the fileset (called the originating server). By doing so, you ensure that the fileset is available on that server when you are ready to add it to the package.

The Distribution module offers several options for adding files to your package. You can select one or more files by browsing through your directory structure and highlighting the files, or you can select a directory name to include all of the files within that directory.

The Console also supports Windows 95 drag and drop capabilities to add files and directories from an explorer window. To use this method simply click on your highlighted selection in the Explorer and hold down the left mouse button while you drag your selection into the fileset.



To create a new fileset, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the **+** next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Right-click Filesets and choose **New**.

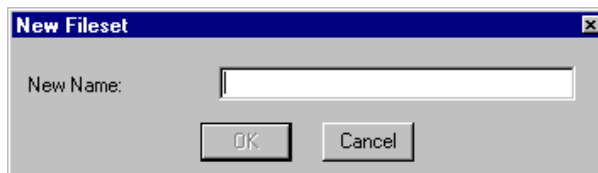



Figure 7-1.

 Available filesets for the selected server are displayed in the results view.

3. Enter a descriptive name for the fileset in the provided text box and click OK.

A descriptive name provides an extended label, such as 'McAfee VirusScan 229 for DOS', to easily identify the contents. Using a label that does not exceed 20 characters is recommended for ease-of-use in smaller dialogs.



This list remains empty until files are added and the fileset is saved.

The Open Fileset dialog is displayed with the originating server and the descriptive fileset name you just assigned in the title bar. The Fileset file name is displayed in the Fileset options group box.

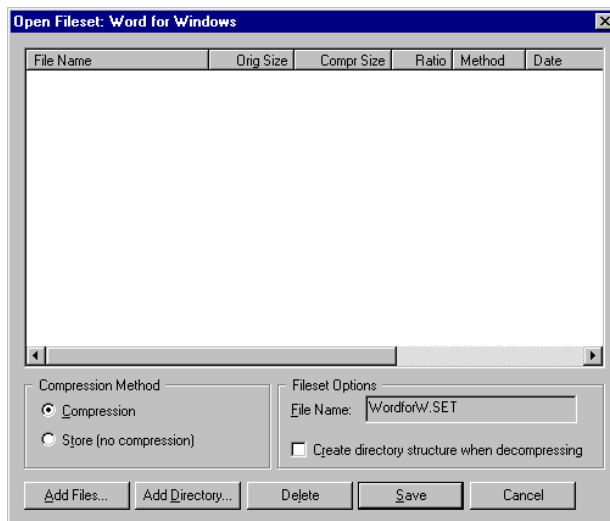


Figure 7-2.

4. To add one or more individual files to the fileset, click Add Files.

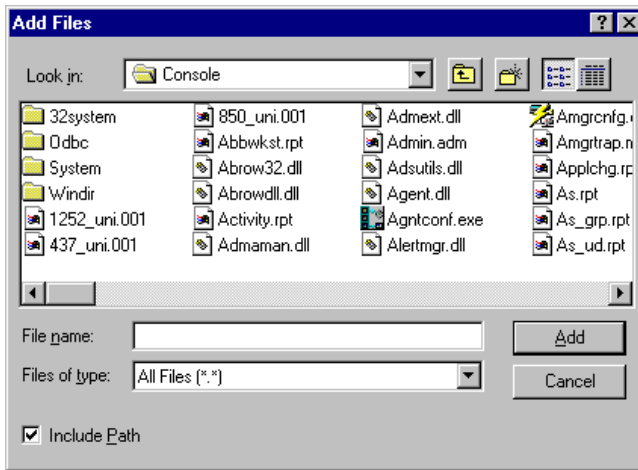


Figure 7-3.



Hold down the CTRL and/or SHIFT key to select multiple files from this list.

5. Select one or more files and click Add.

If you want to maintain the directory structure, select the Include Path check box. This option includes the full path with the files so that they are installed to each workstation using the same directory structure. When you select this option, it applies to all files selected.

6. From the Open Fileset dialog, click Add Directory to select one or more directory names.

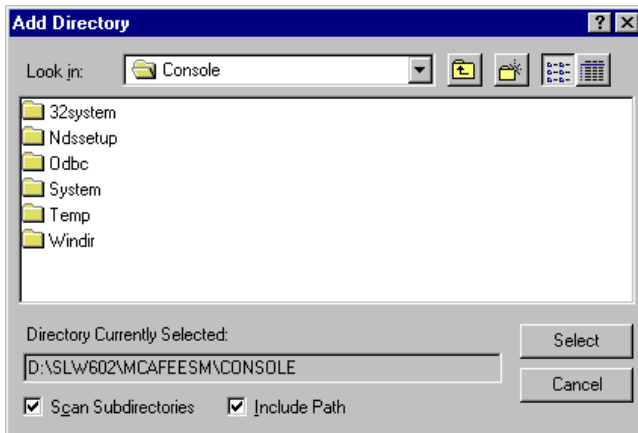




Figure 7-4.

7. Select one or more directories to add to the fileset.

 *The Subdirectories and Include Path check boxes are automatically activated.*

- To only include the files in the directory (excluding any of the files in the related subdirectories), deselect the Subdirectories check box. (When enabled, this option allows you to add multiple directories, or a directory and its subdirectories.)
- If you do not want to copy the directory's path to the destination workstation or server, deselect the Include Path check box.

 **TIP:** Launch the Windows Explorer to drag selections to the fileset. To include the subdirectories in Windows, select all of the directory names and drag them to the fileset. Otherwise you only include the files saved in the single directory.

8. Click Select to add the files to the fileset.

The Open Fileset dialog now shows the name and path (if you chose this option) of each file added to the fileset. The other columns show “N/A” until the fileset is saved and compression information is available.

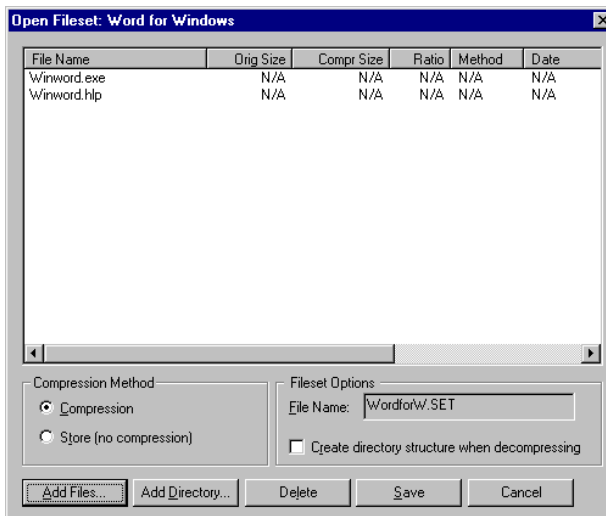


Figure 7-5.

9. Repeat Steps 4 through 8 to add additional files to the fileset.

10. If you want to create the directory structure (if it does not already exist on the receiving workstation), select the 'Create Directory structure when decompressing' check box.
11. Select one of the following compression methods:
 - **Compress.** Compresses the files that you are including in the fileset to expedite delivery of the package containing the fileset.
 - **Store.** Includes files in the fileset at their original size (not compressed). Use this method only for filesets containing small files.
12. Click Save. The Updating Fileset message box is displayed. When finished, the file name is displayed in the Console.

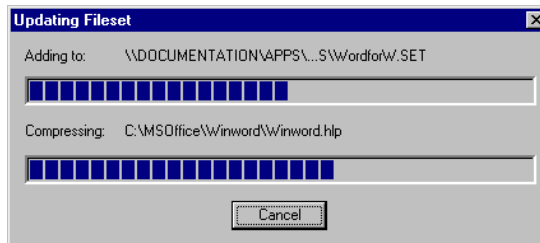



Figure 7-6.

 Once the fileset is saved, you can open it to view the compression information, as shown in Figure 7-7 and described on [page 95](#).

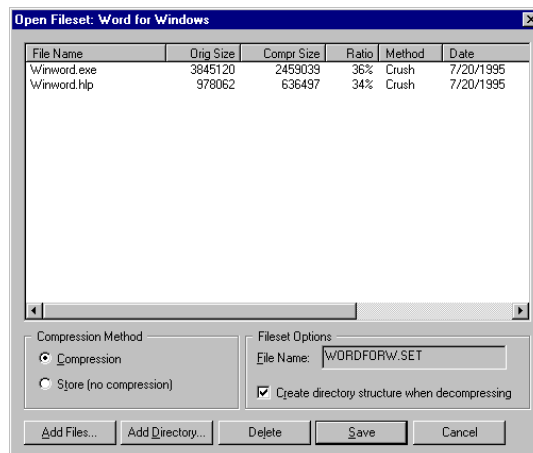


Figure 7-7.

You can view the fileset you just created by continuing with the procedures in the next section, "[Viewing your Server's Filesets.](#)"

Viewing your Server's Filesets

You can view a list of all the defined filesets for a server from the Console by expanding the scope view under the Filesets node. Clicking the + next to Filesets in the scope view will display a list of all defined filesets in the results view to the right, as shown in Figure 7-8.

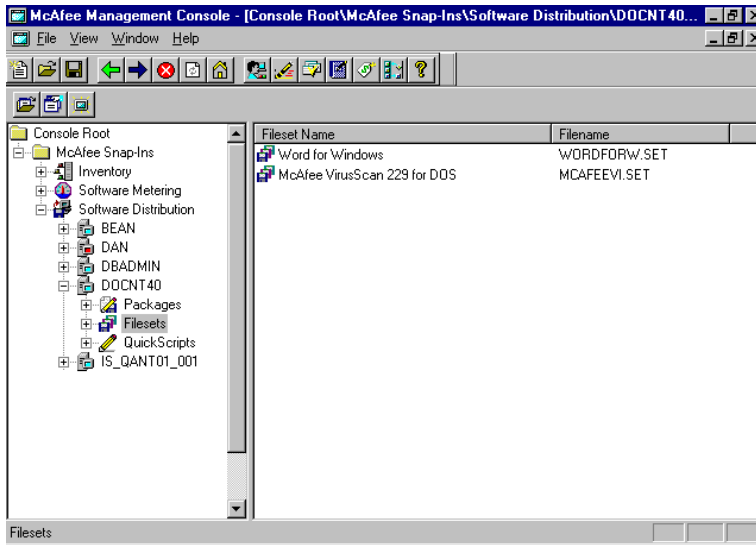


Figure 7-8.

From here you can right-click the individual filesets in the results view to produce a context menu with the following commands:

- New (page 96)
- Open (page 102)
- Rename (page 104)
- Delete (page 105)
- Copy (page 103).

Editing Filesets

After you have defined a fileset, you can add or remove files to reflect any changes in the software. For example, if you upgrade to a newer version of an application for which you have already created a fileset, you may want to add the new files and remove any outdated ones.




To make changes to a fileset's contents, perform the following steps.


1. Deactivate any packages that use the fileset.

 See *"Changing a Package's Status" on page 89* for instructions on how to deactivate a package.

2. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
3. Click the + next to the Filesets node to display a list of the server's filesets in the results view.
4. Right-click the desired fileset in the results view and choose **Open**.

 *If this is a fileset from a previous version of the Distribution module, you will be prompted to convert your fileset to the new fileset structure. Simply click Yes to convert the fileset. Filesets only need to be converted if you are going to edit them; the distribution agents can decompress either version.*

5. To add new a file, follow Steps 4 through 8 in *"Creating Filesets" on page 96*.
6. To remove a file, select one or more files and click Delete.
7. At the confirmation prompt, click Yes to remove the fileset name from the Open Filesets dialog.

 *When you remove a file from a fileset, the original file still remains in the directory structure.*

8. Click Save to return to the Console.

The Updating Fileset message displays a progress indicator bar while the fileset contents are being saved and compressed.

Copying Filesets

Copying filesets provides a quick way to create new filesets from a similar fileset that already exists. For example, if you have a fileset named “MS Office” that contains files for Excel, Word, and PowerPoint, and you want to distribute a fileset with only Excel and Word, you can begin by copying and renaming the fileset to “MS Office w/Excel and Word.” Then you can delete the PowerPoint files from the new fileset.



To copy a fileset, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Filesets node to display a list of the server’s filesets in the results view.
3. Right-click the desired fileset in the results view and choose **Copy**.



A fileset can be copied even if it is part of an active package.

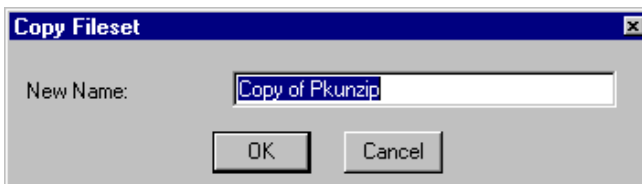



Figure 7-9.

4. Enter the new fileset name and click OK.

A status bar indicates the copying progress. The new fileset is added to the list of filesets. Its contents are identical to those of the original fileset.

Renaming a fileset

As described in the example scenario on [page 103](#), renaming a fileset is a useful tool when managing your existing filesets and creating new ones.

 *When you rename a fileset, the original file remains in the directory, but the descriptive name is revised.*



To give an existing fileset a new name, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Filesets node to display a list of the server's filesets in the results view.
3. Right-click the desired fileset in the results view, and choose **Rename**.

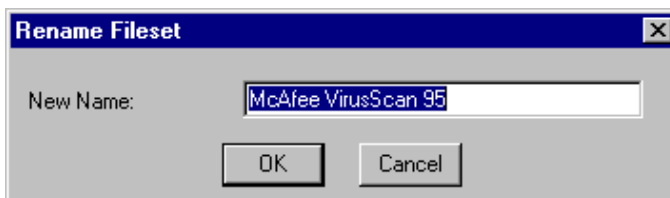


Figure 7-10.

4. Enter the new fileset name and click OK.

The results view is refreshed and the new fileset name is displayed in the Filesets list.

Deleting Filesets

Removing filesets you no longer need is a quick and simple task. This option is especially useful when filesets become outdated or unnecessary.



To delete a fileset, perform the following steps.

1. Deactivate any packages that use the fileset.



See *“Changing a Package’s Status” on page 89* for instructions on how to deactivate a package.



You cannot delete a fileset that is part of an active package.

2. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
3. Click the + next to the Filesets node to display a list of the server’s filesets in the results view.
4. Right-click the desired fileset in the results view and choose **Delete**.
5. At the confirmation prompt, click Yes to remove the fileset name.

The fileset is removed from the MCAFEESM\DATABASE\SITEX-PRS\PACKAGES directory and the descriptive name is removed from the results view.

What is a Script?



Scripts are optional. You don't have to write scripts to create a package.

A script is a series of commands that are executed on a workstation or network drive. When you write a script, you are creating a macro executable that can interact with the Windows desktop, directory structure, system files, and/or network user.

Using scripts, you can easily do any of the following:

- Update system files, e.g., AUTOEXEC.BAT, CONFIG.SYS, WIN.INI.
- Add program groups and icons for the software you are distributing.
- Delete outdated files.
- Modify the Windows 95 and NT registries.
- Automate installations and upgrades.

The Distribution module provides two scripting languages to write your own scripts, sample scripts to help you get started, and custom scripts that have been prepared to automate common network projects.

Scripting Languages

The Distribution module provides two powerful scripting languages: QuickScript and PowerScript. These languages require the scripts to be written in a defined format and comply with specific language characteristics. All scripts must be compiled after they are written to check the syntax and translate the language. After the script is successfully compiled, you can add it to a package.

For information about writing scripts using the PowerScript language, see the *PowerScript User's Guide*. For information about writing scripts using the QuickScript language, see [Appendix C, The QuickScript Language](#).



Using Win-Compare, you can automatically generate PowerScripts to help install new applications.

What is the PowerScript language?

PowerScript is a scripting language that is comparable to the Visual BASIC programming language developed by Microsoft. If you have used any related BASIC programming languages, such as WordBasic or AccessBasic, you will already be familiar with this type of programming.

PowerScripts are written in the PowerScript editor, which can be launched from the Console tool bar. You can use PowerScripts with DOS, Windows 3.x, Windows 95, and Windows NT workstations.

After a PowerScript is written, it must be compiled (or translated) successfully to an executable file. Before it is compiled, the file extension is .MPS. When the PowerScript is compiled successfully, it is saved with the extension .EXE.

What is the QuickScript language?

QuickScript is a unique McAfee scripting language that is compatible with workstations using DOS, Windows 3.x, Windows 95, Windows NT, OS/2, and Win-OS/2.

QuickScripts are written in the QuickScript Editor. This window opens when you create a new QuickScript or edit an existing one. QuickScripts must be compiled successfully before you can add them to a package.

Where to go from here

Refer to the list below to decide to which section of this chapter you should go.

- Go to “[Sample Scripts](#)” below to use a sample PowerScript or QuickScript and see how scripts perform tasks at a workstation.
- Go to “[Working with QuickScripts](#)” on [page 111](#) to see the step-by-step procedures for creating, editing, and compiling QuickScripts in the QuickScript editor, and for how to copy a QuickScript to use as a template for a new script.
- Go to [Chapter B](#), “[Using the Predefined Packages](#),” to use the custom scripts and automate your network projects.

Sample Scripts

The Distribution module includes sample scripts that demonstrate many common network management tasks (such as deleting files, adding Windows program groups, etc.).

Each sample script contains one or more commands that illustrate how the functions in a script translate into tasks on a workstation. For example, if you run the sample script for changing wallpaper on a desktop, you will see how the wallpaper setting is changed on the workstation.

All of the sample scripts in the table below are located in the \MCAF-EESM\DATABASE\SITEXPRS\SCRIPTS directory on each software distribution server.

QuickScript File Name	Descriptive Name	Description
ADDGROUP.SCR	AddGroup Example	Shows how to add a Program Manager group to a desktop.
ADDMULT.SCR	AddIniMultiKey Example	Shows how to add a new device= line to SYSTEM.INI file.
ADDITEM.SCR	AddItem Example	Shows how to add a new item to a Program Group.

QuickScript File Name	Descriptive Name	Description
AUTOMOD.SCR	AddPath Example	Shows how to add an item in the AUTOEXEC.BAT file.
AUTOAPP.SCR	Append Example	Shows how to append a line to a file.
AUTORLP.SCR	AUTOEXEC.BAT Replace Example	Shows how to replace an existing file with a new file.
CCMAIL.SCR	CC:Mail for Windows 2.0 Example	Shows how to install cc:Mail on a workstation.
CFGMOD.SCR	CfgSetValue Example Script	Shows how to modify the files= line in CONFIG.SYS.
WALLPAPR.SCR	Change Wallpaper Example	Shows how to change the wallpaper on a workstation.
FINDDEL.SCR	Delete Files Example	Shows how to find and delete files.
DOS5TO6.SCR	DOS Upgrade Example	Shows how to upgrade the DOS version on a workstation.
INSTALLW.SCR	Install WinMeter	Detects if there is an existing version of WinMeter installed on the workstation. If the program is not found, the latest version will be installed.
MCAFEENE.SCR	McAfee NetShield Product Check	Detects if NetShield already installed on the target workstation; If the program is found and is the most recent version, the DAT files are synchronized. If the program is installed, but is an older version, uninstallation will be launched, and the workstation will be rebooted, to allow a subsequent script to reinstall the latest version of the program.
MCAFEEV.SCR	McAfee VirusScan 3.X Product Check	Files detects if VirusScan3X is already installed on the target workstation; If the program is found and is the most recent version, the DAT files are synchronized.

QuickScript File Name	Descriptive Name	Description
MCAFEEOVI.SCR	McAfee VirusScan 95 Product Check	Detects if virusScan95 is already installed on the target workstation. If the program is found, and is the most recent version, the DAT files are synchronized.
VSNTPROD.SCR	McAfee VirusScan NT Product Check	Detects if VirusScanNT is already installed on the target workstation. If the program is found, the DAT files are synchronized and the latest version of the program will be installed.
NETSHIEL.SCR	NetShield Installation Script	Installs NetShieldNT in silent distribution mode.
NETBAT.SCR	NETX to VLM Example	Shows how to upgrade from IPX.COM and NETX to VLM.EXE.
POWERSCR.SCR	PowerScript Support Files	This script installs the required files to run a PowerScript executable.
VSCAN3XI.SCR	VirusScan 3.X Installation Script	Installs VirusScan for Windows 3.X in silent distribution mode.
VIRUSSCA.SCR	VirusScan 95 Installation Script	Installs VirusScan95 in silent distribution mode.
DVSCAN.SCR	VirusScan for DOS Installation Script	Shows how to install McAfee VirusScan 95.
VSNTINST.SCR	VirusScan NT Installation Script	Installs VirusScanNT in silent distribution mode.
VLMUPGRD.SCR	VLM Upgrade Example	Shows how to upgrade a user's installed VLM drivers.

PowerScript File Name	Description
386ENH.MPS	Demonstrates the function for editing <code>DEVICE=</code> lines in <code>SYSTEM.INI</code> files. The file extension changes to <code>.EXE</code> when compiled.

PowerScript File Name	Description
DDE.MPS	Demonstrates the function for DDE conversions to the Windows shell. The file extension changes to .EXE when compiled.
TESTDLG2.MPS	Demonstrates the function for creating and working with dialogs. The file extension changes to .EXE when compiled.

Using Sample QuickScripts


To use a sample QuickScript, simply make a copy of the script with a new name, then open and edit the copy. Then you can save the new script, compile it, and add it to a package.

 *The specific procedures for creating, copying, and editing QuickScripts can be found in “Working with QuickScripts” on page 111.*

Using Sample PowerScripts



To use these scripts, start PowerScript from the Console by clicking the PowerScript button and opening the script in the editor. From here you can make changes to the script before compiling it to an executable file. Then you can add the executable file to a package (see [page 52](#)).

 *For information on writing and compiling PowerScripts, see the PowerScript User's Guide.*

Working with QuickScripts

Using the Distribution module, you can write your own QuickScripts or use pre-defined scripts that you can open and edit to meet your specific needs. Either way, you work within the QuickScript editor to write the commands and compile the script.



Click the column title to sort the column in ascending or descending order.

Viewing QuickScript information

You can view the list of QuickScripts on a server by clicking on the server and choosing QuickScripts in the scope view. The results view shows a list of QuickScripts on that server. Figure 8-1 shows all of the sample and custom QuickScripts included with the Distribution module.

QuickScript Name	Last Compiled Date	Status
AUTOEXEC.BAT Replace Example	N/A	Uncompiled
AddGroup Example	N/A	Uncompiled
AddIniMultiKey Example	N/A	Uncompiled
AddItem Example	N/A	Uncompiled
AddPath Example	N/A	Uncompiled
Append Example	N/A	Uncompiled
CfgSetValue Example Script	N/A	Uncompiled
Change Wallpaper Example	N/A	Uncompiled
DOS Upgrade Example	N/A	Uncompiled
Delete Files Example	N/A	Uncompiled
Install VirusScan 229 for DOS	5/28/1996	Compiled
Install VirusScan 95	5/07/1996	Compiled
Install VirusScan NT	5/31/1996	Compiled
Install VirusScan for Windows 3.x	5/30/1996	Compiled
Install WinMeter 3.1	6/11/1996	Compiled
Install WinMeter 95 and WinMeter NT	6/10/1996	Compiled
NETX to VLM Example	N/A	Uncompiled
Office 4.3 Administrative Setup	5/16/1996	Compiled
Office 4.3 Configuration Script	N/A	Uncompiled
Office 4.3 User Install	6/12/1996	Compiled
PowerScript Support Files	6/03/1996	Compiled

Figure 8-1.

The results view displays four columns of information described in the following table.


Column	Description
QuickScript Name	Displays the descriptive label that you assign to the file.
Last Compile Date	Displays the most recent date that the script was compiled. If the script has not been compiled yet, "N/A" appears in this field.
Status	Displays "Compiled" if the script has been compiled successfully, or "Uncompiled" if it has not been compiled.
Source File	Displays the file name as it appears in the directory structure.

The QuickScript Editor

QuickScripts are written and modified in the QuickScript text editor. From this editor, you can create an entirely new script or make changes to one of the existing scripts.

Entering commands

Script commands are typed directly into the editor window. You can also use the Paste QuickScript Function button to display a list of predefined QuickScript functions. This feature allows you to select and insert a function directly into the script where you can fill in the parameters.

 *Inserting functions helps to lay out the script contents, but you must replace each parameter with an allowed value. For detailed information on writing QuickScript commands, see [Appendix C, The QuickScript Language](#).*

You can include comments in the script if they are preceded by a semicolon. These comments are ignored when the script is executed.

To help you enter the commands and comments in the editor, standard editing functions are available from the Edit menu. Use the Edit button to access this menu.

Help

QuickScript Editor Help provides detailed information for each function. You can view the functions, the allowable values for each function, the return values, and an example of a command line for the function.

Compiling a QuickScript

Before a script can be used in a package, it must be compiled. The QuickScript compiler checks for syntax errors and displays them in a status dialog so you can easily locate and resolve the problem.

Procedures for using QuickScripts are provided in the following sections:

- [“Creating a QuickScript” on page 114](#)
- [“Viewing your Server’s QuickScripts” on page 118](#)
- [“Renaming a QuickScript” on page 120](#)
- [“Copying a QuickScript” on page 121.](#)

Creating a QuickScript

You can create a new script from a blank editing page, or you can copy an existing script to use as a template. If you want to work from a copy of an existing script, copy the script with a new name before beginning the following procedure. See [“Copying a QuickScript” on page 121](#) for more information.



To create a new QuickScript, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.

2. Right-click QuickScripts and choose **New**.

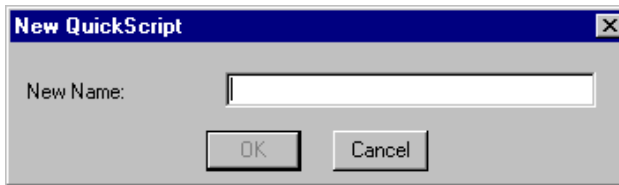


Figure 8-2.

3. Enter a descriptive name in the provided text box and click OK.

The descriptive name is an extended label that can have a maximum of 80 keyboard characters. Using a label with fewer than 20 characters is recommended for ease-of-use in smaller dialogs.



Script files can also be edited using an external editor.

To use an existing script as a template for a new script, first you must copy the script (see [page 121](#)).

The QuickScript Editor window is displayed. .

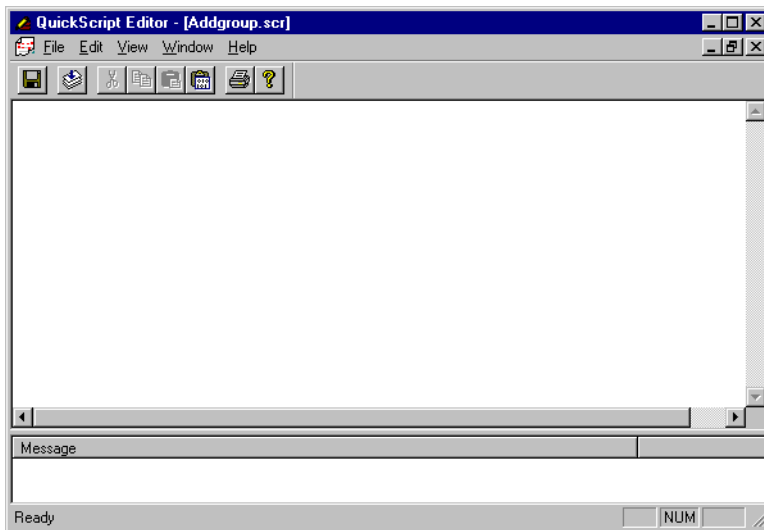


Figure 8-3.

4. Enter the contents of the QuickScript.

From the editor, you can use the menu commands to change the script's fonts, find/replace text in the script, and print a copy of the script.



5. To choose a QuickScript function, click the Paste Script Function button.

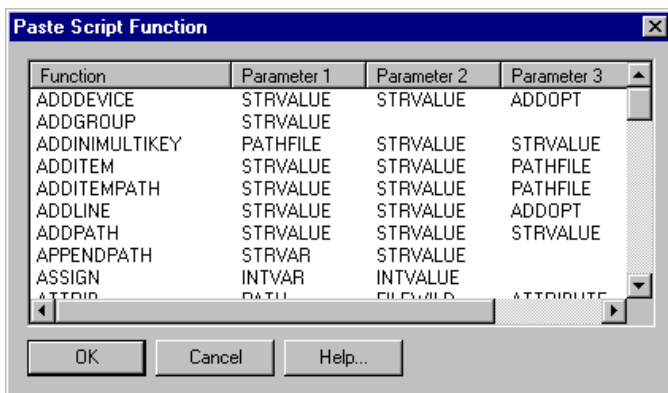


Figure 8-4.

6. Select the desired QuickScript function and click OK to insert the function into the script contents. Repeat this step for each function you want to include in the script.

Click *Help* to see specific information about a selected function. Use the *Edit* menu and the toolbar buttons to write and edit the script. Fill in each parameter with an allowed value that is specific to your task.

7. Choose **File\Save** to save your script before compiling it.

Figure 8-5 shows a sample QuickScript Editor with the Add Group Example QuickScript.

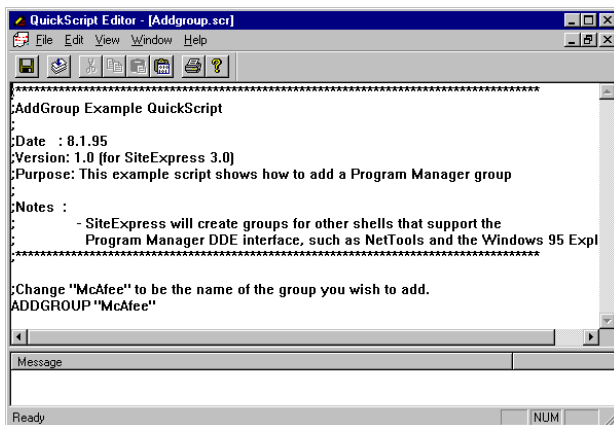


Figure 8-5.



8. Choose **File\Compile** or the Compile button and view the information in the status dialog.

The editor attempts to compile the script.

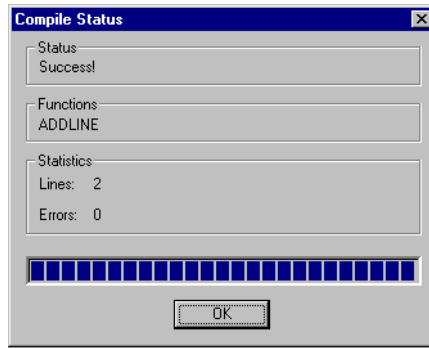


Figure 8-6.

The Status group box shows whether the script was successfully compiled or if it contains errors. If errors were detected, the first function that has an error is displayed.

9. Click OK to clear the Compile Status dialog and return to the QuickScript Editor with the script contents displayed.

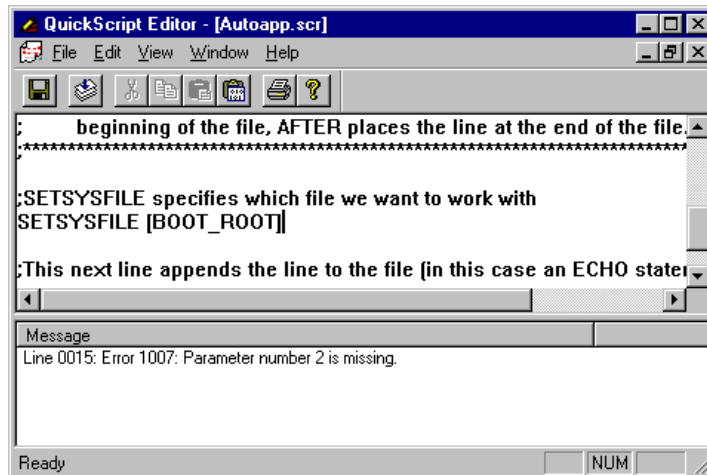


Figure 8-7.

If your script contains errors, they will be displayed in the Message box of the Editor, as shown in Figure 8-7. To address the errors, double-click an error line in the message box to return to the editor with this line selected. Correct all errors, save your changes, and then recompile the script until it compiles successfully.

10. Choose **File\Exit** to return to the Console.
11. Right-click the name of the new script in the results view and choose **Refresh** to show the compiled QuickScript information.

If you edit a script that has already been compiled, the script must be successfully recompiled before you can include it in a package.

You can view the QuickScript you just created by continuing on to the next section, “[Viewing your Server's QuickScripts.](#)”

Viewing your Server's QuickScripts

You can view a list of all the defined QuickScripts for a server from the Console by expanding the scope view under the QuickScripts node. By clicking the + next to QuickScripts in the scope view, a list of all defined QuickScripts is displayed in the results view, as shown in Figure 8-8.

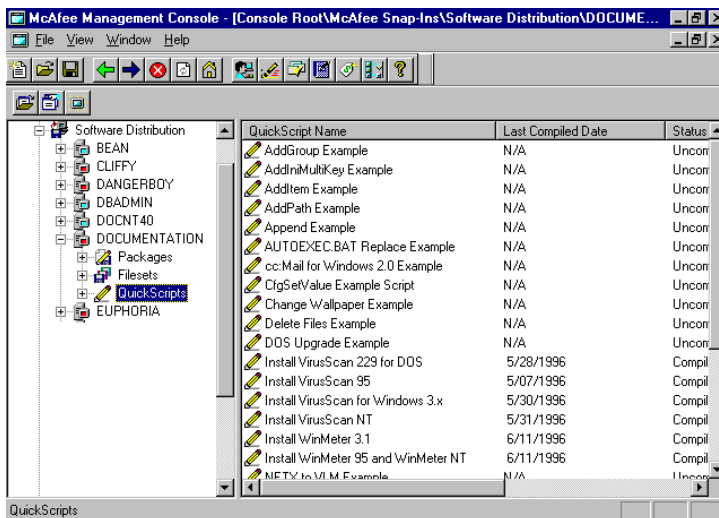


Figure 8-8.

From here you can right-click the individual QuickScripts in the results view to produce a context menu with the following commands:

- New (page 114)
- Open (below)
- Rename (page 120)
- Delete (page 122)
- Copy (page 121)
- Refresh.

Editing a QuickScript

You can open an existing script in the QuickScript Editor to change the contents. Each time you make changes to a QuickScript, you must save it and successfully compile it before you can add it to a package.



To open and modify an existing script, perform the following steps.

1. Temporarily deactivate any packages that use the QuickScript you intend to edit.


 See *“Changing a Package’s Status” on page 89* for instructions on deactivating packages.

2. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
3. Click the + next to the QuickScripts node to display a list of the server’s QuickScripts in the results view.
4. Right-click the desired QuickScript in the results view and choose **Open**.

The script editor opens displaying the contents of the script.

5. Make the desired changes to the existing functions and choose **File\Save** to save your changes.

6. Choose **File\Compile** or the Compile button to compile the script.

 For information on the compile process, refer to Step 8 on page 117.



You must compile a script any time you change it.



7. Choose **File\Exit** to return to the Console.
8. Right-click the name of the new script in the results view and choose **Refresh** to update the information.

Renaming a QuickScript

Changing the name of an existing script replaces the descriptive script name. The new script name is displayed in the QuickScripts results view and in any packages that include the script.



To rename a script, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the **+** next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the **+** next to the QuickScripts node to display a list of the server's QuickScripts in the results view.
3. Right-click the desired QuickScript and choose **Rename**.



A script can be renamed even if it is part of an actively scheduled package.

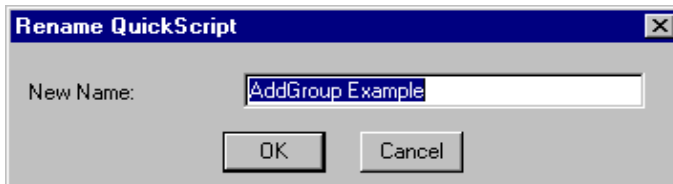


Figure 8-9.

4. Enter the new script name in the provided text box and click OK.

The new script name appears in the QuickScripts window, and the old name is removed. The contents of the old script are saved with the renamed script.

Copying a QuickScript

You can make a copy of an existing script to use it as a basis for creating a new one. predefined QuickScripts must be copied before being edited.



To copy a QuickScript, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the QuickScripts node to display a list of the server's QuickScripts in the results view.
3. Right-click the desired QuickScript in the results view and choose **Copy**.

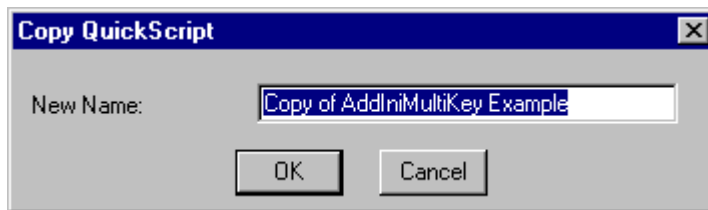



Figure 8-10.

4. Enter a descriptive name in the QuickScript text box and a new file name in the File Name text box.

 *You must specify a new file name in order to copy the file. Otherwise, any changes you make will modify the original file.*

5. Click OK to save the copy with the new name.

Deleting a QuickScript

If a QuickScript that you create becomes outdated or unnecessary, you can remove it from the Console.



To delete a script, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the QuickScripts node to display a list of the server's QuickScripts in the results view.
3. Right-click the desired QuickScript and choose **Delete**.
4. At the confirmation prompt, click Yes.

Using the Alerting Feature

About the Alerting Feature

The Distribution module includes a useful alerting feature that you can use to improve your control over software distribution on your network. For example, you can configure the alerting feature to notify you when a package delivery fails, when the remote server is busy, or when an error occurs while decompressing files in a fileset. The messages for any alerts that you select appear on your NetWare server console or via any notification method you choose for NT alerts.

Refer to the table below for an outline of the sections in this chapter.

To...	See...
View a list of the available alerts	“Available Alerts” on page 123
Configure alerting on NetWare servers	“Configuring NetWare Alerts” on page 125
Configure your NetWare server to select and transmit SNMP alerts	“Choosing the SNMP traps” on page 126
Deliver a trap to a particular Console	“Editing your system file” on page 127
Configure alerting on NT servers	“Configuring NT Alerts” on page 128
Configure your NT server to select and transmit alerts	“Selecting NT alerting traps” on page 128
Configure alert notification devices such as e-mail messages, network messages, pager calls and messages printed to a specified printer	“Configuring Notification” on page 131

Available Alerts

The following can be selected for alerting purposes.


Alerts	Description
Begin transmission of a distribution package between two servers	Notifies you when the Distribution NLM or NT Service begins to deliver a scheduled package to a remote server.
Cannot communicate with remote server	Notifies you when the Distribution NLM or NT Service cannot communicate with the recipient server where a package is supposed to be delivered.
File already exists	Notifies you when a file that is being sent in a package already exists at the recipient server.
File delivered	Notifies you when a file that is being sent in a package successfully reached its recipient server.
File delivery failed	Notifies you when a file that is being sent in a package was not delivered successfully to its recipient server.
File does not exist in package directory	Notifies you when a file that is intended to be sent in a package does not exist in the \MCAFEESM\DATABASE\SITEXPRS\PACKAGES directory on the local server.
Fileset copy completed	Notifies you when the Distribution NLM or NT Service has completed copying a fileset.
Fileset copy failed	Notifies you when the Distribution NLM or NT Service was unable to copy a fileset.
Fileset decompression begun	Notifies you when the Distribution NLM or NT Service begins decompressing the files that have been added into a fileset.
Fileset decompression completed	Notifies you when the Distribution NLM or NT Service is finished decompressing the files added to a fileset.

Alerts	Description
Fileset decompression failed	Notifies you when an error was encountered when the Distribution NLM or NT Service was trying to decompress the files added to a fileset.
Insufficient disk space on remote server	Notifies you when the Distribution NLM or NT Service encounters insufficient disk space on the recipient server to which it is delivering packages.
Maximum number of distribution retries exceeded	Notifies you when the Distribution NLM or NT Services has attempted to deliver a package the maximum number of times specified on the Server Systems Settings dialog.
Minimum free disk space for SiteExpress database reached	Notifies you when the minimum amount of disk space that must remain free has been reached.
Package delivery completed	Notifies you when a scheduled package reached its recipient server successfully.
Package delivery failed	Notifies you when a scheduled package did not reach its recipient server successfully.
Remote database error	Notifies you when there was an error at the database on a recipient server.
Remote server is busy	Notifies you when the Distribution NLM or NT Service on a recipient server is busy.
Remote server out of disk space	Notifies you when the recipient server is out of disk space.
SiteExpress daemon started	Notifies you when the SiteExpress NLM (SITEPR.S.NLM) or NT Service (SITEPR.S.EXE) has been started.
SiteExpress daemon stopped	Notifies you when the SiteExpress NLM (SITEPR.S.NLM) or NT Service (SITEPR.S.EXE) has been stopped.
Unable to begin file transmission	Notifies you when the Distribution NLM or NT Service cannot begin sending the scheduled file transmission.

Alerts	Description
Unable to determine package install path	Notifies you when the Distribution NLM or NT Service cannot identify what the installation path is on the destination server.
Unable to open route to remote server	Notifies you when the Distribution NLM or NT Service cannot establish a connection with the recipient server to which it is sending a package.
Unknown error on remote server	Notifies you when an unknown error occurs on the recipient server.

Configuring NetWare Alerts

On NetWare servers, the Distribution module can notify you of significant distribution alerts via Simple Network Management Protocol (SNMP) traps. By using this alerting feature, you can send a trap to your SNMP systems based on criteria chosen in the SNMP Trap Configuration dialog. When you select distribution alerts for remote notification, you will be alerted to their occurrence anywhere on your network where your SNMP management station is installed. Further, the communications can be transmitted via either IPX or TCP/IP, depending upon how your network and servers are configured.

 *To take advantage of the Alerts feature, NetWare users must have access to an SNMP management system such as HP OpenView or Novell NetWare Management System.*

Your Main Steps

The following steps are required to configure alerting for NetWare servers.

1. Select the alerts within the Distribution module for remote notification ([“Choosing the SNMP traps” on page 126](#)).
2. Configure the NetWare server for the address(es) of the remote SNMP network management console(s) ([“Editing your system file” on page 127](#)).
3. Copy the Distribution module MIB into the management console’s MIB directory and compile it ([“Editing your system file” on page 127](#)).

Choosing the SNMP traps



To configure your NetWare server to select and transmit SNMP alerts, perform the following steps.

1. From the Console, expand the Software Distribution object to display your connected Distribution servers.
2. Right-click the server you want to configure and choose **Alerting**.

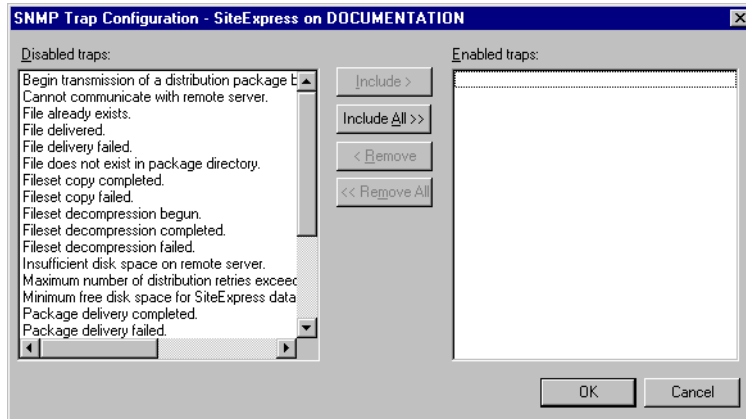


Figure 9-1.



Use Windows multi-select feature to select multiple items.

Refer to the table on [page 123](#) for a description of the traps listed in this dialog.

3. To select a distribution event, select the event in the Disabled Traps list box and click Include.
4. Click OK to save your trap configuration and return to the Console.
5. Proceed to the next section to edit your system file.

Editing your system file


The Distribution module uses the SNMP.NLM (supplied by Novell) to manage the SNMP traps. The SITEXPRS.NLM requests the help of the SNMP.NLM to perform the alerting functions when needed. The SNMP.NLM can also transport SNMP traps to both IPX and TCP/IP addresses.

Before the SNMP NLM can deliver a trap to a particular console, it needs to know that server's address. As such, the SNMP NLM requires a system file containing your network servers (only those you want to receive traps) and their addresses to serve as a mailing directory.



To direct the traps to your console, perform the following steps.

1. Using a text editor, open the file SYS:\ETC\TRAPTARG.CFG.


 *If this file does not exist, you will need to create it with your text editor.*

Enter the addresses of your NMS management console using the format in the example below:

```
TRAPTARG.CFG:
-----
PROTOCOL IPX
00000011:XXXXXXXXXXXXX
PROTOCOL IP
123.11.2.34
```


where XXXXXXXXXXXXX is the workstation's NIC address.

2. Copy the file SXP_TRAP.MIB from the <DRIVE>\MCAFEESM\CONSOLE directory to the NMS's current MIB directory, e.g., C:\NMS\SNMP\MIBS\CURRENT.
3. From the Novell NMS console, choose **Tools\Compile MIBs** to compile the MIB into the NMS database.

 *Note that the distribution MIB provided has been modified to provide readable event listings within the NMS Fault monitor.*

Configuring NT Alerts

On NT servers, the Distribution module can notify you of significant distribution alerts based on criteria that you choose from the Alert Properties dialog. When you select distribution alerts for remote notification, you will be alerted to their occurrence via any notification method that you choose. Further, the communications can be transmitted via either IPX or TCP/IP, depending upon how your network and servers are configured.

 *You must have the McAfee Alert Manager NT Service installed and started on your NT server to configure and send NT alerts. For information on this NT Service, see [“Setting Up Your NT Servers” on page 28](#). In addition, in order to successfully send SNMP traps, the Windows NT SNMP Service must be stopped and then restarted once after you initially install and start the Alert Manager NT Service (you only need to do this one time).*

Your Main Steps

The following steps are required to configure alerting for NT servers.


1. Select the alerts within the Distribution module for remote notification (below).
2. Configure the notification method ([page 131](#)).

Selecting NT alerting traps



To select NT alerting traps, perform the following steps.

1. From the Console, expand the Software Distribution object to display your connected Distribution servers.

 *If you are running the Console from a Windows 95 machine against an NT server, the Alerting option is disabled because a Windows 95 machine cannot read the registry on a Windows NT machine. To configure NT alerts, you must run the Console from a Windows NT machine.*

2. Right-click any NT server and choose **Alerting**.

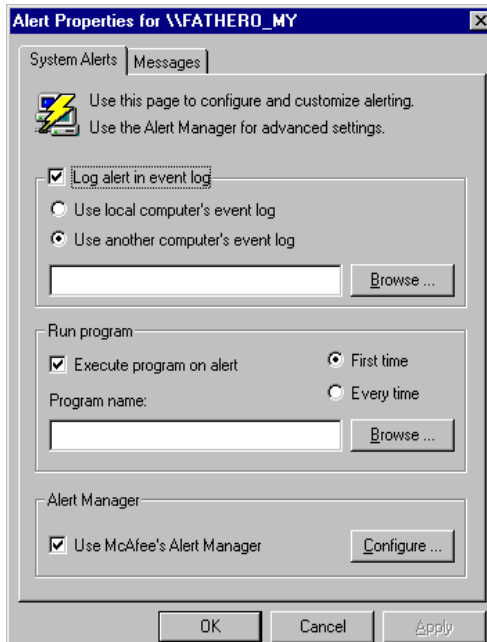



Figure 9-2.

 All of the information configured from this dialog is specific to the Distribution module only.

3. On the System Alerts tab, select the 'Log alert in the event log' check box to instruct the NT Service to write all alert notifications to a Window NT event log. Choose one of the following options:
 - Select **Use local computer's event log** to use the Event Viewer on the current server.
 - Select **Use another computer's event log** to sent the alerts to the Event Viewer on another server in your network. Click Browse to display the Select Computer dialog, locate the desired NT server and click OK.

4. Select the 'Execute program on Alert' check box to launch a specific application upon alert notification. Then do both of the following:
 - Select either **First time** or **Every time** to determine when the specified program should be launched.
 - Click Browse to display the Select Program dialog, locate the desired application and click OK.
5. Select the 'Use McAfee's Alert Manager' check box to configure specific notification options.

 *You can still generate alerts without activating this option.*

6. Select the Messages tab.

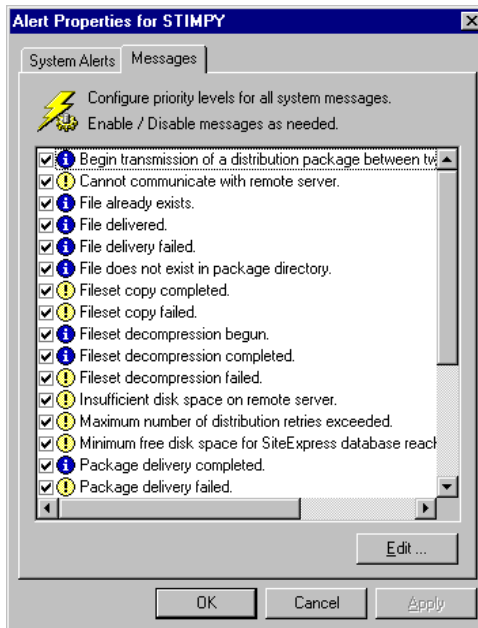



Figure 9-3.

This dialog lists all of the alerts for the Distribution module. Blue alerts are informational messages with low priority; yellow alerts indicate messages with medium priority. Red alerts indicate high priority messages; there are no high priority messages by default.

7. By default, all alert scenarios are selected. Click on the corresponding check boxes to disable the alerts not requiring your attention. Those alerts that are selected will generate notification messages for your attention.

 Refer to the table in on [page 123](#) for a description of the alerts listed on this tab.

8. To modify a trap's message or priority level, select the desired trap and click Edit.

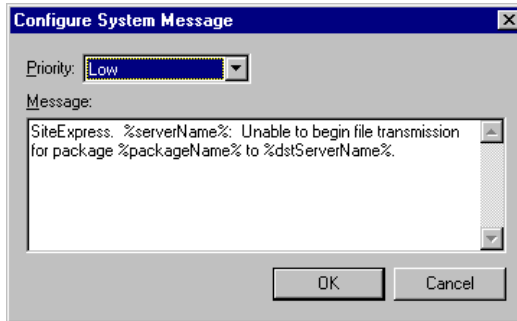



Figure 9-4.

9. From the Configure System Message dialog, select a priority from the drop-down list and make any desired changes to the message.
10. Click OK.
11. From the Alert Properties dialog, click OK to return to the Console.

Configuring Notification

The Distribution module's NT Alert Manager allows you to configure numerous alert notification devices, including e-mail messages, network messages, pager calls, and messages printed to a specified printer. This section describes each method in detail.

Once you have set up a notification method, you can click Test from the corresponding Properties tab to ensure that your settings are correct and the Alert Manager is working properly.

 Any notification devices that you configure apply to ALL alerts that are enabled on the Messages tab for both the Distribution module and McAfee's Metering module. In other words, these notification settings are global to both metering and distribution alerts on your network.



To configure alert notification, perform the following steps.

1. From the Console, expand the Software Distribution object to display your connected Distribution servers.
2. Right-click any NT server and choose **Alerting**.
3. From the Alert Properties dialog, select the Systems Alerts tab.
4. Click Configure.

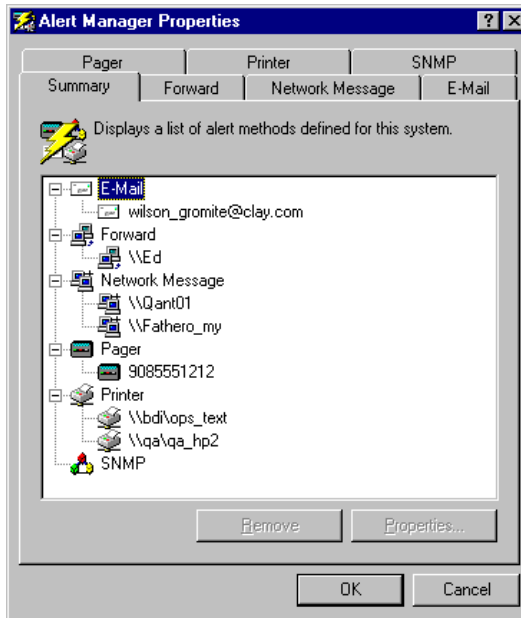


Figure 9-5.



The Summary tab lists all of the notification methods you have configured.

5. Refer to the following procedures to configure the different notification methods available:
 - “Configuring pager notification for NT alerts” on page 133
 - “Configuring printer notification for NT alerts” on page 135
 - “Configuring SNMP Notification for NT alerts” on page 138

- “Configuring alert forwarding for NT alerts” on page 141
- “Configuring network notification messages for NT alerts” on page 144
- “Configuring E-mail notification for NT alerts” on page 146.

Configuring pager notification for NT alerts

Pager notification allows you to send messages to a pager as events occur. You can enter all the necessary pager information as well as a message that will appear on the pager when the alert is sent.



To configure pager notification, perform the following steps.

The following procedure assumes that the Alert Manager Properties dialog is displayed. To display this dialog, see “Configuring Notification” on page 131.

1. From the Alert Manager Properties dialog, select the Pager tab.

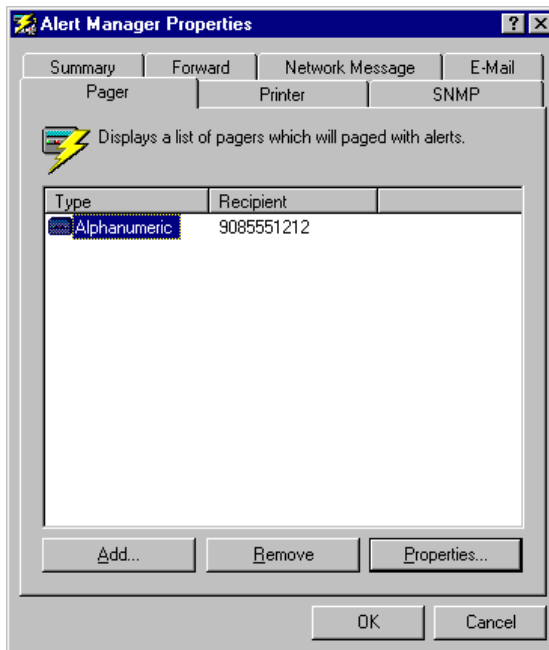


Figure 9-6.

2. Click Add.

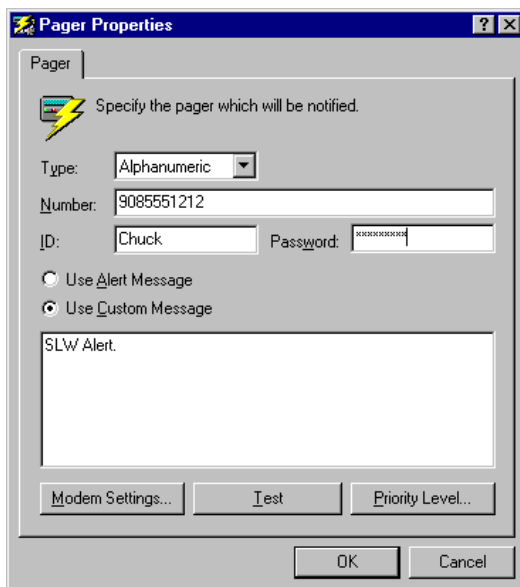



Figure 9-7.

3. Select the desired pager type: alphanumeric or numeric.
4. Enter the pager number, ID, and password in the provided text boxes.
5. Choose one of the message options:
 - Select **Use Alert Message** if you simply want the event name text displayed as the message.
 - Select **Use Custom Message** to compose your own message. Enter the desired message in the provided text box.
6. Click Modem Settings.
7. From the Modem Settings dialog, make any desired changes to the modem settings and click OK.
8. From the Pager Properties dialog, click Priority Level.

9. From the Priority Level dialog, set the priority at which the pager notification will be sent.
 - **Low.** If you select Low, pager notifications will be sent for all alerts that have been assigned Low, Medium, and High priorities, i.e., all enabled alerts.
 - **Medium.** If you select Medium, pager notifications will be sent for all alerts that have been assigned with Medium and High priorities.
 - **High.** If you select High, pager notifications will be sent only for alerts that have been assigned a High priority. By default, no alerts are assigned a high priority. Therefore, if you select High, no alerts will be sent unless you have changed the default settings.


 *The priority level for each alert is shown on the Messages tab (Figure 9-3 on page 130). You can change an alert's assigned priority by selecting the alert from this tab and clicking Edit. Select a new priority level from the drop-down list and click OK.*

10. Click OK to save and add the Pager to the Alert Manager Properties dialog.
11. Repeat this procedure for all desired pagers and then click OK.

Your pager(s) is listed on the Summary tab. To change a pager's settings, select the desired pager and click Properties to display the Pager Properties dialog.

Configuring printer notification for NT alerts

Printer notification allows you to configure the alerting feature to send messages to a single printer or several printers on your network as events occur. You can send printer notifications to either NT or NetWare workstations or servers.

 *The following procedure assumes that the Alert Manager Properties dialog is displayed. To display this dialog, see "Configuring Notification" on page 131.*



To configure printer notification, perform the following steps.

1. From the Alert Manager Properties, select the Printer tab.

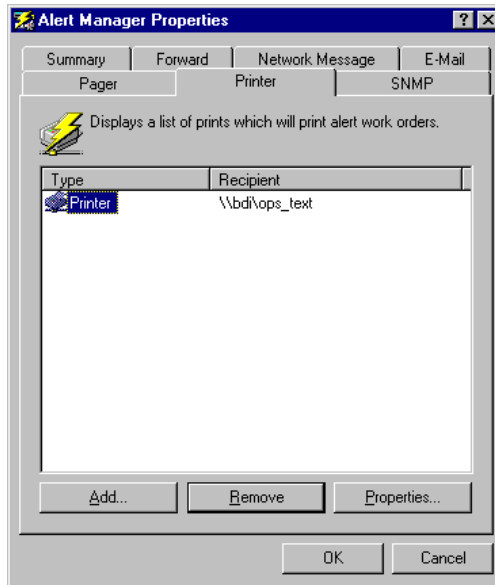


Figure 9-8.

2. Click Add.



Figure 9-9.

3. From the Printer Properties dialog, click Browse.

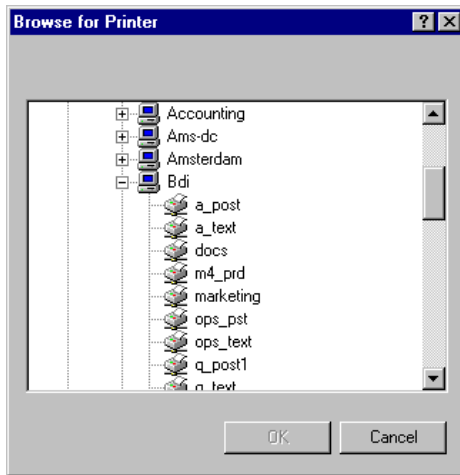



Figure 9-10.

4. Locate the desired printer and click OK to return to the Printer Properties dialog.
5. From the Printer Properties dialog, click Priority Level.
6. From the Priority Level dialog, set the priority at which the printer notification will be sent.
 - **Low.** If you select Low, printer notifications will be sent for all alerts that have been assigned Low, Medium, and High priorities, i.e., all enabled alerts.
 - **Medium.** If you select Medium, printer notifications will be sent for all alerts that have been assigned with Medium and High priorities.
 - **High.** If you select High, printer notifications will be sent only for alerts that have been assigned a High priority. By default, no alerts are assigned a high priority. Therefore, if you select High, no alerts will be sent unless you have changed the default settings.


 *The priority level for each alert is shown on the Messages tab (Figure 9-3 on page 130). You can change an alert's assigned priority by selecting the alert from this tab and clicking Edit. Select a new priority level from the drop-down list and click OK.*

7. Click OK to add the printer to the Alert Manager Properties dialog.
8. Repeat this procedure for all desired printers and then click OK.

Your printer(s) is listed on the Summary tab. To change a printer's settings, select the desired printer and click Properties to display the Printer properties dialog.

Configuring SNMP Notification for NT alerts

SNMP notification allows you to send SNMP traps as events occur. The SNMP NT Service must be installed and started to send SNMP traps.

 *The following procedure assumes that the Alert Manager Properties dialog is displayed. To display this dialog, see [“Configuring Notification” on page 131](#).*



To configure SNMP notification, perform the following steps.

1. From the Alert Manager Properties dialog, select the SNMP tab.

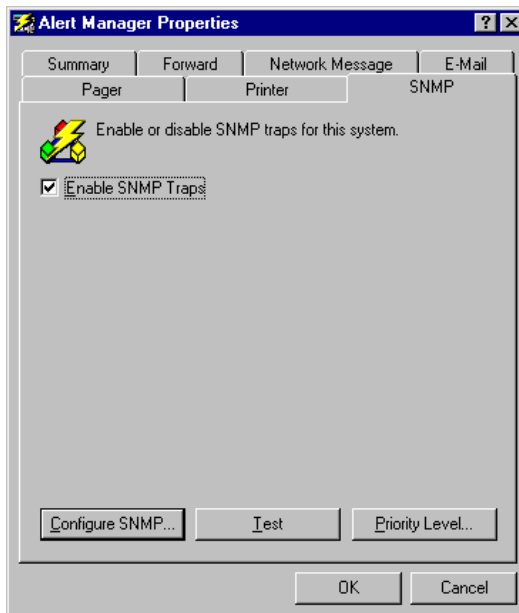


Figure 9-11.

2. To enable SNMP traps, enable the corresponding check box.

3. Click Configure SNMP.

The standard Windows NT Network Configuration dialog is displayed.

4. Select the Services tab.

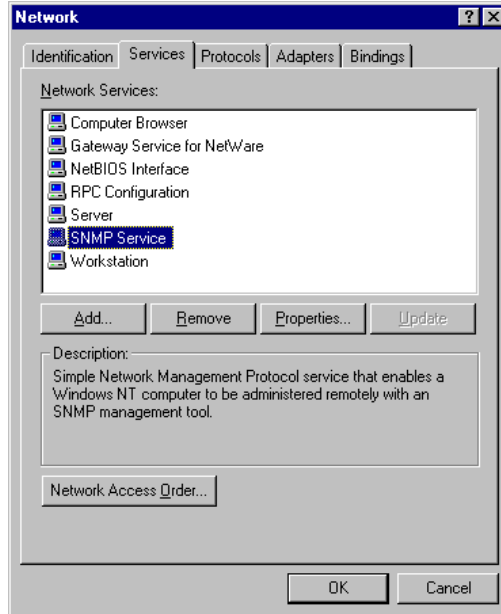


Figure 9-12.

5. Select SNMP Service and click Properties.

6. From the Microsoft SNMP Properties dialog, select the Traps tab.

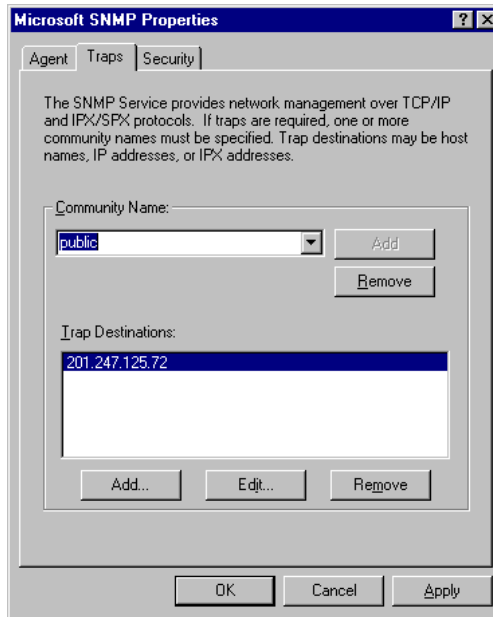



Figure 9-13.

7. Specify the destination of the traps by providing an IP address and then click OK to return to the Network dialog.
8. Click OK to return to the SNMP Properties dialog.
9. Click Priority Level.
10. From the Priority Level dialog, set the priority at which the SNMP trap notification will be sent.
 - **Low.** If you select Low, SNMP trap notifications will be sent for all alerts that have been assigned Low, Medium, and High priorities, i.e., all enabled alerts.
 - **Medium.** If you select Medium, SNMP trap notifications will be sent for all alerts that have been assigned with Medium and High priorities.

- **High.** If you select High, SNMP trap notifications will be sent only for alerts that have been assigned a High priority. By default, no alerts are assigned a high priority. Therefore, if you select High, no alerts will be sent unless you have changed the default settings.


 *The priority level for each alert is shown on the Messages tab (Figure 9-3 on page 130). You can change an alert's assigned priority by selecting the alert from this tab and clicking Edit. Select a new priority level from the drop-down list and click OK.*

11. Click OK to add your SNMP trap to the Alert Manager Properties dialog.

Your SNMP trap setting is listed on the Summary tab. You can click Properties to change your settings.

Configuring alert forwarding for NT alerts

The forwarding feature is a useful notification feature that can be used in combination with other alert notification devices. For example, if you want to configure pager alerts (page 133) but you don't have a modem attached to the machine on which you are configuring the alerts, you can forward the message to a workstation that does have a modem using the alert forwarding feature.

 *The following procedure assumes that the Alert Manager Properties dialog is displayed. To display this dialog, see "Configuring Notification" on page 131.*



To configure alert forwarding, perform the following steps.

1. From the Alert Manager Properties, select the Forward tab.

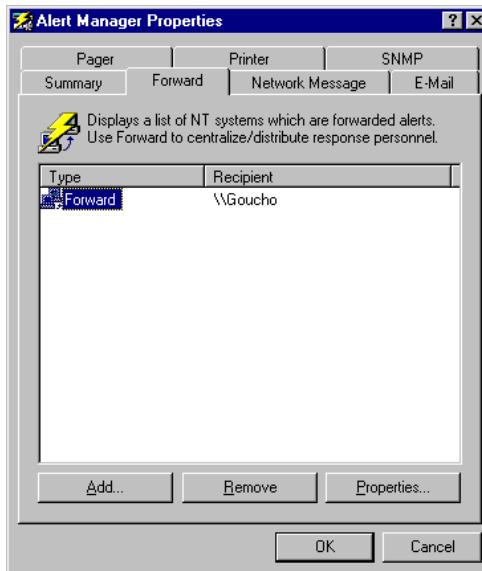


Figure 9-14.

2. Click Add.

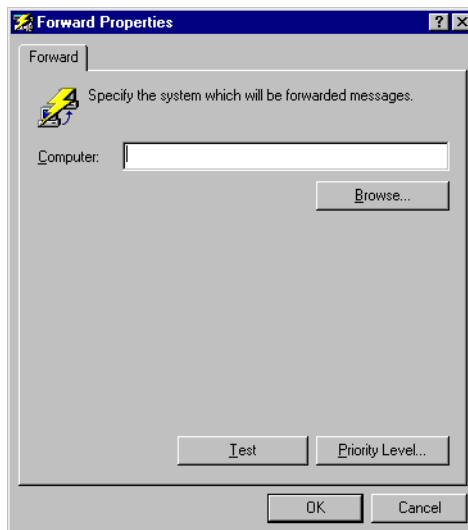



Figure 9-15.

3. From the Forward Properties dialog, click Browse.
4. From the Select Computer dialog, locate the desired computer to which you want to forward the alert and click OK.
5. From the Forward Properties dialog, click Priority Level.
6. From the Priority Level dialog, set the priority at which the forward notification will be sent.
 - **Low.** If you select Low, forwarding notifications will be sent for all alerts that have been assigned Low, Medium, and High priorities, i.e., all enabled alerts.
 - **Medium.** If you select Medium, forwarding notifications will be sent for all alerts that have been assigned with Medium and High priorities.
 - **High.** If you select High, forwarding notifications will be sent only for alerts that have been assigned a High priority. By default, no alerts are assigned a high priority. Therefore, if you select High, no alerts will be sent unless you have changed the default settings.

 *The priority level for each alert is shown on the Messages tab (Figure 9-3 on page 130). You can change an alert's assigned priority by selecting the alert from this tab and clicking Edit. Select a new priority level from the drop-down list and click OK.*

7. Click OK to add your entry to the Alert Manager Properties dialog.


The selected computer is displayed in the Forward list box.

8. Repeat this procedure for all desired computers to which you want to forward alerts and then click OK.

The computers to which you will be forwarding alerts are listed on the Summary tab. To change a forwarding's settings, select the desired entry and click Properties to display the Forward Properties dialog.

Configuring network notification messages for NT alerts

Network notification messages allow you to send a message to another server or workstation on the network when alerts selected for alerting occur. You can send network messages to any 3.51 or 4.0 NT server or workstation. You cannot, however, send a network message to a NetWare server or workstation.

 *The following procedure assumes that the Alert Manager Properties dialog is displayed. To display this dialog, see “Configuring Notification” on page 131.*



To configure network notification messages, perform the following steps.

1. From the Alert Manager Properties dialog, select the Network Message tab.

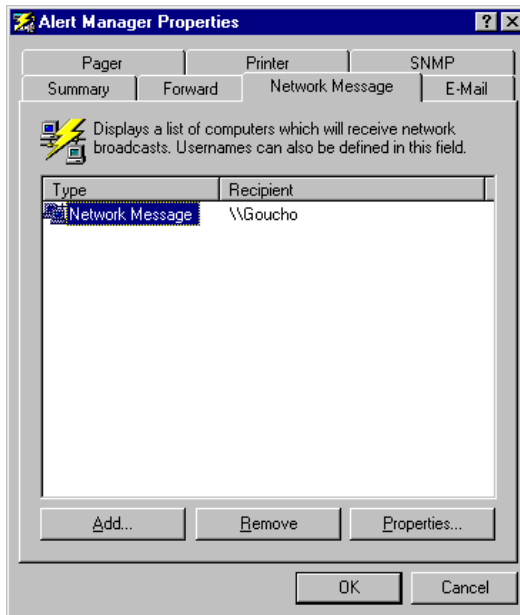


Figure 9-16.

2. Click Add.

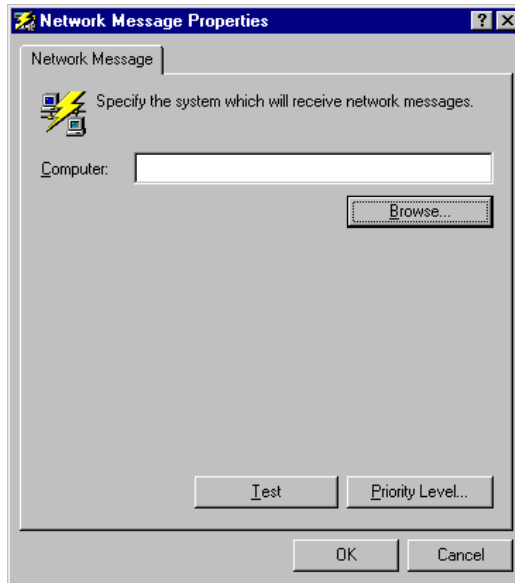



Figure 9-17.

3. Click Browse.
4. From the Select Computer dialog, locate the desired computer to which you want to send a network message and click OK.
5. From the Network Message Properties dialog, click Priority Level.
6. From the Priority Level dialog, set the priority at which the network message notification will be sent.
 - **Low.** If you select Low, network message notifications will be sent for all alerts that have been assigned Low, Medium, and High priorities, i.e., all enabled alerts.
 - **Medium.** If you select Medium, network message notifications will be sent for all alerts that have been assigned with Medium and High priorities.

- **High.** If you select High, network message notifications will be sent only for alerts that have been assigned a High priority. By default, no alerts are assigned a high priority. Therefore, if you select High, no alerts will be sent unless you have changed the default settings.


 *The priority level for each alert is shown on the Messages tab (Figure 9-3 on page 130). You can change an alert's assigned priority by selecting the alert from this tab and clicking Edit. Select a new priority level from the drop-down list and click OK.*

7. Click OK to add the selected recipients to the Alert Manager Properties dialog.
8. Repeat this procedure for all desired network message recipients and then click OK.

Your network recipients are listed on the Summary tab. To make changes to a network message recipient's settings, select the desired entry and click Properties to display the Network Message properties dialog.

Configuring E-mail notification for NT alerts

E-mail notification allows you to send e-mail via the Internet when alerts selected for alerting occur. You can specify to whom the message should be sent and what the subject should be.

 *The following procedure assumes that the Alert Manager Properties dialog is displayed. To display this dialog, see "Configuring Notification" on page 131.*



To configure e-mail notification, perform the following steps.

1. From the Alert Manager Properties dialog, select the E-mail tab.

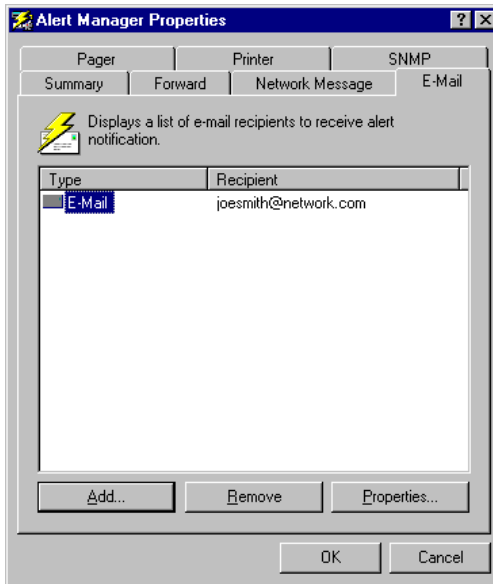


Figure 9-18.

2. Click Add.

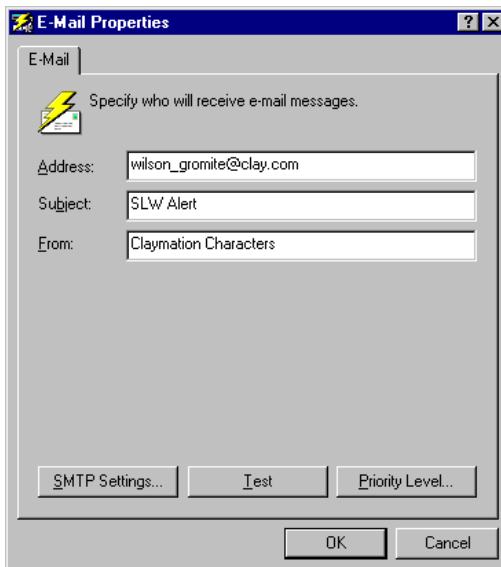


Figure 9-19.

3. Enter the recipients' address, subject reference, and author (From) in the provided text boxes.
4. Click SMTP Settings.

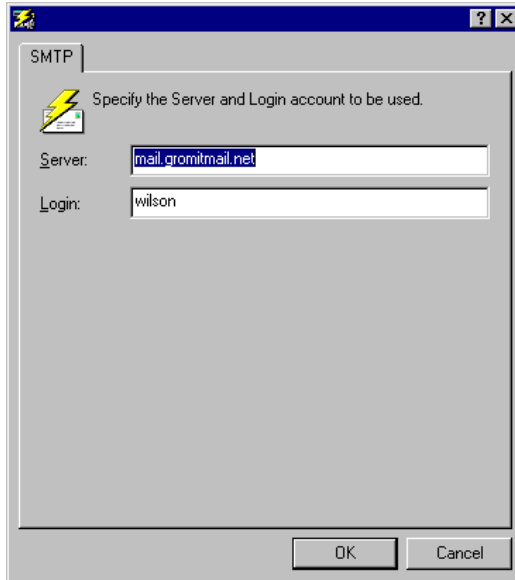




Figure 9-20.

5. Specify the mail server where your e-mail recipient resides and the login name. Click OK.

 *The e-mail recipient must have an existing login name at this server.*

6. From the E-mail Properties dialog, click Priority Level.
7. From the Priority Level dialog, set the priority at which the e-mail notification will be sent.
 - **Low.** If you select Low, e-mail notifications will be sent for all alerts that have been assigned Low, Medium, and High priorities, i.e., all enabled alerts.
 - **Medium.** If you select Medium, e-mail notifications will be sent for all alerts that have been assigned with Medium and High priorities.

- **High.** If you select High, e-mail notifications will be sent only for alerts that have been assigned a High priority. By default, no alerts are assigned a high priority. Therefore, if you select High, no alerts will be sent unless you have changed the default settings.

 *The priority level for each alert is shown on the Messages tab (Figure 9-3 on page 130). You can change an alert's assigned priority by selecting the alert from this tab and clicking Edit. Select a new priority level from the drop-down list and click OK.*

8. Click OK to add the selected recipients to the Alert Manager Properties dialog.
9. Repeat this procedure for all desired e-mail recipients and then click OK.

Your e-mail recipient(s) is listed on the Summary tab. To make changes to an e-mail recipient's settings, select the desired entry and click Properties to display the E-Mail Message Properties dialog.

About the Distribution Reports



For more information about Crystal Reports, see your *Crystal Reports User's Guide*.

The Distribution module's predefined reports place important information about software distribution activity right at your fingertips. For example, you can run a report to determine which packages were successful and which were not, or you can provide distribution activity reports to your department head each week.

You can also use Crystal Reports to modify these predefined reports or create your own. Once you have created a new report format, you can add it to your list of available views so that it is ready to use the next time you want to compile this report. The Distribution module's predefined report formats combined with Crystal Reports give you virtually unlimited reporting options.

Refer to the table below for an outline of the sections in this chapter.

To...	See...
View a list of all the predefined reports	"Report Types" on page 151
View the report window and its navigation features	"Displaying Data in Reports" on page 151
View detailed procedures for generating a distribution report	"Generating Reports" on page 153
View detailed procedures for adding a new report	"Adding a new report format" on page 155
View detailed procedures for modifying existing reports to suit your needs	"Editing report names and descriptions" on page 156




you can rename, edit, and delete reports.

Report Types

The predefined report view formats have been created to provide you with a ready-to-use framework for frequently requested distribution reports. These report views are described in the following table.

View Name	Description
Activity Log by Recipient	Lists all recipients selected to receive packages and displays the completion status for each package going to that recipient. See page 272 for a detailed description.
Activity Log by Package	Lists all packages on the server, and displays the completion status for each recipient under each package. See page 273 for a detailed description.
Completed Packages	Lists all successfully completed packages, and displays the distribution information for each package. See page 274 for a detailed description.
Complete Packages by Recipient	Lists all recipients by type (server, group, etc.), and displays successfully completed packages for each recipient. See page 275 for a detailed description.
Incomplete Packages	Lists all unsuccessfully packages, and displays the distribution information for each package. See page 276 for a detailed description.
Incomplete Packages by Recipient	Lists all recipients by type (server, group, etc.), and displays unsuccessfully packages for each recipient. See page 277 for a detailed description.

 To see a description of each of the report fields, refer to [Appendix E, “Pre-defined Distribution Reports.”](#)

Displaying Data in Reports

The report viewing feature provides an easy method to review distribution information. Using this feature you can easily:

- View large reports using quick access navigation buttons
- Print reports
- Export reports to spreadsheet or text files.

These tasks are all performed from a report view window.

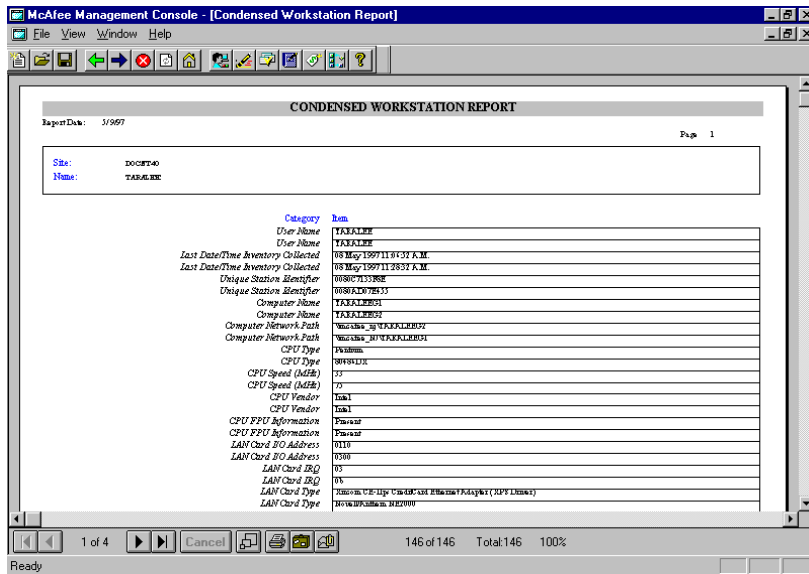





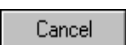





Figure 10-1.

The window's toolbar allows you to access all report viewing functions. The toolbar buttons are described in the following table.

Button	Description
	Takes you to the first page of the report.
	Takes you to the previous page.
	Takes you to the next page.
	Takes you to the last page of the report.
	Enlarges or reduces the view area by 'zooming' in or out on the image.
	Cancels the report request.

Button	Description
	Prints the report to the default printer.
	Exports the report to a spreadsheet or text file.
	Exports the data to a report using cc:Mail VIM format.

Generating Reports



To generate a report using a predefined format, perform the following steps.



1. Click the Select Reports button.

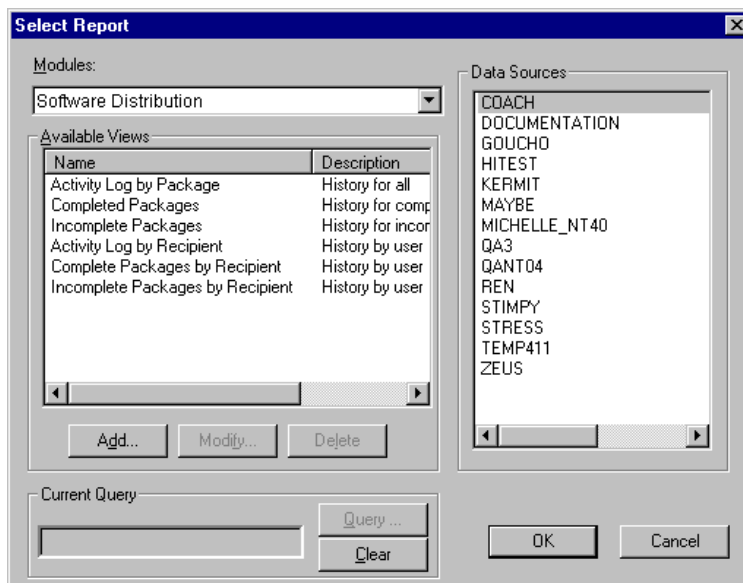



Figure 10-2.

2. From the Modules drop-down list, select Software Distribution.
3. From the Available Views list, select a report view.
4. Select the desired Data Source from the list.

 If the error “Out of temporary disk space” appears, click OK and cancel the report generation. Free some space in /TEMP.

5. Click OK to compile the report.



Determining who should Receive Packages on your Network

When using the Distribution module, you may already know what software you need to send to your users and network servers. If you have a large network, or if your users often install programs on their own, however, you may not readily know who needs to receive what software. You can easily determine what software is installed on your servers and workstations by using SLW’s **Inventory module** and its predefined reports.

By generating the **SPA Application License Summary Report**, you can see what software is installed on the servers where you ran the report. Running the **Workstation Software Report** will give you information on applications installed on your network’s workstations. These reports are generated from the Select Report dialog using the same procedure as distribution reports. Simply choose Inventory from the Modules drop-down list to populate the Available Views text box with the predefined inventory reports.

Using SLW’s Inventory and Distribution modules together removes the guesswork out of software distribution.

Handling Large Databases

If the database for the report contains more than 5000 records, the dialog in Figure 10-3 is displayed.

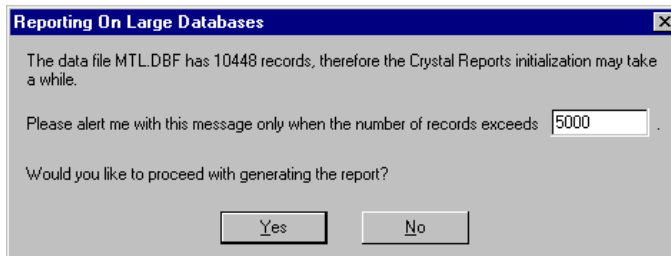


Figure 10-3.

Click Yes to continue generating the report.


If desired, you can change the threshold from the default 5000 records. For example, if you don't want this warning to display unless you have at least 10,000 records in the database, change the value in the text box to 10,000. Or, you can instruct the reporting feature to warn you at a lower level of database records by entering a value less than 5000.

Customizing Report Templates

The Distribution module includes Crystal Reports to give you increased reporting options. Using Crystal Reports, you can create new report templates or modify existing ones.

Adding a new report format

Although the Distribution module contains many predefined reports, you can modify their templates (*.RPT files) or add new ones using Crystal Reports. When creating these new report formats, you should save the new templates to the same location as the predefined Distribution templates.

 See your Crystal Reports User's Guide for information on creating and customizing reports.



After you have created a new report format in Crystal Reports, use the following steps to add it to the list of available views.



1. Click the Select Reports button.
2. Select Software Distribution from the Modules drop-down list.
3. Click Add.

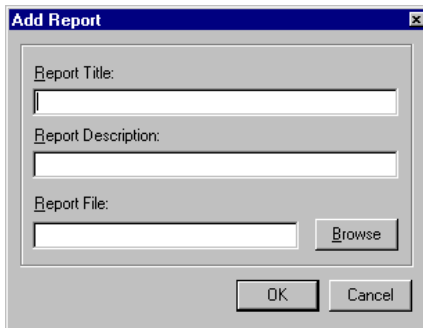



Figure 10-4.

4. Enter a report name in the Report Title text box.
5. Enter a description in the Report Description text box.
6. Enter the path to the file in the Report File text box or click Browse to select the desired file.
7. Click OK to add the report to the Available Views list box.

Editing report names and descriptions

You can modify the name and description of a report view that you have added to the Available Views list. The report file (*.RPT) remains as a source file that can be accessed using the Browse option, but the name you assign to the report view and the description explaining the view are changed.

 *You cannot modify a predefined report format.*



To rename a report view, perform the following steps.



1. Click the Select Reports button.
2. Select Software Distribution from the Modules drop-down list.
3. Select the report you want to rename from the Available Views list box and click Modify.

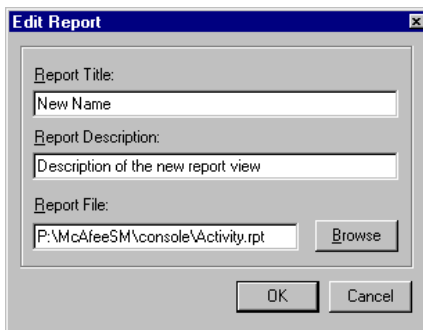


Figure 10-5.

4. Enter a new report name in the Report Title text box.
5. Enter a new description in the Report Description text box.

6. Click OK to add the report to the Available Views list box.

Deleting report formats

You can remove a view, or report format, from the Available Views list by deleting it. This does not delete the associated report file (*.RPT). You cannot, however, delete a predefined report.



To delete a report, perform the following steps.



1. Click the Select Reports button.
2. Select Software Distribution from the Modules drop-down list.
3. Select the report you want to delete from the Available Views list box.
4. Click Delete.
5. At the confirmation prompt, click Yes.

If you click Yes, the selected report or chart is removed from the Available Views list box.

A

The McAfee Enterprise Console

What's in this Appendix




The Console can be run from a Windows 95 or NT 4.0 machine.

Welcome to the McAfee Enterprise (Me!) Console. Me! is McAfee's most complete collection of network security and management tools which integrates all management tasks into one single Console.

This appendix introduces the Console along with the suites and modules which complete the Enterprise. This appendix also describes what the McAfee Enterprise Console is, how it is used, and how to tailor it to your network management strategy.

To...	See...
Learn more about the McAfee Enterprise Console and how it works	"What is the McAfee Enterprise Console" on page 159.
View a list of the modules that are automatically configured to snap in to the Console views or run from the Console toolbar	"About McAfee Enterprise Suites and Modules" on page 161.
View a list of the Console toolbar buttons and descriptions	"Using the Console Toolbar" on page 164.
Add applications from your desktop to the Console toolbar using the drag and drop feature	"Adding applications to the Console" on page 165.
Remove applications from the Console toolbar that were previously added using the drag and drop feature	"Removing applications from the Console" on page 174.

To...	See...
Rearrange applications on the Console toolbar that were previously added using the drag and drop feature	"Rearranging applications in the Console" on page 166.
View a list of the Explorer toolbar buttons and their descriptions	"Using the Explorer toolbar" on page 168.
Customize any combination of Snap-Ins and URL addresses that will suit your network management strategy in Console views	"Configuring your Workspace" on page 170.
Create a window to the Internet by adding URL addresses to the Console root	"Creating Internet nodes" on page 172.
Save your customized Console workspace  <i>Your Console workspace consists of all displayed Console views, their snapped in applications, and their window placement within the Console parent window.</i>	"Saving your Console workspace" on page 176.

What is the McAfee Enterprise Console

Network administration involves many tasks, including monitoring, analyzing, and adapting the network to meet your continually changing demands. Whether you're a seasoned network administrator or just starting out, you need easy-to-use, comprehensive tools to manage your network effectively. The Console provides a central point and common interface from which you can run all McAfee Enterprise products.

The McAfee Enterprise Console itself does not perform any management tasks. As a parent window, the Console is simply a shell from which you can run all McAfee Enterprise products.

All McAfee Enterprise applications, whether they are server or workstation based, can be launched from the Console. If a workstation on your network has VirusScan installed, it will automatically launch the product for them. If you have a McAfee application installed on your workstation, the Console will automatically launch the application for you. If you click the node which says Virus Scan, a product sheet will display in the results view. If you double-click, a HTML page will display (EXPAND ON THIS) If you don't have it installed, you will simply see a HTML page in your results view that says "BUY ME" you don't have this product.

Your McAfee Enterprise applications are configured within child windows, which are called Console views. You can create one or more of these Console views from the Console. Your applications snap in to these child windows to create custom management views. NEED TO TELL THEM THAT THE MODULES ARE CONFIGURED WITH ICONS IF YOU HAVE IT INSTALLED ON YOUR COMPUTER. IF THEY ARE NOT, A FOLDER WILL BE DISPLAYED.

Launching the Console

During installation, the Console and all network management-related product files were written to a directory called MCAFEESM. All modules selected during installation are automatically configured to run from the Console suites displayed in the scope view.

Do any one of the following to launch the McAfee Enterprise Console:

- Choose the McAfee Enterprise Console icon from your **Start/Programs/McAfee** folder.
- Choose **Start/Run** and enter <DRIVE>:\MCAFEESM\CONSOLE\ME.EXE in the Open text box and click OK.
- Double-click the ME.EXE icon in your <DRIVE>:\MCAFEESM\CONSOLE directory from Windows Explorer.



During installation, the directory MCAFEESM was appended to your installation path.

When you launch the Console you will see a window similar to the one shown in Figure A-1. The various parts of the window are labeled on the figure and discussed in the remainder of this appendix.

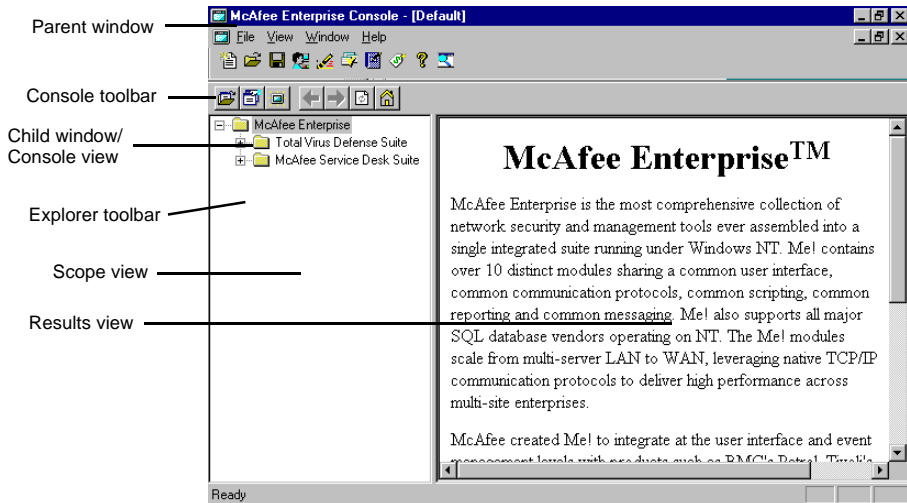


Figure A-1.

About McAfee Enterprise Suites and Modules

There are two primary suites which make up McAfee Enterprise; Total Virus Defense Suite and McAfee Service Desk Suite. These two primary suites are comprised of sub-suites. When you expand these sub-suites, the modules configured to run from the Console are displayed in the scope view. The McAfee Enterprise Suites and their modules are listed below:



During installation, the directory MCAF-EESM was appended to your installation path.

1. Total Virus Defense Suite

A. VirusScan Security Suite

- **VirusScan.** Protects desktop computers from virus infection and damage.
- **PC Medic.** Continuously monitors your system and traps crashes of both 16 and 32 bit applications, allowing you to save important data before crashing.

B. Desktop Security Suite

- **PCCrypto.** Provides privacy for your most confidential data by encrypting multiple files into a single self-extracting file.
- **NetCrypto.** Employs a variety of security technologies for all network sessions to make sure that network communications are not compromised.
- **QuickBackup.** Allows you to easily backup a single file or directory for secure off-site storage.
- **PC Firewall.** Allows a user or administrator to have complete control over what kind of information the computer lets in or out.
- **Webscan.**
- **Securecast.**

C. Netshield Security Suite

- **Netshield.** Guards your network by stopping viruses at the server level.
- **Groupshield/Scan.** Protects groupware users whose dynamic messaging environments transmit viruses.
- **Websheild.** Provides Antivirus protection for all your Internet Communications including e-mail, file transfers, and web browsing traffic.


D. Gateway Security Suite

- **Webwall.** Protects your company from external hackers and sniffers.
- **IDCentral.**
- **Securecast.**

2. McAfee Service Desk Suite**A. Zero Administration Client**

- **SiteExpress.** Reduces the cost of enterprise software distribution by automating new installations and updates of software across networks from a central location.
- **SiteInventory.** Tracks hardware and software assets on the network automatically, eliminating the manual collection process. It makes complete company wide inventory possible.
- **SiteMetering.** Meters, monitors, and reports on software applications across IP, IPX, and NT. Software Metering ensures compliance with license agreements via SPA-approved reporting.

- **Securecast.**
- **WinCompare.** Simplifies rolling out configuration changes for new applications to end users. It looks at the changes an application makes during installation, and generates a script automatically.
- **Menuing.** It includes the menuing module, menu player, Saber Policy Editor, and the SMENU.INI configuration tool. It gives you centralized control over network users' Windows NT, Windows 95, and Windows 3.1x desktops.
- **PowerScript.** Based upon a powerful visual basic-like programming language, PowerScript includes a dialog box editor, smart mouse, keyboard recorder, and a debugger.
- **Crystal Reports.** A powerful Windows based report designer, Crystal Reports makes it easy to perform queries or create custom reports and charts.
- **Policy Editor.** Using this module, you can decide how you want users' Windows 95 desktops to be configured, then creating a Windows 95 system policy to control the desktops.
- **McAfee Store.** Allows you to browse the web for information about McAfee products and makes it easy to obtain information about McAfee.
- **Antivirus Server Protection.** Schedules tasks to scan your network server at regular intervals using the Scan Wizard and configures the Alert Manager to notify you upon virus detection via e-mail, network message, or pager.










 *McAfee's antivirus server protection software can only be configured through the Console if you have purchased NetShield 2.52 or later separately. Refer "Configuring Snap-Ins" on page 171 for further details.*

B. McAfee HelpDesk Suite

- **McAfee HelpDesk.** Provides administrators with solutions for monitoring the HelpDesk requests throughout their network.
- **Remote Desktop 32.** Allows you to remotely control and view workstations on your network.
- **PC Medic.** Continuously monitors your system and traps crashes of both 16 and 32 bit applications, allowing you to save important data before crashing.
- **Securecast.**
- **SupportWeb.**

Using the Console Toolbar

The Console toolbar provides quick access to Console functions and additional McAfee applications. By default, your Console toolbar consists of applications such as McAfee Store, WinCompare, Crystal Reports, etc. However, when you launch the Console, any additional McAfee applications that you have installed on your workstation, will automatically be configured into your Console toolbar. For example, if you have VirusScan installed on your workstation, a VirusScan toolbar button will be automatically configured into your Console, allowing quick and easy access to your McAfee Enterprise products. The default Console toolbar buttons are listed in the following table.

Button	Description
	Creates a new Console view.
	Opens a saved Console workspace.
	Saves the Console workspace.
	Opens Policy Editor. If Policy Editor was not installed, you can browse for another executable file you want to launch with this button.
	Opens PowerScript. If PowerScript was not installed, you can browse for another executable file you want to launch with this button.
	Opens WinCompare. If WinCompare was not installed, you can browse for another executable file you want to launch with this button.
	Opens Crystal Reports. If Crystal Reports was not installed, you can browse for another executable file you want to launch with this button.
	Opens the McAfee Store web site if an Internet browser is installed. If a browser is not detected, you are prompted to enter its correct path. This button cannot be configured to launch a different application.
	Launches the Console Help.

- Most of the McAfee toolbar buttons have a single context menu item: **Property**. Right-click any toolbar button and choose **Property** to display the Browse dialog and specify a different application (other than the configured McAfee application) to be launched from that toolbar button.

Customizing your Console View

The McAfee Enterprise Console allows you to customize your Console view by adding, deleting or rearranging applications from your default Console workspace. Refer to the following sections for instructions on how you can add, delete, and rearrange your applications in the Console's scope view and toolbar to make your enterprise unique to your management strategy.

- To add applications to the Console, see
- To rearrange applications in the Console, see
- To create Internet Explorer nodes, see
- To create additional folders in the Console's tree, see
- To add new exe's to the Console, see
- To delete applications in the Console, see

Adding applications to the Console

In addition to the McAfee applications that are configured by default in the Console's scope view and toolbar, additional applications can be added from your desktop to the Console using Windows' **drag and drop** feature.

You can drag a Windows' shortcut from your desktop to the Console's scope view or toolbar, or drag an application directly from Windows Explorer. When you drag an application to the Console from your desktop or Windows Explorer, your cursor changes to reflect the action.

The additional applications that you configure into the Console (using the drag and drop feature described above) adopt the same context menu as your Windows desktop shortcuts.

For example, in the figure below, the Adobe Acrobat Reader has been added to the Console toolbar and Paint has been added to the scope view. Its context menu is that of the Windows desktop; note the 'Create Shortcut' menu item.

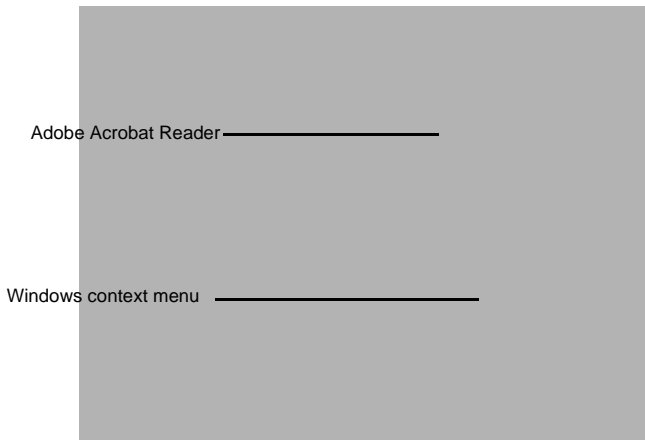




Figure 0-1.

 *Right-clicking an added application and choosing **Delete** from within the Console **will** remove the application from your desktop. In addition, when you change an application's properties from within the Console, these properties will be reflected in the application on your desktop.*

The Console is updated automatically to remove the selected modules.

Rearranging applications in the Console









 *Only applications added to the Console toolbar can be rearranged. Pre-configured McAfee application buttons cannot be rearranged on the Console toolbar.*

The modules that are configured in the Console's scope view, or added to the console toolbar can be rearranged using Windows' **drag and drop** feature.

For example, you can drag an added application button (not a pre-configured McAfee application button) to a different location on the console toolbar. When you do so, your cursor changes to reflect the action. You can also move a module from the scope view and add it to another suite in the tree.

Using the Explorer toolbar


The Explorer toolbar provides quick access to Console functions and to the Internet URL addresses. By using the Explorer toolbar, you can refresh the Console, open selected reports, and browse the Internet. The Explorer toolbar buttons and their descriptions are listed in the following table.

Button	Description
	Displays the last report selected for the active module. If no reports have been generated, the Select Report dialog is displayed.
	Displays the Select Report dialog. You can select a report and database, as well as filter data to narrow report results.
	Refreshes the information displayed in the scope and results views.
	When used in an Internet Explorer view, this button takes you to the previously viewed URL address page.
	When used in an Internet Explorer view, this button takes you to the next URL address page.
	When used in an Internet Explorer view, this button stops searching for the selected URL address.
	When used in an Internet Explorer view, this button refreshes the information displayed on the URL address.
	When used in an Internet Explorer view, this button takes you to the original URL home page.

Using the scope view

The scope view is located in the left pane of the Console view. It displays the McAfee Enterprise suites and their modules. From here you can:

- Click the plus sign (+) next to a McAfee Enterprise suite to expand the scope view and display its sub-suites and modules.

 If the expanded scope view contains nodes with their own plus signs, you can click on those to continue expanding the tree.
- Click the minus sign (-) next to any module to collapse that portion of the scope view.
- Click on a module to display a product information splash screen in the results view. (The results view is described in the following section.)
- Double-click on a module to launch an application. For example, If you double click on VirusScan, and it is installed on your workstation, it will launch the product for you. If it is not installed, a splash screen displays with information on how to order the product.
- Right-click a module or a node to display a context menu. The menu items allow you to perform functions related to the selected item and module.

Using the results view

The results view is located in the right pane of the Console view. It displays information about the module or node that is highlighted in the scope view. From here you can:

- View product information about McAfee Enterprise suites and sub-suites.
- Right-click on the entries to display a context menu. The items on the menu allow you to perform functions related to the selected item.
- Click on an entry in the context menu to perform the functions associated with that entry.
- Click on the column headings to sort the information displayed in the selected column.

Drag the dividers between the column headings to resize the columns.

Managing your Console Views

Through Console views, administrators can view data generated by network applications (i.e., Inventory, Distribution, Menuing, etc.), view specific reports generated by Crystal Reports, and access Internet browser capabilities. The McAfee Enterprise Console .


About Console view windows

All managerial tasks are performed through your network applications. These applications are added to (or 'snapped in' to) child windows. These child windows are referred to as Console views. All Console views have scope and results panes as well as an Explorer toolbar. In addition to adding applications, you can also add URL address nodes. When selected, these nodes turn your results pane into an Internet browser. Refer to [“Managing your Console Views” on page 169](#) and [“Creating Internet nodes” on page 172](#) for further details.

Using the scope view

The scope view is located in the left pane of the Console view. It displays the McAfee Enterprise suites and their modules. From here you can:

- Click the plus sign (+) next to a McAfee Enterprise suite to expand the scope view and display its sub-suites and modules.

 *If the expanded scope view contains nodes with their own plus signs, you can click on those to continue expanding the tree.*

- Click the minus sign (-) next to any module to collapse that portion of the scope view.
- Click on a module to display a product information splash screen in the results view. (The results view is described in the following section.)
- Double-click on a module to launch an application. For example, If you double click on VirusScan, and it is installed on your workstation, it will launch the product for you. If it is not installed, a splash screen displays with information on how to order the product.
- Right-click a module or a node to display a context menu. The menu items allow you to perform functions related to the selected item and module.

Using the results view

The results view is located in the right pane of the Console view. It displays information about the module or node that is highlighted in the scope view. From here you can:

- View product information about McAfee Enterprise suites and sub-suites.
- Right-click on the entries to display a context menu. The items on the menu allow you to perform functions related to the selected item.
- Click on an entry in the context menu to perform the functions associated with that entry.
- Click on the column headings to sort the information displayed in the selected column.
- Drag the dividers between the column headings to resize the columns.

Configuring additional Console views

All managerial tasks are performed within Console views; no tasks are performed from the parent Console window (page 159). Your network applications are configured in child windows and these child windows are referred to as Console views. You can create multiple Console views, and have each view configured with different applications. These applications are 'snapped-in' to the individual Console views. Figure 0-2 displays a sample McAfee Enterprise Console with two different Console views.

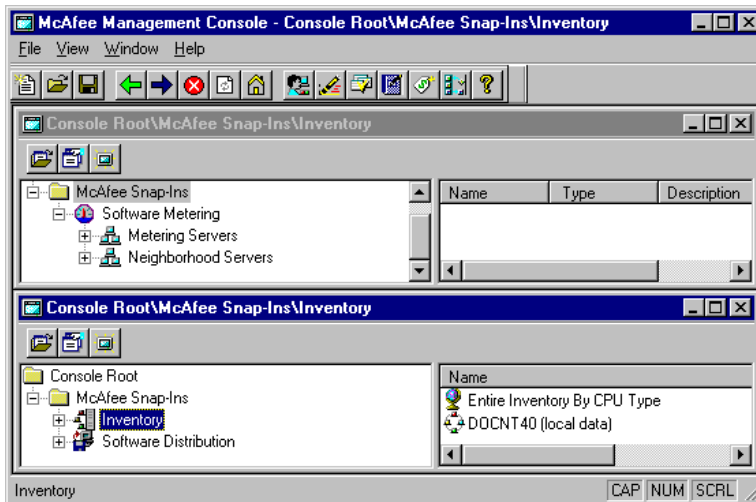


Figure 0-2.

To add an additional Console view, do one of the following:

- Choose **File/New Console View**.
- Click the New Console View button.

 Refer to *“Configuring Snap-Ins” on page 171* to configure your Console view.

Creating Internet nodes

In addition to providing a frame in which to perform administrative tasks, the Console also provides direct access to the Internet. You can add URL addresses as additional nodes in Console views.

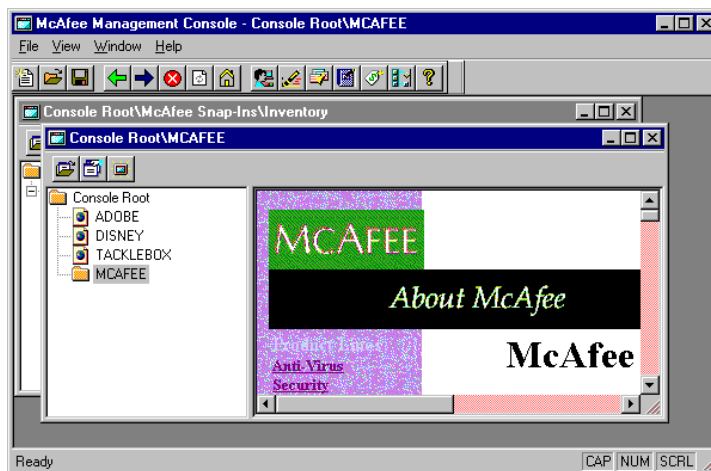



Figure 0-3.

 *Internet Explorer 3.0 or later must be installed on your workstation to launch Internet Explorer from the McAfee Enterprise Console.*

To add an Internet node, perform the following steps.

1. Choose **File New Node\Link to Web Address**.

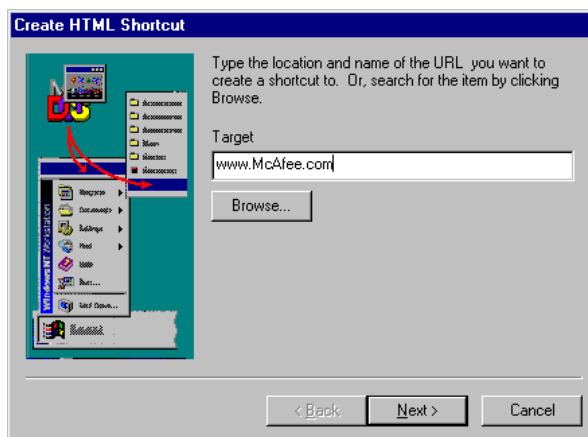


Figure 0-4.

2. Enter the desired URL address you want to create a shortcut to, or search for an address by clicking Browse.
3. Click Next.

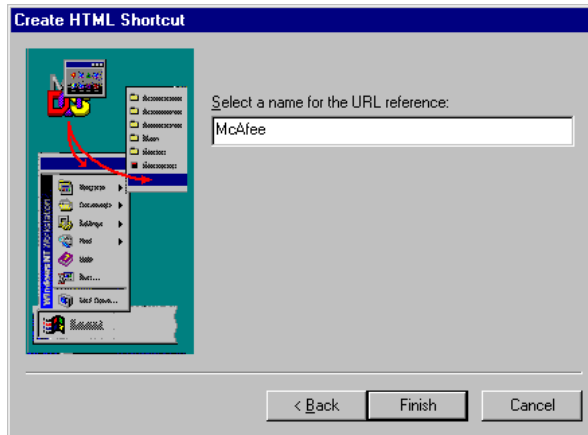


Figure 0-5.

4. Enter the shortcut name in the provided text box and click Finish.

The URL shortcut is displayed in the scope view.

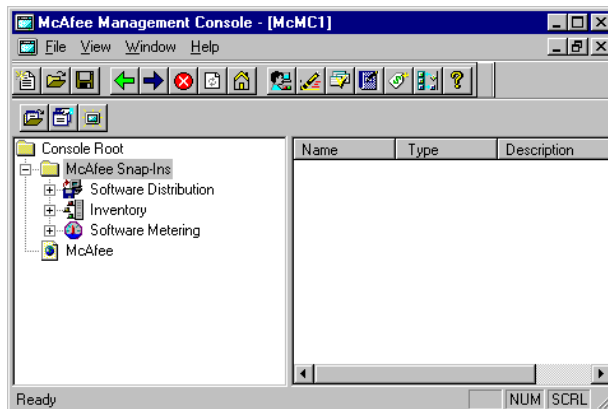


Figure 0-6.

5. To browse the URL address, double-click the shortcut.

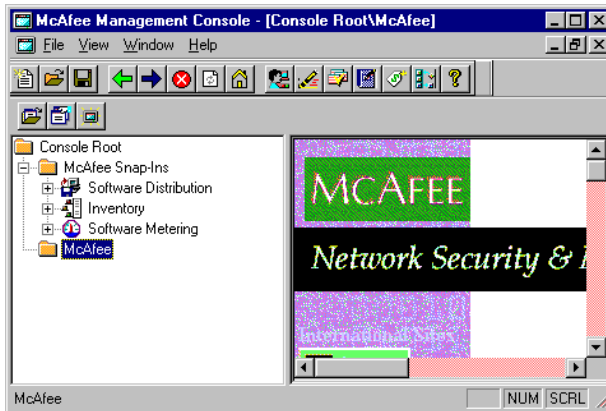



Figure 0-7.

 Choose **View\Scope Pane** to view the entire URL address on the Console.


Removing applications from the Console

The modules displayed in the scope view, and those that you added to the Console toolbar can be removed using the Windows' **drag and drop** feature. For example, you can drag an added application button (not a pre-configured McAfee application button) off the Console toolbar or out of the scope view, or you can right-click any application in the scope view and choose delete.

Dragging an application from the toolbar does not remove the application from your desktop. However, right-clicking an application and choosing **Delete** from within the Console **will** remove the application from the Console's scope view. When you drag an application from the Console toolbar your cursor changes to reflect the action.

To delete an application from the Console, do one of the following:

- Right-click an application in the Console's scope view and choose Delete.
- Drag an application off of the Console's scope view or toolbar.

 *Only applications added to the Console toolbar can be deleted. Pre-configured McAfee application buttons cannot be removed from the Console toolbar.*

The Console is updated automatically to remove the selected modules.

Configuring your Workspace

The first time you launch the Console, a default Console view is displayed, as shown in Figure A-1 on [page 161](#). No Snap-In modules are configured in the view displayed. You can configure each Console view to have its own combination of Snap-In modules and URL addresses. Configure your views to suit your own network management strategy.

Your workspace is the combination of your displayed Console views, their snapped in applications, and their window placement within the Console. Your workspace can be customized to suit your specific everyday management tasks. For example, in Figure 0-2, there are two views configured. The Software Metering module is configured in View 1 and the Inventory and Distribution modules are configured in View 2. Even though there are two views configured in the figure below, it is still considered one Console workspace.

As with other Windows-based applications, you can have more than one Console view open at the same time (the maximum number of open view is 20). In addition, you can move, minimize, maximize, tile, or cascade the views to help you work more efficiently.

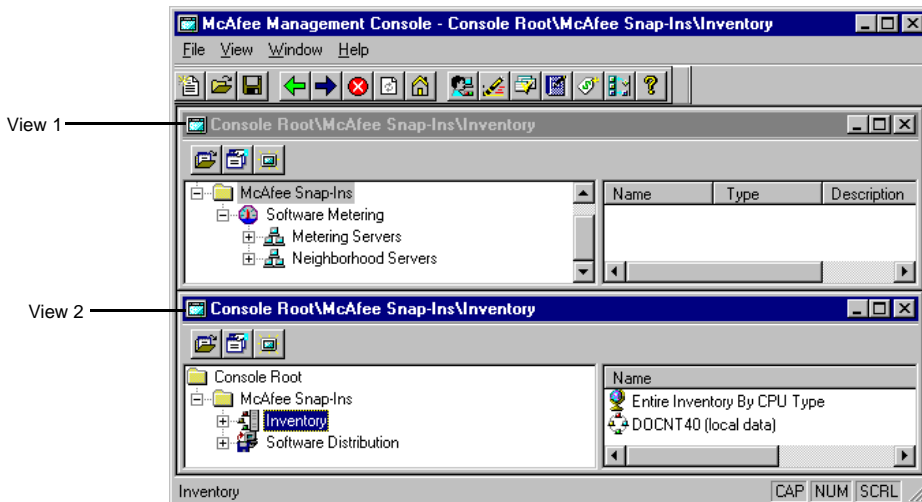


Figure 0-8.

Your main steps to configure your Console workspace are:

1. Configure Snap-In modules for the current Console view. (page 171)
2. If necessary, create and configure additional Console views. (page 171)
3. Configure Internet Explorer nodes. (page 172)
4. Save your workspace. (page 176)

Saving your Console workspace

Once you have configured your Console views and arranged them according to your preferences (i.e., Snap-In configuration, window placement, toolbar and status displays, etc.), you can save your customized Console workspace configuration. Saving your configuration saves the position and size of the Console views and the Snap-Ins displayed in the Console views.

To save the workspace, perform the following steps.

1. Choose **File/Save Console** or **Save Console As**.
2. From the Workspace Save dialog, browse for the desired location, enter a name for your custom console in the File name text box, and click Save.

A message box is displayed asking if you want to save this console window as the default.

3. Click Yes if you want your custom workspace to be displayed automatically each time you start the Console. Click No if you want to save the console **without** making it the default.

B

Using the Predefined Packages

The Distribution module includes custom packages that include scripts and filesets that automate common network management tasks. These packages have been written and defined to the greatest extent possible to keep your remaining steps to a minimum.

The table below outlines the available predefined packages.

Package Name	Task.
Install WinMeter	Automating the installation of the metering agents on your network's workstations (page 176)
MSCC VirusScan for DOS MSCC VirusScan 95 MSCC VirusScan NT MSCC VirusScan 3.X MSCC VirusScan PM for DOS	Installing McAfee's VirusScan on workstations across your network (page 178)
MSCC NetShield	

The procedures in this chapter assume that you are familiar with using packages. Cross-references are provided throughout these steps to lead you to more detailed procedures (many times these cross-references appear in the form of a page number in parentheses following a step).

For detailed instructions on creating packages, see [Chapter 4, "Creating Packages."](#) For information about package options, see [Chapter 5, "Using Package Options."](#) For information about editing packages, see [Chapter 6, "Managing Packages."](#)

Installing McAfee Metering Agents




For more information, refer to your *Automating Software Metering* manual.

The Distribution module provides prepared software distribution packages and scripts that automatically install the metering agents (used with the Metering module) on workstations across your network. Using these packages, you can easily distribute the agents and configure your workstations for software metering.

The WinMeter agents work with McAfee's Metering module. These agents must be installed on a workstation before metering can take place.

Package Name	Package Tasks Included
Install WinMeter	QuickScript: "Install WinMeter" (AGENT16.SDC)
Install WinMeter 95 and WinMeter NT	QuickScript: "Install WinMeter 3.1" (AGENT32.SDC)

 *In the QuickScripts included in these packages, you must modify the SCHEDULEWIN line to reflect the path to the MCAFEESM\SYSTEM-ETR\AGENT directory. Your users must have sufficient rights and a drive mapped to this directory.*




To install the metering agent your network workstations, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Packages nodes to display the server's existing packages in the results view.
3. Right-click one of the following packages and choose **Open**.
 - For Windows 3.1 and Windows for Workstations 3.11, select the "Install WinMeter 3.1" package.
 - For Windows 95 and Windows NT, select the "Install WinMeter 95 and WinMeter NT" package.

4. From the Open Package dialog on the Definition tab, select the 'Save as an active package' check box.

 *The default installation path is [BOOT_ROOT]\MCAFEE\WINMETR.*

5. Select the Recipients tab and add recipients to the package. Refer to "Selecting Package recipients" on page 56 for details.

 *When selecting recipients, ensure that they have workstation environments that support the package you are distributing. For example, don't send "Install WinMeter 3.1" to a Windows 95 workstation.*

6. To select advanced options related to the delivery of packages to workstations running any version of Windows, select the Advanced Options tab and refer to "Selecting error options" on page 71.
7. Click OK to save the active package.

The next time the user logs in to the network, the package will copy the WINMETR.EXE agent to the workstation, and make the following changes:

- For Windows 3.1 and Windows for Workstations 3.11, the package adds three files to the WINDOWS\SYSTEM directory, and modify the WIN.INI file so that the agent runs each time Windows is loaded.
- For Windows 95 and Windows NT, the package modifies the registry.

Installing McAfee's VirusScan

The Distribution module provides the packages and software to install evaluation versions of McAfee's VirusScan. The following packages are provided for installing VirusScan on different workstation environments and are already configured for quick and easy distribution.


Locate the package name for the version of VirusScan you want to install, and use the procedure below to run the package.

Package Name	Package Tasks Included
MSCC VirusScan for DOS	Fileset: "Install VirusScan 229 for DOS" (MCAF-EEDO.SET) QuickScript: "Install VirusScan 229 for DOS" (DVSCAN.SDC)
MSCC VirusScan 95	Fileset: "Install McAfee VirusScan for Windows 3.x" (VSCANW31.SET) QuickScript: "Install McAfee VirusScan for Windows 3.x" (CFGVS3X.SDC)
MSCC VirusScan 3.X	Fileset: "McAfee VirusScan 95" (VSCAN95.SET) QuickScript: "Install VirusScan 95" (VSCAN95.SDC)
MSCC VirusScan NT	Fileset: "Install VirusScan for Windows NT" (VIRUSSCA.SET) QuickScript: "Install McAfee VirusScan for Windows NT" (NTVIRUS.SDC)
MSCC VirusScan PM for DOS	




To install the correct version of VirusScan, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Packages nodes to display the server's existing packages in the results view.
3. Select the package that contains the version of VirusScan you want to install and choose **Open**.
4. From the Open Package dialog on the Definition tab, select the 'Save as an active package' check box.

 The default installation path has been defined as follows: for Windows 95, [BOOT_ROOT]\MCAFFEE; for Windows NT, C:\NTVIRUS; for Windows 3.1, [BOOT_ROOT]\MCAFFEE\VIRUSCAN; and for DOS, C:\MCAFFEE\VIRUSSCAN.

5. Select the Recipients tab and add recipients to the package. Refer to [“Selecting Package recipients” on page 56](#) for details.

 When selecting recipients, ensure that they have workstation environments that support the package you are distributing. For example, don't send “Install VirusScan NT” to a Windows 95 workstation.

6. To select advanced options related to the delivery of packages to workstations running any version of Windows, select the Advanced Options tab and refer to [“Selecting error options” on page 71](#).
7. Click OK to save the active package.

The packages are designed to copy the software to the local hard drive, create a program group/folder, and run VirusScan to check for virus infection.

Upgrading Workstations to Windows 95

The Distribution module provides prepared scripts that automate the process of upgrading your workstations to Windows 95. To automate the upgrade, you:

- Run the Windows 95 upgrade setup program (NETSETUP) to install the setup program on the originating server,
- Use a fileset to copy the setup program files to other distribution servers, and
- Use a package with a PowerScript executable to distribute the necessary upgrade files and run the upgrade on servers and workstations across your network.



To automate the Windows 95 upgrade process, perform the following steps.

1. Install the Windows 95 setup files on the server by completing these steps:



The compressed fileset is approximately 22 MB. On a Pentium 90 with 32MB RAM, the compression takes approximately 27 minutes.

- Run Microsoft's NETSETUP program to install the SETUP program on a server where network users can access the program.
- Use NETSETUP to create a batch file that automates the installation process.

2. Copy the setup files to any software distributing server that will distribute the upgrade by completing the following two steps to create a fileset and package. (If you are only upgrading users on this server, you can skip these steps.)

- Create a fileset named "Windows 95 Setup Files" with the setup files that were installed to the server during Step 1.

 See *"Creating Filesets" on page 96 for details.*

- Select the Include Path check box on the Add File dialog to include the path with the files.
- Select the 'Create directory structure when decompressing' check box on the Open Fileset dialog to create any missing directories on the server.


- Create a package named "Windows 95 Setup Files" to deliver the fileset to the servers that will run the Windows 95 setup program.

 See *"Preparing Packages" on page 49 for details.*

- Add the fileset (page 52).
- Identify servers as your recipients (page 56).

3. Edit the SXPWIN95.MPS PowerScript for your network environment by completing the following steps:

- Launch PowerScript from the Console.
- Open the SXPWIN95.WIN script in the PowerScript editor and edit the following constants at the top of the script.

 *In the following steps, <drive letter> is the drive where the Distribution module is installed.*



For details, refer to your PowerScript manual.

- Set the target drive for the installation. Change the drive letter for installations to network drives.

```
const targetdrive$="c:"
```

- Set the required disk space for the install. Recommendations:

Typical - 3000000

Compact - 200000

```
const reqspace&=30000000
```

- Set the path for the directory that will be used to back up .INI files and user system files.

```
const backupdir$="c:\sxp400.bak."
```

- Set the path to the Windows 95 setup program on the server, and specify an .INF file to automate the installation process if desired. Use the same drive the user will use. You may want to temporarily add this to the system login script during the upgrade process.

```
const setupprog$="i:\win95\setup.exe auto-  
mate.inf"
```

- Set the path to the SiteExpress directory and to the logfile name.

```
const sxpdir$="i:\sitexprs\log.txt"
```

- Compile the PowerScript script to a Windows executable.

 *The new file name will change to SXPWIN95.EXE.*

4. Edit the CHECK.MPS script for your network environment by completing the following steps:

- Open CHECK.MPS in the PowerScript editor.

- Edit the following constant that is found at the top of the script:

- Set the path to the SiteExpress directory and to the logfile name.

```
const sxpdir$="i:\sitexprs\log.txt"
```

where <drive letter> is the drive where the Distribution module is installed.

- Compile the script to a Windows executable.

 *The new file name will change to CHECK.EXE.*




Workstations are set to log any errors to the package detail log.

5. Distribute the package with the upgrade using these steps:

- Create a package named “Windows 95 Upgrade.”

 See “*Preparing Packages*” on page 49 for details.

- Add POWERSCR.SET, which contains the support library files for PowerScript (page 52).

 If you have already distributed the package “Install PowerScript Support Files,” you do not need to add this fileset to your package. The files are already on the workstation.

- Add SXPWIN95.EXE, which checks the user’s environment and then launches the Windows 95 upgrade.
- Select the user or workstation recipients for the package (page 56).

- Create a package named “Check Windows 95 Upgrade.”

 See “*Preparing Packages*” on page 49 for details.

- Add the CHECK.EXE PowerScript executable, which will check the workstation to confirm that the upgrade was successful (page 52).
- Select the same recipients as those in the “Windows 95 Upgrade” package (page 56).

The first time that Windows 95 is launched, it creates the BOOTLOG.TXT file. This file provides a log of all devices and programs Windows 95 attempts to initialize and their outcomes. CHECK.EXE locates BOOTLOG.TXT and scans it for a FAIL string. If a failure is found or if BOOTLOG.TXT cannot be located, an error is logged.

Installing Menu Player

The Distribution module contains several packages to help you install McAfee's Menu Player (a utility included with Saber LAN Workstation).

Package Name	Package Tasks Included
SLW 6.0 Menu Player SYS-TEM.INI Changes	QuickScript: "SLW 6.0 Menu Player SYS-TEM.INI Changes" (SLWSVSIN.SDC)
SLW 6.0 Menu Player CON-FIG.SYS Changes	QuickScript: "SLW 6.0 Menu Player CON-FIG.SYS Changes" (SLWCFG.SDC)
SLW 6.0 NetWare DLLs for Menu Player	Fileset: "NetWare DLLs for Menu Player" (NET-WARED.SET)

Menu Player allows your users to access network applications through menus that you create in the Menuing module. Using the Menu Player, you can:

- Control users' desktops, preventing users from modifying key settings and system files.
- Specify which applications users and groups are permitted to access. For example, you can prevent users from accessing DOS and launching unauthorized applications.
- Tailor the general look and feel of network users' desktops.



To use the provided packages for Menu Player, perform the following steps.

1. Expand the Software Distribution object to display your connected Distribution servers. Then click the + next to the desired server to expand the view to display the Packages, Filesets, and QuickScripts nodes.
2. Click the + next to the Packages nodes to display the server's existing packages in the results view.
3. Select the SLW 6.0 Menu Player SYSTEM.INI Changes package and choose **Open**.
4. From the Open Package dialog on the Definition tab, select the 'Save as an active package' check box.

5. Select the Recipients tab and add recipients to the package. Refer to [“Selecting Package recipients” on page 56](#) for details.
6. To select advanced options related to the delivery of packages to workstations running any version of Windows, select the Advanced Options tab and refer to [“Selecting error options” on page 71](#).
7. Click OK to save the active package.
8. Repeat Steps 3 through 7 for each of the following packages:
 - SLW 6.0 Menu Player CONFIG.SYS Changes
 - SLW 6.0 NetWare DLLs for Menu Player

Installing MS Office 4.3

The Distribution module provides packages and scripts to help you automate and customize the installation of MS Office 4.3 on workstations throughout your network. These tools work with the existing administrative/workstation installation components in MS Office.

Package Name	Package Tasks Included
Office 4.3 Administrative Setup	QuickScript: “Office 4.3 Administration Setup” (O43ADM1.SDC)
Office 4.3 Administration Configuration	QuickScript: “Office 4.3 Administration Configuration” (O43ADM2.SDC)
Office 4.3 User Install	QuickScript: “Office 4.3 User Install” (OFFICE43.SDC)

The MS Office installation normally configures the workstation setup so that it can only be run from the server on which it was installed. Using the The Distribution module’s scripts, you can modify the setup so that it can be distributed across multiple servers.

The Distribution module also uses a configuration utility that permits you to specify the type of installation you want:


- **Typical.** Installs the standard set of workstation components.
- **Complete/Custom.** Installs only those components you select.
- **Laptop.** Installs a minimum set of components.
- **Workstation.** Installs a small set of local support files for applications to be run from the server.

You must already have the MS Office product and related software licenses. In addition, approximately 250MB of network disk space is required to decompress the files.



To automate the Office 4.3 installation process, perform the following steps.

1. Prepare the package to copy the administrative install program onto the server by completing these steps:

 *If you do not have the CDROM, you can install the administrative setup from the diskettes using the command `SETUP /A` and proceed to Step 3.*

- Open the package named “Office 4.3 Administrative Setup.”

This package contains the QuickScript O43ADM1.SCR and has the default installation path set for the root of the CDROM that has Office 4.3 (D:\).

- On the Recipients tab, add your user name as the recipient for the package (page 56).
- On the Definition tab, select the ‘Save as an active package’ check box.
- Click OK to save the active package.


2. Execute the update to run the package and copy the administrative setup files to the server.

 *See “[Workstation update agents](#)” on page 41 for details.*

- Manually run the loader update agent (SXPNWLDLDR.EXE for NetWare or SXPNTLDR.EXE for NT) from the \MCAFEESM\SITEXPRS\AGENT directory.
 - When prompted for the installation path for MSOFFICE, choose \\SERVER\SYS\MSOFFICE.
 - When prompted for the installation path for MSAPPS, choose \\SERVER\SYS\MSAPPS.

The MS Office administrative setup files are now available on this server.

3. Copy the administrative setup files to other servers on your network.

 *This step is optional. Use this step to easily distribute the setup files to other servers.*

- Create a new fileset named “MS Office 4.3 Install files.”

 See “[Creating Filesets](#)” on [page 96](#) for details.


- Add the directories containing the files you just installed to \\SERVER\SYS\MSOFFICE and \\SERVER\SYS\MSAPPS.
 - Select the Include path check box on the Add File dialog.
 - Select the ‘Create directory structure when decompressing’ check box on the Open Filesset dialog.
- Create a new package named “MS Office 4.3 Install files.”
 - Add the fileset “MS Office 4.3 Install files” ([page 52](#)).
 - Choose other servers on your network as recipients ([page 56](#)).
 - On the Definition tab, select the ‘Save as an active package’ check box.
 - Click OK to save the active package.

The package delivers the files to the other servers and copies them to the target directory.


4. Set up the Administrator Configuration to customize the workstation installation. (This step is only needed if you want to change the default installation options.)



If the Install Support Files for PowerScript package has not yet been distributed on your network, open the package, add recipients, and select the package.

 If you have copied the administrative setup files to other servers, you can use this step to customize the installation program on each server.

- Open the package named “Office 4.3 Administration Configuration.”

 This package contains the QuickScript O43ADM2.SCR and includes the package “Install Support Files for PowerScript” as a dependency.

- On the Definition tab, select the ‘Save as an active package’ check box.
 - Specify the default installation path as the network location where SETUP.EXE was installed (page 55).
 - Add your user name as the recipient (page 58).
 - Click OK to save the active package.
- Manually run the update loader agent (SXPNWLDLDR.EXE for NetWare or SXPNTLDR.EXE for NT) from the \MCAFEESM\SITEXPRS\AGENT directory.

 See page 41 for information on the update agents.

As the update begins, a dialog gives you the option of overriding the installation path and a second dialog prompts you to enter a new path.

- Enter a network location where you want to customize the install program and click OK.

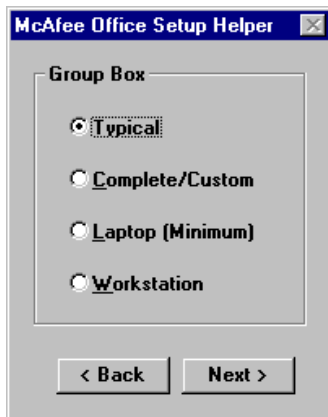


Figure B-1.

- Select the type of install you want to provide and click Next.

One of the following occurs:

- If you select Typical, Laptop, or Workstation, the dialog in Figure B-3 is displayed.
- If you select the 'Complete/Custom' installation type, a McAfee Office Setup Helper dialog prompts you to select the components you want to install.

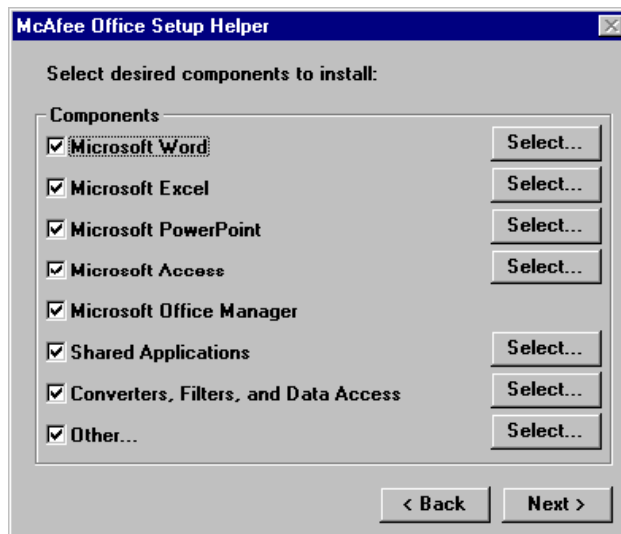


Figure B-2.

- Select the components you want to have installed on the workstation and click Next.

A McAfee Setup Helper dialog prompts you to enter a target directory for the workstation installation.

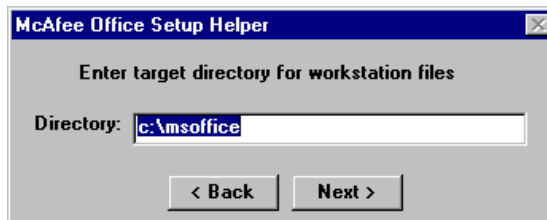



Figure B-3.

- Enter a target directory for the workstation files and click Next.

The server now contains the necessary files and settings to perform the customized installation on workstations.

 *To customize the install program on another server, run the agent again and specify that network location when prompted.*

5. Install MS Office 4.3 on Workstations.

- Open the package named “MS Office 4.3 User Install” containing the QuickScript OFFICE43.SCR.
 - On the Definition tab, select the ‘Save as an active package’ check box.
 - Specify the default installation path as \\SERVER\SYS\MSOFFICE\ (page 55).
 - Select user names or workstations for recipients (page 58).

 *Do not allow users to override the default installation path.*

When the user/workstation logs in to the network and the update is run, the customized installation will perform the installation that you specified.

C

The QuickScript Language

The QuickScript language provides a method for writing specific instructions for tasks to be performed on workstations. This appendix describes how to use the QuickScript language to compile scripts and provides a detailed list of the commands available to you. The commands are divided into the following categories.

1. **DOS functions**—These functions perform tasks to help manage a machine's files and directories. This section begins on [page 198](#).
2. **System file functions**—These functions allow for easy manipulation of basic system files, such as CONFIG.SYS, AUTOEXEC.BAT, NET.CFG, or a login script. This section begins on [page 206](#).
3. **Windows system file functions**—These functions allow you to edit .INI files and create and modify Program Manager groups. This section begins on [page 216](#).
4. **Windows registry functions**—These functions provide a method for modifying a user's Windows registry when applications are installed. This section begins on [page 227](#).
5. **Miscellaneous functions**—These functions provide the ability to define, assign, copy, compare, and concatenate variables. This section begins on [page 233](#).

For information on creating, compiling, and editing scripts, see [“Working with QuickScripts” on page 111](#).

Language Characteristics

QuickScripts are compatible with workstations using DOS, Windows 3.1x, Windows NT, Windows 95, OS/2, and Win-OS/2.

QuickScripts are written using named functions to outline each task. Each function has up to four defining items, which are the parameters. When the script is executed on the workstation, each function supplies a return value.

Key concepts


You should be familiar with the following concepts before using the QuickScript language to write scripts for your software distribution.

Concept	Description
Function	This is the predefined action that begins each line of a script. The action is written in all capital letters. An example of a function would be [ADDITEM]. Each function contains up to four parameters.
Parameter	This is the item defined within the function that can be either optional or required. Optional parameters are surrounded by braces {}, and required parameters are surrounded by square brackets [. An example of a required parameter is [path].
Allowable Value	This defines the type of information that can be used in a parameter. The allowed value indicates what information you can insert into the scripts for that particular parameter. The allowed values fall into three categories: predefined variables, user-defined variables, and literal variables. For more information, see “Allowed Values” on page 194 .

Return values

Return values are generated for each function and include:

- Predefined return values that are specific to each function. The [RETV] settings can be found in each feature description.
- Error codes, which are returned for DOS, system file, Windows system file, and Windows registry function errors.

 *The Distribution module provides the option of logging nonzero return values to the package history. For information about this feature, see “Choosing distribution options” on page 66.*

Format

The QuickScript command structure must comply with the following requirements:

1. Only one command can be entered on a line.
2. Only allowable values can be inserted in a command line.
3. Comments must be preceded by a semicolon (;).
4. All required parameters must be written into the script.
5. All optional parameters must contain `NULL` or double quotation marks (" ") if not used.

Syntax

The syntax for each command must be entered using the following format:

- **Functions**—The name of the function is entered as the first item on the line and is in capital letters, such as `DELETEDIR`.
- **Parameters**—Parameters are entered into the script using allowed values. Enter values into the script according to the following guidelines.

- User-defined variables are entered by defining the variable in the first line of the script, and then inserting the definition into the script in the location of the parameter.


This appendix identifies string variables as [strvar], and integer variables as [intvar].

- Defining a string variable is entered as: `DEFINE "NUM" STRING`, where the definition is placed in quotation marks.
- Inserting the variable is entered as: `ASSIGN NUM 33`, where the defined variable, NUM, is not placed in quotation marks.
- Literal parameters are written into the script with quotation marks. This appendix indicates required parameters in square brackets, such as [path], and optional parameters in braces, as in {path}.
- Optional parameters are entered into the script without quotation marks. Optional parameters that are not used must have placeholders in the form of double quotation marks (" "), or a null value (NULL) inserted in the parameter.

The QuickScript compiler

After writing the script in the QuickScript editor, you will use the compiler to compile the script successfully before adding it to a package. The compiler serves as a translator to determine if the format and syntax used in the script complies with the QuickScript language characteristics.

When a QuickScript is compiled, the Distribution module checks for errors and provides a list of any functions that need to be revised. Each time you revise or edit a QuickScript, you must compile it. Unresolved errors will cause the script to fail since the Distribution module can only interpret commands that are correctly written.

 *A successfully compiled QuickScript does not guarantee that the script will perform successfully when the workstation is updated. For instance, you may have written a script that has a correct format, but uses an incorrect value. This can occur if you accidentally place quotation marks around a predefined variable. The Distribution module interprets anything within quotation marks as a literal value, so it will not understand that you are trying to identify a variable.*

Allowed Values

Each function in the QuickScript language includes up to four parameters that outline the tasks to be performed at the workstation. Each parameter identifies a literal variable, a user-defined variable, or a predefined variable that can be inserted into the script using certain allowed values. These are described in the following sections.

Literal variables

Literal variables allow you to enter values to be passed. Literal variables are surrounded by quotation marks and are entered into the script using quotation marks. For example, the [text] parameter is entered into the script as “hello.”

User-defined variables

The QuickScript language supports integer and string variables. Functions that allow user-defined variables use [strvar] or [intvar] in their parameter listings. The [strvar] parameter reflects a string value and the [intvar] parameter reflects an integer value.

Variables must be defined in the first line of the script using the DEFINE function. For information about this function, see [“Define a user-defined variable” on page 235](#).

Integer variables

Integer variables are whole number variables. An integer variable can use a maximum of 4 bytes (approximately -2 billion to +2 billion size integer).

String variables

String variables consist of one or more groups of characters. A string variable can use a maximum of 255 characters.

Predefined variables

Predefined variables have a limited selection of entries that can be used in the parameter. These have been defined in the language and must be used correctly in order for the script to successfully execute the command.

For example, the UPGRADEOS function has one parameter named [upgopt]. The allowable values for the [upgopt] parameter are 5.00, 6.00, 6.20, 6.22, or PC6.30. Therefore, you must write one of these numbers in the statement where that parameter is located.

The QuickScript predefined variables are described in the following table.

Variable	Description
[BOOT_ROOT]	The root of the boot drive of the workstation on which the script is executed.
[HDRIVE]	Drive letter of the first available hard drive (may be boot or network drive).
[FULLNAME]	User's full name (bindery connections). The "full name" is really the identification property of the user object and can be changed from SYSCON as the user's full name.
[INVENTORYNAME]	Machine name from the inventory databases.
[LOCATION]	Location field from software distribution inventory databases.
[LOGSCRPATH]	Contains the path only to the login script. Use "LOGIN" or "LOGIN.OS2" as the file in SETSYSFILE to allow editing of the login script (bindery only) for a user. NOTE: This path only has meaning for clients logging in as bindery users (e.g., NetWare 3.x users).
[PACKAGEPATH]	The path to where the package files (filesets, compiled scripts, and executables) are located. For example, SYS:\SITE\PRSPACKAGES.
[LOGINNAME]	Login name of user.
[LOGSCRNAME]	Full path and file name of login script for user running the workstation update program.
[NDRIVE]	Drive letter of the first available network drive.
[NETCFG]	Path to NET.CFG used at NetWare shell load.
[SERVERNAME]	Name of server on which the update program is running.

Variable	Description
[TARGET]	Default installation path as defined in the Definition tab of the Open Package dialog. See “Preparing Packages” on page 49 .
[WINDIR]	The user’s Windows directory (directory in which the login module finds WIN.INI).
[WINSYSDIR]	The user’s WINDOWS\SYSTEM directory (directory in which the login module finds USER.EXE). This directory may be in the SYSTEM or SYSTEM32 directory below WINDIR, or in the path.
[DISKSPACE]	Available disk space in bytes in the [TARGET] default installation path defined in the package.
[RETVAL]	Return code of last command completed. (This is an integer value.)
[OSVER]	Set by the agent to contain a string identifying the operating system.
[OS_VER_MAJOR]	Set by the agent to contain a string identifying the major version of the operating system.
[OS_VER_MINOR]	Set by the agent to contain a string identifying the minor version of the operating system.





Table of allowed values

The cross reference: [“Table of allowed values” on page 196](#) is repeated throughout this appendix so you can quickly refer back to this table.

The allowed values for QuickScript parameters are outlined in the following table.

Parameter ^a	Allowed Values
adopt	BEFORE AFTER
attributes	RO RW A SY H SH -A -SY -H -SH
condoper	< > = != >= <=
defineopt	STRING INTEGER

Parameter ^a	Allowed Values
deleteopt	ALL
filename	[STRVAR] "filename.ext"  Wildcards are not allowed.
filewild	[STRVAR] "filename.ext" "*. *"  Wild cards are allowed.
hkey	HKEY_CLASSES_ROOT HKEY_CURRENT_USER HKEY_LOCAL_MACHINE HKEY_USERS †*HKEY_PERFORMANCE_DATA *HKEY_CURRENT_CONFIG †*HKEY_DYN_DATA *These cannot be used for NT 3.51 workstations. †These cannot be used for NT 4.0 workstations.
intvalue	[INTVAR] [RETVAL] # (where # is a valid integer)
intvar	[INTVAR]
keyname	"name"
multikey	"name"
newkeyname	"name"
newvalue	"name"
path	[STRVAR] "path" [TARGET] [BOOT_ROOT] [WINDIR] [WINSYSDIR] [NETCFG] [HDRIVE] [NDRIVE] [SERVER- NAME] [LOGINNAME] [FUSIONNAME] [LOGSCRNAME]
pathfile	[STRVAR] "{path}\filename.ext"
section	"name"
shellopt	KEEPPATH
strvar	[STRVAR]
strvalue	[STRVAR] "text" [TARGET] [BOOT_ROOT] [WINDIR] [WINSYSDIR] [NETCFG] [HDRIVE] [NDRIVE] [SERVER- NAME] [LOGINNAME] [FUSIONNAME] [LOGSCRNAME]
text	"text"

Parameter ^a	Allowed Values
upgopt	5.00, 6.00, 6.20, 6.22, or PC6.30
valdelete	"name"
valuname	"name"


a. [] — Use brackets in script; " " — Use quotes in script

DOS Functions

These functions perform tasks to help manage a machine's files and directories. Before you begin using the DOS functions, take a few minutes to read the following information.

The Upgrade DOS function

This function [UPGRADEOS] is used to upgrade from version 3.x through 5.x to either 5.00 or 6.00. It should **not** be used on a workstation that has Windows NT installed in a dual boot configuration as it will cause the boot menu to be lost.

 For information about using this function, see *"Upgrade DOS version" on page 204.*

Change the attribute of a file

ATTRIB [path] [filewild] [attribute]	
where:	
[path]	is the source path of the file to be changed.
[filewild]	is the name of the file to be changed. May contain wildcards.

ATTRIB [path] [filewild] [attribute]

[attribute]	RO	Read only
	RW	Read/write
	A	Set archive bit
	SY	System file
	H	Hidden file
	SH	Shareable (network <path> only)
	-A	Turn off archive attribute
	-SY	Turn off system attribute
	-H	Turn off hidden attribute
	-SH	Turn off shareable attribute (network <path> only)

Return values

[RETVAL] = 0 if successful.

[RETVAL] = -1 if the SH or -SH attributes are used and the drive letter specified in [PATH] is not a network drive.

[RETVAL] = -2 if the SH or -SH attributes are used and no drive letter is specified in [path].

[RETVAL] = error code in all other cases.

Example

The following statement changes the AUTOEXEC.BAT file on a user's boot drive to "read only":

```
ATTRIB [BOOT_ROOT] "AUTOEXEC.BAT" RO
```

Copy files to another directory and file name**COPY [path] [filewild] [path] {filewild}**

where:

[path] is the source path of the file to be copied.

COPY [path] [filewild] [path] {filewild}

[filewild] is the name of the file that is to be copied.

[path] is the destination path.

{filewild} is the destination file name, if different. If the original name is to be kept, NULL or "" must be used as a placeholder.

 *May be used to rename file(s) during file copy.*



Refer to the
"Table of
allowed val-
ues" on
page 196.

Return values

[RETVAL] = 0 if successful.


[RETVAL] = error code in all other cases.

Example

The following statement creates a backup of the WIN.INI file by copying it from the Windows directory found at login to the local Windows directory:

```
COPY [WINDIR] "WIN.INI" "C:\WINDOWS" "WIN.OLD"
```

Delete a directory

 *Use the ALL delete option with caution as it can delete entire directory trees.*

DELETEDIR [path] [filename] {deleteopt}

where:

[path] is the source path of the directory to be deleted.

[filename] is the directory name to be deleted.

{deleteopt} allows you to delete the named directory and everything in the directory, including subdirectories, hidden, system, and read only files. Enter ALL to delete everything. If not used, NULL or (" ") must be specified.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following statement deletes the Testhold directory from your boot directory and all of its files and subdirectories:

```
DELETEDIR [BOOT_ROOT] "Testhold" ALL
```

Delete a file

DELETEDFILE [path] [filewild]	
where:	
[path]	is the source path of the file(s) to be deleted.
[filewild]	is the file name(s) to be deleted.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following statement deletes all .DOC files from the F:\UZR\JOHN subdirectory:

```
DELETEDFILE "F:\UZR\JOHN" "*" .DOC"
```

Find a file

```
FINDFILE [path] [filewild] [strvar]
```

where:

[path] is the source path in which to search for the file.

[filewild] is the search criteria.

[strvar] is a string variable that contains the file name of the first file found. This variable must be defined in the first line.

Return values

[RETVAL] = 0 if successful (copies the name of the first file found into [STRVAL]).

[RETVAL] = -1 and sets [STRVAL] to NULL if no files are found.

Example

The following statements test for the presence of the NET.CFG file in the [NETCFG] directory.

```
DEFINE "Result" STRING  
FINDFILE [NETCFG] "NET.CFG" RESULT
```



Refer to the
"Table of
allowed val-
ues" on
page 196.

Create a directory

```
MDIR [path] [filename]
```

where:

[path] is the path in which to create the new directory.

[filename] is the subdirectory to be created. Wildcards are not valid.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following statement creates the JOHN subdirectory in the UZR directory.

```
MDIR "F:\UZR" "JOHN"
```

Rename a source file

```
RENAME [path] [filewild] [path] [filewild]
```

where:

[path]	is the source path to the file to be renamed.
[filewild]	is the source file to be renamed. May contain wildcards.
[path]	is the destination path. The source path and destination path must be on the same drive.
[filewild]	is the new file name. May contain wildcards.



Refer to the
"Table of
allowed val-
ues" on
page 196.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example


The following statement renames all .BAT files in the C:\ drive to .BAK:

```
RENAME "C:\ " " *.BAT" "C:\ " " *.BAK"
```

Upgrade DOS version

Do **not** use this function on a workstation that has Windows NT installed in a dual boot configuration. It will cause the boot menu to be lost.

To upgrade a machine's DOS version, SXPDOSNT/ or SXPDOSNW/genboot must first be executed on a machine that already has the desired version of DOS. By executing SXPDOSNT/ OR SXPDOSNW/genboot from the same directory as the software distribution update program, the DOS files become available.

 *The machine on which SXPDOSNT/ or SXPDOSNW/genboot is run must not contain any system that modifies the machine's boot record, e.g., OS/2, Windows NT.*

Use the REBOOT function as the last script function to reboot the machine after the script is executed.

UPGRADEOS [upgopt]

where:

[upgopt]

5.00	upgrades MS_DOS version to 5.00
6.00	upgrades MS_DOS version to 6.00
6.20	upgrades MS_DOS version to 6.2
6.22	upgrades MS_DOS version to 6.22
PC6.30	upgrades to PC-DOS 6.30

Return values


[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following statements upgrade a user's DOS version to 5.00 (provided the steps explained above have been performed).

```
UPGRADEOS 5.00
IF [RETVAL]=0
...
; copy DOS files, edit CONFIG.SYS, etc.
REBOOT
ENDIF
```

 To see another example of this function, refer to *“Sample Scripts” on page 108*.

System File Functions

System file functions allow for easy manipulation of basic system files, such as CONFIG.SYS, AUTOEXEC.BAT, NET.CFG, or a login script.

The system file functions make use of a key value. This value is used to search the file to help determine where to make a modification. All key searches are case insensitive. If a key is found, its corresponding value is defined as the first non-whitespace group of characters after the found key value.

For example, in the statement `STACKS 9,256`, the search will find the key, `STACKS`, and will identify the corresponding value `9,256` without the equal sign.

Add a new “device=” line to a system file

```
ADDEVICE [strvalue1] [strvalue2] [adopt]
```

where:

[strvalue1] is the path and driver name (e.g., C:\WINDOWS\EMM386.EXE).

[strvalue2] is the key value to search for (e.g., HIMEM.SYS).

[adopt] is where [strvalue1] is to be placed: either BEFORE or AFTER [strvalue2].



Refer to the
“Table of
allowed val-
ues” on
page 196.

Return values

[RETVAL] = 0 if successful.


[RETVAL] = error code in all other cases.

Example

The following statements place “DEVICE=C:\WINDOWS\EMM386.EXE” after the “DEVICE=HIMEM.SYS” line in the CONFIG.SYS file.

```
SETSYSFILE "C:\\" "CONFIG.SYS"
```

```
ADDDEVICE "C:\WINDOWS\EMM386.EXE" "HIMEM.SYS" AFTER
```

 If [strvalue2] is a null string, ADDLINE will place [strvalue1] in the position of the file indicated by [adopt].

Add a line of text to a system file

ADDLINE [strvalue1] [strvalue2] [adopt]	
where:	
[strvalue1]	is the line of text you want to add.
[strvalue2]	is a reference key value to be positioned relative to [strvalue1]. This is a “keyword” that will be searched for in the file. When the first occurrence of the keyword is found, that line is used as the reference.
[adopt]	specifies where [strvalue1] is to be placed: either BEFORE or AFTER [strvalue2].

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following statement adds a new line to the end of a user’s CONFIG.SYS file.

```
SETSYSFILE "C:\\" "CONFIG.SYS"
```

```
ADDLINE "REM THIS IS NEW.." "" AFTER
```

Add a subdirectory to a path environment variable

```
ADDPATH [strvalue1] [strvalue2] [strvalue3]  
[adopt]
```

where:

[strvalue1]	is the name of the path environment variable to edit (e.g., PATH for DOS, or DPATH for OS/2).
[strvalue2]	is the subdirectory to be added.
[strvalue3]	is the subdirectory that [strvalue2] will be placed either before or after.
[adopt]	specifies where [strvalue2] is to be placed; either BEFORE or AFTER [strvalue3].

If [strvalue3] is a null string, ADDPATH will place [strvalue2] in the position of the path statement indicated by [adopt]. In this situation, the new path will be placed at the beginning or end of the path statement. If the key specified in [strvalue1] is not found, then a new one is added, with a "SET" prepended. This allows for adding path like environment variables such as SET TEMP=.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following statements add the subdirectory WINDOWS to the path and places it before the DOS variable in the AUTOEXEC.BAT file.

```
SETSYSFILE "C:\ " "AUTOEXEC.BAT"  
ADDPATH "PATH" "C:\WINDOWS" "C:\DOS" BEFORE
```



Refer to the
"Table of
allowed val-
ues" on
page 196.

Retrieve a numeric variable from a system file

CFGGETVALUE [strvalue] [intvar]

where:

[strvalue] is the variable to be retrieved.


[intvar] is an integer variable to hold the retrieved value.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = -2 if the key value could not be found.

[RETVAL] = error code in all other cases.

 If the value of the key specified is a string value (e.g., *DOS=HIGH*), the function returns the integer value 0, but it does not return an error code.

Example

The following statements place the value of the `FILES=` statement in the `CONFIG.SYS` file into a user-defined variable called `nRESULT` (which must first be defined):

```
DEFINE "nRESULT" INTEGER
SETSYSFILE "C:\ " "CONFIG.SYS"
CFGGETVALUE "FILES" nRESULT
```

Retrieve a string variable from a system file

CFGGETSTRING [strvalue] [strvar]

where:

[strvalue] is the variable to be retrieved.

CFGGETSTRING [*strvalue*] [*strvar*]*[strvar]* is a string variable to hold the retrieved value.

Refer to the
"Table of
allowed val-
ues" on
page 196.

Return values

[RETV] = 0 if successful.

[RETV] = -2 if the key value could not be found.

[RETV] = error code in all other cases.

Example

The following statements place the value of the path statement in the AUTOEXEC.BAT file into a user-defined variable called nResult (which must first be defined):

```
DEFINE "nRESULT" STRING
SETSYSFILE "C:\ " "AUTOEXEC.BAT"
CFGGETSTRING "PATH" nRESULT
```

Set a string variable in a system file

This function is similar to CFGSETVALUE, except that it sets a string variable in the system file. Use ADDLINE to add a new statement if one does not exist.

CFGSETSTRING [*strvalue1*] [*strvalue2*]

where:

[*strvalue1*] is the variable to be set.

[*strvalue2*] is the string value.

Return values

[RETV] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following lines set the value of the path statement in the AUTOEXEC.BAT file to be C:\WINDOWS, provided a path statement exists in the file.

```
SETSYSFILE "C:\\" "AUTOEXEC.BAT"  
CFGSETSTRING "PATH" "C:\WINDOWS"
```

Set a numeric value in a system file

Use this function to set an integer value in a system file.

CFGSETVALUE [strvalue] [intvalue]	
where:	
[strvalue]	is the variable to be set.
[intvalue]	is the integer value.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following lines set the value of the FILES= statement in the CONFIG.SYS file to 50, provided a FILES= statement already exists in the file.

```
SETSYSFILE "C:\\" "CONFIG.SYS"  
CFGSETVALUE "FILES" 50
```



Refer to the
"Table of
allowed val-
ues" on
page 196.

Replace a key value

This function is similar to REPLACELINE except that it only replaces or removes a portion of the line rather than the entire line.


```
REPLACEKEY [strvalue1] [strvalue2] [strvalue3]
```

where:

[strvalue1] is the line in the system file which contains the key value to be replaced.

[strvalue2] is the key value to be replaced.

[strvalue3] is the new value.

 If [strvalue3] is a null string, [strvalue2] will be removed.

Return values

[RETVAL] = 0 if successful.


[RETVAL] = error code in all other cases.

Example

The following statement changes the C:\DOS50 to C:\DOS622 in the path statement in the AUTOEXEC.BAT file, provided that C:\DOS50 exists in the path:

```
SETSYSFILE "C:\\" "AUTOEXEC.BAT"
```


```
REPLACEKEY "C:\DOS50" "DOS50" "DOS622"
```

 *This function finds and replaces the first instance of the value you specify. If the path has C:\DOS50 and you use C:\DOS, the function will change the path to C:\DOS622.*

Replace an existing line in a system file

Use this function to replace or remove an entire line in a file.

If the key value exists more than one time in the file, only the first instance is modified.


 *The first parameter [strvalue1] should not specify lines beginning with "REM" or ";" since these are comment lines and may contain necessary information. The function will fail if the first parameter begins with either of these strings.*

REPLACELINE [strvalue1] [strvalue2]

where:

[strvalue1] is the key value of the line you wish to replace, such as PATH, COMSPEC, or DEVICE.

[strvalue2] is the new value of the entire line.

 If [strvalue2] is a null string, then the line will be deleted.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following statements replace the existing COMSPEC line in the AUTOEXEC.BAT file with a new line.

```
SETSYSFILE "C:\ " "AUTOEXEC.BAT"
```

```
REPLACELINE "COMSPEC" "SET COMSPEC=C:\DRDOS\COMMAND.COM"
```



Refer to the
"Table of
allowed val-
ues" on
page 196.

Replace lines in a system file

```
REPLACELINEADD [strvalue1] [strvalue2] [addopt]
```

where:

[strvalue1]	is the key value of the line you wish to replace, such as PATH, COMSPEC, or DEVICE .
[strvalue2]	is the new value of the entire line.
[addopt]	indicates where [strvalue1] is to be place either BEFORE or AFTER [strvalue2].

If [strvalue1] is not found, then the line specified as [strvalue2] will be added to the file in the position defined by [addopt].

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following statements replace the existing `NETX` line with the new line `C:\NET\VLM`. If `NETX` is not found, then the line will be appended to the end of the file:

```
SETSYSFILE "C:\\" "NET.BAT"  
REPLACELINEADD "NETX" "C:\NET\VLM" AFTER
```

Set a system file to be manipulated

This function must be used before any of the functions in the system file function category. It needs to be called only once, unless you change the file you are working on in the script.

Using [BOOT_ROOT] as the [path] parameter will *always* modify the file on the boot disk, regardless of whether or not the user is given the option to override the installation path (in the package definition). Use [TARGET] as the [path] parameter if the user is given the option to override the installation path.

```
SETSYSFILE [path] [filename]
```

where:

[path] is the path to the file to be modified.

[filename] is the name of the file to be modified.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Examples

The following statements show two methods for setting a user's CONFIG.SYS file to be edited:

1. SETSYSFILE "C:\\" "CONFIG.SYS"
2. SETSYSFILE [BOOT_ROOT] "CONFIG.SYS"



Refer to the
"Table of
allowed val-
ues" on
page 196.

Windows System File Functions

The Windows system file functions provide the ability to edit .INI files and create and modify Program Manager groups.

Many Windows system file functions have a [pathfile] parameter to specify the path name and file name to an .INI file. If you do not specify a full path to the Windows directory, then the actions performed by these functions occur on the first instance of Windows found, as defined in the path statement of the receiving machine. If Windows is not found in the path, then the distribution update program will search for the .INI file in [BOOT_ROOT]\WINDOWS. If Windows is still not found, the update program will then try [BOOT_ROOT]\WIN31.

Add a new multiple key entry

Use this function to add new devices in SYSTEM.INI or other multiple .INI entries (such as load= in an .INI file).

In an .INI file, section names are placed in brackets, such as [386Enh]. Do not include brackets when writing the statement into the script. Instead, use the required quotation marks.

```
ADDINIMULTIKEY [pathfile] [section] [multikey]  
[newvalue]
```

where:

[pathfile]	is the path to the .INI file.
[section]	is the section name in which to add the new value, such as SYSTEM.
[multikey]	is the name of the key, such as device=.
[newvalue]	is the new value to add, such as STUFF.386.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following statement adds a line to the WIN.INI file:

```
ADDINIMULTIKEY "SYSTEM.INI" "385Enh"  
"device" "STUFF.386"
```

The following line will appear:

```
[386Enh] device=stuff.386
```

Create a new Program Manager group

When the ADDGROUP script function is executed, the distribution update program SXPWIN16.EXE is automatically copied into the workstation's Windows directory. The SXPWIN16.EXE command is also added to the `Load=` line in the WIN.INI file. The next time Windows is run at the workstation, the function is executed and SXPWIN16.EXE is removed from the WIN.INI `Load=` line.

ADDGROUP [strvalue]


where:

[strvalue]	is the string which specifies the name of the Program Manager group to be added.
------------	--

Return values

[RETVAL] = 0 if successful.


[RETVAL] = error code in all other cases.

 *The function might fail if SXPWIN16.EXE could not be copied into the Windows directory or if the SXPWIN16.EXE control file could not be created.*

Example

The following statement creates a Program Manager group named COMPANY.

```
ADDGROUP "COMPANY"
```

 *This function can be used with any third party shell program which emulates the Program Manager DDE interface.*

Add a new item to a Program Manager group

When the ADDITEM script function is executed, the distribution update program SXPWIN16.EXE is automatically copied into the workstation's Windows directory. The SXPWIN16.EXE command is also added to the `Load=` line in the WIN.INI file. The next time Windows is run at the workstation, the function is executed and SXPWIN16.EXE is removed from the WIN.INI `Load=` line.

```
ADDITEM [strvalue1] [strvalue2] [pathfile]
```


where:

[strvalue1]	is the group to which the item will be added.
[strvalue2]	is the name of the new item.
[pathfile]	is the .EXE file to be associated with the new item.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

 *The function might fail if SXPWIN16.EXE could not be copied into the Windows directory or if the SXPWIN16.EXE control file could not be created.*




Refer to the
"Table of
allowed val-
ues" on
page 196.

Example

The following statement creates a Program Manager group named APPS, and then creates a program icon within the new APPS group named EXCEL:

```
ADDGROUP "APPS"  
ADDITEM "APPS" "EXCEL" "U:\MS\EXCEL\EXCEL.EXE"
```

 *This function can be used with any third party shell program which emulates the Program Manager DDE interface. Also note that for this function the path specified will show up in the command line as well as the working directory. The EXCEL example above demonstrates this.*

Add a new Program Manager item

This function will create a group if it does not exist.

```
ADDITEMPATH [strvalue] [strvalue2] [pathfile]  
[path]
```


where:

[strvalue1]	is the group to which the item will be added.
[strvalue2]	is the name of the new item.
[pathfile]	is the .EXE file to be associated with the new item.
[path]	is the working directory of the item being added.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

 *The function might fail if SXPWIN16.EXE could not be copied into the Windows directory or if the SXPWIN16.EXE control file could not be created.*

Example

The following statement starts up Excel in MS\EXCEL:

```
ADDITEMPATH "Apps" "Excel" U:\MS\EXCEL\EXCEL.EXE"  
"U:\MS\EXCEL\DATA"
```

Delete a multiple key entry

Deletes a multiple key entry (such as `device=` in `SYSTEM.INI`). Use this function to delete devices in `SYSTEM.INI` or other multiple `.INI` entries. Note that if the value to delete is the only value on the line, the entire entry is removed.

```
DELINIMULTIKEY [pathfile] [section] [multikey]  
[valtodelete]
```

where:

[pathfile]	is the path to the .INI file.
[section]	is the section name in which to delete the new multikey.
[multikey]	is the name of the key (such as <code>device=</code>) which can occur more than once.
[valtodelete]	is the multikey value to delete, such as <code>sample.386</code> .

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example



Refer to the
"Table of
allowed val-
ues" on
page 196.

The following statement deletes the specified value from the `SYSTEM.INI` file:

```
DELINIMULTIKEY "WIN.INI" "Windows" "load" "WINMETR.EXE"
```

If the following is found: `load=NWPOPOPUP.EXE, WINMETR.EXE`

the change would be as follows: `load=NWPOPOPUP.EXE`

However, if the following line is found: `load=WINMETR.EXE`

then the entire line is removed.

 *This function removes multiple entries on a single line.*

Retrieve a key value (integer) from an .INI file

This function retrieves a key value (integer) from an .INI file, and places the result in a variable.

```
GETINIINT [pathfile] [strvalue1] [strvalue2]  
[intvar]
```

where:

[pathfile]	is the path and file name of the .INI file.
[strvalue1]	is the section of the .INI file in which the entry is located (e.g., [386Enh]).
[strvalue2]	is the entry whose associated string is to be retrieved, such as keyboard.drv.
[intvar]	defines the variable in which to place the found integer. (Before being used as a parameter, this variable must be defined.)

Return values

[RETVAL] = 0 if successful.

[RETVAL] = -1 if the [strvalue2] section name does not exist.

[RETVAL] = -2 if the [strvalue3] key does not exist.

[RETVAL] = error code in all other cases.

Example

The following statements determine what type of keyboard a workstation has installed:

```
DEFINE "RESULT" INTEGER  
GETINIINT "C:\WINDOWS\SYSTEM.INI" "KEYBOARD" "TYPE" RESULT
```

Retrieve a key value (string) from an .INI file

This function retrieves a key value (string) from an .INI file, and places the result in a variable.

```
GETINISTR [pathfile] [strvalue1] [strvalue2] [str-  
var]
```

where:

[pathfile]	is the path and file name of the .INI file.
[strvalue1]	is the section of the .INI file in which the entry is located (e.g., [386Enh]).
[strvalue2]	is the entry whose associated string is to be retrieved, such as keyboard.drv.
[strvar]	defines the variable in which to place the found string. (Before being used as a parameter, this variable must be defined using the DEFINE function.)

Return values

[RETVAL] = 0 if successful.

[RETVAL] = -1 if the [strvalue1] section name does not exist.

[RETVAL] = -2 if the [strvalue2] key does not exist.

[RETVAL] = error code in all other cases.



Refer to the
"Table of
allowed val-
ues" on
page 196.

Example

The following statement determines whether Windows version 3.1 is installed at a workstation by looking at the CONTROL.INI file:

```
DEFINE "VER" STRING  
GETINISTR "C:\WINDOWS\CONTROL.INI" "INSTALLED" "3.1" VER
```

Schedule a file to run

This function schedules an executable file to be run the next time the user runs Windows.


This function could be used to automate the installation of a Windows program if a macro playback utility is used. This function is also used for the inclusion of a Windows-based PowerScript.

SCHEDULEWIN [path] [filename] [text]	
where:	
[path]	is the path to the file to be run.
[filename]	is the file name to be run upon Windows execution.
[text]	is optional command line arguments for the file.

Return values

[RETVAL] = 0 if successful.


[RETVAL] = error code in all other cases.

 *The function might fail if SXPWIN16.EXE could not be copied into the Windows directory or if the SXPWIN16.EXE control file could not be created.*

Example

The following statement schedules the Notepad program to run the next time Windows is run and opens the README.TXT file:

```
SCHEDULEWIN "C:\WINDOWS" "NOTEPAD.EXE" "README.TXT"
```

 *If you execute NotePad and want the file WIN.INI opened, use the following line:*

```
SCHEDULEWIN [WINDIR] "NOTEPAD.EXE" "C:\WINDOWS\WIN.INI"
```

Write a key value (integer) to an .INI file

If the section name specified in [strvalue1] is not found, then it will be added to the end of the .INI file, with a new `key=` value added in that section.

If the [strvalue1] section is found but the key value specified in [strvalue2] is not found, the new key value is added directly after the section name [strvalue1].

```
WRITEINIINT [pathfile] [strvalue1] [strvalue2]  
[intvalue]
```

where:

[pathfile]	is the path and file name of the .INI file.
[strvalue1]	is the section in which [strvalue2] is located (e.g., [386Enh]).
[strvalue2]	is the entry whose associated string is to be retrieved, such as <code>keyboard.drv</code> .
[intvalue]	is the integer value to be written to the .INI file.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following statement defines a KEYBOARD DELAY OF 14:

```
WRITEINIINT "C:\WINDOWS\WIN.INI" "WINDOWS" "KEYBOARDDELAY"  
14
```



Refer to the
"Table of
allowed val-
ues" on
page 196.

Write a key value (string) to an .INI file

If the section name specified in [strvalue1] is not found, then it will be added to the end of the .INI file, with a new `key=` value added in that section.

If the [strvalue1] section is found but the key value specified in [strvalue2] is not found, the new key value is added directly after the section name [strvalue1].

```
WRITEINISTR [pathfile] [strvalue1] [strvalue2]  
[strvalue3]
```

where:

[pathfile]	is the path and file name of the .INI file.
[strvalue1]	is the section in which [strvalue2] is located (e.g., 386Enh).
[strvalue2]	is the entry whose associated string is to be modified, such as <code>keyboard.drv</code> .
[strvalue3]	is the string to be written to the .INI file.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.


Example

The following statement sets a medium priority in the [SPOOLER] section of the WIN.INI file:

```
WRITEINISTR "C:\WINDOWS\WIN.INI" "SPOOLER" "PRIORITY"  
"MEDIUM"
```

Windows Registry Functions

Windows Registry functions provide a method for modifying the Windows registry when applications are installed. These functions can only be used with workstations that use Windows 95 or Windows NT.

 *Users must have the rights to modify their own registry keys. If this is not the case, an error code will be returned and entered into the log.*

Write a key to the registry

```
REGCREATEKEY [hkey] [newkeyname]
```

where:

[hkey]

must be one of the following:

HKEY_CLASSES_ROOT

HKEY_CURRENT_USER

HKEY_LOCAL_MACHINE

HKEY_USERS

†*HKEY_PERFORMANCE_DATA

*HKEY_CURRENT_CONFIG

†*HKEY_DYN_DATA

*These cannot be used for NT 3.51 workstations.

†These cannot be used for NT 4.0 workstations.

[newkeyname]

is the name and full path of the key to be created.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following statement creates a McAfee key under the software key in HKEY_CURRENT_USER:

```
REGCREATEKEY HKEY_CURRENT_USER "SOFTWARE\MCAFEE"
```

Delete a key from the registry

```
REGDELETEKEY [hkey] [keyname]
```

where:

[hkey]

must be one of the following:

HKEY_CLASSES_ROOT

HKEY_CURRENT_USER

HKEY_LOCAL_MACHINE

HKEY_USERS

†*HKEY_PERFORMANCE_DATA

*HKEY_CURRENT_CONFIG

†*HKEY_DYN_DATA

*These cannot be used for NT 3.51 workstations.

†These cannot be used for NT 4.0 workstations.

[keyname]

is the name of the key to delete.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following statement deletes the McAfee key from the software key in HKEY_CURRENT_USER:

```
REGDELETEKEY HKEY_CURRENT_USER "SOFTWARE\MCAFEE"
```

Place an integer value in a key

```
REGSETINTVALUE [hkey] [keyname] [valuenam]
[intvalue]
```

where:

[hkey]	must be one of the following: HKEY_CLASSES_ROOT HKEY_CURRENT_USER HKEY_LOCAL_MACHINE HKEY_USERS †*HKEY_PERFORMANCE_DATA *HKEY_CURRENT_CONFIG †*HKEY_DYN_DATA *These cannot be used for NT 3.51 workstations. †These cannot be used for NT 4.0 workstations.
[keyname]	is the name of the key to set a value.
[valuenam]	is the name of the value.
[intvalue]	is the actual integer number of the value.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code if unsuccessful.

Example

The following statement causes the Sound Recorder to put its Windows initial X position on the left side of the screen the next time it comes up:

```
REGSETINTVALUE HKEY_CURRENT_USER "SOFTWARE\MICROSOFT
\WINDOWS\CURRENTVERSION\APPLETS\SOUNDRECORDER" "X" 0
```


Place a string value in a key

```
REGSETSTRVALUE [hkey] [keyname] [valuenam]
[strvalue]
```

where:

[hkey]	must be one of the following: HKEY_CLASSES_ROOT HKEY_CURRENT_USER HKEY_LOCAL_MACHINE HKEY_USERS †*HKEY_PERFORMANCE_DATA *HKEY_CURRENT_CONFIG †*HKEY_DYN_DATA *These cannot be used for NT 3.51 workstations. †These cannot be used for NT 4.0 workstations.
[keyname]	is the name of the key to set a value.
[valuenam]	is the name of the value.
[strvalue]	is the actual string text.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following statement stores "Your Company" in the company value:

```
REQSETSTRVALUE HKEY_CURRENT_USER "SOFTWARE\MCAFEESM" "COM-
PANY" "YOUR COMPANY"
```



Refer to the
"Table of
allowed val-
ues" on
page 196.

Get an integer value from a key

```
REGQUERYINTVALUE [hkey] [keyname] [valuenam]
[intvalue]
```

where:

[hkey]	HKEY_CLASSES_ROOT HKEY_CURRENT_USER HKEY_LOCAL_MACHINE HKEY_USERS †*HKEY_PERFORMANCE_DATA *HKEY_CURRENT_CONFIG †*HKEY_DYN_DATA *These cannot be used for NT 3.51 workstations. †These cannot be used for NT 4.0 workstations.
[keyname]	is the name of the key which has the desired value.
[valuenam]	is the name of the value.
[intvalue]	is the actual integer number.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.

Example

The following statement identifies the position of the X for the sound recorder and stores the result in nResult:

```
DEFINE "nRESULT" INTEGER
```

```
REGQUERYINTVALUE HKEY_CURRENT_USER "SOFTWARE\MICROSOFT\
WINDOWS\CURRENTVERSION\APPLETS\SOUNDRECORDER" "X" nRESULT
```

Get a string value from a key

```
REGQUERYSTRVALUE [hkey] [keyname] [valuenam]
[strvalue]
```

where:

[hkey]	HKEY_CLASSES_ROOT HKEY_CURRENT_USER HKEY_LOCAL_MACHINE HKEY_USERS †*HKEY_PERFORMANCE_DATA *HKEY_CURRENT_CONFIG †*HKEY_DYN_DATA *These cannot be used for NT 3.51 workstations. †These cannot be used for NT 4.0 workstations.
[keyname]	is the name of the key which has the desired value.
[valuenam]	is the name of the value.
[strvalue]	is the [strvar] parameter in which the data in [valuenam] is returned.

Return values

[RETVAL] = 0 if successful.

[RETVAL] = error code in all other cases.



Refer to the
"Table of
allowed val-
ues" on
page 196.

Example

The following statements retrieve the software metering license server from which the metering agent installation program was run. This server name is then written to a szTemp variable which will then be displayed on the distribution dialog:

```
DEFINE "szTemp" STRING
REGQUERYSTRVALUE HKEY_LOCAL_MACHINE "SOFTWARE" \MCAFFEE\
WINMETERAGENT\PARAMETERS" "LICENSESERVER" szTemp
WRITELN szTemp
```

Miscellaneous Functions

The Miscellaneous Functions include basic functions for defining, assigning, copying, comparing, and concatenating variables.

Aborts a function

When encountered in a script, the ABORT function will cause the remainder of the package tasks to be aborted. This function will take a parameter that will be assigned to [RETV] upon termination.

ABORT [intval]	
where:	
[intvar]	is the integer variable name which will be assigned a value. This variable must be defined using the DEFINE function.



Refer to the
"Table of
allowed val-
ues" on
page 196.

Return value

[RETV] =

Example

The following statement.....

Add a file name to a path or build a path

Adds a file name to a path or builds a path. This function acts the same way as STRCAT, except that it will determine whether the last character of [strvar] is a “\”. If it is not, APPENDPATH will append a “\” to [strvar], and then [strvalue] will be appended. This is very useful in building paths.

APPENDPATH [strvar] [strvalue]	
where:	
[strvar]	is the variable to contain the appended string, such as “destination.” This variable must be defined using the DEFINE function.
[strvalue]	is the string value to be appended (e.g., source).



Refer to the “Table of allowed values” on page 196.

Return value

[RETVAL] = 0 always.

Example

The following statements build a path to the user’s WIN.INI file.

```
DEFINE "szPath" STRING
STRCOPY szPath [WINDIR]
APPENDPATH szPath "WIN.INI"
```

Perform a basic integer assignment operation

This function performs a basic integer assignment operation, such as a = b.

ASSIGN [intvar] [intvalue]
where:

ASSIGN [intvar] [intvalue]

[intvar]	is the integer variable name which will be assigned a value. This variable must be defined using the DEFINE function.
[intvalue]	is the numeric value to be assigned to the integer variable.

Return value

[RETV] = 0 always.

Example

The following statements define the variable “NUM” as an integer, and later assign 33 to the variable NUM:

```
DEFINE "NUM" INTEGER
ASSIGN NUM 33
```

Define a user-defined variable

Used to define user-defined variables of a string or integer. This variable can then be used later in the script. All DEFINE statements must be declared before any script command is executed.

If a string variable is declared, the login module will allocate 255 bytes of memory for the string. If an integer variable is declared, the login module will allocate 4 bytes (C type long which is equal to an approximately -2 billion to +2 billion size integer).

DEFINE [text] [defineopt]

where:

[text]	is the variable being defined.
[defineopt]	is the type of variable being defined (e.g., STRING or INTEGER).



the
"Table of
allowed val-
ues" on
page 196.

Return value

[RETVAL] = 0 always.

Example

The following statement defines the variable "ANSWER" as a string variable.

```
DEFINE "ANSWER" STRING
```

End the script

This function should be used as a conditional step with the IF function. This allows you to stop the execution of the script if one of the conditions you have requested is not met. (See ["Conditional processing of functions" on page 237.](#))

EXIT [intvalue]	
where:	
[intvalue]	is an integer variable.

Return value

Return values do not apply to this function.

Example

The following statement ends the script if an obtained value is 50 or greater:

```
IF RESULT <= 50
CFGSETVALUE "FILES" 55
ELSE
EXIT 1
ENDIF
```

Conditional processing of functions

The IF function allows conditional processing of functions. IF...THEN evaluates the conditional expression defined by [intvalue1] [condoper] [intvalue2]. If the condition evaluates to be TRUE, then all functions following THEN are executed until an ELSE or ENDIF is reached. If the condition evaluates to FALSE and ELSE is defined, then all functions following the ELSE are executed until an ENDIF is reached.

 *IFs can be nested up to 50 levels deep.*

```
IF [intvalue1] [condoper] [intvalue2] ... {ELSE...}  
ENDIF
```

where:

[intvalue1] is an integer variable to be evaluated against [intvalue2].

[condoper] is a valid conditional operator (=, !=, <, >, <=, >=).

[intvalue2] is an integer variable to evaluate [intvalue1] against.

Return values

Return values do not apply to this function.

Example

The following statements obtain the FILES= value from the CONFIG.SYS file and request that the value be changed to 55 if it is set at 50 or below. Otherwise, the action is to exit the script.

```
DEFINE "RESULT" INTEGER  
SETSYSFILE "C:\\" "CONFIG.SYS"  
CFGGETVALUE "FILES" RESULT  
IF RESULT <= 50  
CFGSETVALUE "FILES" 55  
ELSE  
EXIT 1  
ENDIF
```


Convert a numeric value to a string variable

NUMTOSTR [strvar] [intvalue]

where:

[strvar] is the variable to contain the converted value. This variable must be defined using the DEFINE function.

[intvalue] is the number to be converted.

Return Value

[RETVAL] = 0 always.

Example

The following statements convert the number 100 to a string, and store the value in the defined variable named ONEHUNDRED:

```
DEFINE "ONEHUNDRED" STRING
NUMTOSTR ONEHUNDRED 100
```



Refer to the
"Table of
allowed val-
ues" on
page 196

Pause execution of the script

This function pauses the execution of the script until the user presses a key. If [text1] is NULL, then the default message "Strike any key to continue" is displayed on the screen.

PAUSE [text]

where:

[text] is the text to be displayed on the user's screen during the pause. (This can be NULL.)

Return value

[RETVAL] = 0 always.


Example

The following statement displays the message “Pausing... press any key to continue” during script execution:

```
PAUSE "PAUSING ... PRESS ANY KEY TO CONTINUE."
```

Reboot the user's computer

The REBOOT function has no parameters.

 *The workstation must be PC compatible.*

This function reboots the user's computer by closing the script file, closing the log database, and performing any necessary shutdown steps before restarting

 *In OS/2, a message box will be displayed telling the user to shut down and restart OS/2.*

Run an external executable program

This allows a user to run an external executable program. This function can run a DOS executable (including a PowerScript) or a .COM file.


SHELL [pathfile] {text} {shellopt}

where:

[pathfile] is the path and file name to execute.

{text} is the file's command line arguments. If not used, NULL must be specified.

{shellopt} is an optional parameter which can only be either KEEP-PATH or NULL.

 *KEEPPATH should be used to be sure the update process uses the correct path to the executable file.*

Return values

[RETVAL] = 0 if successful.

[RETVAL] = -1 if failed.

Example

The following statement executes LIST.COM and loads the contents of the README.TXT file. Temporarily make the current directory C:\PUB\LIST.COM:

```
SHELL "C:\PUB\LIST.COM" "README.TXT" KEEPPATH
```

Wait for termination

This function will wait for termination before continuing with the next QuickScript command. This function can run a DOS executable (including a PowerScript) or a .COM file.

SHELLWAIT [pathfile] {text} {shellopt}

where:

[pathfile] is the path and file name to execute.

{text} is the file's command line arguments. If not used, NULL must be specified.

{shellopt} is an optional parameter which can only be either KEEPPATH or NULL.



KEEPPATH should be used to be sure the update process uses the correct path to the executable file.

Return values

[RETV] =

Example

The following statement

Append the contents of (strvalue) to the end of the string (strvar)

Appends the contents of [strvalue] to the end of the string [strvar].

If the resulting text in [strvar] is longer than the space allowed (255 bytes), then it will be truncated.

STRCAT [strvar] [strvalue]	
where:	
[strvar]	is the variable to contain the concatenated string (i.e., destination). This variable must be defined using the DEFINE function.
[strvalue]	is the string value to be appended (i.e., source).

Return value

[RETV] = 0 always.

Example

The following statement adds the string `ADDTHIS` to a string variable named `STRINGS1&2`:

```
DEFINE "STRINGS1&2" STRING
STRCAT STRINGS1&2 "ADDTHIS"
```

Conduct a byte for byte comparison of two strings

This function performs a byte for byte comparison of two strings.

STRCOMPARE [strvar] [strvalue]	
where:	
[strvar]	is the variable to be compared. This variable must be defined using the DEFINE function.
[strvalue]	is the value to use for the comparison.

Return values

[RETVAL] = 0 if the strings are identical.

[RETVAL] = < 0 if [strvar] is less than [strvalue].

[RETVAL] = > 0 if [strvar] is greater than [strvalue].

Example

The following statement checks the current NetWare login name against a specified login name ("Supervisor").

```
DEFINE "NAME" STRING
STRCOPY NAME [LOGINNAME]
STRCOMPARE NAME "SUPERVISOR"
```



Refer to the
"Table of
allowed val-
ues" on
page 196.

Replace a value in a string

This function copies a value into a string, overwriting the previous contents of the string.

STRCOPY [strvar] [strvalue]

where:

[strvar] is the variable to receive the copied string value (i.e., destination). This variable must be defined using the DEFINE function.

[strvalue] The string value to be copied (i.e., source).

Return value

[RETVAL] = 0 (always).

Example

The following statements copy the string ABC into the string variable named "HOLDABC":

```
DEFINE "HOLDABC" STRING
STRCOPY HOLDABC "ABC"
```

Write the (strvalue) line to the screen

This function writes the [strvalue] line to the screen, except for functions on OS/2 workstations which are written to the read only edit control.

WRITELN [strvalue]	
where:	
[strvalue]	is the string to display on screen.

Return value

[RETVAL] = 0 (always).

Example

The following statements define the variable named "RESULT", places the value of the FILES= statement in the CONFIG.SYS file into "RESULT", and then writes the value of "RESULT".

```
DEFINE "VALUE" STRING
DEFINE "RESULT" INTEGER
SETSYSFILE "C:\\" "CONFIG.SYS"
CFGGETVALUE "FILES" RESULT
NUMTOSTR VALUE RESULT
WRITELN VALUE
```

Writes the string value

This function will write the string value passed as parameter to the package history log.

WRITELOG [strvalue]	
where:	
[strvalue]	The details to be written in the package log.

Return value


[RETVAL] =

Example

The following statement...

In a network environment, installing software on users' machines can be very time consuming. When you multiply this effort by the number of users on your network, you could easily spend a significant amount of your time installing software. This chapter introduces you to WinCompare, a Windows-based tool that automates installing and upgrading software.

When using WinCompare to install or upgrade software, you take a “snapshot” of as much or as little of your system before you install your software. After installing your software, you take another snapshot of your system, and WinCompare identifies the files that are added and deleted from specified directories, as well as specific changes made to startup, configuration, and initialization files, e.g., CONFIG.SYS, AUTOEXEC.BAT, and WIN.INI. It also detects registry changes. After gathering that information, WinCompare builds data files to automatically duplicate the installation steps. Then you're ready to distribute the WinCompare installation package that automates the installation.

 *Since WinCompare is “taking a snapshot” of an installation and then duplicating the steps in a script, be sure to run WinCompare in the same operating environment in which the automated program will eventually be run. For example, if you want to automate an installation for Windows 3.1 users, run WinCompare from a Windows 3.1 environment.*

WinCompare can automate the installation of any Windows application. You can duplicate both stand-alone and network installations. WinCompare identifies all of the steps necessary to install 16-bit and 32-bit applications.

In this chapter, you will find the following sections:

- Preparing to use WinCompare ([page 247](#))
- Starting WinCompare ([page 251](#))
- Defining the installation package ([page 252](#))
- Creating the initial snapshot ([page 260](#))


- Installing the software ([page 262](#))
- Performing the comparison scan ([page 262](#))
- Generating the installation package ([page 267](#))
- Installing the software on users' workstations ([page 268](#))
- Modifying the installation package ([page 264](#))
- Exporting a installation package definition ([page 270](#)).

Preparing to Use WinCompare

Before you begin using WinCompare, verify that you are running WinCompare in the correct environment and that the workstation is set up to run WinCompare. Use the following procedures below to use WinCompare.

Setting up a Windows 95 or Windows NT workstation

To use WinCompare at a Windows 95 or Windows NT workstation that is not the workstation where you performed your McAfee Management Console installation, you need to run the installation program again and select the Installation Script Generator option. This allows you to install only the WinCompare application.

 *Refer to your Getting Started Manual for more information on installing the McAfee Management Console.*

After you've installed WinCompare on the workstation, make sure you map a drive to the location of the desktop management components files. Now, your workstation is set up to run WinCompare. See "[Starting WinCompare](#)" on [page 251](#).

Setting up a Windows 3.X workstation

To use WinCompare from a Windows 3.x workstation, run the USRSETUP utility. To run this utility, first make sure that you have a drive mapped to the location of the desktop management application. If you used the default installation settings, it is installed in the \MCAFEESM directory. To run this utility, go to File Manager and choose **File\Run** from the menu bar. Then type USRSETUP with the necessary switches. Click OK to activate the program. The available switches for USRSETUP are listed in the table below .

USRSETUP <McAfeeDir> [/N] [/B /M /R]	
<McAfeeDir>	Full path to the server's McAfee installation. The default directory is /MCAFEESM.
/N	Does not set Menu Player as the shell.
/B	Installs both Menu Player and Rescue files.
/M	Installs only the Menu Player files.
/R	Installs only the Rescue files.

To prepare a Windows 3.x workstation to run WinCompare and not use Menu Player as the workstation shell, enter the following command:

```
X:\MCAFEESM\USER\USRSETUP \\\SERVER1\MCAFEESM\USER /N
```

where SERVER1 is the name of the server where the desktop management components are installed.

Once you've run USRSETUP, you are now ready to begin using WinCompare. See ["Starting WinCompare" on page 251](#).

Modifying registry keys scanned by WinCompare

WinCompare is configured to scan the most commonly changed registry keys. The registry keys that are scanned during the WinCompare process are defined in the WINCOMP.INI file. A section is defined for each operating environment that WinCompare supports.

Since WinCompare scans the most commonly changed registry settings, you should not have to modify these settings. However, if you need to scan an additional registry key, you can add an Include statement in the WINCOMP.INI file that identifies the additional registry key. Once you add a statement and save the changes, WinCompare will scan this registry key during the comparison process.

Additionally, if you determine that you don't need to scan a registry key, you can define an Exclude statement in the WINCOMP.INI file that excludes the registry key from the scan.

Adding registry keys to scan during WinCompare



To identify additional registry keys to scan during the WinCompare process, perform the following steps.

1. Open WINCOMP.INI in a text editing program, such as NOTEPAD.EXE. The default location of this initialization file is C:\WINDOWS.
2. Locate the appropriate operating environment registry section. For example, if you want to scan an additional registry key for a Windows 95 application, go to the [Win95 Registry] section in the WINCOMP.INI file.
3. Add an additional line at the end of the appropriate section as follows:

IncludeN = REGISTRY KEY

where *N* is the next available value

and REGISTRY KEY is the registry key you want to add to the comparison process.

✍ Changing these settings can cause WinCompare to fail. Be sure that you are familiar with initialization files and their correct syntax before you modify this file.

4. Save the new WINCOMP.INI file.

Identifying a registry key to ignore during scanning



To exclude a registry key from the WinCompare scanning process, perform the following steps.

1. Open WINCOMP.INI in a text editing program, such as NOTE.PAD.EXE. The default location of this initialization file is C:\WINDOWS.
2. Locate the appropriate operating environment section. For example, if you don't want to scan a registry key for a Windows 95 application, locate the [Win95 Registry] section in the WINCOMP.INI file.
3. Add an additional line at the end of the appropriate section as follows:

```
ExcludeN = REGISTRY KEY
```

where N is the next available value




and REGISTRY KEY is the registry key you want to exclude during the comparison process.








✍ Changing these settings can cause WinCompare to fail. Be sure that you are familiar with initialization files and their correct syntax before you modify this file.

4. Save the new WINCOMP.INI file.


Using the Toolbar

WinCompare provides the following toolbar options which allow you to quickly access functions.

Select...	If you want to...
	Create a new comparison file (File/New).
	Open an existing comparison file (File/Open).
	View the properties of a WinCompare report (File/Properties).

Select...	If you want to...
	Export Report Text (File/Export Report Text).
	Define and create an initial snapshot of your system (Actions/Take Initial Snapshot).
	Perform a second scan to identify changes and create a comparison report (Actions/Take Final Snapshot).
	Generate an installation package, including a PDF file (Actions/Generate PDF).
	Open a PowerScript (Actions/Launch PowerScript).
	Print a comparison report (File/Print).
	View Help for WinCompare (Help/Using Help).

Starting WinCompare

 *Be sure to start WinCompare in the same environment in which the final installation package will be run.*

To run WinCompare, do one of the following:

- Select WinCompare from the list under Start menu
- Start the application from the program group
- Locate WINCOMP.EXE from Explorer.

The WinCompare main menu is displayed.

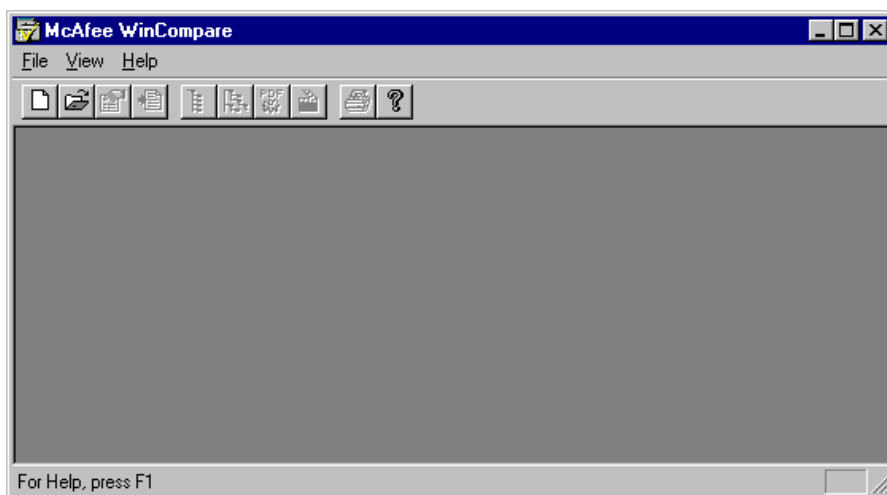


Figure D-1.

Defining the Installation Package

Each time you want to use WinCompare to identify installation changes, you must first define a new installation package. The installation package definition is a text file that identifies the comparison options that you specify and the status of each step of the WinCompare process.

Selecting general WinCompare options

To define an installation package, enter a report description and then press TAB to update the field. You can enter up to 40 characters to describe the software installation this report will track. Based on the first eight characters of the description you enter, WinCompare automatically assigns the following:

- Configuration File Name— text file in which the report data will be stored. WinCompare automatically assigns the file extension .MWC. This file is stored in the distribution directory.

- **Distribution Directory**—directory in which temporary files and distribution files will be stored. Temporary files include those created during the initial scan of your system, as well as during the comparison process run after the software installation is complete. This directory also stores copies of the files that are distributed during the automated installation process. This WC directory is created with an additional directory that is called the same name as the file name, for example \WC\LOTUS.

You can change these default values. However, McAfee recommends that you accept the default file and directory name assigned after you enter the description.

You must use an empty directory in which to store the temporary files created during the initial scan and comparison processes. If a directory contains files, WinCompare indicates that the specified directory is not empty and asks whether to delete the files stored in this directory. If you answer No, you must specify another directory. If you select Yes, the files are deleted and the WinCompare process continues.

To use one of the following WinCompare options, click in the check box to select the option of your choice.

- **Detect System Restarts**—Turn off this option if you do not want WinCompare to identify when an installation performs a restart.
- **Scan Registry**—Turn off this option if you do not want the program to read the Registry when it reads and logs the status of files. Using this option may take a moment to process since the Registry contains so many fields of information. If you know that your program installation does not affect the Registry, you should turn off this option.
- **Use PowerScript**—Turn off this option if you want to use a precompiled C executable to run the installation package on users' workstations. If you choose to use a precompiled C executable, you will not be able to customize the executable.

Turn this option on if you want to use the precompiled PowerScript executable to run the installation package on users' workstations. If you choose this option, WinCompare will copy the precompiled PowerScript executable into your installation package directory along with the PowerScript support files and the PowerScript script (WCSETUP.MPS), which is an uncompiled version of the PowerScript executable that you can use to customize your installation package. For more information on customizing WCSETUP.EXE, see the *PowerScript User's Guide*.



To create a new WinCompare report, perform the following steps.

1. From the WinCompare window, choose **File/New**.

The General page of the Configurations Options dialog is displayed.

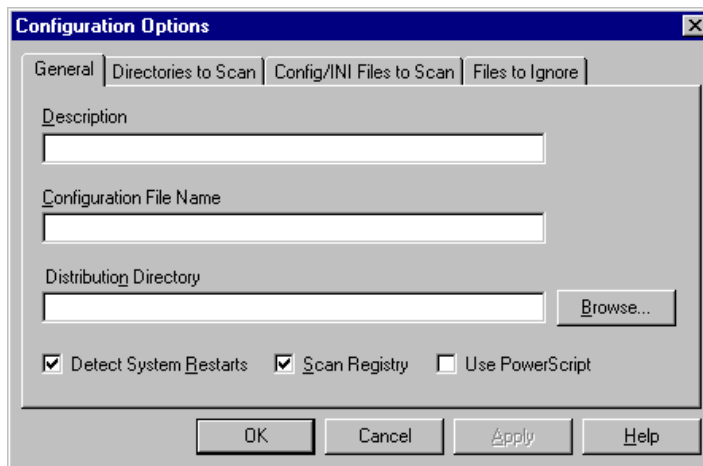


Figure D-2.

2. In the 'Description' field, enter a description up to 40 characters for the comparison file and select press the tab key.

A configuration file name and distribution directory are automatically displayed in the appropriate fields. This name is also the name of the installation package data file (.MPD).

3. Turn off any of the following options to meet your requirements:
 - Detect System Restarts
 - Scan Registry
 - Use PowerScript.
4. Continue with the next procedure to define the directories that you want to include in the WinCompare process.

Identifying directories to compare

To determine the system status before and after a software installation, you can limit the directories searched. You create a list of directories to search and then add, change, and delete items in this list.

Once you've selected the general WinCompare options as described in the previous procedure, you identify which directories you want to scan.



To identify the directories to search, perform the following steps.

1. If necessary open a configuration report and choose **File/Properties** to display the Configuration Options dialog.
2. Select the Directories to Scan tab.

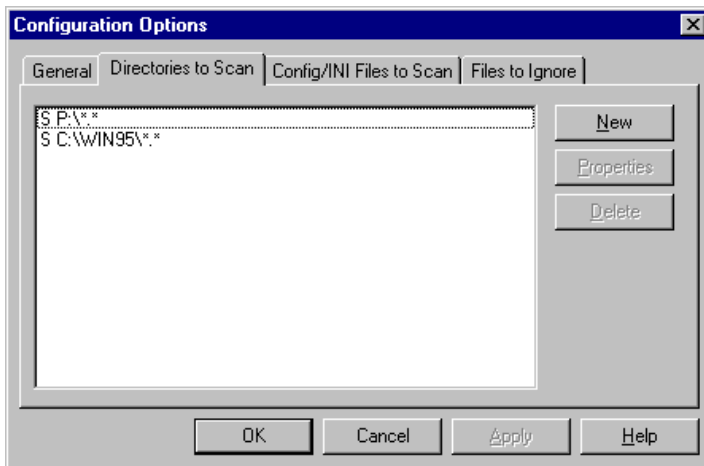


Figure D-3.

3. Click New. The Directory Information dialog is displayed.

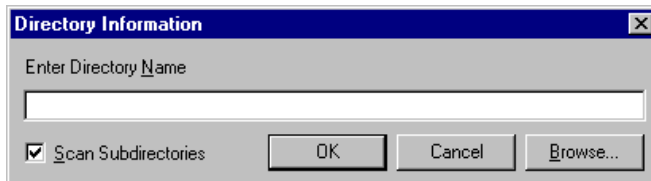



Figure D-4.

4. Enter the directory to scan during a snapshot. Or click Browse to select a directory.

 *If you type the name of a directory to scan, be sure to enter the exact directory name. Also, include the appropriate wildcards to indicate that all files in the directory should be scanned. For example, type C:\WINDOWS*. * if you want to scan all file in the windows subdirectory.*

5. Turn off the 'Scan Subdirectories' option if you do not want to scan subdirectories under the specified directory.
6. Click OK to return to the directories to scan tab.
7. Repeat Steps 3 through 6 to include additional directories in the comparison.
8. If necessary, you can change or delete a directory in the list.
 - To change a **directory specification**, highlight the item and click 'Properties'. Then enter the desired path and directory name.
 - To **delete a directory specification**, highlight the directory in the list and click Delete.
9. Continue with the next procedure to identify startup, initialization, and configuration files to compare.

Identifying the files to compare

Most installations for Windows applications cause changes to startup, initialization, and configuration files, such as CONFIG.SYS, AUTOEXEC.BAT, and WIN.INI. Some installations also affect registry settings. To perform a successful installation, these files and registry settings must be changed. If you want the installation package to automate the process of installing the software package to include the commands to update these files, you must identify them on the 'Config/INI Files to Scan' tab.

During the initial scan of your system and the comparison after the software installation, WinCompare reads each line of the configuration, initialization, and startup files that you specify as well as registry settings. During the comparison snapshot, line item changes that are made to each file are recorded in the installation package definition.



To identify the files that you want WinCompare to monitor, perform the following steps.

1. If necessary open a configuration report and select **File/Properties** to display the Configuration Options dialog.
2. Select the Config/INI Files to Scan tab.

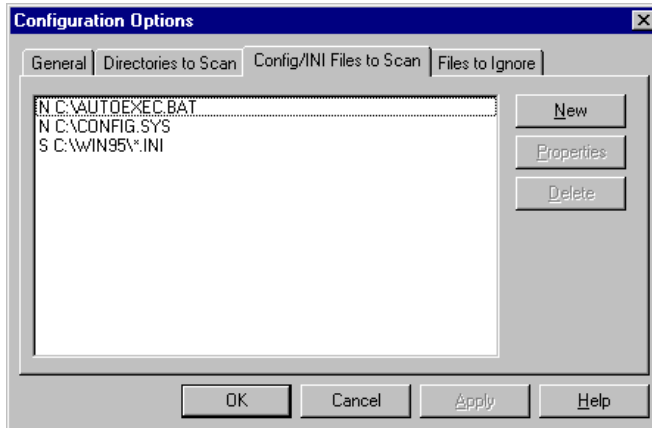


Figure D-5.

3. Click New. The File Information dialog is displayed.

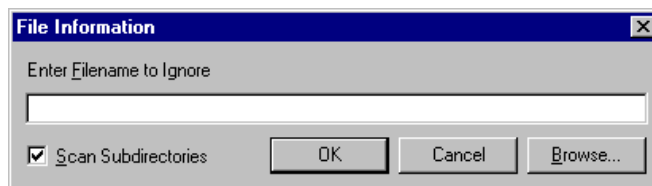


Figure D-6.

4. Enter the path and file name whose snapshot you want to take, or click Browse to select a file.



You can enter DOS wildcards to identify a category of configuration files to include in the WinCompare process.

5. Turn off the 'Scan Subdirectories' option if you do not want to record the status of subdirectories under the specified directory.
6. Click OK to return to the General tab.

7. Repeat Step 3 through 6 to identify additional files in the comparison.
8. If necessary, you can change or delete a file in the list:
 - To **change a file specification**, highlight the item and click 'Properties'. Then enter the desired path and file name.
 - To **delete an item**, highlight the file item in the list and click Delete.
9. Continue with the next procedure to identify the files to ignore during the comparison.

Identifying the files to ignore

Since you can use wildcards to identify the files to include in the comparison on the 'Config/INI Files to Scan' tab, you can use the 'Files to Ignore' tab to identify specific files or categories of files to exclude from the comparison.



To identify files that you don't want to include in the comparison, perform the following steps.

1. If necessary open a configuration report and choose **File/Properties** to display the General tab (Figure D-7).
2. Select the Files to Ignore tab.

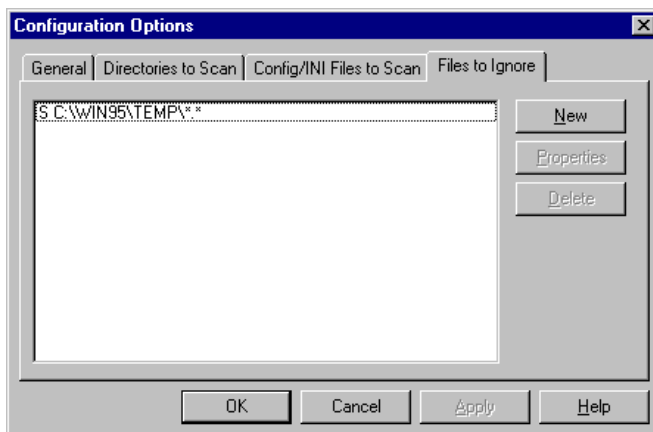


Figure D-7.

3. Click New.

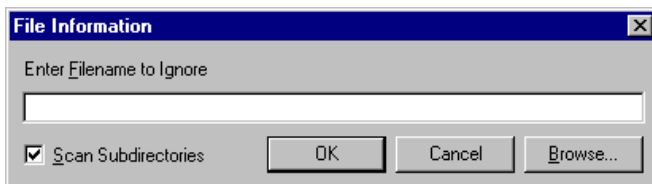



Figure D-8.


4. Enter the path and file name to ignore when the snapshot is taken or click Browse to select a file.

 *You can enter DOS wildcards to identify a category of files to ignore during the comparison process.*

5. Turn off the 'Scan Subdirectories' option if you do not want to record the status of subdirectories.
 6. Click OK to return to the Configuration Options dialog.
 7. Repeat Step 3 through 6 to identify additional files to ignore in the comparison process.
 8. If necessary, you can change or delete a file in the list:
 - To change a file specification, highlight the item in the list and click the 'Properties' button. Then enter the desired path and file name.
 - To **delete a file**, highlight the file in the list and click Delete.
 9. Click OK to save the installation package definition.
 - If the file name identified already exists, a message warns you that a file already exists. Click Yes to overwrite the existing file or No to return to the Configuration Options dialog. If you select No, you must enter a new file name and click OK to continue.
- or
- If the file name identified already exists and is open in WinCompare, a message warns you that the file is open. Click OK to close the message box. Then enter a new file name and click OK to create a report. WinCompare creates the new report and displays it in a window.

Changing installation package definition

Before you perform the initial scan of your system and before you install the software package, you can change the installation package definition. You can change any of the attributes of the report, including general scan options and the files and directories identified for comparison.

 *Once you've performed an initial scan, you cannot modify the installation package definition.*

You can modify the following components of the installation package definition:

- To change the file description, choose **File/Properties** and enter the new file description.
- To change the list of directories to compare, see [“Identifying directories to compare” on page 255](#).
- To change the list of configuration files to compare, see [“Identifying the files to compare” on page 256](#)
- To change the list of files to ignore during the scan process, see [“Identifying the files to ignore” on page 258](#).

Creating the Initial Snapshot

After you've defined the installation package (see [“Defining the Installation Package” on page 252](#)), you're ready to create the initial snapshot of your system. The initial snapshot identifies the status of the directories and files that you specified before you install a software package. To take the initial snapshot, be sure you are running WinCompare in the same environment in which the automated script will be run. Then, follow the procedure below.



1. If the installation package definition for this installation is not open, do the following. Otherwise, go to Step 2.
 - On the WinCompare window (Figure D-1), choose **File/Open**.

The Open WinCompare File dialog displays all comparison files that have been created in the last working directory you identified.

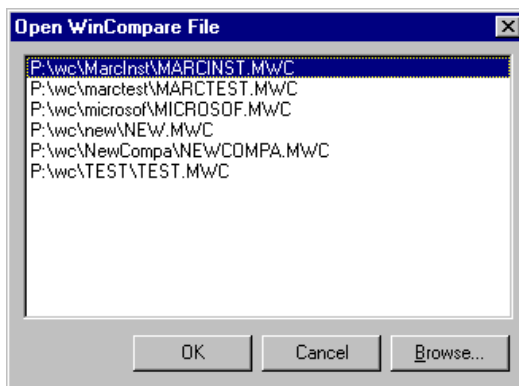


Figure D-9.

- Double click the file you want to open. If necessary, click the Browse button to locate the comparison file.

2. Choose **Actions/Take Initial Snapshot from the menu bar.**


WinCompare begins reading the directories and files specified in the installation package definition. A message is displayed that indicates the snapshot has been successfully completed. Also, the 'Initial Snapshot' field in the installation package definition now reads 'Completed'.

✍ Since WinCompare is now reading all of the directories and files that you identified, this process could take some time to complete.

- 3. Click OK to close the message.**
- 4. Now you can install the software. McAfee recommends that you install the software immediately after creating the initial snapshot to ensure that WinCompare only identifies changes that were made to your system as a result of the software installation.**

Installing the Software

Once you've created a snapshot of your system, you are ready to install the software. You should install the software immediately after creating the initial snapshot to ensure that only the changes made as a result of the installation process are captured by WinCompare. Likewise, after you install the software, you should again immediately perform the comparison process.

 *If you perform procedures that are unrelated to the software installation between the initial snapshot and the comparison process, WinCompare records the changes made by these processes as well and will include these steps in the data file that is created. Additionally, if files that are necessary to perform a complete installation are already installed on the computer, these files will not be updated during the installation and thus, will not be identified in the automated script.*

Performing a Comparison Scan

Once you successfully install the software on your system, you need to immediately perform a comparison scan to identify the changes made as a result of the installation. WinCompare scans your system based on the installation package definition setup and creates a log of the changes that have occurred since the initial scan in the installation package definition. It also creates a data file that the appropriate executable will use to duplicate the actions that occurred during the installation.

Once you perform the comparison scan, you have the information you need to automate the installation process.



To use WinCompare to perform a comparison of your system status after the software installation, perform the following steps.

1. If the installation package definition for this installation is not open, complete the following steps. Otherwise, go to Step 2.
 - On the WinCompare window (Figure D-1), choose **File/Open**.

The Open WinCompare File dialog (Figure D-9) displays all comparison files that have been created in the last working directory you identified.

- Highlight the file to open and click OK. If necessary, click the Browse button to locate the comparison file.

The selected file is opened.

2. Choose **Actions/Take Final Snapshot** from the menu bar.

WinCompare reads the files and directories specified in the installation package definition. A message is displayed that indicates the snapshot completed successfully.

3. Click OK to close this dialog and activate the comparison process.

WinCompare identifies the changes that have occurred in the selected directories and files. After it identifies changes, it copies the appropriate precompiled executable (always a version of WCSETUP.EXE) and the data files into the installation package destination directory.

If you chose to not use PowerScript, WinCompare copies a precompiled C executable and the installation's data files into the installation package destination directory.

If you chose to use PowerScript, WinCompare copies a precompiled PowerScript executable, the PowerScript script file (WCSETUP.MPS), the installation's data files, and the PowerScript support files into the installation package destination directory.

4. Do one of the following:
 - If you are distributing software on users' workstations without Microsoft SMS to distribute software, see ["Installing Software on Users' Workstations" on page 264](#).
 - If you want to modify the PowerScript script, see ["Modifying the Installation Package" on page 264](#).
 - If you are using Microsoft SMS, see ["Generating the Installation Package" on page 267](#).

Installing Software on Users' Workstations

With a WinCompare-generated installation, you have several options for installing software on users' workstations. Here are three common ways to distribute software to users' workstations:

- If you are using SLW Software Distribution, you can create a distribution package in the Distribution module. For more information, see the manual *Automating Software Distribution*.
- Create a menu item and distribute the item through the Menuing module. For more information, see your *Taking Control of the Windows Desktop* manual.
- If you are using Microsoft SMS, you can generate a PDF file to distribute a software package. For more information, see ["Installing Software with Microsoft SMS" on page 268](#).

Modifying the Installation Package

Depending on which options you chose to install the software, you can customize the installation package. In the sections below, you will find information about modifying your installation package.

Using a C executable

If you are using the compiled C executable, then you cannot modify the executable. If you need to customize the compiled C executable, you can only modify the data file (.MPD). For more information on modifying the data files, see ["Editing the data file \(.MPD\)" on page 265](#).

Using the PowerScript executable


If you are using the precompiled PowerScript executable to distribute software, review the data file to ensure that it performs the steps necessary once the script and data file have been created. When a WinCompare package is created, it is made up of two files: the script (.MPS) and a text file (.MPD). This prevents the script from exceeding the 32K limit imposed by the PowerScript application.

The data file will identify all of the actions that need to be performed to automate the installation process. Since it is a text file, there is no size limit. The script will read the data file and then perform the actions identified in the data file.

If you are using PowerScript to install the software on your users' workstations, you can add or remove PowerScript commands to the text file to fully automate the installation process. The resulting commands in the PowerScript data file depend upon how you want network users to use the application that you are installing.

You can also customize the MPD support file that is created in the WinCompare destination directory. For more information on modifying the MPD file for the compiled PowerScript, see ["Editing the data file \(.MPD\)" on page 265](#).

If you need to customize the PowerScript executable, you can open the MPS support file in PowerScript, modify it, and recompile it. When you compile the MPS file, you must save it as WCSETUP.EXE in the same directory you identified as the destination directory in the installation package definition. For more information on using PowerScript, see the *PowerScript User's Guide*.

 *If you modify the PowerScript .MPS file, you must rename the executable WCSETUP.EXE. The PDF file will point to WCSETUP.EXE to distribute the defined software.*

Editing the data file (.MPD)

If you need to edit the data file (.MPD) that is generated by WinCompare, you need to alter the .MPD file in your installation package destination directory. Each line in the .MPD file identifies a unique action. You must use the two digit codes followed by one or more parameters as identified in the table below for the script to function:

Code	Description
AD, {Directory to Add}	This code adds the directory that you identify. It first checks to see if the directory exists. If it doesn't exist, this code adds a directory and any subdirectories to the user's machine.
AF, {Source Filename}, {Destination}	This code adds a file by copying it to the user's machine.

Code	Description
AI, "{.INI Filename}" "{Section}" "{Entry}"	<p>This code adds an entry to the specified section of an .INI file. If the section doesn't exist in the .INI file, this command creates the section. If the file doesn't exist, this command creates an .INI file. You must enclose each parameter in quotation marks as in the example.</p>
AR, {Registry Key}, {Registry Value}{Data type}	<p>This code adds or changes a registry setting in the HKEY_CLASSES_ROOT key. No other registry keys are searched. The data type is used by 32-bit applications only.</p>
AT, {Text Filename}, {Text Line to Add}	<p>This code adds the text line to the end of the specified text file.</p>
DD, {Directory to Delete}	<p>This code deletes the specified directory and any subdirectories or files in that directory.</p>
DF, {File to Delete}	<p>This code deletes the specified file.</p>
DI, "{.INI Filename}", "{Section}", "{Entry}"	<p>This code deletes the specified entry from the specified section of an .INI file. You must enclose each parameter in quotation marks as in the example.</p>
DR, {Registry Key}	<p>This code deletes the specified registry setting.</p>
DT, {Text Filename}, {Text Line to Delete}	<p>This code deletes the specified text line from the text file you identify only if the text line exactly matches; otherwise, no changes are made.</p>

Compile the PowerScript


If you are using PowerScript to install the software on users' workstations, you must recompile the PowerScript script and rename it WCSETUP.EXE. Once you've verified all of the commands in the data file, you are ready to compile the script. You must compile the script successfully before the program can be used. Refer to the *PowerScript User's Guide* for more information. Once you've compiled and tested the executable program to ensure that it performs the steps that you've identified, you must then rename the file WCSETUP.EXE and then make this program available to end users.

Generating the Installation Package

After you have taken the second snapshot, you need to generate the installation package. The installation package performs the installation. When you generate a WinCompare installation package, you can use a compiled C or a PowerScript executable to install software on your network users' workstations. WinCompare associates the correct version of WCSETUP, the 16- or 32-bit compiled C or PowerScript executable, with the installation support files. WinCompare will associate the correct version of WCSETUP depending on what executable you chose and the operating environment on which you installed the software.



In WinCompare, you can now generate a Package Definition File (.PDF) to distribute software through Microsoft SMS.

 *For more information about PowerScript, see the PowerScript User's Guide.*

1. After taking the second snapshot, choose **Actions/Generate PDF**.

The Product Information dialog is displayed.

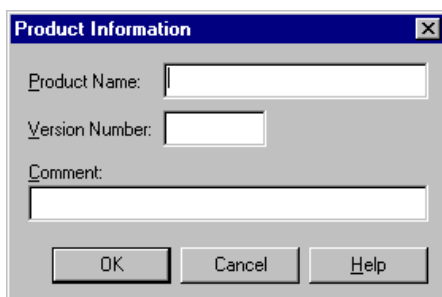


Figure D-10.


2. In the Product Name text box, enter the name of the product you are installing (required).
3. In the Version Number text box, enter the version of the product you are installing (required).
4. In the Comment text box, enter any comments that you want to make about the product you are installing.
5. Click OK.

WinCompare generates the installation package with the appropriate executable. The installation package is generated in the destination directory you identified when you created the installation package definition.

Installing Software with Microsoft SMS

In this section, you will find the following:

- Preparing the package for SMS
- Working with SMS.

 *The procedures in this appendix assume that you have completed the initial and second snapshot.*

Preparing the Package for SMS

After you take the second snapshot in WinCompare, you must define the software installation for SMS to distribute. SMS reads the software installation information from a Package Definition File (PDF). The PDF needs the product name and version number of the software you will install on users workstations.

When you take snapshots of your system, install software, and generate a PDF file, WinCompare associates the appropriate WCSETUP, the 16- or 32-bit compiled C or PowerScript executable, with the installation support files. WinCompare will associate the correct version of WCSETUP depending on what executable you chose and the operating environment on which you installed the software.

Working with SMS



To distribute the WinCompare-generated package through SMS, you must follow the basic steps below:

✍ For more information on using Microsoft SMS, see the Microsoft Systems Management Server Administrator's Manual.

1. Start the SMS Administrator.
2. Create a package. When you choose the PDF file, you will see the data you entered on the Product Information dialog in WinCompare.
3. Set up the package to distribute to the for the network user workstations.
 - Set the source directory in SMS to point to the WinCompare destination directory.
 - Leave the Workstation Commands set to Automated.
4. Create the Job.
5. Distribute the software.

Exporting the Installation Package Definition

WinCompare offers the option to use the information recorded in the installation package definition with other software programs, such as a text editor. For example, you may want to generate a report in a word processing program and distribute it to other network supervisors to communicate the changes that occurred during an installation.



To export the WinCompare data to ASCII text format, perform the following steps.

1. If the installation package definition is not open, complete the following steps. Otherwise, go to Step 2.

- On the WinCompare window (Figure D-1), choose **File/Open**.

The Open WinCompare File dialog (Figure D-9) displays all comparison files that have been created in the last working directory you identified.

- Highlight the file to open and click OK. If necessary, click the Browse button to locate the comparison file.

The selected file is opened.

2. Choose **File/Export Report Text from the menu bar**.

The Save Report As Text File dialog is displayed.

3. Enter a name for the exported report file and click OK. If necessary, select a location in which to store the exported file.

The installation package definition is saved as text and can be opened in any application that recognizes the text format.

What You'll Find in This Appendix

This appendix lists all the predefined distribution reports included in McAfee's Distribution module. These reports were designed to give you the detailed information that you need to make informed decisions. You can also customize these reports to fit them to your own specific needs.

For each predefined report, this appendix gives you a comprehensive overview with report descriptions, possible scenarios in which you would generate the report, the report's file name (useful if you want to customize the report using Crystal Reports), and descriptions of all the report fields.

This appendix is designed for reference purposes only (actual procedures for running reports are in [Chapter 10](#),). The reports throughout the appendix are listed in alphabetical order. For complete information about generating one of the predefined reports described in this appendix or about creating your own report, see ["Generating Reports" on page 153](#).

Activity Log by Recipient



Use this report to monitor distribution activity for specific workstations or users, and to identify distribution patterns or problems.

The Activity Log by Recipient report lists each recipient selected to receive one or more packages created on the selected server and the activity for each package. The report shows the date, time, and result of each delivery attempt.

The following table describes each field in this report.

Report Field	Description
Report Date	Indicates the date the report is run.
Packages originating on server	Indicates the originating server that was selected as the data source when the report was requested. The report shows information for the packages created on this server.
Recipient Name	Indicates the user or machine name for each recipient selected to receive the package.
Recipient Type	Indicates the target destination for the package and shows whether it is being sent to a user, workstation, or server.
Network Number	Indicates the internal IPX network number or the network segment that the machine is connected to.
Node Address	Indicates workstation address from the machine's network interface card (NIC). For recipients selected by user name, the address represents the workstation assigned to the user name.
Package Name	Indicates the descriptive name for the package as it is displayed in the Console.
Active Status	Indicates whether the package is currently Active or Inactive . This status is determined by the activation date specified in the package, or by manually "Changing a Package's Status" on page 89 .
Package Completion Status	Indicates whether package delivery has been attempted, completed, or unsuccessful. The terms used in this field are described in "Monitoring Package Activity" on page 89 .

Activity Log by Package



Use this report to see which packages are being delivered successfully, which are being declined by users, and which are encountering problems.

The Activity Log by Package lists each package created on the server and displays the package activity for each recipient under the package name. The report provides the date, time, and result of each delivery attempt.

The following table describes each field in this report.

Report Field	Description
Report Date	Indicates the date the report is run.
Package Server Name	Indicates the originating server that was selected as the data source when the report was requested. The report includes the packages created on this server.
Package Name	Indicates the descriptive name for the package as it is displayed in the Console.
Status	Indicates whether the package is currently Active or Inactive . This status is determined by the activation date set in the package, or by manually “Changing a Package’s Status” on page 89 .
Recipient Name	Indicates the user or machine name for each recipient selected to receive the package.
Recipient Type	Indicates the target destination for the package to show whether it is being sent to a user, workstation, or server.
Network Number	Indicates the internal IPX network number.
Node Address	Indicates the absolute address assigned to the machine that is the target destination for the package. For recipients selected by user name, the address represents the workstation machine assigned to the user name.
Package Completion Status	Indicates whether package delivery has been attempted, completed, or unsuccessful. The terms used in this field are described in “Monitoring Package Activity” on page 89 .

Complete Packages



Use this report to see which recipients have been updated.

The Complete Packages report lists each package on the originating server that has been successfully delivered to one or more recipients, and displays the activity for each recipient under the package name.

The following table describes each field in this report.

Report Field	Description
Report Date	Indicates the date the report is run.
Packages originating on server	Indicates the originating server that was selected as the data source when the report was requested. The report includes the packages that were created on this server.
Package Name	Indicates the descriptive name for the package as it is displayed in the Console.
Status	Indicates whether the package is currently Active or Inactive . This status is determined by the activation date set in the package, or by manually “Changing a Package’s Status” on page 89 .
Recipient Name	Indicates the user or machine name for each recipient selected to receive the package.
Recipient Type	Indicates the target destination for the package to show whether it is being sent to a user, workstation, or server.
Network Number	Indicates the internal IPX network number.
Node Address	Indicates the absolute address assigned to the machine that is the target destination for the package. For recipients selected by user name, the address represents the workstation machine assigned to the user name.
Package Completion Status	Indicates whether package delivery has been attempted, completed, or unsuccessful. The terms used in this field are described in “Monitoring Package Activity” on page 89 .

Complete Packages by Recipient



Use this report to see which recipients have been updated.

The Complete Packages by Recipient report lists each recipient that has successfully received one or more packages created on the server. The report shows the date, time, and activity for each delivery.

The following table describes each field in this report.

Report Field	Description
Report Date	Indicates the date the report is run.
Packages originating on server	Indicates the originating server that was selected as the data source when the report was requested. The report includes the packages that were created on this server.
Recipient Name	Indicates the user or machine name for each recipient selected to receive the package.
Recipient Type	Indicates the target destination for the package to show whether it is being sent to a user, workstation, or server.
Network Number	Indicates the internal IPX network number.
Node Address	Indicates the absolute address assigned to the machine that is the target destination for the package. For recipients selected by user name, the address represents the workstation machine assigned to the user name.
Package Name	Indicates the descriptive name for the package as it is displayed in the Console.
Active Status	Indicates whether the package is currently Active or Inactive . This status is determined by the activation date set in the package, or by manually “Changing a Package’s Status” on page 89.
Package Completion Status	Indicates whether package delivery has been attempted, completed, or unsuccessful. The terms used in this field are described in “Monitoring Package Activity” on page 89.

Incomplete Packages



Use this report to see which packages may be experiencing delivery problems or are being declined by users.

The Incomplete Packages report lists each package that was created on the server that has not been delivered successfully to one or more recipients. The report shows the date, time, and result of each unsuccessful delivery attempt.

The following table describes each field in this report.

Report Field	Description
Report Date	Indicates the date the report is run.
Packages originating on server	Indicates the originating server that was selected as the data source when the report was requested. The report includes the packages that were created on this server.
Package Name	Indicates the descriptive name for the package as it is displayed in the Console.
Status	Indicates whether the package is currently Active or Inactive . This status is determined by the activation date set in the package, or by manually “Changing a Package’s Status” on page 89 .
Recipient Name	Indicates the user or machine name for each recipient selected to receive the package.
Recipient Type	Indicates the target destination for the package to show whether it is being sent to a user, workstation, or server.
Network Number	Indicates the internal IPX network number.
Node Address	Indicates the absolute address assigned to the machine that is the target destination for the package. For recipients selected by user name, the address represents the workstation machine assigned to the user name.
Package Completion Status	Indicates whether package delivery has been attempted, completed, or unsuccessful. The terms used in this field are described in “Monitoring Package Activity” on page 89 .

Incomplete Packages by Recipient



Use this report to see which recipients have not yet received a package.

The Incomplete Packages by Recipient report lists each recipient who has not yet received a package created on the selected server. The report shows the date, time, and result for all attempted deliveries to each recipient.

The following table describes each field in this report.

Report Field	Description
Report Date	Indicates the date the report is run.
Packages originating on server	Indicates the originating server that was selected as the data source when the report was requested. The report includes the packages that were created on this server.
Recipient Name	Indicates the user or machine name for each recipient selected to receive the package.
Recipient Type	Indicates the target destination for the package to show whether it is being sent to a user, workstation, or server.
Network number	Indicates the internal IPX network number.
Node Address	Indicates the absolute address assigned to the machine that is the target destination for the package. For recipients selected by user name, the address represents the workstation machine assigned to the user name.
Package Name	Indicates the descriptive name for the package as it is displayed in the Console.
Active Status	Indicates whether the package is currently Active or Inactive . This status is determined by the activation date set in the package, or by manually “Changing a Package’s Status” on page 89 .
Package Completion Status	Indicates whether package delivery has been attempted, completed, or unsuccessful. The terms used in this field are described in “Monitoring Package Activity” on page 89 .

Overview

Messages are generated to notify you of a problem or condition that arises during software distribution. You can use this appendix to look up the message by number for recommended action.

Category	Description	Range
"QuickScript Editor\Compiler Error Messages" on page 279	Generated for situations that occur while the QuickScript editor window is open.	Messages are not numbered
"Update Error Messages" on page 286	Generated for situations that occur during workstation updates.	0000 - 0299
"Swap Error Messages" on page 297	Generated while an application is executing, or a fileset is decompressing during an update.	0300 - 0399
"DOS Error Messages" on page 298	Generated when a DOS-related problem occurs during an update.	0400 - 0499
"Windows Registry Error Messages" on page 299	Generated when a Windows 95 Registry function fails due to a problem related to the registry file.	1000 - 1999
"Database Error Messages" on page 300	Generated when database problems are encountered on the servers during software distribution.	10001 - 11999
"FIXDB Messages" on page 302	Generated when repairing or re-indexing a file.	Messages are not numbered

QuickScript Editor\Compiler Error Messages

The following errors may be displayed while using the QuickScript editor.

- Another script is already using this file.

Action: Each script must have a unique file name; assign a different name.

- Do you really want to cancel compiling the script?

Action: This prompt is displayed when you have chosen to cancel compiling the QuickScript during a compile process. Click Yes to abort; click No to continue compiling the QuickScript.

- Do you want to save the changes?

Action: You have tried to close the QuickScript editor window without saving your changes. Choose Yes to save your editing changes and close the script editor or choose No to cancel your editing changes and close the script editor.

- Duplicate name are not allowed.

Action: A script with this file name already exists. Each script must have a unique file name; assign a different name.

- File does not exist.

Action: The script source file cannot be found. Verify the drive and directory on which you are searching.

- File exceeds capacity of this editor.

Action: A script source file cannot exceed 64K in size.

- In order to compile the script, you must save it first. Do you wish to save the script before compiling it?

Action: You have tried to compile the QuickScript without saving it first. Choose **File\Save** and then recompile.

- OLE initialization failed. Make sure that the OLE libraries are the correct version.

Action: Verify that the OLE libraries are the correct versions. You may have a corrupt Windows 95 or Windows NT installation. Reboot your machine.

- Source and target file names are the same.

Action: You must enter a target name that is different than the script source file name.

- Text not found.

Action: The string being searched for via the Find String dialog cannot be found; re-enter your text.

- The <scriptname> cannot be deleted because it is part of a scheduled package.

Action: This script cannot be deleted or renamed because it is part of a scheduled package. Deactivate this package before deleting or renaming the script.

- Unable to allocate sufficient memory. Close down one or more applications and try again.

Action: You don't have enough memory to complete the QuickScript in the editor. As suggested, close some open applications and then re-create your QuickScript.

- Unable to create document window: Failed to create split pane.

Action: This error most likely reflects a memory problem. Close some applications and try again.

- Unable to create document window: The splitter could not be created.

Action: This error most likely reflects a memory problem. Close some applications and try again.

- Unable to create new file.

Action: The new script source file cannot be created. Verify that you have sufficient rights to create the new file.

- Unable to load <filename>. The file does not exist

Action: This is an example of a general open/save error that could occur while using the QuickScript Editor. The reason is given in the error message itself. In this case, you must select a file that does exist or create the one that the Editor is looking for.

- Unable to open script compile file: <reason>

Action: The QuickScript compile cannot open a script file. The reason is given in the error message (e.g., File does not exist, file in use, etc.). Take any necessary actions.

- Unable to open script error file: <reason>

Action: The QuickScript compile cannot open a script file. The reason is given in the error message (e.g., File does not exist, file in use, etc.). Take any necessary actions.

- Unable to open script source file for compiling: <reason>

Action: The QuickScript compile cannot open a script file. The reason is given in the error message (e.g., File does not exist, file in use, etc.). Take any necessary actions.

- Unable to save <filename>. The file is in use

Action: This is an example of a general open/save error that could occur while using the QuickScript Editor. The reason is given in the error message itself. In this case, you must wait until the desired file is no longer in use.

- Unable to start compile script thread.

Action: This error most likely reflects a memory problem. Close some applications and try again.

- Unable to write to the error file. Be sure that you have sufficient rights and disk space.

Action: The QuickScript Editor cannot write to the needed error file to report errors that occur during the compiling process. Verify that you have sufficient rights and disk space before continuing.

- You must load or save the current file first.

Action: Load or save the current file before re-compiling the QuickScript.



See
Appendix C,
for more
information
about the
correct syn-
tax for
Quick-
Scripts.

The following errors may be displayed when a compile action fails due to **syn-tax** reasons.

- Error 400: <STRING>: Invalid function name or identifier.

Action: The string could not be classified as a valid QuickScript function or identifier.

- Error 401: Missing integer value after additive operator.

Action: The compiler was validating an integer which has been preceded with an additive operator (i.e.+ or -) but did not find an integer value after the operator. Add the missing value, then re-compile the QuickScripts.

- Error 402: Invalid character <CHARACTER> found in integer value.

Action: An invalid character was found while processing an integer value. All integer values must contain only numeric values (except for the optional leading sign character). In addition, whitespace characters should precede and follow each integer. Fix the invalid character, then re-compile the QuickScript.

- Error 403: Closing quote missing.

Action: The closing quote was missing from the quote-enclosed string. Starting and closing quotes must appear on the same line. Add the missing quote, then re-compile the QuickScript.

- Error 404: <STRING>: undeclared identifier.

Action: The compiler could not verify the string as a valid identifier. Make sure all identifiers have been defined with the DEFINE function before continuing.

- Error 405: <STRING> is not a valid TYPE identifier.

Action: Although the identifier is valid, it was not declared as the expected type. Fix the identifier, then re-compile the QuickScript.

- Error 406: <STRING> is already defined.

Action: An attempt was made to redefine an integer already declared with the DEFINE function. Each variable can be defined only once.

- Error 407: ELSE statement missing closing ENDIF.

Action: An IF statement followed by an ELSE statement is missing the closing ENDIF statement. Add the missing statement and then re-compile.

- Error 408: Unexpected token <STRING> found at end of line.

Action: The compiler has found extra parameters at the end of the line. Check your function parameter list to eliminate the unnecessary tokens, then re-compile.

- Error 409: Unrecognized function name <STRING>.

Action: The string was not a valid QuickScript function name. Either enter a new function name or use one of the predefined QuickScript functions (see page 105 for more information on predefined functions). Then re-compile the QuickScript.

- Error 410: Missing <VALUE> for parameter <NUMBER>.

Action: The function was missing a particular value for the indicated parameter. Enter the missing value and then re-compile the QuickScript.

- Error 411: Invalid parameter <STRING>. Expecting <VALUE> for parameter <NUMBER>.

Action: The compiler found an unexpected value for the indicated function parameter. Fix the parameter, then re-compile.

- Error 412: Environment variable missing closing bracket ']'.

Action: An environment variable was missing the closing bracket. All environment variables must be enclosed by square brackets, for example: [WINDIR]. The opening and closing brackets must be on the same line.

- Error 413: Missing environment variable name between brackets.

Action: There was no environment variable name between the enclosing brackets. Enter the environment variable within the brackets, then re-compile the QuickScript.

- Error 414: Invalid environment variable name <STRING>.

Action: The string found between the brackets was not a valid environment variable. Enter a valid environment variable and then re-compile the QuickScript.

- Error 415: IF statement missing closing ENDIF.

Action: An IF statement is missing the required closing ENDIF statement. Add the ENDIF statement and then re-compile the QuickScript.

- Error 416: There is nothing to compile.

Action: You have executed a compile command without having a script to compile. Create a QuickScript first and then re-issue the compile command. See [page 113](#) for instructions on creating a QuickScript.

- Error 417: Incompatible Type: Encountered <TYPE> while expecting <TYPE>.

Action: The compiler was expecting the indicated type but found an incompatible type instead. Enter the indicated type, then re-compile the QuickScript.

- Error 418: Invalid relational operator: <OPERATOR>.

Action: The indicated operator is not a valid QuickScript relational operator. Enter a valid one, then re-compile the QuickScript.

- Error 419: ENDIF missing IF statement.

Action: An ENDIF statement was encountered but it did not have a starting IF statement. Make sure that all IF and ENDIF statements correspond, then re-compile the QuickScript.

- Error 420: ELSE missing IF statement.

Action: An ELSE statement was encountered but it did not have a starting IF statement. Make sure all IF, ELSE, and ENDIF statements correspond, then re-compile the QuickScript.

- Error 421: Missing simple expression.

Action: A simple expression was expected by the compiler but was not found. A simple expression is the portion of an expression that appears either on the right or left-hand side of the relational operator. Enter the expression, then re-compile the QuickScript.

- Error 422: <VALUE> is not a valid expression integer value.

Action: In the current implementation of expressions in QuickScript, only integer values are allowed. Make sure the indicated value is a valid integer or integer value, then re-compile the QuickScript.

- Error 423: Missing right-hand side of expression.

Action: The integer to the right-hand side of the relational operator is missing. Enter the integer, then re-compile the QuickScript.

- Error 424: Expression missing relational operator.

Action: The expression is missing a required relational operator (i.e. <> <= >=...). Add the missing operator, then re-compile the QuickScript.

- Error 425: <OPERATOR> is not a valid expression relational operator.

Action: The indicated operator found in the expression was not a valid QuickScript expression operator. Add the expression, then re-compile the QuickScript.

- Error 426: Missing expression.

Action: The compiler expected an expression but did not find any tokens to process. Enter the expression, then re-compile the QuickScript.

- Error 427: IF statement missing expression.

Action: An IF statement was encountered but is missing the required expression. An expression is required to determine which part of the IF statement is processed. Enter the expression, then re-compile the QuickScript.

Update Error Messages

Update error messages are generated for a variety of situations that occur during workstation updates.

- ERROR 0101: Error determining boot drive letter.

Action: Check the DOS version. DOS 3.x or greater is required.

- WARNING 0102: Could not locate a copy of Windows in the path.

Action: Confirm that Windows is installed.

- ERROR 0103: Error determining first available network drive.

Action: Check connection to the server.

- ERROR 0104: Error determining first available hard drive.

Action: Check the DOS version. DOS 3.x or greater is required.

- ERROR 0105: Not enough memory to create system variable: <Variable>.

Action: Free memory by removing memory resident programs and/or device drivers.

- ERROR 0107: Floppy disk error: <Drive>.

Action: Check that the disk is in the drive, is write enabled, and is formatted properly.

- ERROR 0108: Drive <Drive> not ready or invalid drive.

Action: Check the drive designation.

- ERROR 0109: Unable to find or create a unique ID for this workstation. Either the boot drive is write protected or has insufficient space.

Action: This error is generated from workstations that boot up from a ROM. This is not supported for software distribution.

- ERROR 0111: There is no drive letter specified in default path: <Path>.

Action: Check that the default path is in the form of d:\[Path], or one of the predefined paths.

- ERROR 0112: An invalid drive letter was specified in default path: <Path>.

Action: Check the drive mapping and confirm the user is a member of the SERVER, the VOLUME is a valid volume on that server, and that the user has rights to that volume.

- ERROR 0113: Determining drive mapping to SERVER/USER in default path: <Path>.

Action: Check that the default path is in the form of d:\[Path], or one of the predefined paths.

- ERROR 0114: Error creating default path: <Path>.

Action: Check that the default path is in the form of d:\[path], or one of the predefined paths.

- ERROR 0115: Not attached to file server: <Server>.

Action: Check that the user running the update program is attached to the server.

- ERROR 0116: NetWare error: <Error>.

Action: Check connection to server; verify rights.

- ERROR 0117: Invalid SERVER/VOLUME format in default path: <path-name>.

Action: The default path that was specified for this package is invalid. It must be in the form of d:\[path], SERVER/VOLUME:\[path], or one of the predefined system values in the drop down list box. The user running the SiteExpress agent must be attached to SERVER, VOLUME must be a value volume on that server, and the user must have rights to that volume.

- ERROR 0118: No such volume: <VolumeName>.

Action: Check that the user running the update program is attached to the server.

- ERROR 0119: There are no available drive letters to map a drive to.

Action: To open an available drive letter for the user, delete one or more drive mappings from the drive map table.

- ERROR 0120: Windows must be in your path to install this package. Aborting package install.

Action: Confirm Windows is installed and/or add the Windows directory to the path. Make sure the WIN.INI file exists in the WINDOWS directory.

- ERROR 0121: Unable to open Fileset: <Fileset>.

Action: Could not open the fileset. It was either deleted or the user has no rights to the fileset path.

- ERROR 0122: Unable to allocate buffers for Fileset: <Fileset>.
Action: Free memory by unloading memory resident programs and/or device drivers.
- ERROR 0123: File <Fileset> is not a valid fileset!
Action: Confirm that the fileset named in the package exists.
- ERROR 0124: Unable to create file: <File>.
Action: Check the rights and the available disk space.
- ERROR 0125: Error in Fileset: <Fileset>.
Action: An unexpected End of File was encountered in the fileset. Delete the fileset and create it again. This fileset was corrupted.
- ERROR 0126: Script "<Script>" has not been compiled!
Action: Compile the script successfully.
- ERROR 0127: File <File> doesn't exist or isn't in path.
Action: Locate the file and provide a valid path to the file.
- ERROR 0128: Out of memory.
Action: Free memory by unloading memory resident programs and/or device drivers.
- ERROR 0129: Out of disk space decompressing: <Fileset> to <Default Path>.
Action: Free disk space or remove some of the files in the fileset.
- ERROR 0130: Error <DosError> occurred during variable initialization.
Action: Refer to your DOS manual and/or DOS Help.

- ERROR 0131: Network initialization error: <DosError>.

Action: Refer to Network operating system documentation. Check your connection to the server and verify your rights. Confirm the SITEXPRS.NLM or NT Service is running.

- ERROR 0132: Unable to decompress <Fileset> because format is newer than expected.

Action: The specified fileset was compressed using a newer version of SiteExpress, and this version cannot decompress it. Recreate the fileset using your version of SiteExpress.

- ERROR 0133: Unable to initialize package undo.

Action: Manually undo actions that distribution performed on the workstation.

- ERROR 0134: Undo was unable to add an undo file entry.

Action: Manually repair the file entry.

- ERROR 0135: Nonfatal error committing package, update will continue normally.

Action: No action required.

- ERROR 0136: Undo was unable to backup file: <FileName>.

Action: Check workstation disk space or remove Undo option and redistribute package.

- ERROR 0137: Undo was unable to move file: <FileName>.

Action: Check workstation disk space or remove Undo option and redistribute package.

- ERROR 0138: Undo was unable to get attributes from file: <FileName>.

Action: Manually back up file, remove Undo feature and redistribute package.

- ERROR 0139: Undo file is corrupt. This package cannot be undone.

Action: Manually repair any significant changes to the workstation and delete the SXPUNDO.SAV file in the package destination directory.

- ERROR 0140: Undo was unable to restore file: <FileName>.

Action: Manually replace file with original copy from network backup.

- ERROR 0141: Undo was unable to remove added file: <FileName>.

Action: 0141: Manually remove file by deleting it.

- ERROR 0142: Undo was unable to recreate directory: <Directory>.

Action: Manually recreate original directory structure on workstation.

- ERROR 0143: Undo was unable to restore attributes for file: <FileName>.

Action: Restore attributes for the file.

- ERROR 0144: Undo was unable to remove added directory: <Directory>.

Action: Manually delete added directory and restore original directory structure on workstation.

- ERROR 0145: Undo was unable to read the undo config file.

Action: Manually repair any significant changes to the workstation and delete the SXPUNDO.SAV file in the package destination director.

- ERROR 0147: Agent must be run from a network drive.

Action: Check location of update program files.

- ERROR 0148: Application <ApplicationName> cannot be run in this operating system.

Action: Use only compatible update programs and/or applications in the package.

- ERROR 0149: File <FileName> is not a recognized application.

Action: Include only applications that are in an executable file format; check .EXE file by manually attempting to execute.

- ERROR 0150: Unable to decompress <FilesetName> because format is older than expected.

Action: The specified fileset was compressed using a pre-SiteExpress fileset (e.g., one made with BrightWorks 1.x or 2.x). The SiteExpress agent or the SITEXPRS.NLM cannot decompress it.

- ERROR 0151: Unable to backup a file in fileset: <FilesetName>.

Action: Check workstation disk space or remove Undo option and redistribute package.

- ERROR 0152: Not enough space to copy application: <ApplicationName>.

Action: Free disk space on the target drive.

- ERROR 0153: Application <ApplicationName> returned error code: <Error-Code>.

Action: Note number and type of error code and refer to documentation for the specific application.

- ERROR 0154: Unable to schedule Windows application: <ScriptName> Error <DosError> modifying files in the WINDOWS directory.

Action: Check the Windows configuration on user's workstation since update program was unable to modify the configuration to allow a Windows application to be run. Make sure application and associated files exist.

- ERROR 0155: DOS error <DosError> copying application <FileName> to target directory.

Action: Refer to your DOS manual and/or DOS Help.

- ERROR 0157: This package requires Windows to be installed.
Action: Install Windows on workstation or remove this recipient from the list.
- ERROR 0202: Unknown function <Function>.
Action: Check name of function in script.
- ERROR 0205: Unable to locate script data file: <FileName>!
Action: Confirm the compiled script file exists and recompile or recreate the script. Make sure user has rights to the MCAFEESM\SITEXPRS\DATA-BASE\SCRIPTS directory.
- ERROR 0206: The script failed on line <LineNumber>.
Action: Display the details of the error to correct the error and recompile the script.
- ERROR 0207: Invalid number of parameters passed to function: <Function>.
Action: Edit script and correct the function specified.
- ERROR 0208: Variable not defined in function: <Function>.
Action: Edit script and define variable in first line.
- ERROR 0209: Invalid string passed in function: <String>.
Action: Edit script and replace string with valid text.
- ERROR 0210: Invalid option passed in function: <Option>.
Action: Edit script and replace option.

- ERROR 0211: <FunctionName> didn't have enough memory to create a variable.

Action: Unload some TSRs and/or device drivers to free up some memory.

- ERROR 0212: Invalid integer passed in function: <Integer>.

Action: Edit script and replace variable with valid integer.

- ERROR 0213: Invalid operator passed in function: <Operator>.

Action: Edit script and replace variable with valid integer.

- ERROR 0214: Maximum nest count reached processing function: <Function>.

Action: Reduce nest count to 50 or fewer.

- ERROR 0215: <Variable> encountered with no matching IF.

Action: Define an IF statement for the condition.

- ERROR 0216: Invalid drive letter specified in function: <DriveLetter>.

Action: Check the drive mapping and edit the function.

- ERROR 0217: Invalid path specified in function: <Path>.

Action: A valid path is: *d*:\path where *d* is a valid drive letter and *path* is a valid path.

- ERROR 0218: Function <Function> requires DOS boot files on your boot disk!

Action: Edit script and replace function or make sure the DOS boot files exist on the boot disk.

- ERROR 0219: Function <Function> needs the DOS files to perform the upgrade.

Action: This error may be seen with the UPGRADOS function. Make sure the DOS files exist.

- ERROR 0220: Out of memory in function: <FunctionName>

Action: Unload some TSRs and/or device drivers to free up some memory.

- ERROR 0221: <Function> was unable to delete system files from your boot disk.

Action: Check the rights on the boot disk and make sure it is write enabled.

- ERROR 0222: <?S>DOS version <x.xx> is already installed on your system!

Action: This is a non-fatal informational message stating that the DOS version that UPGRADEOS wants to upgrade to is already installed. No action needed.

- ERROR 0223: UPGRADEOS error upgrading system files to boot disk.

Action: Manually upgrade the system files.

- ERROR 0224: UPGRADEOS: Unable to reset disk controller.

Action: Manually perform the upgrade.

- ERROR 0225: UPGRADEOS: Unable to read boot sector on boot disk.

Action: Check to make sure the boot disk is not write protected or missing from the drive.

- ERROR 0226: UPGRADEOS: Unable to write boot sector to boot disk.

Action: Make sure the boot disk is not write protected or missing.

- ERROR 0227: UPGRADEOS: Unable to read boot sector image file.

Action: Manually perform the upgrade.

- ERROR 0228: UPGRADEOS Error <Date> opening: <FileName>

Action: Make sure the boot disk is not write protected or missing from the drive.

- ERROR 0229: <Function> returned error code: <Error>.

Action: Identify the error defined in the return values for the function to correct the problem.

- ERROR 0230: Unable to install package. This package is dependent on package "PackageName" but you have not completed that package successfully yet.

Action: Check the package history for the incomplete package to determine if user is scheduled and status of package. Make sure the package is not scheduled to run always.

- ERROR 0231: Unable to install package. This package is dependent on package <PackageName>, but you are not scheduled to run that package.

Action: Check that the user is a recipient for the missed package.

- ERROR 0232: Function <Name> is not supported on this operating system.

Action: Replace function with one that is supported.

- ERROR 0233: Unable to read or unexpected end of file in script: <Name>.

Action: Check functions in script and recompile the script.

- ERROR 0234: Unknown function ID: <FunctionID>.

Action: Check functions in script and recompile the script.

Swap Error Messages

SWAP Errors are generated when an application is run at the workstation or a fileset is decompressing.

- SWAP ERROR 0304: Not enough file handles to open swap file.

Action: Increase number of handles.

- SWAP ERROR 0305: Unable to create/write swap file. Verify create/write access to agent directory.

Action: Check rights to the SITEXPRS\AGENT directory and drive.

- SWAP ERROR 0310: Not enough disk space to create swap file.

Action: Free disk space on drive.

- SWAP ERROR 0312: Unable to write swap file. Verify write access to the agent directory.

Action: Verify write access to the agent directory.

- SWAP ERROR 0319: Not enough memory to load COMMAND.COM.

Action: Increase memory.

- SWAP ERROR 0398: Could not locate SDDECOMP.EXE. Verify this file is in the agent directory.

Action: Verify the file is in the SITEXPRS\AGENT\DOS directory and that the agent is being run from this path.

- SWAP ERROR 0399: Could not locate application.

Action: Verify the file is in the SITEXPRS\AGENT\DOS directory.

DOS Error Messages

DOS error messages are generated when the update encounters a DOS-related problem at the receiving workstation.

- DOS ERROR 0402: No such file or directory.

Action: Make sure the file exists and the path is valid.

- DOS ERROR 0403: No such path.

Action: Make sure the specified path and directory are valid.

- DOS ERROR 0404: The number of open files exceeds the number of file handles in CONFIG.SYS.

Action: Increase the number of file handles by changing the `FILES=` statement in CONFIG.SYS.

- DOS ERROR 0405: File in use or protected.

Action: Remove the write protect tab from the disk. Check the file to see if it is already in use. Make sure user has write privileges.

- DOS ERROR 0408: Unable to allocate memory.

Action: Close one or more applications to free memory resources.

- DOS ERROR 0415: Specified drive does not exist.

Action: Check the spelling of the directory named in the script.

- DOS ERROR 0416: Unable to remove current directory.

Action: Make sure the specified directory is not active and user has rights to remove the directory. If this is a network directory, make sure that another user is not using the specified directory.

- DOS ERROR 0417: Not same device.

Action: Make sure that the source and target drives are the same.

- DOS ERROR 0418: No more files or no such file.
Action: Verify the path and file name. Verify that user has necessary privileges in the directory specified.
- DOS ERROR 0419: Disk is write protected.
Action: Adjust the write protect tab on the diskette.
- DOS ERROR 0421: There is no disk in the specified drive.
Action: Check the drive and/or reinsert disk in the drive.
- DOS ERROR 0432: Sharing violation.
Action: Enable shared access.
- DOS ERROR 0499: Not enough space to copy file.
Action: Free disk space on target drive.

Windows Registry Error Messages

Windows registry error messages are generated when Windows 95 functions fail due to a problem related to the Windows 95 registry.

- ERROR 1009-Registry corrupt.
Action: Restore a backup copy of the registry or reinstall the operating system.
- ERROR 1010-Key is invalid.
Action: Replace the key with one that is an allowed value.
- ERROR 1011-Can't open registry.
Action: Obtain sufficient rights to modify the registry.

- ERROR 1012-Can't read registry.

Action: Obtain sufficient rights to modify the registry.

- ERROR 1013-Can't write registry.

Action: Obtain sufficient rights to modify the registry.

- ERROR 1015-Registry corrupt.

Action: Replace the registry by restoring a backup copy or reinstall the operating system.

- ERROR 1016-Registry i/o failure.

Action: Replace the registry by restoring a backup copy or reinstall the operating system.

- ERROR 1017-Registry corrupt (not in registry format).

Action: Replace the registry by restoring a backup copy or reinstall the operating system.

- ERROR 1018-Invalid operation on deleted key.

Action: Replace the key in the script with a key currently in the registry.

Database Error Messages

Database error messages are generated when database problems are encountered on the servers during software distribution.

- DBAPI Error #10300: Unable to open DBAPI.GUV file.

Action: Ensure the DBAPI.GUV file exists in the \SYS\PUBLIC directory on the specified server and that the user has read rights to this file. If the file doesn't exist, it may be necessary to reinstall the product.

- DBAPI Error #10301: Product not in DBAPI.GUV file.

Action: Ensure the product code exists in the DBAPI.GUV file in the \SYS\PUBLIC directory on the specified server. The product codes are:

- SMR602: Metering module
- SI602: Inventory module
- SXP602: Distribution module
- SMRREPORT602: enterprise reporting for metering

If the entry does not exist, it may be necessary to reinstall the product.

- DBAPI Error #10400: Unable to open config file.

Action: In the DBAPI.GUV in the \SYS\PUBLIC directory, there are product codes that specify a database path and config (*.CFG) file name. Ensure that this path and config file exists and that the appropriate rights for that path exist. If the path and/or config file does not exist, it may be necessary to reinstall the product.

- DBAPI Error #10605: Unable to open table.

Action: Ensure the specified table exists and that the appropriate rights are granted for the directory. If the table does not exist, it may be necessary to reinstall the product.

- DBAPI Error #10900: Table damaged.

Action: The specified table has become corrupted. Use FIXDB.EXE to attempt to repair it. If the table cannot be fixed, copy in a new table and index file from the TEMPLATE directory.

- DBAPI Error #10901: Unable to fix header. DBAPI Error #10902: Unable to reindex table.

Action: The specified table has become corrupted. Use FIXDB.EXE to attempt to repair it. If the table cannot be fixed, copy in a new table and index file from the TEMPLATE directory.

- DBAPI Error #10904: Product database is locked.

Action: Ensure that appropriate rights have been given for the database directory.

FIXDB Messages

FIXDB messages are generated for a variety of situations that may occur when you are repairing or re-indexing a file that has been damaged.

- Cannot read index file. Please NCOPY new .CDX from <full_path> and run FIXDB repair.

Action: Copy a new .CDX file from the Template directory and rebuild the indices according to the reindexing procedure listed in [Appendix G](#), “Repairing Corrupt Data Files”.

- Cannot open file in exclusive mode. Please ensure that no user has the file opened and unload the product NLMs.

Action: Make sure the file is open in the exclusive mode so it cannot be opened by another user while it is being fixed. If the problem persists, unload the product NLM to make sure it doesn’t have the file open.

- Cannot create window.

Action: FIXDB.EXE could not create the window. Make sure you have enough available memory and that no other system errors have occurred, then try again.

- Cannot repair file.

Action: The data file has been corrupted beyond repair. Use the NCOPY command to copy new .DBF and .CDX files from the Template directory or restore them from a previous backup.

Setting Agent Database Query Parameters

If you experience database errors (such as Errors -1, -4, or -8), when running any of the Software Distribution workstation agents, specify your preferred database query parameters. Do one of the following to specify these parameters:

- Create a DBAPI.INI file in the \MCAFEESM\SITEXPRS\AGENTS directory.
- Add the Distribution agents or loader programs to your users' login scripts.

Database query parameters

The database query parameters and their descriptions are listed in the following table.

Parameter	Description
Timeout	The amount of time (in seconds) the agents will wait for a database response.
Retries	The number of times the agents query the database before terminating the request.
Protocol	<p>The method by which the agents communicate over the network. McAfee recommends the following:</p> <p>NBI. Use for Windows 3.x machines</p> <p>IPX. Use for Windows 3.x, Windows NT, and Windows 95 machines</p> <p>UDP. Use for Windows NT and Windows 95 machines.</p> <p>NBIonly. Use for Windows 3.x machines</p> <p>IPXonly. Use for Windows 3.x, Windows NT, and Windows 95 machines</p> <p>UDPonly. Use for Windows NT and Windows 95 machines</p>

Creating DBAPI.INI

The workstation agents will refer to this file for your preferred parameters. Create DBAPI.INI in the \MCAFEESM\SITEXPRS\AGENTS directory and add the following section:

[parameters]

Timeout = [1-60]

Retries = [1+]

Protocol = <use values listed in the above table>

Editing user login scripts

Refer to the following sections to configure your Novell NetWare and Windows NT user login scripts.

 Refer to *“Updating Workstations” on page 40* for more information about the Distribution workstation agents and loader programs.

Configuring NetWare users

To automate updates on your network add the following lines to each user's login script:


```
MAP G:=SERVER/SYS:MCAFEESM\SITEXPRS\AGENT
```

```
DRIVE G:
```

```
#SXPWLDR.EXE <parameters>
```

 Refer to *“Database query parameters” on page 303* for parameter descriptions.

Configuring NT users

 If a user logs onto the NT server by executing NET LOGON from a DOS prompt, the update agent cannot run due to insufficient memory. In this circumstance, the loader must be run manually from the workstation.

To automate updates to your users' workstations, write the following lines to each user's login script:

```
NET USE G: \\NTSERVER\SYS
```

```
G:
```

```
CD \MCAFEESM\SITEXPRS\AGENT
```


```
SXPNTLDR.EXE <parameters>
```

 Refer to *“Database query parameters” on page 303* for parameter descriptions.

G

Repairing Corrupt Data Files

Certain files, such as .DBF and .CDX files, can get damaged or corrupted when the power supply to a server is interrupted or abruptly cut off. The Distribution module provides a helpful utility program for repairing these damaged data files, called FIXDB.EXE, which you can run from the Console. The program also includes a reindexing feature that you can use after the repair process.

 *The Distribution NLM (SITEXPRS.NLM) or NT Service (SITEXPRS.EXE) will automatically try to fix any damaged files it encounters, unless you have used the `-a` command-line switch when loading the NLM or NT Service (see [page 26](#) and [page 32](#) for information about this switch). If the Distribution module is unable to fix the damaged file, you can use this utility.*

When files need repair, the Distribution module will notify in two places: the server console and the Console. When files need repair, your NLM or NT Service will not load and an error message is displayed on your server console. In addition, the following dialog appears in the Console.

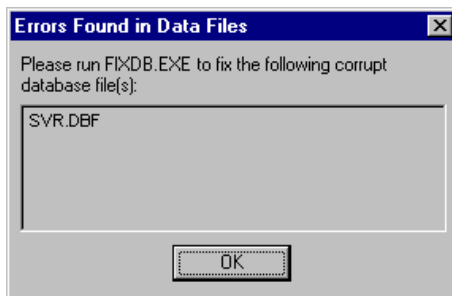


Figure G-1.

In either of these scenarios, write down the names of the files listed on either the server console or the Console, and then follow the procedure under [“Repairing a File” on page 304](#).

Repairing a File



To repair damaged files, perform the following steps.

1. Make a note of the file name (and path) that needs repair.

For example: S:\MCAFEESM\DATABASE\
SITEEXPR\LOCAL\MTG.DBF

2. Launch FIXDB.EXE (located in the MCAFEESM\CONSOLE directory).
3. Choose **File/Repair**.

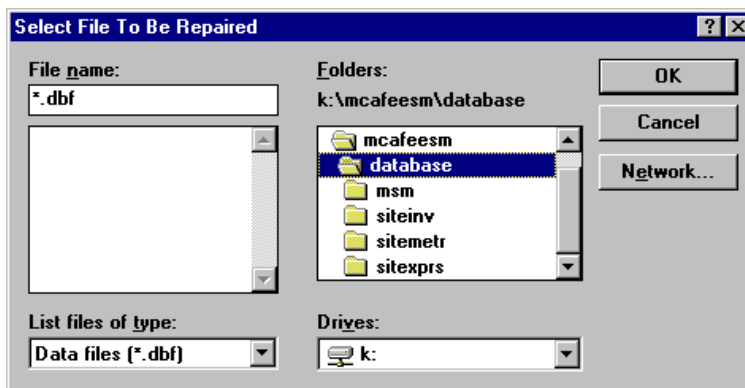


Figure G-2.

4. Locate the corrupted file and click OK.

A status box is displayed as the file is being repaired.

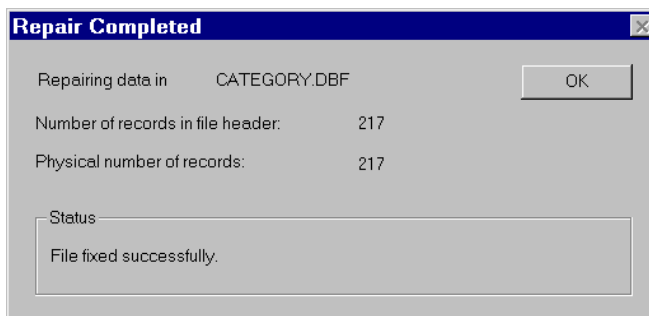



Figure G-3.


5. When 'Status' indicates the repair was successful, click OK.

The Repair Completed status box closes and you are returned to the Fix Database Files window.

6. To exit the console, choose **File/Exit**.

 *The FIXDB utility also allows you to reindex and pack files, as described in the following sections.*


7. Reload the product NLMs and NT Services or reboot your server.

 *For detailed information about loading the product NLMs and starting the NT Services, refer to [Chapter 3, "Configuring Your Network."](#)*

Reindexing Files



To reindex a corrupted file, perform the following steps.

 *When you reindex a file, the corresponding CDX file will also be reindexed, meaning that all the keys will be regenerated. It is **not** recommended that you reindex or pack any database files.*

1. From the Fix Database Files window, choose **File/Reindex Only**.

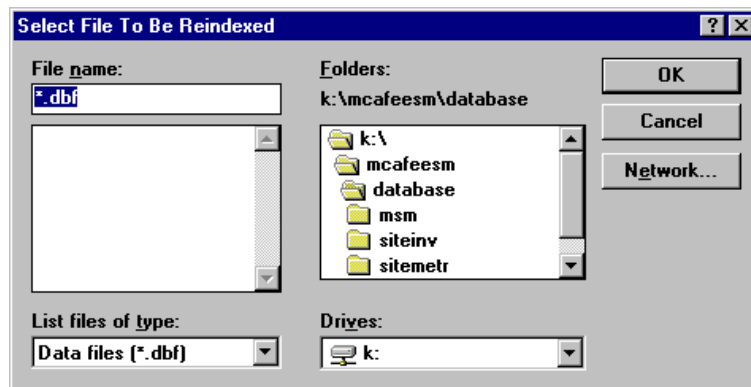


Figure G-4.

2. Locate the corrupted file and click OK.

A status box is displayed as the file is being repaired.

3. When 'Status' indicates the repair was successful, click OK.

The Repair Completed status box closes and you are returned to the Fix Database Files window.

4. To exit the console, choose **File/Exit**.

Packing Files



To pack a corrupted file, perform the following steps.

1. From the Fix Database Files window, choose **File/Pack**.

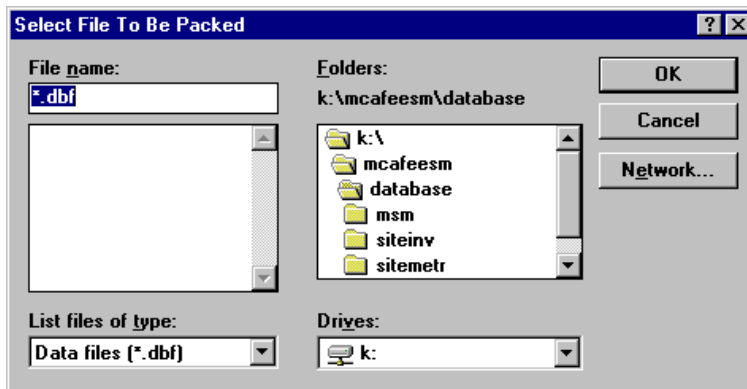


Figure G-5.

2. Locate the file and click OK.

A status box is displayed as the file is being repaired.

3. When 'Status' indicates the repair was successful, click OK.

The Repair Completed status box closes and you are returned to the Fix Database Files window.

4. To exit the console, choose **File/Exit**.

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