



Universal Management Agent
Installation Guide

G10L-9841-0



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Note

Before using this information and the product it supports, be sure to read the information in Appendix, "Notices and Trademarks" on page 27.

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About this Guide

This guide is intended for network administrators and end users who will be installing the Universal Management Agent (UMA) program. This guide contains:

- Software Prerequisites
- Installation instructions for the UMA program
- Instructions for configuring your browser to support the UMA program
- Instructions for implementing SNMP support
- Instructions for deinstalling the UMA program

After installing the program, refer to the integrated help system for operating instructions.

Additional information about the UMA program is available at the UMA Web site:

<http://www.ibm.com/pc/us/desktop/uma>

If, after installing and configuring UMA according to the directions in this manual, you still encounter difficulties, you will find assistance available at the above Web site.

Chapter 1. Prerequisites

Before installing the UMA program, make sure you have the following installed on your computer:

- **Operating System:** Windows 95 with OEM Service Release 2, Windows NT Workstation 4.0 with Service Pack 3 or later, or Windows NT server 4.0 with Service Pack 3 or later. The operating system must be set up to accept long file names.
- **Internet Browser:** Microsoft Internet Explorer 3.0 (Version 3.02 or later) or Internet Explorer 4.0 (Version 4.72.2106.8 or later). If your browser does not meet these requirements, you can download the latest Internet Explorer browser from the Microsoft Web site at <http://www.microsoft.com/ie>. The UMA program works best with Internet Explorer 4.0.
- **Network Support:** You must have TCP/IP installed.
- **Memory:** 32MB minimum.
- **Processor:** Pentium (or equivalent) 133MHz minimum

Note: Performance is affected by processor speed, the amount of memory installed, and other applications and programs that are running concurrently with UMA. Additional memory (or increased virtual memory) might be required depending on the memory requirement for other applications and programs that will run concurrently with UMA.

The UMA program is supported for installation on the following models:

- IBM PC 300GL, PC 300PL, PC 300XL models.
- Selected IBM ThinkPad, IntelliStation, and Netfinity server models.

For a detailed list, see the UMA Web site at <http://www.ibm.com/pc/us/desktop/uma>.

Chapter 2. Installing the UMA Program

Before you Begin: During the installation procedure, you will be prompted for information and asked to make some decisions. In order to be prepared, the following is a list of questions you will need to answer before you start the installation process. In most cases, you should contact your network administrator to help you answer these questions.

<i>Figure 1 (Page 1 of 2). UMA Installation Options</i>	
Question	Answer
<p>1. Which installation method should I use?</p> <ul style="list-style-type: none"> • Custom Client installation lets you select which components to install or reinstall. You can select from: IBM System Management Tools (the main component of UMA), LANDesk Client Manager v3.2, Enablement for IBM Netfinity Manager, Enablement for Tivoli Framework, and SNMP. If you select the Custom installation, answer questions 2 through 9 before you begin the installation. • Typical Client installation automatically installs IBM System Management, but lets you optionally include SNMP. If you select Typical installation, answer questions 6 through 8 before beginning the installation. • Enterprise Console Integration is for use at the administrator's console only. It automatically installs the necessary UMA components and provides the option of integrating the UMA functions into Tivoli Inventory, Tivoli NetView, and Microsoft SMS 1.2. The Enterprise Console Integration method installs only the relational-database-management-system (RDBMS) scripts needed by the server; it does not install the client-side UMA programs. If you select Enterprise Console Integration, answer questions 7 through 11 before beginning the installation. 	
<p>2. Should I install the LANDesk Client Manager (LDCM) interface? (LDCM is used by the UMA program to gather and display certain information. The LDCM interface provides an optional method of viewing a subset of the UMA information outside of the Internet/Intranet environment, and as such, is an optionally installed component.)</p>	
<p>3. Should I install Enablement for IBM Netfinity Manager? (In most cases, you will install Enablement for IBM Netfinity Manager if IBM Netfinity Manager is already installed on the network and will be used to manage your computer.)</p> <p>Note: If you already have Netfinity installed on your computer, you must uninstall it before installing UMA, and then reinstall it by checking the Enablement for IBM Netfinity Manager box during the UMA Custom installation. If you decide to install Netfinity after the initial UMA installation, you must install it by running the UMA Custom installation again, and check only the Enablement for IBM Netfinity Manager box.</p>	
<p>4. If I install Enablement for IBM Netfinity Manager, do I want to choose the default Passive Client Operation Mode? (You can choose which client operation mode from the following):</p> <ul style="list-style-type: none"> • Passive Client Operation is designed for remote access and management through Netfinity Manager only. • Active Client Operation is designed for local access from the client on which Netfinity Services is installed <i>and</i> remote access and management through Netfinity Manager. • Stand-alone Operation is designed for local access only through the client on which Netfinity Services is installed. <p>To change from the default Passive mode to either Active or Stand Alone Client mode, see Chapter 3, "Configuring Client Operation Mode for IBM Netfinity" on page 7.</p>	
<p>5. Should I install Enablement for Tivoli Framework? (The Tivoli Framework enhances the scalability of Tivoli Management Agent while simultaneously reducing the resource requirements placed on the managed systems.)</p>	

Figure 1 (Page 2 of 2). UMA Installation Options

Question	Answer
<p>6. Should I create my own User ID and password for UMA or does the network administrator want to assign one? (If the network administrator assigns a User ID and password, write them down. After the UMA installation is complete, store the User ID and password in a safe place where no one else has easy access.)</p>	
<p>7. Should I install the Simple Network Management Protocol (SNMP)? (SNMP allows your computer to send alerts and other information as SNMP traps, which can be logged by the Microsoft server Management Software (SMS). In most cases, you will install SNMP. Note:You will need your operating system CD for the SNMP installation.)</p>	
<p>8.What email addresses and pager numbers should I use so UMA can alert the administrator? (In addition to the pager number, you will also need the PIN for each pager, if the paging system requires it. You can enter up to two alphanumeric pager numbers, two numeric pager numbers, and two email addresses.)</p>	
<p>9. If my computer is part of a Tivoli Management Region, what is the Tivoli database user password and policy region? (Required for Windows NT clients only.)</p>	
<p>10. If any of the following network management programs are being used on the network, into which one do I integrate the UMA functions?</p> <ul style="list-style-type: none"> • Tivoli Inventory • Tivoli NetView • SMS 1.2 <p>Note: If Tivoli Inventory and Tivoli NetView are installed on the same server, you must perform the Enterprise Console Integration twice. Select the Tivoli Inventory option on the first installation, and then select the Tivoli NetView option on the second installation.</p>	
<p>11. If UMA functions will be integrated into SMS 1.2, which method will be used?</p> <ul style="list-style-type: none"> • Adding information to the SMS database • Sending SNMP traps that can be logged by SMS • Enabling additional features on the SMS Tools menu when a UMA client is selected at the SMS Console. 	

Once you have collected the above information, you are ready to start the UMA installation.

Note: If you have SMART Reaction already installed on your computer, you must uninstall it before installing UMA. Your database of SMART Reaction information will not be affected by the uninstall procedure.

1. Download the UMA self-extracting file from the following World Wide Web address and place it in its own folder. If you intend to install UMA support on enterprise systems management servers (Tivoli Framework, Tivoli NetView, or Microsoft SMS), download the file EPRISE.Z. If you intend to integrate UMA with Tivoli Framework or Inventory, download the file TIVOLI.Z. If you intend to install Netfinity services with UMA, download the file NETFIN.Z.

<http://www.ibm.com/pc/us/desktop/uma>

2. Run the self-extracting file, UMAW32.EXE, to unpack the files. When prompted, enter the path to the folder where you want the installation files to reside. This step creates the installation files, including SETUP.EXE, which you will use in a later step.
3. Move any additional files you downloaded (EPRISE.Z, TIVOLI.Z, and/or NETFIN.Z) to the same folder where the UMA installation files reside. You do not need to unpack these additional files.
4. If you intend to perform a **Custom Client Installation** with the **Enablement for IBM Netfinity Manager** option, and would like to change the default Passive Client Operation mode to either Active

Client or Stand Alone Client mode, see Chapter 3, “Configuring Client Operation Mode for IBM Netfinity” on page 7 before continuing.

5. Close all open windows and programs.
6. From the Windows Desktop, click on **Start**, and then click on **Run**.
7. Type the path to the SETUP.EXE file you unpacked earlier, and then click on **OK**.
8. The installation wizard is displayed. Follow the instructions on the screen to select a folder where the UMA program will be installed.
9. Using the information you gathered earlier, follow the instructions on the screen to select your installation method and complete the installation.
10. When the installation is complete, shut down and restart the operating system. The UMA programs are ready to run. However, before starting the UMA program do the following:
 - See Chapter 4, “Configuring Internet Explorer” on page 9 to ensure your browser is configured correctly for use with UMA.
 - If you installed UMA to be used with Microsoft SMS, see “Configuring SNMP for UMA” on page 13 for additional configuration information.
 - If you installed UMA to be used with Tivoli Inventory, see “Configuring Tivoli Inventory for UMA” on page 15 for additional configuration information.
 - If you installed UMA to be used with Tivoli NetView, see “Configuring Tivoli NetView for UMA” on page 18 for additional configuration information.

Chapter 3. Configuring Client Operation Mode for IBM Netfinity

Manager

Use this chapter only if you intend to perform a **Custom Installation** with the **Enablement for IBM Netfinity Manager** option, and want to change the default Passive Client Operation mode to either Active Client or Stand Alone Client mode.

1. Copy the file named `netfbase.rsp` from the Netfinity software package. (You can get this file from your network administrator.)
2. Open the file using a text editor, such as Notepad. The first eleven lines of text appear as follows:

```
; sample response file for remote install of Netfinity
;
; Package - which package will be selected from the main menu.
;   For Services, Package can be:
;     Active
;     Passive
;     StandAlone
;   For Manager, Package can be:
;     Manager
Package = Passive
```

3. Change the last line to either `Package = Active` or `Package = StandAlone` (see question 4 on page 3 for a description of each). Type the value exactly as it appears here, as the program is case sensitive.
4. Save the changes, and close the file.

Note: You must perform steps 5 and 6 of this procedure on the client after running the UMA self-extracting file `UMAW32.EXE`, and before running the `SETUP.EXE` file. See Chapter 2, "Installing the UMA Program" on page 3 for details.

5. Create a folder labeled `custom`, and place it in the same folder where the UMA installation files reside.
6. Move the `netfbase.rsp` file you changed into the `custom` folder.
7. Proceed with the UMA installation, step 5 on page 4.

Chapter 4. Configuring Internet Explorer

The UMA program uses Java, ActiveX, and JavaScript to present interactive Web pages. Use the following procedures to verify that ActiveX, Java, and JavaScript are enabled.

Internet Explorer 3.x

1. Open Internet Explorer 3.x.
2. Click on **View**, then **Options**, and then **Security**.
3. Verify that the following options are checked:

Figure 2. Internet Explorer 3.0 Security Option Settings

Option	Setting
Allow downloading of active content	√
Enable ActiveX controls and Plug-ins	√
Run ActiveX scripts	√
Enable Java programs	√

Internet Explorer 3.x Safety Level Setting

If you are running Internet Explorer 3.02 with the Authenticode update, you can leave the browser safety level set to High. However, for versions of Internet Explorer prior to 3.02, and version 3.02 without the Authenticode update, you will get an error about a "Potential Safety Violation" when you attempt to load UMA pages. Versions of Internet Explorer prior to 3.02 are incompatible with the new Authenticode security used by digital certificates. To view UMA pages on these older versions of Internet Explorer, set the safety level to medium. To change the safety level:

1. Open Internet Explorer 3.x.
2. Click on **View**, then **Options**, then **Security**, and then **Safety Level**.
3. Verify that the security level is set at either **Medium** or **Low**.

For more information about the Authenticode Update for Internet Explorer 3.02, visit the Microsoft web site at

<http://www.microsoft.com/ie/security/?/ie/security/authentint1.htm>

A version of IE3.02 with the Authenticode update can be downloaded from

http://www.microsoft.com/ie_intl/th/security/?/ie_intl/th/security/iefaq.htm

Internet Explorer 4.x.

1. Open Internet Explorer 4.x.
2. Click on **View**, and then click on **Internet Options**.
3. In the **Temporary Internet Files** field, click on **Settings**. Under **Check for newer versions of stored pages**, click on **Every time you start Internet Explorer**, and then click on **OK**. This ensures that the login-password prompt works correctly.
4. Click on **Security**.
5. Verify that the security level is set at either Medium, Low, or Custom for the Internet and Internet zones that you will be using to access remote computers. If Custom is selected, click on **Settings** and verify that the following options are set correctly:

Figure 3. Internet Explorer 4.0 Security Option Settings

Option	Setting
Script ActiveX controls marked safe for scripting	Enable
Run ActiveX controls and plug-ins	Enable
Download signed ActiveX controls	Prompt
Java Permissions	High Safety
Scripting of Java applets	Enable

Chapter 5. Integrating UMA with Other Network Management Programs

The UMA program is a product of the work being done through the Intel/IBM Advanced Manageability Alliance. As such, it integrates seamlessly into the Intel LANDesk family of products. UMA components, such as Events, Alarms, and Responses, appear as items on the LANDesk menus.

You can also configure the UMA program to forward SNMP traps to workgroup- and enterprise-level network-management applications, such as Microsoft SMS, Tivoli NetView, and Computer Associates Unicenter. For details about configuring SNMP for use with UMA, see “Configuring SNMP for UMA” on page 13.

The UMA program also integrates into the following network-management software:

- **Microsoft server Software:** The UMA components also integrate into the Microsoft server Management Software (SMS) in the following ways:
 - You can add data collected by the UMA Inventory Data feature to the native SMS inventory by creating static MIF files. You can create the MIF files in one of two ways: Click on the **Update SMS Inventory** icon at the client, or click on **Update Client Inventory** from the Tools menu on the SMS Console.
 - You can use the simple network management protocol (SNMP) to forward UMA events to the SMS Console as SNMP traps (see “Configuring SNMP for UMA” on page 13).
 - You can enable additional features on the SMS Tools menu when a UMA client workstation is selected at the SMS Console (see “Configuring SMS for UMA”).
- **IBM Netfinity Software Products:** You can view and manipulate the UMA components with Netfinity Manager if you installed the Netfinity agent during the UMA installation. No further configuration is required.

Note: If you already have Netfinity installed on your computer, you must uninstall it before installing UMA, and then reinstall it by checking the **Enablement for IBM Netfinity Manager** box during the UMA Custom Installation. If you decide to install Netfinity after the initial UMA installation, you must install it by running the UMA Custom installation again, and check only the **Enablement for IBM Netfinity Manager** box. You can not use the Netfinity CD to install Netfinity.
- **Microsoft Management Console:** You can view and manipulate the UMA program by using Internet Explorer as a stand-alone browser or by using Internet Explorer within the Microsoft Management Console (MMC). The UMA setup program provides a sample file, `UMA.MSC`, which enables you to view the local client from within the MMC. MMC integration allows the UMA program to be used with other network-management tools. The MMC also allows network administrators to create their own MSC files, which can be used to route information from the UMA program across multiple workstations on the network.
- **Tivoli Framework and Tivoli NetView:** You can integrate UMA components into the Tivoli Framework and Tivoli NetView products if you installed the Tivoli agent during the UMA installation and configure the program correctly (see “Configuring Tivoli Inventory for UMA” on page 15 for details).

Configuring SMS for UMA

Use this information to ensure that SMS is configured correctly for use with UMA.

Installing UMA Tools on an SMS server

Before you configure SNMP to forward UMA events as traps to a Microsoft SMS server, the tools provided by UMA must be installed on the SMS server. These tools are automatically installed as part of the UMA Enterprise installation for SMS, but can be installed manually using the following procedure.

Note: In the following procedure, the *UMA_install_directory* is the directory where you installed the UMA program. The actual name of the directory will be different.

1. After installing the UMA program on a client, copy the contents of the client's *UMA_install_directory*\Enterprise\SMS directory onto your SMS server.
2. If you copied the files using Internet Explorer 4.0, verify that all of the files were copied. (From the Active Desktop, click on **View**, click on **Folder Options**, click on **View**, and then click on **Show All Files**.)
3. Close the SMS Administrator window.
4. From the SMS server, run the SETUP.BAT file (one of the files you copied).

Updating the UMA Inventory Data Information

The UMA Inventory Data information is not automatically updated in SMS for the client workstations. You can update the Inventory Data information by using one of the following methods:

- Click on the **Update SMS Inventory** icon at the client.
- Click on **UMA Update Client Inventory** from the Tools menu on the SMS Console.

Alternatively, you can schedule the Inventory Data update using the Events, Alarms, and Responses feature at the UMA client. For example, to schedule a weekly update:

1. Create a batch file with "%UMA_HOME%\inventory\DMI2SMS @file.lst" as the only entry.
2. Start UMA for the selected client.
3. Click on the **Systems Monitors** icon.
4. Click on **Events, Alarms, and Responses**
5. Create a User Command Profile that points to the batch file you created earlier. (Detailed instructions on creating a User Command Profile are in the Events, Alarms, and Responses help system.)
6. In the tree, click on the **User Alarms** category to highlight it.
7. Click on the **Tree Control** tab.
8. Click on **Add Event**.
9. Type an event name and a short description in the fields provided, and then click on **OK**. The event name appears in the tree.
10. In the tree, click on the event name to highlight it.
11. Click on **Add Response**. The **Select a response from the list** field appears.
12. Use the drop-down list to select **User Command**, and then click on **OK**. **User Command** appears under the event in the tree.
13. In the tree, click on **User Command** to highlight it.
14. Click on **Add Profile**. The **Select a profile from the list** field appears.
15. Use the drop-down list to select the User Command Profile you created earlier, and then click on **OK**. The User Command profile name appears under the event in the tree.

16. In the tree, click on the User Command Profile you just added.
17. Click on **View Scheduler**. The Scheduler appears.
18. In the **Frequency** field, use the drop-down list to select the frequency at which you want the Inventory Data information updated.
19. In the other fields, use the drop-down lists to select the applicable settings for your schedule.
20. Click on **Save**.

The inventory Data information will be updated automatically as scheduled.

Forwarding UMA Events to SMS Using SNMP

The UMA program forwards SNMP traps in response to events that occur at the client. To view the events in the SMS Administrator, you must configure the SMS Administrator to receive the UMA traps as follows:

1. From the SMS Administrator, click on the site with which you want to work.
2. In the menu bar, click on **File**, and then click on **Properties**.
3. Click on **SNMP Traps**.
4. Click on the **Proposed Site Properties** radio button.
5. Click on **Create**.
6. In the **Description** field, type a short description, such as UMA Traps.
7. Click on the **OID** radio button, and then type **1.3.6.1.4.1.343.2.5.1.2** in the field.
8. Click on **OK**, click on **OK** again, and then click on **OK** once more.
9. When the prompt appears asking if you are sure you want to update the site, click on **Yes**. SMS is now configured to receive SNMP traps sent by UMA.

Important: SNMP Traps are forwarded only if the SNMP Agent is installed on both the client and the SMS server. See “Configuring SNMP for UMA” for information about installing and configuring SNMP.

Configuring SNMP for UMA

Note: Before you configure SNMP to forward UMA events as traps to a Microsoft SMS server, you must first install the tools provided by UMA on the SMS server. See “Configuring SMS for UMA” on page 11 for details.

You can configure the Universal Management Agent (UMA) program to forwards SNMP traps in response to events that occur on the client. The UMA program sends SNMP traps with OID 1.3.6.1.4.1.343.2.5.1.2. The OID and trap data are common with the Intel LANDesk Client Manager product. The UMA program provides a UMA.MIB file on each client in the *UMA_install_directory*\Enterprise\SNMP directory. You can use this MIB file with certain SNMP utilities or Enterprise consoles.

UMA forwards the SNMP traps only if the SNMP Agent is installed on both the server and the client workstation. You can install and configure the SNMP Agent as part of the UMA installation process or afterwards by using the Windows 95 CD or Windows NT CD. However, if you install the SNMP Agent for Windows 95 after UMA has been installed, you must manually add the trap destinations to the registry using the REGEDIT program. See “Windows 95 Registry Entries for SNMP” on page 15 for details. In Windows NT, you can configure trap destinations and other SNMP parameters at any time. See “Configuring SNMP Trap Destinations in Windows NT” on page 14 for details.

Installing the SNMP Agent in Windows NT

Use this procedure to install the SNMP Agent *after* the UMA program has been installed. This procedure is not required if the SNMP Agent was installed as part of the UMA program installation.

1. From the Windows Desktop, click on **Start**, select **Settings**, and then click on **Control Panel**.
2. Double click on the **Network** icon.
3. Click on **Services**, and then click on **SNMP**.
4. Click on **Add**.
5. Click on **SNMP Service**, and then click on **OK**.
6. If you are prompted for the location of the Windows NT files, insert your Windows NT CD, type **X:\i386** (where x is your CD-ROM drive letter), and then click on **Continue**. The SNMP Properties window appears.
7. Click on the **Agent** tab. Type any optional Contact and Location information required for this computer.
8. Verify that **Application** is selected.
9. Click on the **Traps** tab.
10. In the **Community Name** field, type **public**, and then click on **Add**.
11. In the Trap Destinations field, click on **Add**.
12. Type the IP address of the computer that will receive the SNMP traps (for example, a Microsoft SMS server or a Tivoli NetView console), and then click on **Add**.
13. Repeat steps 11 and 12 to add more trap destinations, if required.
14. Click on **OK**.
15. Click on **Close** to complete the network setup, and then restart your computer.

Configuring SNMP Trap Destinations in Windows NT

1. From the Windows Desktop, click on **Start**, select **Settings**, and then click on **Control Panel**.
2. Double click on the **Network** icon.
3. Click on **Services**, and then double-click on **SNMP**.
4. Click on the **Traps** tab. Make your modifications and save them.

Installing the SNMP Agent in Windows 95

Use this procedure to install the SNMP Agent *after* the UMA program has been installed. This procedure is not required if the SNMP Agent was installed as part of the UMA program installation.

1. From the Windows Desktop, click on **Start**, select **Settings**, and then click on **Control Panel**.
2. Double click on the **Network** icon.
3. Click on **Add**.
4. Click on Service, and then click on **Add**.
5. Click on **Have Disk**.
6. Insert the Windows 95 CD into the CD-ROM drive.
7. Click on **Browse**.

8. Locate the Admin\NetTools\SNMP directory on your Windows 95 CD and click on **snmp.inf**.
9. Click on **OK**. The Install From Disk window appears.
10. Click on **OK**. The Select Network Service window appears.
11. Click on **OK** to complete the network setup, and then close the Network window.

The SNMP Agent is now installed. You must now manually add the trap destinations and community names to the registry using the REGEDIT program. See "Windows 95 Registry Entries" later in this section for details.

Windows 95 Registry Entries for SNMP

If you installed the SNMP Agent for Windows 95 after installing the UMA program, you must manually add trap destinations and community names to the registry using the REGEDIT program. Using REGEDIT, add the following registry values to set up a trap destination of 192.168.0.1.

```
[HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\SNMP\Parameters\TrapConfiguration\public]
```

```
"1"="192.168.0.1"
```

```
[HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\SNMP\Parameters\ValidCommunities]
```

```
"1"="public"
```

Configuring Tivoli Inventory for UMA

The UMA program provides the following Tivoli-integration features:

- The UMA Custom installation allows you to install the Tivoli Management Agent (TMA) version 3.6 on the client, thereby making the client a Tivoli Endpoint.
- You can add the UMA inventory data to the native Tivoli inventory. The UMA program creates a static MIF file named UMATIVOLI.MIF. When the UMA profile is distributed to subscribers of the Tivoli Management Region (TMR) server, the UMATIVOLI.MIF file is automatically created on each client workstation.
- The UMA program provides ready-made queries for all of the UMA inventory data. The queries appear as icons under the Policy Region on the TMR server.

Prerequisites

Before you can access the UMA inventory data through the Tivoli tools, you must have the following:

- TME 10 Framework, version 3.6 or higher (with Desktop)
- TME 10 Inventory, version 3.6 or higher.
- A Policy Region must exist in the TME Desktop.
- QueryLibrary, ProfileManager, and InventoryProfile must be listed as current resources. To verify:
 1. From the Policy Region window, click on **Properties**
 2. Click on **Managed Resources**.
 3. In the **Current Resources** field, verify that **QueryLibrary**, **ProfileManager**, and **InventoryProfile** are listed. If **InventoryProfile** is not listed, you need to install TME 10 Inventory (see the version requirements above). If **QueryLibrary** and **ProfileManager** are not listed, you must add them. Refer to the TME 10 documentation for instructions.

- The client workstations must be running either the TMA 3.6 or the PC Agent 3.6. TMA allows you to work with the clients as Tivoli Endpoints. The PC Agent allows you to work with the clients as PC Managed Nodes.

Using the UMA Inventory Data Feature with Tivoli Endpoints

In order to use the UMA Inventory Data feature with the TMA on Endpoints, the TME 10 Inventory Gateway, version 3.6 or higher, must be installed on one of the Managed nodes. The gateway is installed as follows:

1. Insert the Tivoli Inventory CD into the CD-ROM drive.
2. From the TME Desktop, click on **Desktop**.
3. Click on **Install** and then click on **Install Product**.
4. Click on **Select Media**. The File Browser window appears.
5. Select the appropriate drive letter and directory for the Inventory CD. (For most releases, TME 10 Inventory Gateway is installed from the Inventory directory; however, the directory name might be different based on the release and language.)
6. Click on **Set Media & Close**. The Install Product window appears.
7. Click on **TME 10 Inventory Gateway, Version 3.6**.
8. In the **Available Clients** field, double-click on one or more of the clients listed.
9. Click on **Install & Close**.

Using the UMA Inventory Data Feature with Tivoli PC-Managed Nodes

To use the UMA Inventory Data feature with PC Managed Nodes, do the following:

1. Use the TME Agent Setup utility on the Tivoli Framework CD to install the PC Agent on each client.
2. Use the TMR server to add each client as a PC Managed Node. (From the TME Desktop, click on the Policy Region, then click on **Create**, and then click on **PCManagedNode**. Follow the instructions on the screen. If you need assistance use the Tivoli help system.)
3. Install the PC Scanning Program. To do this:
 - a. Insert the Tivoli Inventory CD into the CD-ROM drive. From the TME Desktop, click on **Desktop**.
 - b. Click on **Install**, and then click on **Install Product**.
 - c. Click on **Select Media**.
 - d. When the File Browser window appears, select the appropriate drive and directory from the Inventory CD. For most releases, the PC Scanning Program is installed from the Inventory\Scan directory; however, the directory name might be different based on the release and language.
 - e. Click on **Set Media & Close**.
 - f. When the Install Product window appears, click on **TME 10 Inventory PC Scanning Program, Version 3.6**.
 - g. Double click on the client name, and then click on **Install & Close**.

Installing UMA Support on the TMR server

Before the UMA Inventory can be added to the TMR server, you must configure the Tivoli database for UMA Inventory Data. You can accomplish this through either of the following methods:

- Run the UMA setup program on the TMR server and select the Enterprise install with the Tivoli Inventory option. The Enterprise Console Integration method of installing the UMA program runs a Bourne shell script to create SQL tables, views, and queries. Ensure the Tivoli environment variables are setup correctly before running the Enterprise Console Integration method. The Enterprise Console Integration method installs only the relational-database-management-system (RDBMS) scripts needed by the TMR server; it does not install the client-side UMA programs.
- If you have installed additional modules (extended functions) to the UMA program, you might want to use the update method of setting up the Tivoli Database. To do this:
 1. Add any new .SCRIPT.INV files to the UMA\INVENTORY\SCRIPT directory
 2. Enumerate the new script files in the UMA\INVENTORY\FILE.LST file.
 3. Run DMI2TIV @FILE.LST. This method generates the UMATIVOLI.MIF file, the RDBMS scripts, and the Bourne shell script for setting up the Tivoli database. The output of the DMI2TIV is placed in the UMA\INVENTORY\TIVOLI directory.
 4. Copy the .SH and .SQL files to the TMR server.
 5. Run the UMAINVSETUP.SH shell script. The UMAINVSETUP.SH script removes any old UMA tables and views from the TMR server and creates new tables, views, and queries for the UMA inventory data.

Viewing UMA Inventory Data on the TMR server

UMA Inventory Data is added to the native Tivoli inventory by using a .MIF file. The static .MIF file is created on the client by the DMI2TIV.EXE program. After the .MIF file is created, it must be scanned into the Tivoli database by using the TME Desktop to distribute a customized inventory profile, UMA_PROFILE, to the clients.

To update the UMA Inventory Data in the Tivoli database:

1. From the TME Desktop, double-click on the Policy Region.
2. Double-click on **UMA**.
3. Click on **Profile Manager**.
4. Click on **Subscribers**.
5. In the **Available to become Subscribers** field, click on the nodes to be inventoried, and then click on the left arrow to move the selected nodes to the **Current Subscribers** field.
6. Click on Set **Subscriptions & Close**.
7. Drag and drop the UMA_PROFILE (under the UMA Profile Manager) onto the subscriber (the UMA client).

To create your own profile and profile manager that scan for UMA Inventory Data, do the following:

1. From the TME Desktop, double-click on the Policy Region to be scanned.
2. In the Policy Region, create a Profile Manager. (Click on **Create** and then click on **ProfileManager**. See the TME 10 Framework documentation for details).
3. Add subscribers to the Profile Manager. (Using the right mouse button, click on the **Profile Manager** icon. Click on **Subscribers**, double-click on **Profile Manager**, and then create and save the profile.)

4. Using the right mouse button, click on the newly created profile, and then click on **Customize**. A pop-up window appears.
5. In the **Execute at Target** field, place a check mark in the **Script** check box, and then click on the **Script** button.
6. When a window appears requesting the script name, type "%UMA_HOME%\INVENTORY\DMI2TIV.BAT", and then click on **Save and Close**.
7. In the **Read Results** field, place a check mark in the **Custom MIF File** check box.
8. In the field below the **Custom MIF Files to be Read** field, type **c:umativoli.mif**(this must be typed in lowercase), and then click on **Add**.
9. Click on **Save & Close**.
10. To distribute the profile, double-click on the profile (or use the right mouse button to click on the profile and then click on **Discover**). Then, move the **Available Targets** to the **Selected Targets** and click on **Distribute & Close**.

To run the queries:

1. From the TME Desktop, double-click on the Policy Region icon, and then double-click on **UMA_Queries**. A window appears with the name and icon for each UMA-related query.
2. Using the right mouse button, click on any of the icons, and then click on **Run Query**.

Configuring Tivoli NetView for UMA

The Universal Management Agent (UMA) program provides the following integration with Tivoli NetView:

- You can view UMA Inventory data from the NetView Console by selecting UMA Inventory from the Tools menu.
- Two new SmartSets are created on the NetView Console for UMA clients: UMASystems and EARSystems. In the current implementation, you have access to the five major components of UMA (System Monitors, Advanced Management Tools, Inventory Data, Resource Utilization, and Configuration and Diagnostics) plus a shortcut to the AssetCare program through the computers contained in the UMASystems SmartSet. In the EARSystems SmartSet, you have have access to the same components and program as the UMASystems SmartSet plus a shortcut to the Events, Alarms, and Responses program.
- You can access UMA from the NetView Console is two ways: (1) Select a client node in the NetView Console, open the Tools menu, and then click on one of the options under Universal Management; or, (2) Within the client node at the NetView Console, double-click on the one one of the UMA icons (AdvMgmtTools, Config-Diagnostics, InventoryData, ResourceUtilization, SystemMonitors, AssetCare, or Events and Alarms).
- You can set up UMA to forward all events on the UMA clients as SNMP traps to the NetView server.

Installing UMA Support on the NetView server

When you install UMA on the NetView server using the Enterprise option, the installation program automatically installs the files necessary for UMA support in NetView. The following is a list of the events associated with UMA Enterprise installation for NetView:

1. Install \usr\ov\snmp_mibs\uma.mib (SNMP MIB for UMA clients).
2. Install \usr\ov\filters\IBM*.flt (useful filters for SNMP traps from UMA clients).
3. Add lines to \usr\ov\conf\nvsniffer.conf (adds support to detect UMA systems).

4. Install \usr\ov\registration\c\uma*.reg (adds map and tools menu options).
5. Install \usr\ov\bin* (Adds map and nvsniffer support for UMA). Note that the original nvsniffer.exe and nvsetservicestatus.exe are replaced during the UMA Enterprise install.
6. Install \usr\ov\bitmaps\c* (bitmaps for UMA icons in NetView Console).
7. Install \usr\ov\uma\inventory* (program and files used to gather UMA inventory).

In addition to these events, the Enterprise installation allows you to choose the "SNMP Automation Control" option for NetView.

Note: If UMA is not installed on the NetView server, the "SNMP Automation Control" option installs a very basic subset of UMA that contains the following:

- Events, Alarms, and Responses (EAR)
- Event Log Viewer
- DMI Information
- User Manager

You will be prompted to restart the computer after the basic subset of UMA is installed. After restarting the computer, you must run the Enterprise installation again to add the rest of the support for NetView.

Adding UMA Clients to the UMASystems SmartSet

The nvsniffer.exe program detects client workstations that have UMA installed. You can run the nvsniffer.exe program from the command line. Once you have run nvsniffer.exe:

- UMA clients become members of the UMASystems and EARSystems SmartSets with icons that give you direct access to UMA .
- The NetView Console Tools menu is expanded to include items that that let you access Universal Management and UMA Inventory options.

Updating the Tools Menu

You must update the UMA Inventory menu for each type of client before you can view the inventory data. This procedure creates the necessary .reg files to create submenus under UMA Inventory in the Tools menu.

Note: Before you attempt to update the Tools menu, you must first have a Java Runtime Environment (JRE) installed. If you do not already have a JRE installed, you can download and install the JRE from:

<http://www.javasoft.com/products/jdk/1.1/jre>

To update the Tools menu:

1. From the NetView Console, click on **Tools**.
2. Select **UMA Inventory**, and then click on **Update Menu**.

Viewing UMA Inventory Information

1. From the NetView Console, select a UMA client.
2. Click on Tools.
3. Select UMA Inventory, and then click on one of the UMA Inventory items.

NetView gathers the data from the DMI information stored at the client.

Note: Some of the data is in table format (such as the system slot information). Only the first row of the table is viewable through NetView. To view all of the table information, you must access UMA on the client data directly.

Accessing UMA from the NetView Console

You can access UMA from the NetView server by using either Microsoft Internet Explorer 3.0 (Version 3.02 or later) or Internet Explorer 4.0 (version 4.72.2106.8 or later). The UMA program works best with Internet Explorer 4.0.

1. From the NetView Console, select a client node.
2. Click on **Tools**.
3. Select **Universal Management**, and then click on one of the Universal Management items.

-OR-

1. From the NetView Console, select a client node.
2. Double-click on one of the UMA icons (AdvMgmtTools, Config-Diagnostics, InventoryData, ResourceUtilization, SystemMonitors, AssetCare, or Events and Alarms).

Forwarding UMA Events to NetView Using SNMP Traps

UMA forwards the SNMP traps only if the SNMP Agent is installed on both the server and the client workstation. You can install and configure the SNMP Agent as part of the UMA installation process or afterwards by using the Windows 95 CD or Windows NT CD. However, if you install the SNMP Agent for Windows 95 after UMA has been installed, you must manually add the trap destinations to the registry using the REGEDIT program. In Windows NT, you can configure trap destinations and other SNMP parameters at any time. See "Configuring SNMP for UMA" on page 13 for details.

The UMA Enterprise installation option installs filters for SNMP in NetView. The NetView Event Browser will display UMA SNMP Traps and will categorize them as OK, WARNING, and CRITICAL traps.

SNMP Trap Automation Control

If SNMP Automation Control is installed during a UMA Enterprise installation, NetView can perform certain actions in response to SNMP traps by using the UMA Events, Alarms, and Responses (EAR) program. (For information about using the EAR program to assign responses and profiles to system events, see the online help system that is accessible from the EAR program). If SNMP Automation Control is not installed, the network administrator can still setup custom responses.

Setting Up Responses with SNMP Automation Control Installed

The file %UMA_HOME%\ci\dat2dmi\dats\ear_snmp.dat defines which response in EAR is to be used for each type of SNMP Trap. When an SNMP Trap is received, it is matched against each line in the ear_snmp.dat file to find the corresponding response in EAR. There is a specific order to matching:

1. System:SEVERITY:MatchString
2. System:SEVERITY:
3. System: :MatchString
4. System: :
5. :SEVERITY:MatchString
6. : :MatchString
7. Default

Any entry that specifies a system name takes precedence over other entries. A complete match (severity and match string) takes precedence over partial matches.

Within the ear_snmp.dat file:

- The number after the equal ("=") sign defines which response to use in EAR.
- The numbers correspond to the responses in the Remote SNMP Events category in EAR.

It is a good idea to review the responses and number assignments, and then modify the numbers in the ear_snmp.dat file, if needed. Then, you can assign responses and profiles to the Remote SNMP Events category in EAR.

Setting Up Responses without SNMP Automation Control Installed

Without SNMP Automation Control installed, the network administrator can set up custom responses to SNMP traps. Use the following procedure to setup custom responses to SNMP traps in NetView:

1. From the NetView Console, click on **Options**, then double-click on **Trap Settings**.
2. Select the Enterprise **IBM_Universal_Management**.
3. Select one of the Traps and edit its properties.
4. Into the box labeled **Run this command when the trap is received**, enter your own command.

Note that you have access to information from the SNMP trap. This information is specified as \$1, \$2, and so on.

Chapter 6. Starting the UMA Program

You can start the UMA program using any of three methods: local access, remote access, and dial-up access. Minimum requirements for remote access and dial-up access are:

- **Operating System:** Windows 95, Windows 98, Windows NT Workstation 4.0, or Windows NT server 4.0.
- **Internet Browser:** Microsoft Internet Explorer 3.0 (Version 3.02 or later) or Internet Explorer 4.0 (Version 4.72.2106.8 or later). If your browser does not meet these requirements, you can download the latest Internet Explorer browser from the Microsoft Web site at <http://www.microsoft.com/ie>. The UMA program works best with Internet Explorer 4.0.
- **Network Support:** You must have TCP/IP installed.
- **Memory:** 32MB minimum.
- **Processor:** Pentium (or equivalent) 133MHz minimum

Note: Performance is affected by a number of factors, including processor speed, the amount of memory installed, and other application programs that are running concurrently with UMA. Additional memory (or increased virtual memory) might be required, depending on the memory requirement of other application programs that will run concurrently with UMA.

Local Access

If you are using a computer that has UMA installed, start the UMA program as follows:

1. From the Windows Desktop, click on the **Start** button.
2. Select **Programs**.
3. Select **IBM System Management**.
4. Click on **Universal Management Browser**.

Note: You can also access the UMA components by clicking on the **DMI MIF Browser**.

Remote Access

If you are using a computer that does not have the UMA program installed, you can access the program remotely through your Intranet by doing the following:

1. Start Internet Explorer.
2. In the **Address** field, type the computer name and IP port number where the UMA program resides (for example, <http://client6:6500>).
3. Press **Enter**.

Dial-Up Access

If you are using a computer that has a modem, you can dial into another computer that has the UMA program installed.

1. Dial into your Internet access provider to establish a TCP/IP connection.
2. Start Internet Explorer.
3. In the **Address** field, type the computer name and IP port number where the UMA program resides (for example, `http://client6:6500`).
4. Press **Enter**.

Chapter 7. Uninstalling UMA and Its Components

To uninstall UMA:

1. Close all open windows and programs.
2. From the Windows Desktop, click on **Start**.
3. Select **Settings**.
4. Click on **Control Panel**.
5. Double-click on **Add/Remove Programs**.
6. Click on **IBM Universal Management Agent**.
7. Click on **OK**.
8. Follow the directions on the screen.

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