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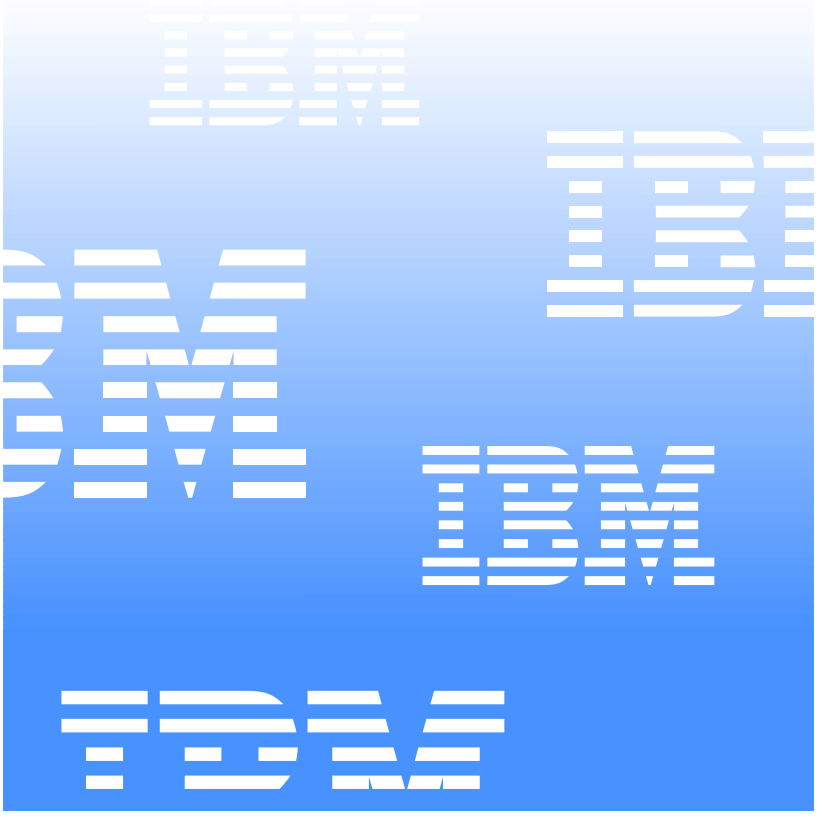

UM Services

User's Guide

UM Services
User’s Guide

Second Edition (May 2000)

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Contents

Preface

The *UM Services User's Guide* provides you with basic information for installing and using Universal Manageability (UM) Services on your system. It also provides information for installing and using UM Services Upward Integration Modules (UIMs) on systems running supported system-management applications.

Who Should Read This Guide

This guide is intended for the individuals responsible for installing and using UM Services (on their systems or on remote client systems in a network environment) and Upward Integration Modules (on supported system-management platforms). This guide assumes that you have extensive knowledge of server, mobile, and desktop system hardware; operating systems; Windows networking; desktop environments; system-management tasks; and the features and functionality provided by the supported system-management platforms.

What This Guide Contains

This guide contains the following chapters:

- Chapter 1 on page 11 provides an overview of UM Services.
- Chapter 2 on page 15 provides directions for installing and starting UM Services on your IBM system.
- Chapter 3 on page 27 provides an overview of the UM Service console and includes brief descriptions of UM Services Information and Task functions.
- Chapter 4 on page 89 provides information on installing and using UIMs with supported system management applications.

Getting Help

UM Services includes an online troubleshooting guide that contains solutions for many common installation and usage issues. This troubleshooting guide is installed when you install UM Services and can

be accessed from the **UM Services Troubleshooting** option in your **Start** menu.

Additional information and UM Services product updates, when available, can be obtained from the IBM Web site at:

http://www.ibm.com/pc/ww/software/sysmgmt/products/ums

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About UM Services

IBM® Universal Manageability (UM) Services is a lightweight client that resides on managed computer systems. It provides a suite of graphical user interfaces (GUIs) that enhance the local or remote administration, monitoring, and maintenance of IBM systems, such as ThinkPad® computers, IntelliStation® computers, and Netfinity® servers.

With UM Services, a client-system user or remote system administrator can use a Web browser or the Microsoft® Management Console (MMC) and the UM Services Web console support to inventory, monitor, and troubleshoot IBM systems on which UM Services is installed.

This “point-to-point” system-management approach enhances support and enables a system administrator to effectively maintain IBM systems without having to install additional system-management software on the administrator console.

UM Services also includes support for Upward Integration Modules (UIMs). A system administrator who uses any supported system-management platform (such as Tivoli® Enterprise, CA Unicenter TNG Framework, or Microsoft Systems Management Server) can use UIMs to integrate portions of UM Services into the administrator console. Because it is designed to use industry-standard information gathering technologies and messaging protocols (such as Common Information Model, Desktop Management Interface, and Simple Network Management Protocol), UM Services adds value to any of these supported workgroup or enterprise system-management platforms.

The following describes the available components (services) that you can install on local UM Services client systems.

Basic Services

Basic Services includes a Java Virtual Machine, a Common Information Model (CIM) repository, a Desktop Management Interface (DMI) 2.0 compliant service provider, and basic instrumentation for gathering hardware inventory data. The inventory information provided by Basic Services can be viewed through a CIM browser such as Microsoft WBEMTEST. The IBM Managed Information Format (MIF) generator program (CIM2MIF) can also be used to generate inventory files that can be exported to system-management applications, such as Tivoli Enterprise, Microsoft Systems Management Server (SMS), or CA Unicenter TNG Framework. Basic Services must be installed on all UM Services clients in the network.

Netfinity Director Support

IBM Netfinity Director is an advanced Intel® processor-based workgroup hardware manager with centralized client- and group-management console and server services. It was developed with object-oriented tools to provide flexibility and extendability, including Life Cycle Tools for added management over the entire life cycle of the asset. Installing this feature will enable the client system to be a part of this Universal Manageability process.

Web Based Access

Web Based Access offers a convenient Java-based tool for managing a client system and for viewing the CIM-based inventory data. If you install Web Based Access, a hypertext transfer protocol (HTTP) DAEMON will be installed and will require a user name and password to be typed during the installation. The user name and password will be used to limit access to the HTTP DAEMON. With Web Based Access installed on the client system, the client can be managed from any remote computer with a supported Web browser. No software other than a Web browser is needed on the remote computer.

Note: This component is selected for installation by default.

Web Based Remote Control

Using Web Based Remote Control, a system administrator can remotely take control of the client system desktop through a Web browser or MMC, enhancing the administrator's ability to diagnose system problems and troubleshoot the client system.

Note: You must install the Web Based Access component to install the Web Based Remote Control component.

System Health Monitoring

System Health Monitoring provides active monitoring of critical system functions, such as available disk space, system temperature, fan functionality, power supply voltage, and system cover removal. System Health Monitoring also provides software for enabling Alert on LAN functionality on systems that support this feature. With System Health Monitoring, you can detect system problems early, before system failures occur. The system administrator will be notified of a system problem by a CIM event, simple network management protocol (SNMP) trap (SNMP traps are available only if SNMP access and trap forwarding are also enabled), or SMS status message (Microsoft SMS 2.0 only). A critical problem also results in a message displayed on the monitor of the client system.

LANDesk Management Suite Integration

LANDesk Management Suite Integration installs the Intel Common Base Agent on the client system. This enables the system administrator to use UM Services with LANDesk Management Suite.

Tivoli Management Agent

Tivoli Management Agent provides support on the client system that enables it to be managed by the Tivoli Enterprise system-management platform.

SNMP Access and Trap Forwarding

This feature enables CIM information to be accessed from a client system using the Simple Network Management Protocol (SNMP). If System Health Monitoring is enabled, this option also enables System Health to forward CIM events as SNMP

traps. This component requires that you have the SNMP service (provided with your operating system) installed on the endpoint. If the SNMP service is not installed, you will be prompted to insert your operating system installation media and install SNMP during the UM Services installation.

DMI Support When enabled, this feature maps Common Information Model (CIM) data and events from a managed client system to a Desktop Management Interface (DMI).

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Installing UM Services

This section contains instructions for installing Universal Manageability Services (UM Services) on the client systems. Depending on your system-management environment, you can choose to install all of UM Services, or you can choose to install only selected portions of UM Services.

The UM Services installation program also includes support for installing Workgroup/Enterprise Integration on client systems running supported system-management platforms. Workgroup/Enterprise Integration adds an Upward Integration Module (UIM) to a supported system-management platform, such as CA Unicenter TNG Framework or Microsoft SMS. With UIMs, you can use your system-management software to manage clients running the UM Services client software. Workgroup/Enterprise Integration installation procedures are explained in “Chapter 4. Upward Integration Modules,” on page 89.

Before You Begin

As noted in the previous chapter, UM Services includes a number of optional components that add value in a variety of system-management environments. Before you begin your installation, determine whether you will be using UM Services as a stand-alone client-based system-management solution, or whether you will be using UM Services to gather data for a supported system-management platform.

Also, UM Services require certain hardware and software minimums for installation. These requirements are found on page 18.

Supported Systems-Management Environments

The UM Services components that you choose to install are largely determined by the system-management environment in which you are installing UM Services. Some components are of use to most system-management platforms, while others are of use only to specific platforms. The following sections offer example component selections based on the system-management platforms used to manage systems in the network.

UM Services Console

If you will be using a Web browser or MMC to manage UM Services clients, install the following UM Services components on the client systems:

- Web Based Access
- System Health Monitoring
- Web Based Remote Control

Note: Systems using a Web browser or MMC to access UM Services locally require 64 MB of RAM to function properly.

Tivoli Enterprise

If you use Tivoli Enterprise to manage the client systems in your network, install the following UM Services components on the client systems:

- Web Based Access
- System Health Monitoring
- Tivoli Management Agent
- SNMP Access and Trap Forwarding

Tivoli NetView

If you use Tivoli NetView to manage the client systems in your network, install the following UM Services components on the client systems:

- Web Based Access
- System Health Monitoring

- Web Based Remote Control
- SNMP Access and Trap Forwarding

Microsoft SMS 1.2 or 2.0

If you use Microsoft SMS 1.2 or 2.0 to manage the client systems in your network, install the following UM Services components on the client systems:

- Web Based Access
- System Health Monitoring
- SNMP Access and Trap Forwarding

Note: For SMS 1.2, the Upward Integration Module (UIM) needs to be installed on all primary site servers and management consoles. It does not need to be installed on the secondary servers.

For SMS 2.0, the UIM needs to be installed on all site servers and all management consoles.

CA Unicenter TNG Framework

If you use CA Unicenter TNG Framework to manage the client systems in your network, install the following UM Services components on the client systems:

- Web Based Access
- System Health Monitoring
- SNMP Access and Trap Forwarding

LANDesk Management Suite

If you use LANDesk Management Suite to manage the client systems in your network, install the following UM Services components on the client systems:

- Web Based Access
- System Health Monitoring
- LANDesk Management Suite Integration

Installation Requirements

Before you install UM Services, consider the following installation requirements:

- Supported Systems by Component
- Hardware Requirements
- Workgroup/Enterprise Integration

Hardware Requirements

The UM Services Client in a Windows operating system requires the hardware, memory, and disk space:

- An IBM Netfinity server, IBM Desktops, IBM IntelliStation computer, or IBM ThinkPad mobile computer.

  Note: Client systems must support SMBIOS version 2.0 or higher.

- An Intel Pentium 200 MHz or faster processor.
- 75 MB of hard disk space on the client systems.
- A minimum of 32 MB random access memory (RAM), or the recommended minimum for the operating system.

Supported Operating Systems

The UM Services Client is supported on the following operating systems:

- Windows® 2000—Server or Advanced Server
- Windows 2000 Professional
- Windows NT® Server 4.0 (with Service Pack 4 or later)
- Windows NT Workstation 4 (with Service Pack 4 or later)
- Windows 98®
- Windows 95® (with OEM Service Release 2 (OSR2) or later)

Supported Browsers

A World Wide Web browser is needed on the system from which you plan to manage remote UM Services clients, and is required only if you are planning to install the UM Services Web Based Access or Web Based Remote Control options.

The UM Services console is supported only on the following browsers.

- Microsoft Internet Explorer 4.01 or later.

  Notes:

  - If you are using Internet Explorer 5.x, you must install the optional Java Virtual Machine (VM) support to access a client system running UM Services.
  - If you are using Internet Explorer and you reinstall Internet Explorer after installing UM Services, you must reapply the Microsoft VM update. The UM Services client requires the Microsoft VM Build 3165 or later. The latest Microsoft VM can be downloaded from **http://www.microsoft.com/java**

- Microsoft Management Console (MMC) 1.1 or later.

  If you install UM Services before you install MMC, a Microsoft Management Console icon will not appear in the IBM Universal Manageability Services programs section of your Start menu.

- Netscape Navigator or Netscape Communicator 4.51 or later.

Additional Installation Guidelines

Before you install UM Services, consider these additional restrictions, requirements, and installation options:

- **Windows 95 Installations**
  DCOM95 must be installed before you install UM Services on systems running Windows 95. DCOM95 is included with Internet Explorer 4.0 or later and NetScape Navigator 4.5 or later. However, if one of these browsers is not installed on the system on which you are installing UM Services, you must install DCOM95 first.

To install DCOM95 and the Microsoft Virtual Machine (both of which are required by UM Services), run the program named **MSJAVX86.EXE**found in the directory to which you downloaded and decompressed the UM Services installation files. When this program finishes running, restart your system, delete (or rename) **MSJAVX86.EXE** from the installation directory, and then install UM Services.

If you are distributing UM Services remotely to systems running Windows 95, be sure to distribute and run the **MSJAVX86.EXE** program first. When running **MSJAVX86.EXE** remotely, use the following command:

```
MSJAVX86 /Q /R:N
```

Then, restart the remote system.

- **Default Directory**
  By default, the UM Services installation program installs the UM Services program files in **C:\Program Files\IBM\UMS**. If you do not want to install the program files in the default location, be prepared to provide an alternative installation drive and directory.
- **Microsoft Management Console (MMC) 1.1 or later**
- You can use UM Services after installing MMC on Windows 95, Windows 98, or Windows NT systems.
- **Running an Unattended Installation**
  UM Services supports unattended installation. If you want to use your software distribution facility to install UM Services, you can set up an unattended installation for UM Services. UM Services can then be installed across your network from one central location. The format of the UM Services response file, named SETUP.ISS, is described in "Modifying the SETUP.ISS File Manually" in the *Netfinity Director User's Guide* on the *Netfinity Director with UM Services* CD.

Installing UM Services

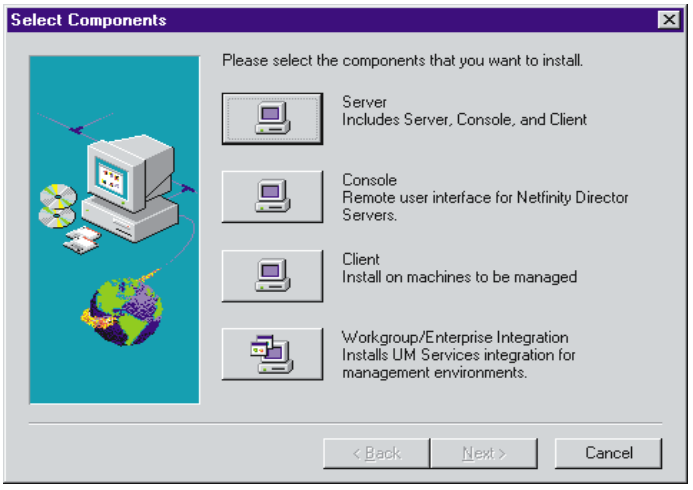
This section will step you through the installation process for installing UM Services on supported operating systems.

To install UM Services, do the following.

1. Place the *Netfinity Director with UM Services* CD–ROM in the CD-ROM drive of the machine to which you will be installing.
2. Click **Start→Run**.
3. In the **Open:** field, type ***X*:\win32\install\Ibmsetup.exe**

   where *X* is the location of the CD-ROM drive.
4. Click through the **Welcome** window and accept the License Agreement.

   The **Select Components** window opens.



There are four different installation choices from the **Select Components** window:

Server Install the files for the Server, Console, and Client for Netfinity Director.

Console Install the remote user interface for Netfinity Director Servers.

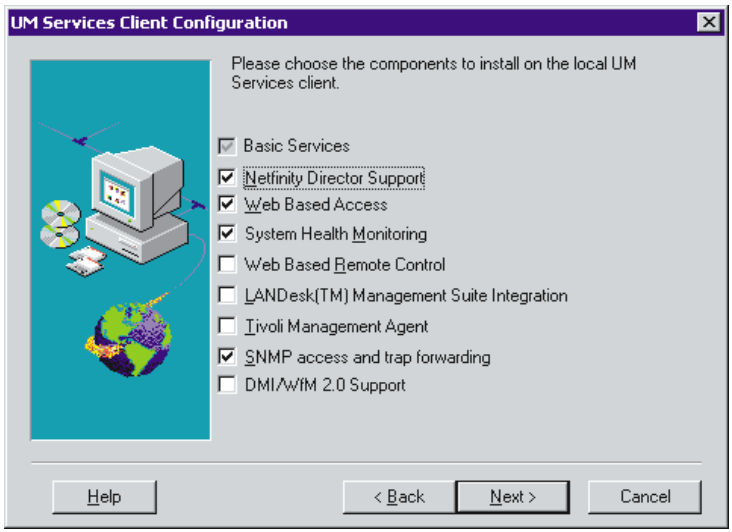
Client Install the Client files on Microsoft operating systems only.

Workgroup/Enterprise Integration

Install UM Services integration for management environments. See "Chapter 4. Upward Integration Modules," on page 89, for complete information.

5. Select **Client**.

   The **UM Services Client Configuration** window opens.



6. Check the checkbox beside any of the components you want to install on the client system.

   Note: The first component listed, Basic Services, is selected by default and cannot be deselected. Basic Services installs a Java Virtual Machine, a Common Information Model (CIM) repository, and basic instrumentation for gathering hardware inventory data. The inventory information provided by Basic Services can be viewed through a CIM browser such as Microsoft WBEMTEST. Basic Services must be installed on all Netfinity Director managed UM Services clients.

   The following optional components are available. The components that are selected by default are indicated as such:

Netfinity Director Support (Default)

Netfinity Director support is an additional configuration option for the client installation only. IBM Netfinity Director is an advanced Intel processor-based workgroup hardware manager, with centralized client and group management console and server services. Selecting this feature enables the system to be managed in a Netfinity Director environment by installing UM Services on this system.

Web Based Access (Default)

Web Based Access offers a convenient Java-based tool for managing a client system and for viewing the CIM-based inventory data. If you install Web Based Access, a hypertext transport protocol (HTTP) daemon is installed and requires that a user name and password be entered during the installation. The user name and password are used to limit access to the HTTP daemon. With Web-based Access that is installed on the client system, the client can be managed from any remote computer with a supported Web browser. No software other than a Web browser is needed on the remote system.

System Health Monitoring (Default)

System Health Monitoring provides active monitoring of critical system functions, such as disk space available, SMART Drive alerts, system temperature, fan functionality, power supply voltage, and system cover removal (dependent upon the hardware options of a selected managed system) . System Health Monitoring enables you to detect system problems early, before system failures occur. System administrators are notified of a system problem by a CIM event, SNMP trap (SNMP traps are available only if SNMP access and trap forwarding is also selected), or SMS Status Message (Microsoft SMS 2.0 only). Critical problems also result in a pop-up message by appearing on the display of the client system.

Web Based Remote Control

Web Based Remote Control enables a remote systems administrator using a Web browser or MMC console to take control of the client system desktop, enhancing the administrator's ability to diagnose system problems and troubleshoot the system.

Note: You must install the Web Based Access component to install the Web Based Remote Control component.

LANDesk Management Suite Integration

LANDesk Management Suite Integration installs the Intel Common Base Agent on the client system. This enables the systems administrator to use UM Services with LANDesk Management Suite.

Tivoli Management Agent

Tivoli Management Agent installs support on the client system that enables it to be managed by the Tivoli Enterprise systems-management platform.

SNMP access and trap forwarding

This feature enables CIM information to be accessed from a system that use the Simple Network Management Protocol (SNMP). If System Health Monitoring is enabled, this option also enables System Health to forward CIM events as SNMP traps. This component requires that you have the SNMP service (provided with the operating system) installed on the endpoint. If the SNMP service is not installed, the system prompts you to insert the operating system installation media and install SNMP during the UM Services installation.

DMI Support

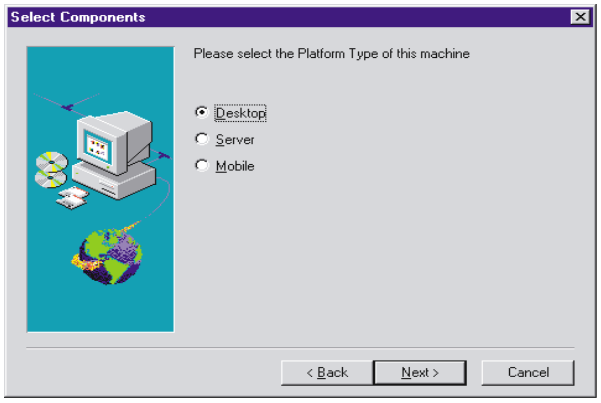
Selecting this component installs the Desktop Management Interface (DMI) 2.0 compliant Service Provider. When enabled, this feature maps a managed system CIM data and events to DMI.

7. Click **Next** to continue.

   The **Choose Destination Location** window opens.

8. Click **Next** to accept the default directory (**C:\Program Files\IBM\UMS**), or click **Browse** to choose a different directory.

9. If you selected **DMI Support** from the UM Services Client Configuration menu, the **DMI Platform** window opens.



Select the type of platform you are installing the DMI support to. Click **Next** to continue.

The **User ID** window opens.

10. Use this window to set the user ID and password for the client system and to specify the TCP/IP port that is used to access the client.

You must provide a unique user ID and password for the client system. To use the UM Services console to manage this system, you must first provide a valid user ID and password before being allowed access to the system. Type in the **User ID** field the user ID. Then type the password in the **Password** field, and type the password again in the **Confirm Password** field.

Note: The user ID and password are case sensitive.

Then, select a TCP/IP port that is used to access the UM Services console. The default port is 411. If this port is not available, you can select port number 6411, 6500, 6600, or 6611. Make sure that other TCP/IP applications do not use the selected port.

11. Click **Next** to continue.

12. If you selected **SNMP access and trap forwarding** from the UM Services Client Configuration menu and do not have the SNMP network service installed, UM Services installation will prompt you with an SNMP installation query.

    - Click **No** to continue with the UM Services installation without installing the SNMP network service.
    - Click **Yes** to install the SNMP network service on the server. The Installing SNMP window and your Network window opens. Follow the directions for installing SNMP. When the Windows operating system prompts for a restart, click **No**. In the Installing SNMP window, click **Next** to return to the UM Services installation program.

13. The system asks you if you want to place an UM Services icon on the start menu. Select **Yes** or **No**.
14. The system asks you if you want to install files for remote control. Select **Yes** or **No**.
15. The system asks you if you require user authorization for remote control window access. Select **Yes** or **No**.

    The system begins installing the necessary files. The **Setup is Complete** window opens.

16. Restart the computer now or later. If you choose **Restart Now**, the system shuts down and restarts immediately. If you choose **Restart Later**, the UM Services installation program closes. However, you must restart and log in to the system to begin using Um Services.

Starting the UM Services Console

If the Web Based Access or Web Based Remote Control optional component is installed on a client, you can use a Web browser or MMC to access and manage the client locally or remotely.

Note: IBM provides two Java class libraries (Swing/JFC and XML) with UM Services. These libraries must be installed on the Web browser before you access UM Services data. The first time you use a Web browser for UM Services, you will be asked to

download the installation programs for these files. Click each HTML link to begin installation of each library. You will have to restart your UM Services Web browser for these Java libraries to take effect.

Starting the UM Services Console on Your Local System

During installation, if you clicked**Yes** to create icons on the Start menu, you can start UM Services locally from this menu.

Note: Systems using a Web browser or MMC to access UM Services locally require 64 MB of RAM to function properly.

From the local system, click **Start** → **Programs** → **IBM Universal Manageability Services** → **UM Services Browser**.

The system starts the default Web browser and opens it to the Web address

`http://localhost:`*`tcpip_port`*

where *tcpip_port* is the TCPIP port you selected during installation. You must type your user ID and password in the **UM Services User ID and Password** window.

Starting UM Services Remotely

You can start UM Services remotely using a supported Web browser. In the **Universal Resource Locator (URL)** field of your browser, type

`http://`*`systemname`*`:`*`tcpip_port`*

where *systemname* is the TCP/IP address or the IP address of the client and *tcpip_port* is the port number assigned for use by the UM Services console during UM Services client installation. Port number 411 is the default, but if this port is being used by another application, UM Services could also have been configured to use port number 6411, 6500, 6600, or 6611.

Starting UM Services from Microsoft Management Console

If you install Microsoft Management Console (MMC) 1.1 and then install UM Services on the client, the system creates an icon on the Start menu from which you can start UM Services in the MMC.

- Click **Start** → **Programs** → **IBM Universal Manageability Services** → **Microsoft Management Console**.

The Microsoft Management Console is available as part of the Windows NT Option Pack 4 or from

http://www.microsoft.com/MANAGEMENT/MMC

Starting UM Services from a UIM Management Console

If UM Services is integrated into Tivoli Enterprise 3.6, Tivoli NetView 5.1.1, SMS 1.2, SMS 2.0, or CA Unicenter TNG 2.2 (Windows 95, 98 and NT only), you can start UM Services directly from the management console. The management console starts either the default Web browser or the Microsoft Management Console (whichever is appropriate for the workgroup or enterprise environment). For more information, see "Chapter 4. Upward Integration Modules," on page 89.

Uninstalling UM Services

You can uninstall UM Services through the Add/Remove Programs feature in the Windows Control Panel.

To uninstall UM Services:

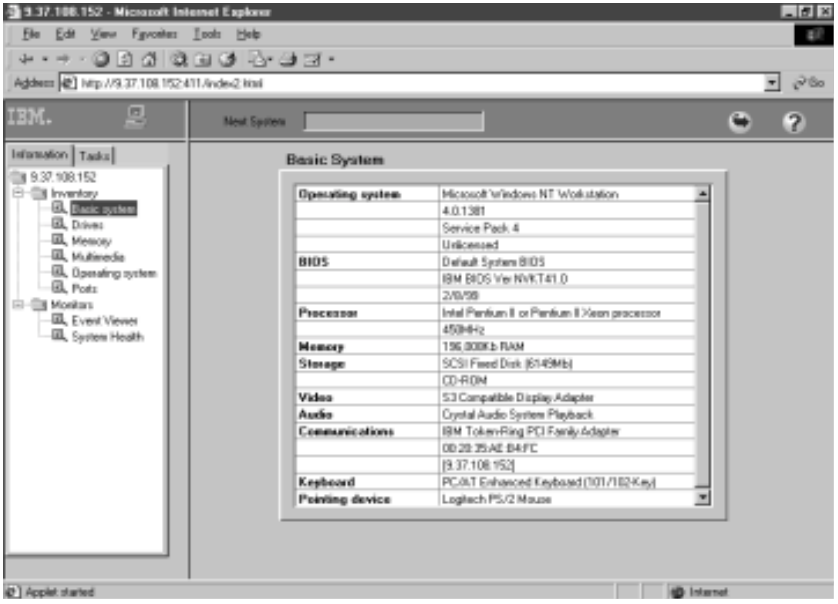
1. Click **Start** → **Settings** → **Control Panel**. The Control Panel opens.
2. Click the **Add/Remove Programs** icon. The **Add/Remove Programs Properties** window opens.
3. From the **Install/Uninstall** list, select **IBM Universal Manageability Services**, and then click **Add/Remove**.
4. When prompted, click **Yes** to remove UM Services.

The uninstallation process might take a while to complete.

3

Using UM Services

When you have connected to a client system, the UM Services console opens in your Web browser or MMC, and is divided into two panes.



The Services pane is on the left side of the UM Services console and contains two tabs, each containing a list of UM Services that are available on the client system. The tabs available from the Services pane are:

- **Information —** This tab contains a tree view of the UM Services used to gather hardware and software information from the client system.
- **Tasks —** This tab contains a tree view of the UM Services used to perform system-management and system-configuration tasks on the client system.

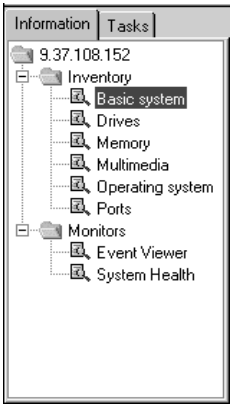
The Display pane is on the right side of the UM Services console and is a dynamic view that displays the interfaces and data associated with the service selected from the **Information** or **Tasks** tabs.

The following field and command icons also appear in the Display pane of the UM Services console:

Next System field		You can use the same browser window or MMC to access multiple UM Services clients. In this field, type the TCP/IP address of another client running UM Services, and then press Enter to access another client without opening another Web browser. This field is not available on MMCs.
Export icon		With UM Services, you can create comma-separated-value (CSV) data files from the hardware and software data collected by many of the UM Services interfaces. These CSV files can be imported into many database programs, so that you can create a centralized repository for data collected by UM Services. To create a CSV file, select a service from the Services pane. When UM Services has completed loading data, click the **Export** icon. If a CSV file can be created from the data that was collected, a new browser window opens, containing the CSV file data. You can then save this data by selecting **Save** from the **File** menu.
Help icon		Online help is available for all UM Services. To access online help for a service, select the service from the Services pane and, when it has completed loading, click the **Help** icon.

Information Tab

The services available from the **Information** tab gather hardware and software information from the client system. This data is gathered directly from the client and represents the physical components of the system or the current, monitored state of the client as reported by monitoring hardware and software in the client. The data presented in the Information service interfaces is static and cannot be changed or configured by the UM Services user.



The Information services are divided into two categories:

- Inventory
- Monitors

The sections that follow describe each of the services available from the **Information** tab.

Inventory Services

Inventory services gather information about the physical devices that make up the client system (such as disk drives, multimedia adapters, video adapters, and memory) or the operating system of the client system. The available Inventory services are:

- Basic system
- Drives

- Memory
- Multimedia
- Operating system
- Ports

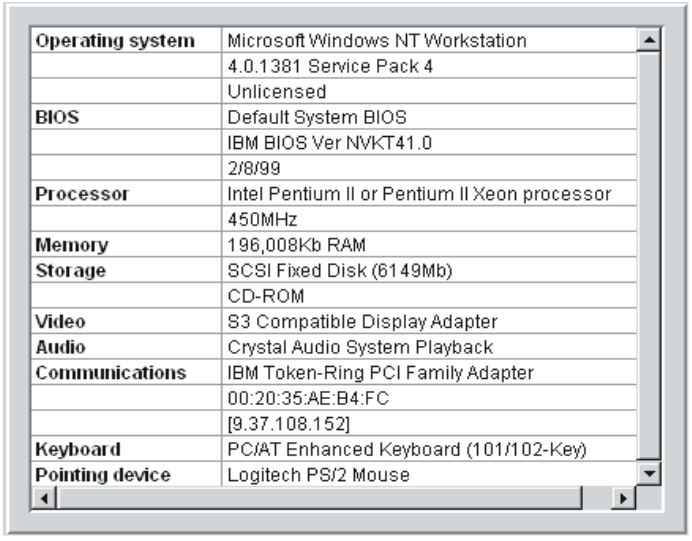
Descriptions of each of the Inventory services that you can select from the **Information** tab follow.

Basic System

The Basic System service gathers and displays general information about the client system hardware and operating system.

Note: Not all client systems have all of the items that can be displayed in the Basic System interface. If a client does not have a particular item, the field associated with that item will not appear in the Basic System interface.

To start the Basic System service, click **Information**→ **Inventory** → **Basic system** in the Services pane. The following interface opens in the Display pane.



Operating system	Microsoft Windows NT Workstation
	4.0.1381 Service Pack 4
	Unlicensed
BIOS	Default System BIOS
	IBM BIOS Ver NVKT41.0
	2/8/99
Processor	Intel Pentium II or Pentium II Xeon processor
	450MHz
Memory	196,008Kb RAM
Storage	SCSI Fixed Disk (6149Mb)
	CD-ROM
Video	S3 Compatible Display Adapter
Audio	Crystal Audio System Playback
Communications	IBM Token-Ring PCI Family Adapter
	00:20:35:AE:B4:FC
	[9.37.108.152]
Keyboard	PC/AT Enhanced Keyboard (101/102-Key)
Pointing device	Logitech PS/2 Mouse

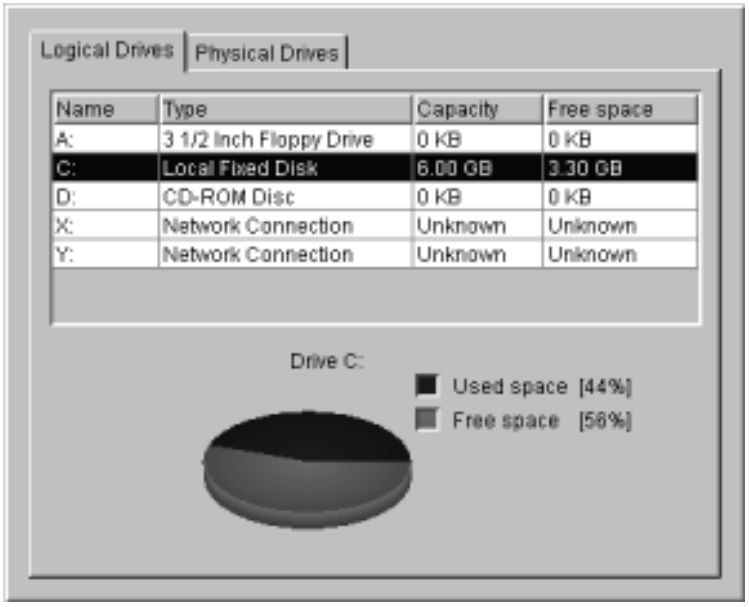
The Basic System interface provides information about the items described in the following table.

Item	Description
System unit	The manufacturer and model of the client system.
Serial number	The serial number of the client system.
System UUID	The universally unique identification (UUID) number assigned to the client system. UUIDs are assigned to systems for system management purposes, and are stored in EEPROM on the system board. This item is available only on client systems that use SMBIOS 2.3 or later.
Operating system	The name, version number, and service pack level (if applicable) of the operating system that is running on the client system.
BIOS	The version and completion date of the basic input/output system (BIOS) of the client system.
Processor	The type (for example, Pentium, Pentium II, or Pentium III) and clock speed of the microprocessor that is installed on the system board of the client system.
Memory	The amount of random access memory (RAM) installed in the client system, in kilobytes (KB).
Cache	The amount of microprocessor memory cache that is available to the microprocessor of the client system.
Expansion slots	The number and type (for example, PCMCIA or PCI) of expansion slots in the client system.
Storage	The type and size, in megabytes (MB), of storage devices installed in the client system, such as hard disk drives, CD-ROM drives, or CD-RW (read/write) drives.

Item	Description
Video	The type of video adapter installed in the client system.
Monitor Manufacturer	The company that manufactured the monitor in use on the client system. This item appears only for clients running Windows 95 or Windows 98.
Monitor Type	The type of monitor in use on the client system (for example, laptop display pane). This item appears only for clients running Windows 95 or Windows 98.
Audio	The type of audio adapter installed in the client system.
Communications	The network interface adapter or modem that is installed in the client system, the media access control (MAC) address of the adapter, and the IP address of the client system.
Keyboard	The type of keyboard attached to the computer.
Pointing device	The type of pointing device, for example, mouse, trackball, or TrackPoint® attached to the client system.

Drives

The Drives service gathers and displays information about the physical and logical disk drives installed in the client system. To start the Drives service, click **Information** → **Inventory** → **Drives** in the Services pane. The following interface opens in the Display pane.



The Drives interface contains two interfaces:

Logical Drives

Click the **Logical Drives** tab to display information about the logical drives configured on the client system.

Physical Drives

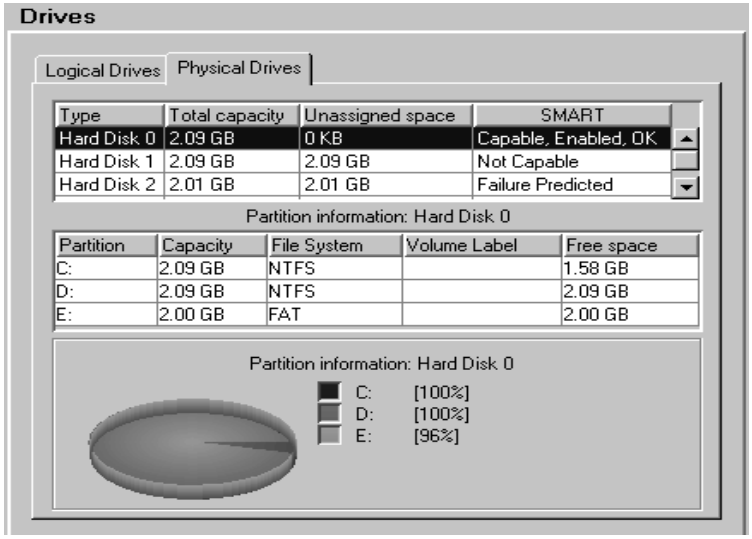
Click the **Physical Drives** tab to display information about the physical drives installed in the client system.

The Logical Drives interface is displayed by default. For additional information about each entry on the Logical Drives interface, click any disk row. The interface is updated to display a pie graph that shows used space and free space on the selected logical drive. Used space contains the applications and files that are on the disk, and free space is available for adding files or applications.

The Logical Drives interface provides information about the items described in the following table.

Item	Description
Name	The drive letter assigned to the logical drive, partition, or network drive.
Type	The type of logical drive, such as removable drive or network drive.
Capacity	The total amount of data that can be held by each logical drive, measured in megabytes (MB) or gigabytes (GB).
Free Space	The amount of disk space available on the logical drive.

Click the **Physical Drives** tab to display the Physical Drives interface.



The Physical Drives interface shows the type; capacity; unassigned space; and self-monitoring, analysis, and reporting technology (SMART) of each physical drive installed in the client system. To see if a physical hard disk has partitions, click any disk row. If the selected

disk has partitions, information about the partitions is displayed in the Partition Information section of the Physical Drives interface.

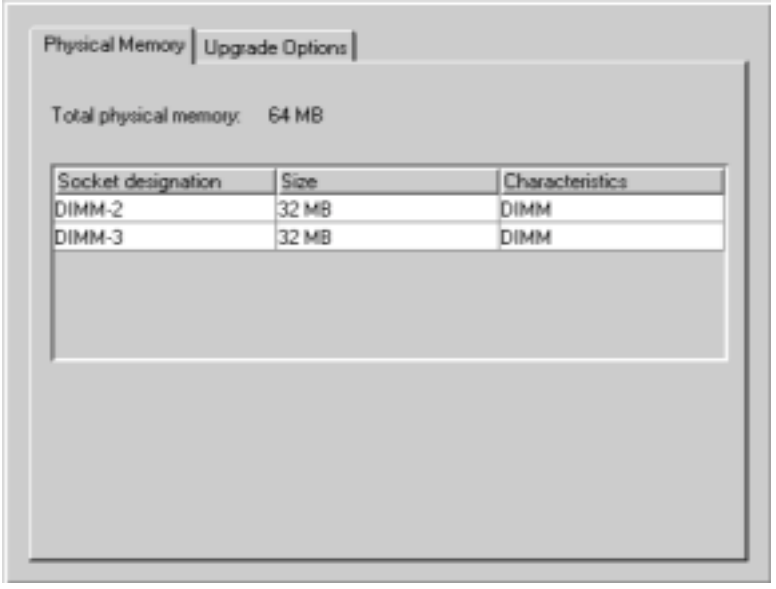
The partition information is displayed as a pie graph, showing the portion of the total physical disk that is used by each partition.

The Physical Drives interface provides information about the items described in the following table.

Item	Description
Physical Drives	
Type	The type of physical drive such as hard disk, diskette, or CD-ROM.
Total capacity	The total amount of data that can be stored by each physical drive, measured in KB, MB, or GB.
Unassigned space	The amount of space on a hard disk drive that is not used by logical partitions.
SMART	Health alerts, generated by a status monitor, for a physical drive if potential failure exists.
Partition Information	
Partition	The drive letter mapped to the partition.
Capacity	The total amount of data that can be stored by each partition, measured in MB or GB.
File System	The file system in use by the partition, such as file allocation table (FAT) or NT file system (NTFS).
Volume Label	The name of the partition, if any.
Free space	The amount of space that is available on the partition for applications or files.

Memory

The Memory service gathers information about the physical memory that is installed in the client system and provides information about memory upgrade options that are available for the client system. To start the Memory service, click **Information** → **Inventory** → **Memory** in the Services pane. The following interface opens in the Display pane.



The Memory interface contains two interfaces:

Physical Memory

Click the **Physical Memory** tab to display information about the physical memory that is installed in the client system.

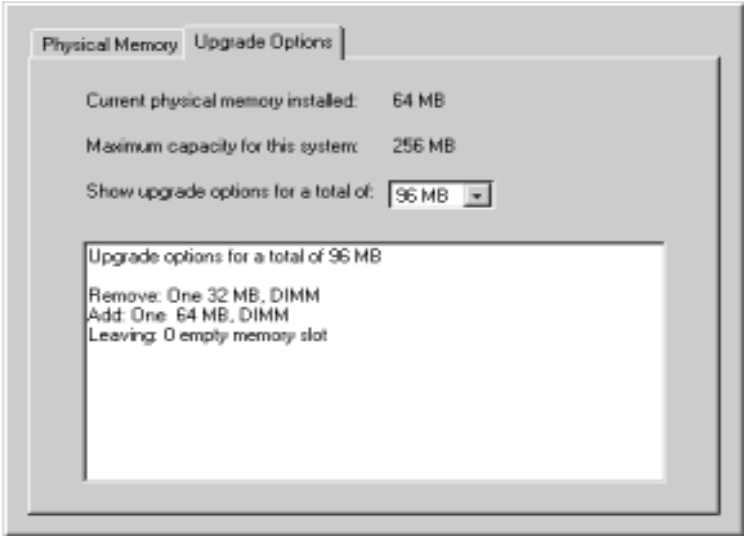
Upgrade Options

Click the **Upgrade Options** tab to display information about memory upgrade options for the client system.

The Physical Memory interface is displayed by default and provides information about the items described in the following table.

Item	Description
Total physical memory	The amount of total physical random access memory (RAM) installed on the system board.
Socket designation	The number of the socket and the type of memory memory module the socket can hold. For example, DIMM-2 refers to a dual inline memory module (DIMM) in socket 2, and SIMM-3 refers to a single inline memory module (SIMM) in socket 3.
Size	The size (in MB) of the memory module currently installed in each socket.
Characteristics	Details regarding the type of memory module installed in the socket, such as SIMM or DIMM.

Click the **Upgrade Options** tab to display the Upgrade Options interface.

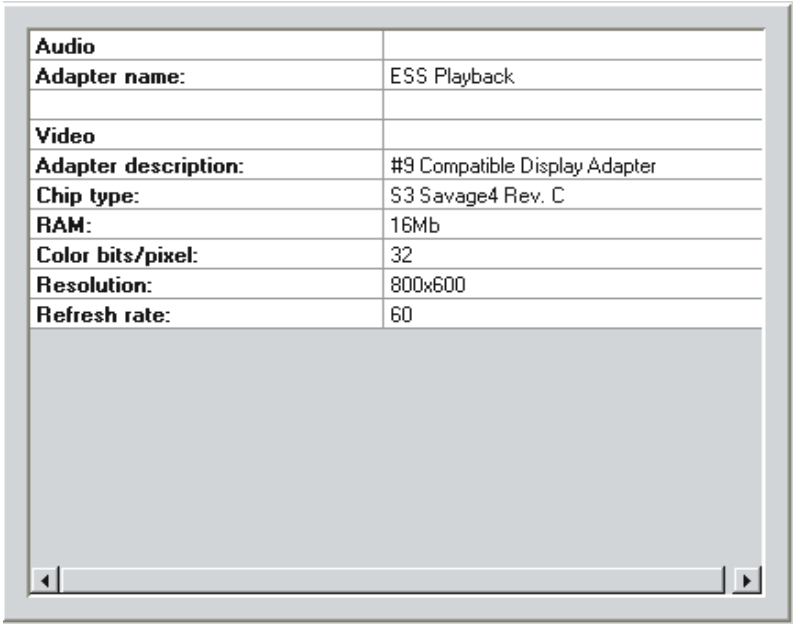


The Upgrade Options interface shows the current physical RAM installed in the computer, and the maximum capacity of the client system, which refers to the total RAM that can be installed in the

computer. If you want to install additional memory in the client system, select the amount of memory you want to install to display additional information on proper memory configuration.

Multimedia

The Multimedia service gathers information about the multimedia adapter installed in the client system. To start the Multimedia service, click **Information** → **Inventory** → **Multimedia** in the services pane. The following interface opens in the Display pane.



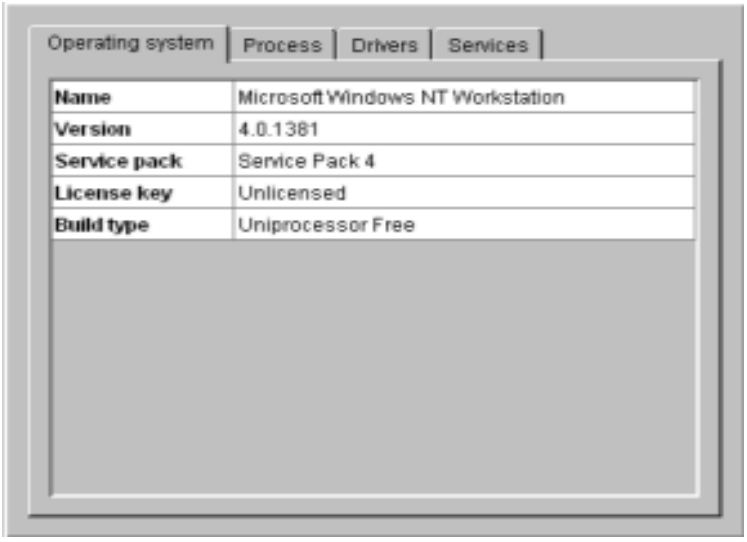
The Multimedia service has one interface that provides information about the system audio and video, described in the following table.

If an audio or video adapter is not installed in the client system or if information from the adapter is unavailable, the field associated with the missing data will not be shown in the interface.

Item	Description
Adapter name	The name of the audio adapter installed in the client.
Adapter description	The name of the video adapter installed in the client.
Chip type	The type of video chip used by the video adapter.
RAM	The amount of random access memory (RAM) available for use by the video subsystem.
Color bits/pixel	The number of color bits per picture element (pixel) that can be displayed by the video adapter.
Resolution	The picture element (pixel) resolution currently displayed by the video adapter (for example, 640 by 480 or 800 by 600).
Refresh rate	The frequency, in megahertz (Mhz), with which the monitor screen is cleared and redrawn. This item appears only for clients running Windows NT.

Operating System

The Operating System service gathers information about the operating system that is installed and running on the client system. To start the Operating System service, click **Information** → **Inventory** → **Operating System** in the Services pane. The following interface opens in the Display pane.



The Operating System interface contains the following interfaces (the Services interface is displayed only for clients running Windows NT):

Operating System
Click the **Operating System** tab to display general information about the operating system including name, version, and service pack level.

Process Click the **Process** tab to display information about the processes or tasks that are currently running on the client system.

Environment Click the Environment tab to display information about the environment variables used by the client operating system.

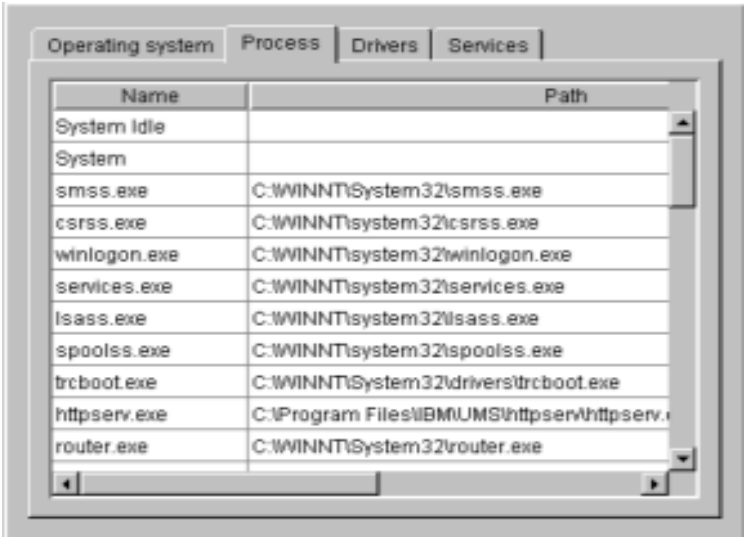
Drivers Click the **Drivers** tab to display information about the device drivers that are being used by the client system.

Services Click the **Services** tab to display information about the current state and start mode of services that are installed on the client system. This interface is available only for client systems running Windows NT.

The Operating System interface is displayed by default and provides information about the items described in the following table.

Item	Description
Name	The name of the operating system.
Version	The version number of the operating system.
Service pack	The operating system service pack level installed on the system, if any.
License key	The license key number or code entered when the operating system was installed. Depending on the screen resolution, you might need to move the horizontal scroll bar to the right to view this item completely.
Build type	The operating system build type. Build type can refer to the processor configuration the operating system is designed to run on (uniprocessor or multiprocessor), or to whether the build is a retail (or "Free") version or debug (or "Checked") version. Depending on the screen resolution, you might need to move the horizontal scroll bar to the right to view this item completely.

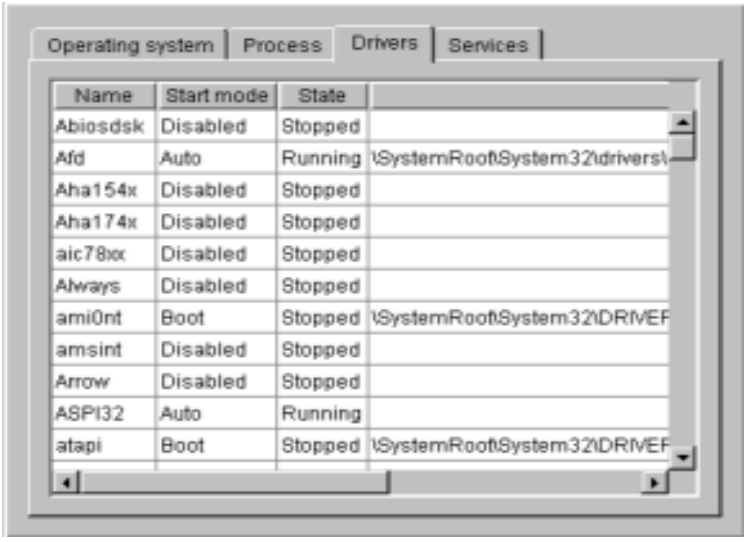
Click the **Process** tab to display the Process interface.



The Process interface provides information about the items described in the following table.

Item	Description
Name	The name of the executable process.
Path	The complete path to the executable file.
Kernel mode time	The amount of time the computer processor spends in kernel mode because of this process. Depending on the screen resolution, you might need to move the horizontal scroll bar to the right to view this item completely. This item appears only for clients running Windows NT.
Process ID	The identifying number assigned to the process by the system according to startup sequence. Depending on the screen resolution, you might need to move the horizontal scroll bar to the right to view this item completely.

Click the **Drivers** tab to display the Drivers interface.

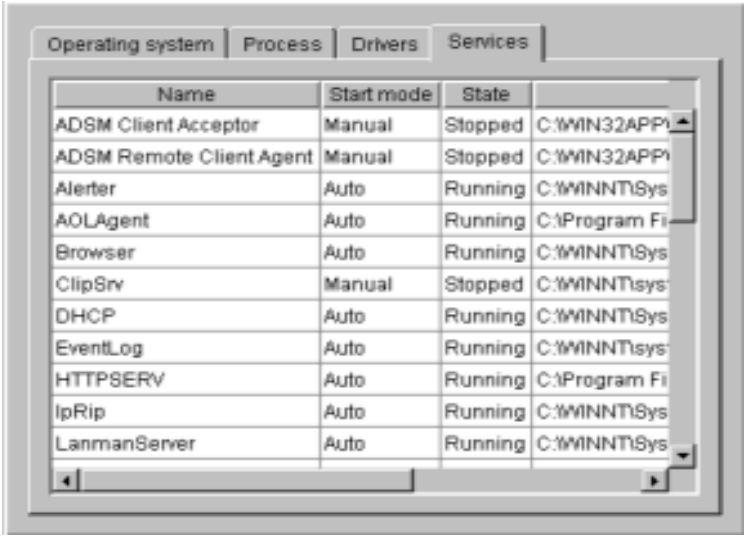


The Drivers interface provides information about the items described in the following table.

Item	Description
Name	The name of each device driver in the operating system directory.
Start mode	The start mode assigned to each device driver. Depending on which mode is selected, a device driver is incorporated or not incorporated into the operating environment. Disabled means that the device driver is not added to the operating environment. Auto means that the device driver is automatically started when the operating system is started. Boot means that the device driver is initialized during the operating system startup (boot) sequence.
State	The current run state of each device driver (Running or Stopped). This item applies only to clients running Windows NT. State values are not displayed on clients running Windows 95 or Windows 98 .

Item	Description
Command line	The complete path to the device driver, such as C:\System Root \System32\adapti.sys. To view the complete Command line, move the horizontal scroll bar to the right.

Click the **Services** tab to display the Services interface.



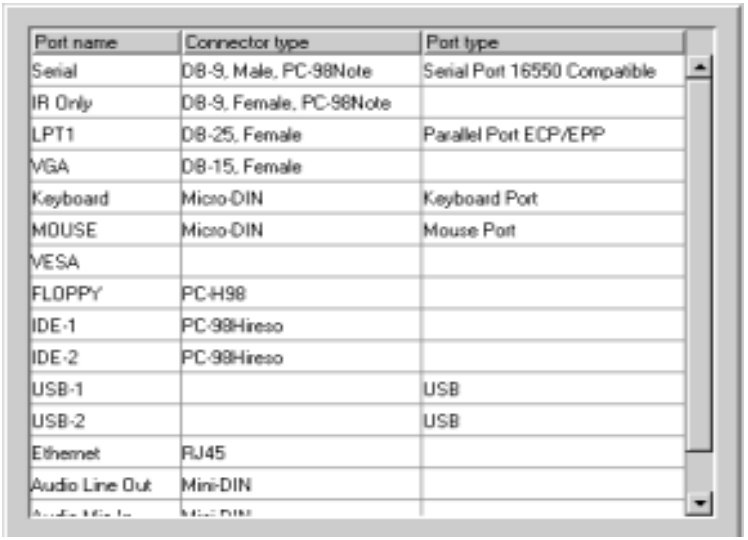
The Services interface provides information about the items described in the following table.

Item	Description
Name	The name of the service (for example, EventLog or Remote Control Service).
Start mode	The start mode of the service. For each service, the start mode can be Auto for automatic, Manual for manual start, or Disabled when the service is turned off or is unavailable.

Item	Description
State	The current run state of each service (Running or Stopped).
Command line	The complete path to the device driver, such as C:\System Root \System32\adapti.sys. To view the complete Command line, move the horizontal scroll bar to the right.

Ports

The Ports service gathers information about the input and output ports and connectors on the client system. To start the Ports service, click **Information → Inventory → Ports** in the Services pane. The following interface opens in the Display pane.



Port name	Connector type	Port type
Serial	D8-9, Male, PC-98Note	Serial Port 16550 Compatible
IR Only	D8-9, Female, PC-98Note	
LPT1	D8-25, Female	Parallel Port ECP/EPP
VGA	D8-15, Female	
Keyboard	Micro-DIN	Keyboard Port
MOUSE	Micro-DIN	Mouse Port
VESA		
FLOPPY	PC-H98	
IDE-1	PC-98Hireso	
IDE-2	PC-98Hireso	
USB-1		USB
USB-2		USB
Ethernet	RJ45	
Audio Line Out	Mini-DIN	

The Ports service provides information about the items described in the following table.

Item	Description
Port name	The name of the input or output port (for example, LPT1, Keyboard, or Ethernet).
Connector type	The type of connector for each port (for example, DB-9 or DB-25 Female).
Port type	Type of port (for example, serial, parallel, or Universal Serial Bus).

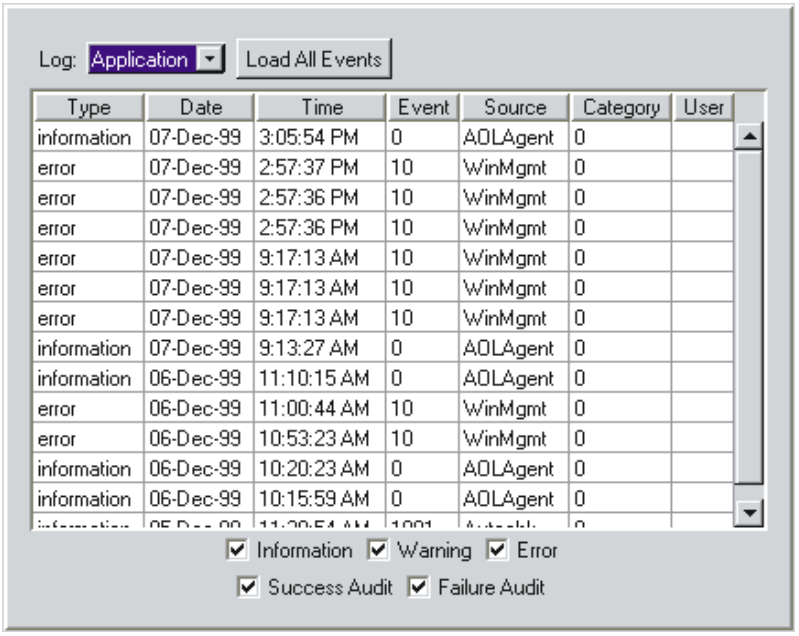
Monitor Services

Monitor services use system monitoring hardware and software included with the UM Services client to gather data about the current operational state of the client system, such as temperature, battery time remaining, and contents of the Windows NT Event Log on the client system. The three Monitor services are:

- Event Viewer
- Notebook (available only if you are using UM Services on an IBM ThinkPad model 560, 570, 600, or 770)
- System Health

Event Viewer

The Event Viewer shows the contents of the Windows NT Event Log. To start the Event Viewer service, click **Information** → **Monitors** → **Event Viewer** in the Services pane. The following interface opens in the Display pane.



The Event Viewer interface provides information about the items described in the following table.

Item	Description
Type	The log category (information, warning, error, success audit, or failure audit).
Date	The date when the event took place, in mm/dd/yy format.
Time	The time when the event occurred, in hh:mm:ss format for a.m. or p.m.

Item	Description
Event	The identification number that is automatically given to an event, with related events getting the same number. For example, Service Control Manager has 7001 and 7002 event numbers, regardless of the time of the event.
Source	The program, application, system, or security that led to the event(for example, WinMgmt, DCOM, SNMP, AOLAgent, or some other program).
Category	A number that identifies the category that the event falls into. This is used to organize the events. To view this field, slide the scroll bar to the right.
User	The ID of the user. To view this field, move the horizontal scroll bar to the right.

The NT Event Log can contain a large number of entries. With the Event Viewer service, you can filter the contents of the NT Event Log before viewing the entries. Before Event Viewer loads the contents of the Event Log, you must select a log category. These broad categories help limit the number of Event Log entries that will be loaded into the Event Viewer. From the Log menu, select an Event Log category that corresponds to the Event Log entries you want to view, or click the Load All Events button to display all log entries.

Note: The NT Event Log can contain thousands of individual entries. Choosing Load All Events can result in significant delays while the contents are loaded into the Event Viewer.

The available selections are:

Application Displays the 30 most recent log entries that result from application or software issues, faults, and problems.

System Displays the 30 most recent log entries that result from system or hardware issues, faults, and problems.

Security Displays the 30 most recent log entries that result from security problems, such as invalid user ID or password entries and other attempted security violations.

Use the check boxes at the bottom of the **Event Viewer** window to filter the contents of the Event Viewer by event type. The event type provides a general description of the severity of the event. Available event-type check boxes are:

Information Displays rows of informational entries that are related to the Application, System, or Security Event Log category you selected.

Warning Displays rows of warning entries that indicate a severe problem to resolve for an Application, System, or Security problem.

Error Displays logs that result from security issues, such as password or user ID failures or other access problems, or attempted security violations.

Success Audit
Displays event information on successful events.

Failure Audit
Displays event information on unsuccessful events.

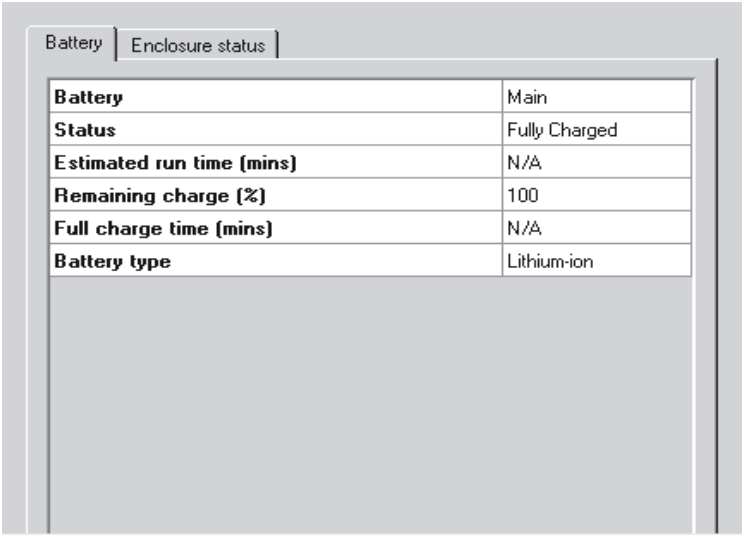
Only entries that correspond to a selected check box will be displayed in the Event Viewer. For example, if you want to view only entries that are the results of a system error, select the Error check box and leave the other selections unselected. If you select an event-type check box and no information is displayed, it means that there are no Event Log entries that correspond to the selected event type.

You can use Event Viewer to display additional information about any entry that appears in the window. To display additional information about any entry, click the entry to highlight it, and then double-click the entry. A window opens, containing additional information about the event.

Notebook

The Notebook service is available only if UM Services is running on an IBM ThinkPad model 560, 570, 600, or 770 system. If the client system is not one of these supported models, this service is not displayed in the Monitors section of the **Information** tab.

The Notebook service gathers and displays information about ThinkPad computers. To start the Notebook service, click **Information** → **Monitors** → **Notebook** in the Services pane. The following interface opens in the Display pane.



The Notebook service interface contains two categories. The Battery interface is displayed by default.

Battery Click the **Battery** tab to display information about the ThinkPad battery power supply.

Enclosure status

Click the **Enclosure status** tab to display information about the power supply currently being used by the computer and for information about whether the computer is currently docked in a docking station.

The Battery interface provides information about the items described in the following table.

Item	Description
Battery	The battery that is being used by the ThinkPad computer (Main or Backup).

Item	Description
Status	The charge status of the battery (Fully Charged, Partial, High, Low, Critical, Charging, Charging High, Charging Low, Charging Critical, Unknown).
Estimated Run Time (minutes)	The number of minutes of run time left on the battery. If the ThinkPad computer is plugged into an electrical outlet using an adapter, the Estimated Run Time will show N/A.
Remaining Charge (%)	The approximate percentage of battery charge remaining, running from 100% downward. If the ThinkPad computer is plugged into an electrical outlet using an adapter, the Remaining Charge will continue to show the percentage of battery life that remained at the time the system was plugged in.
Full Charge Time (minutes)	The amount of time needed to charge the battery to full capacity. If the battery is fully charged, the Full Charge Time will show N/A.
Battery Type	The type of battery. The ThinkPad computer uses a Lithium-Ion battery.

Click the **Enclosure status** tab to display the Enclosure Status interface. The Enclosure Status interface provides information about the items described in the following table.

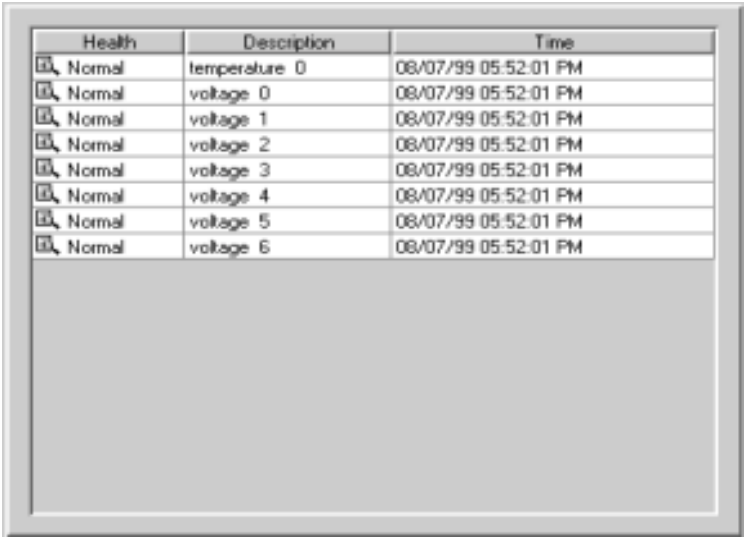
Item	Description
Power Source	The current power source being used by the ThinkPad computer (battery or On-Line).
Docking Station	The current docking status of the ThinkPad computer (Docked or Not Docked).

System Health

UM Services automatically monitors the client systems for changes in a variety of system-environment factors, including temperature and voltage. Each monitored value has a System Health normal range. If the monitored value stays within normal range, the assumption is that the System Health is normal. However, if any of these monitored values falls outside of acceptable System Health parameters, UM Services can automatically generate five forms of output to alert the system administrator of this state change. The alert output generated by UM Services can include:

- **System Health** graphical user interface (GUI) window in UM Services
- Alert messages
- Alert messages sent as simple network management protocol (SNMP) traps
- Alert messages sent as System Management Server (SMS) status messages
- Common Information Model (CIM) events

You can use the System Health service to check the status of all health monitors supported by the client system. To start the System Health service, click **Information** → **Monitors** → **System Health** in the Services pane. The following interface opens in the Display pane.



The System Health interface provides information about the items described in the following table.

Item	Description
Health	The current state of the monitored device (Normal, Warning, or Critical).
Description	A description of the monitored device.
Time	The date and time stamp applied to for the health event. The format is MM/DD/YYYY hh:mm:ss.

Health reports are gathered from a variety of system devices. The health reports available on a client system are dependent on the availability of components that contribute to health reports. The following are some examples of potential System Health event messages and the circumstances that cause them:

Chassis Intrusion
If the system chassis has been opened, a warning System Health event is generated, regardless of the reason.

Fan Failure If the system cooling fan fails, a Critical System Health event is generated. This might be the only prediction of a temperature-related event.

LAN Leash LAN Leash detects if a client system is disconnected from the LAN, even when the computer is off. If a client system is disconnected from the LAN, a Critical System Health event is generated.

Low Disk Space
If free disk space is low, a Warning System Health event is generated.

Processor removed
If the microprocessor is removed from the client system, a Warning System Health event is generated.

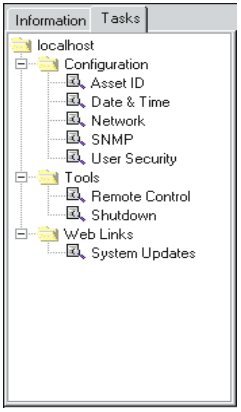
Temperature out of specification
If the microprocessor temperature is out of the specified range, a Warning System Health event is generated.

Voltage out of specification
If there is a dramatic change in the voltage of the power supplied to any part of the client system, a Warning or Critical System Health event is generated.

Predicted Failure Alert (PFA)
SMART-drive enabled systems generate events if operational thresholds on the hard drive are exceeded.

Tasks Tab

The services available from the**Tasks** tab help the system administrator manage the client systems. Users with less than system-administrator authority can view the available screens, but only system administrators can change or update system configurations and use the available tools.



UM Services displays only the tasks associated with what is installed on a client system. For example, if the Remote Control feature is not installed on a client system, the task Remote Control (under Tools) is not displayed for that system. Requirements and optional installations are noted under each task heading. Certain security levels are required for users to view or edit selected features in the UM Services program. See “User Security” on page 78 for additional information.

The Tasks services are divided into three main categories:

- Configuration
- Tools (beginning on page 84)
- Web Links (beginning on page 87)

The sections that follow describe each of the services available from the **Tasks** tab.

Configuration

There are six setup options associated with the Configuration task.

- Alert on LAN
- Asset ID
- Date and Time
- Network

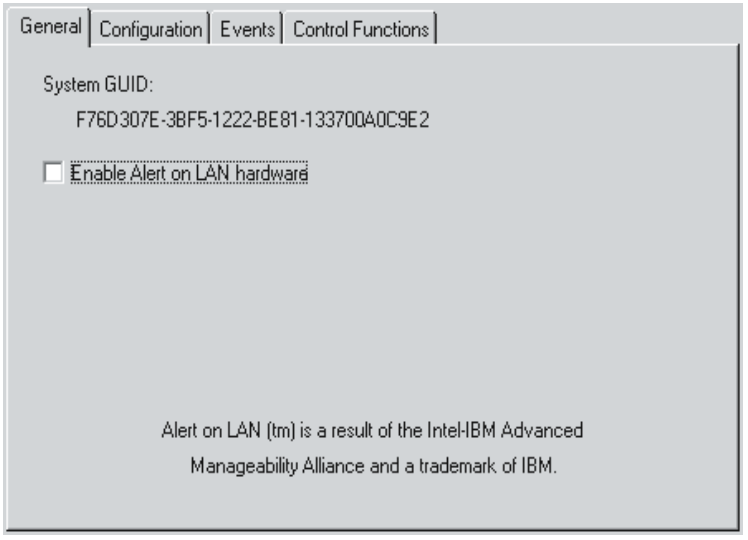
- SNMP
- User Security

Alert on LAN

Note: Alert on LAN is displayed in the task list only for IBM PC 300PL and IntelliStation computers on which Alert on LAN hardware is installed.

A user with administrative security status can use the Alert on LAN task to set the options related to network system alerts.

To start the Alert on LAN service, click **Tasks** → **Configuration** → **Alert on LAN** . The following interface opens in the Display pane.



The Alert on LAN interface provides information about the items described in the following table.Each section in the Table denotes a tabbed window within the Alert on LAN Configuration Task.

Item	Description
General Tab	
System UUID	A Universally Unique ID (UUID) is assigned to each system board for system-management purposes. The UUID is stored in the BIOS on the system board.
Enable Alert on LAN hardware	This option determines whether the system alerts are on or off. Select the check box to enable system alerts.
Configuration Tab	
Proxy server (IP address Port)	The internet protocol address for the server you use to communicate with the client systems. The IP address is assigned by the system administrator. (Default Port is 5500.)
Heartbeat timer period	The Alert on LAN proxy computer verifies that the client system is running. This is the number of seconds between system checks. The default value is 32. The enabled heartbeat timer period values range from 43 to 5461 seconds and can be set in intervals of 43 seconds.

Item	Description
Watchdog Timer Period	If the watchdog timer indicates that a client system has stopped, the watchdog timer automatically sends a message to the proxy computer. This is the period between polls for the watchdog timer (measured in seconds). The default value is 43. The watchdog timer period values range from 86 to 5461 seconds and can be set in intervals of 86 seconds.
Transmission attempts	The number of retries for transmission after the client stops. The default value is 30.
Event Polling Period	The polling period for software problems. The default value is 30.
Events Tab	
Cover Tamper	If the cover of the managed system has been opened or removed, an event message is generated.
LAN Leash Tamper	LAN Leash detects if a client system is disconnected from the LAN, even when the computer is off. If a client system is disconnected from the LAN, an event message is generated.
Temperature Out of Specification	If the microprocessor temperature is out of the specified range, an event message is generated.
Watchdog	If the operating system of the managed system is not functioning, or is in a “hung” state, an event message is generated.

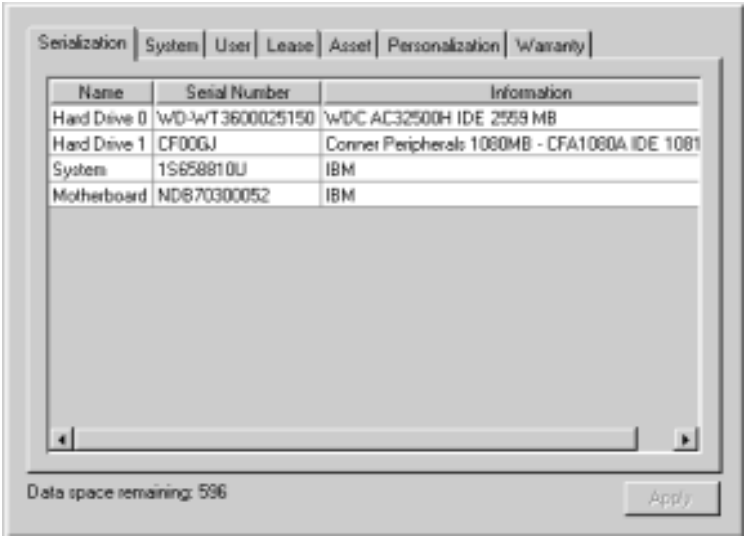
Item	Description
Voltage Out Specification	If there is a dramatic change in the voltage of the power supplied to any part of the client system, an event message is generated.
Auto-clear events	If this option is enabled, the client system sends an alert each time the condition is present (multiple alerts). If this option is disabled, the system sends an alert for a condition only once (no reminder alerts).
Events Enabled	Selecting this option enables all events to be monitored. To select an individual event, check the particular event in the **Enable** row.
Clear All Events	Select this option and click **Apply**, to clear the events log.
Control Functions Tab	
Power Down	Receives this message as a system state report.
Power Up	Receives this message as a system state report.
Reboot	Receives this message as a system state report.
Presence Ping	Returns the message that the system is not on but is still connected to the network.

If you make changes to any of the Alert on LAN default user options, click **Apply** to save the changes and return to the UM Services main window.

Asset ID

The Asset ID service contains the hardware information for the client system. To start the Asset ID service, click **Asset ID** in the

Configuration pane. The Asset ID interface contains the following interfaces:



Serialization

Click the **Serialization** tab to display serial numbers for the client system hardware.

System Click the **System** tab to display the current client system characteristics: system name, MAC address, user login name, operating system, UUID address, IBM LAN Client Control Manager (LCCM) Profile.

User Click the **User** tab to display the user profile: user name, phone number, work location, department, and professional position.

Lease Click the **Lease** tab to display the information on the lease agreement for the client system hardware.

Asset Click the **Asset** tab to display the inventory factors related to the client system.

Personalization

Click the **Personalization** tab to display the free-form screen where you can add information on your systems, users, or computers.

Warranty Click the **Warranty** tab to display the information on the warranty agreement for the client system hardware.

When you click **Asset ID** from the UM Services task list, the system displays the Serialization screen. To access any of the other Asset ID screens, click the appropriate tab.

Serialization

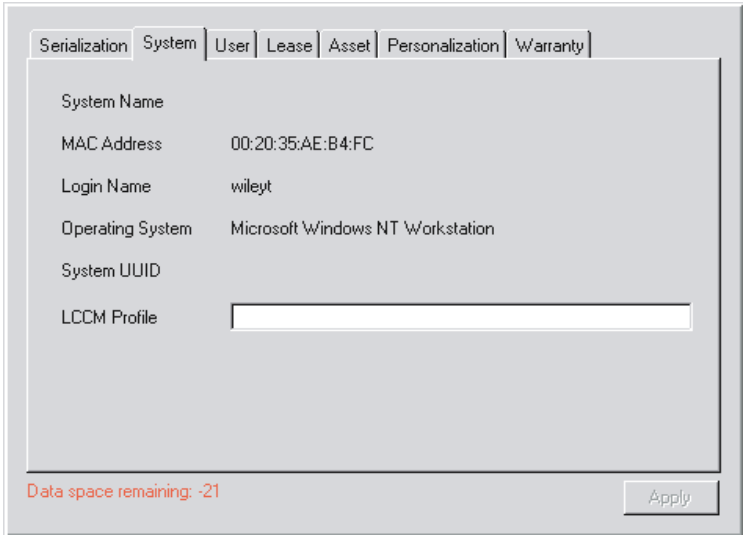
Click the **Serialization** tab to display the Serialization interface. The Serialization interface displays the serial numbers for the various components in the client system.

The Serialization interface provides information about the items described in the following table.

Item	Description
Name	The hardware component name.
Serial Number	The serial number for the hardware component.
Information	Descriptive information for the hardware component.

System

Click the **System** tab to display the System interface. The System interface displays information about the client system.



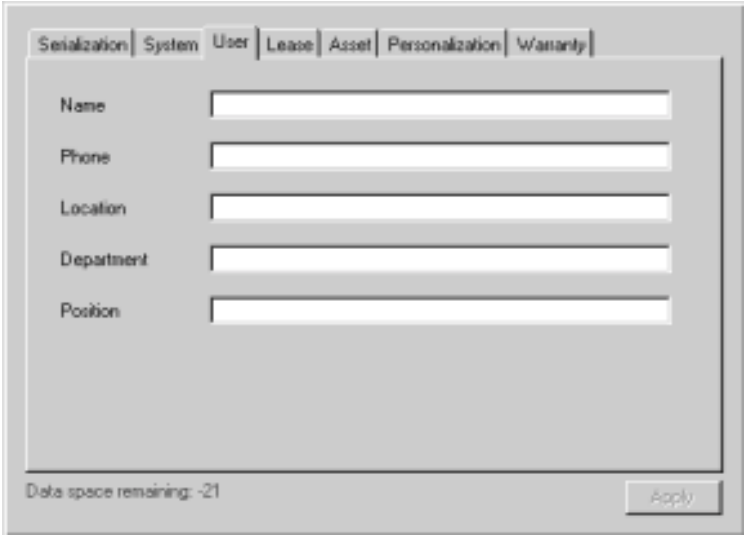
The System interface provides information about the items described in the following table.

Item	Description
System Name	The NetBEUI name of the client system (the computer name as it appears under Network Properties). NetBEUI is NetBIOS extended user interface, and NetBIOS is network basic input/output system.
MAC Address	The unique hexadecimal character string that identifies the network adapter in the client system.
Login Name	The user ID that the system administrator assigned at installation.

Item	Description
Operating System	The operating system (for the management server or for the computer where UM Services resides).
System UUID	The client system Universally Unique Identifier (UUID). This is your BIOS unique ID number.
LCCM Profile	The profile name of the IBM LAN Client Control Manager (LCCM), if applicable.

User

Click the **User** tab to display the User interface. The User interface displays information about the logged-in user.

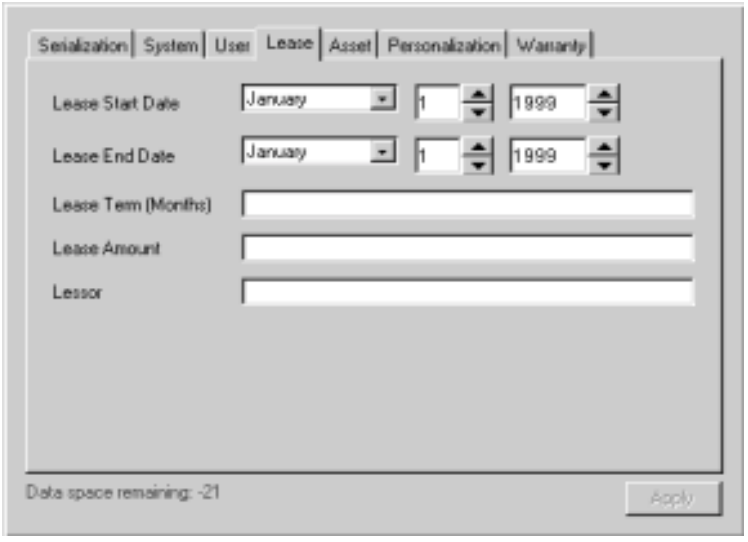


The User interface provides information about the items described in the following table.

Item	Description
Name	The user login name.
Phone	The user phone number.
Location	The user office location.
Department	The user department name or number.
Position	The user job title.

Lease

Click the **Lease** tab to display the Lease interface. The Lease interface displays lease information for the client system.

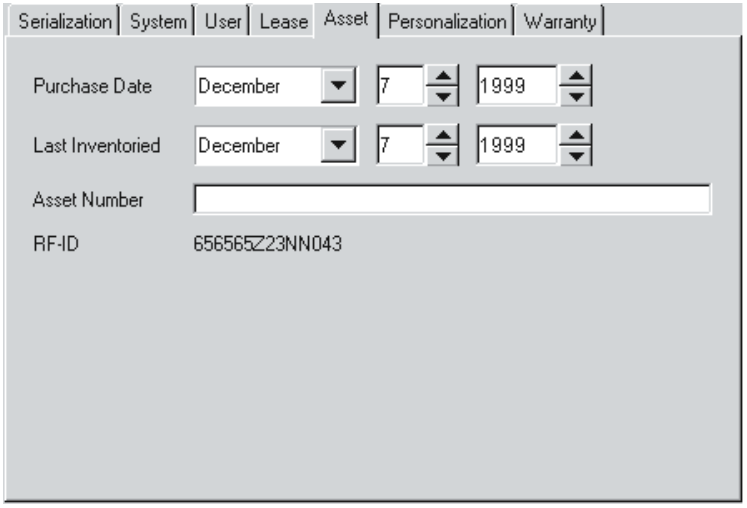


The Lease interface provides information about the items described in the following table.

Item	Description
Lease Start Date (mm/dd/yy)	The date that the lease agreement began.
Lease End Date (mm/dd/yy)	The date that the lease agreement ends.
Lease Term (months)	The number of months for which the client system is leased.
Lease Amount	The total price of the lease agreement.
Lessor	The name of the company that leased the client system.

Asset

Click the **Asset** tab to display the Asset interface. The Asset interface displays inventory information about the client system.



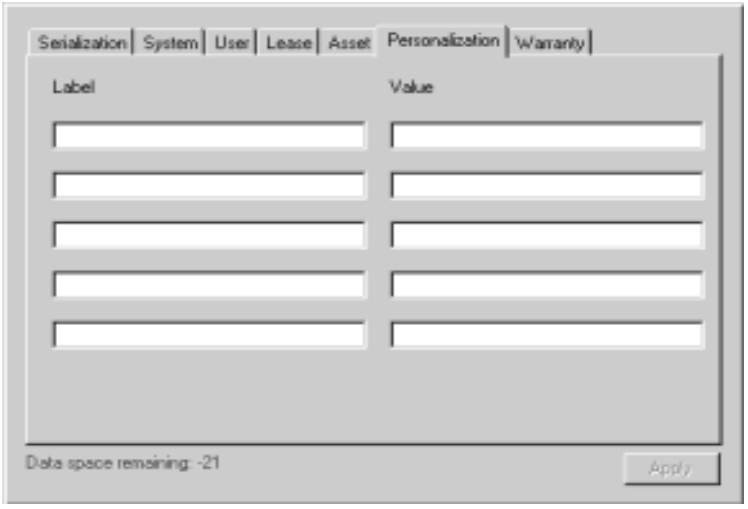
The Asset interface provides information about the items described in the following table.

Item	Description
Purchase Date (mm/dd/yy)	The date the client system was purchased.
Last Inventoried (mm/dd/yy)	The date of the last inventory check.
Asset Number	A unique number that is assigned to the client system for inventory purposes.
RF-ID	The radio-frequency identification (RF-ID) number encoded in the client system by the manufacturer. Not all computers have RF-ID capabilities. This is a fixed field and cannot be changed.

Personalization

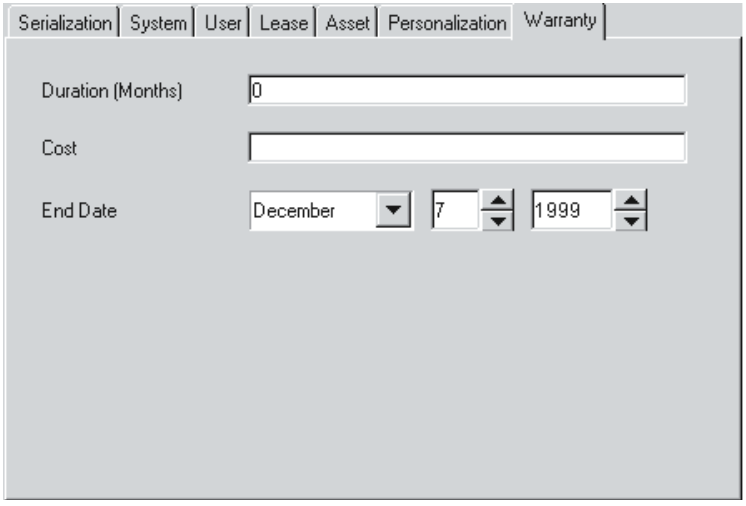
Click the **Personalization** tab to display the Personalization interface.

The Personalization interface is a free-form window where you can enter information about your users, system, or computer. There is a 32-character maximum for each of these fields.



Warranty

Click the **Warranty** tab to display the Warranty interface. The Warranty interface displays information about the warranty on the client system.



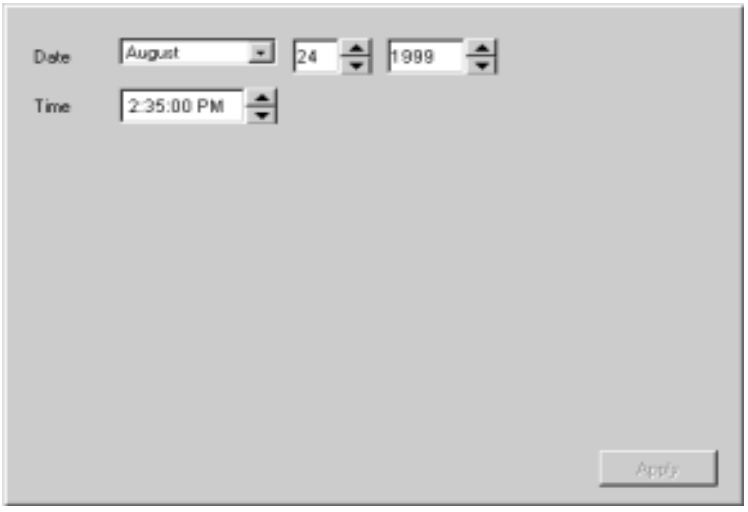
The Warranty interface provides information about the items described in the following table.

Item	Description
Duration (months)	The duration of the warranty agreement.
Cost	The total cost of the warranty.
End Date (mm/dd/yy)	The date that the warranty ends.

Date and Time

Use the Date and Time service to set the date and time that are displayed on the client system. For the date, you have separate fields for month, day, and year. For the time, you have a field for the local time.

To start the Date and Time service, click **Tasks** → **Configuration** → **Date and Time** in the Services pane. The following interface opens in the Display pane.



Network

The Network service provides information about your network. The following tabs are available under Network:

IP Address Provides routing information for your network.

DNS Provides information on the distributed database system used to map domain names to IP addresses.

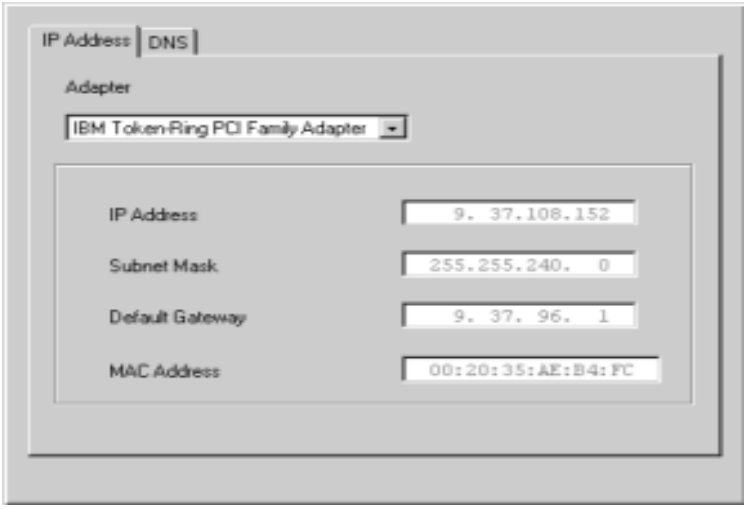
Modem Provides information on and characteristics of the modem attached to the client system.

When you click **Network** from the UM Services Tasks tab, the system automatically displays the screen associated with the **IP Address** tab. Select the DNS or Modem tab to view those screens.

IP Address Tab

The IP Address interface provides routing information for your network.

Click **Tasks** → **Configuration** → **Network** → **IP Address** to display the IP Address interface.



The following items are displayed on the IP Address screen.

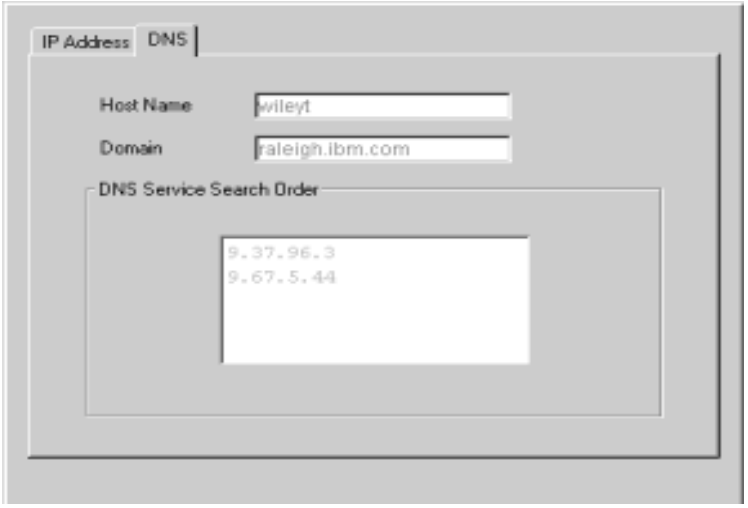
Item	Description
Network Adapter	Choose the appropriate network adapter from the drop-down list.
IP Address	The IP address of the client system.
Subnet Mask	A bit mask used to identify which bits in an IP address correspond to the network address and which bits correspond to the subnet portions of the address. The address mask has ones in positions corresponding to the network and subnet numbers and zeros in the host-number positions.
Default Gateway	The IP address for the default gateway server you are using to communicate with other networks.

Item	Description
MAC Address	The unique hexadecimal number that identifies the network adapter in the client system.

DNS Tab

Domain Name System (DNS) is the distributed database system used to map domain names to IP addresses.

From the UM Services task list, click **Tasks** → **Configuration** → **Network** → **DNS** tab to display the screen.



The following items are displayed on the DNS screen.

Item	Description
Host Name	The alphabetic identifier for your Netfinity server.
Domain	The domain name of the server or a network domain (IP address).

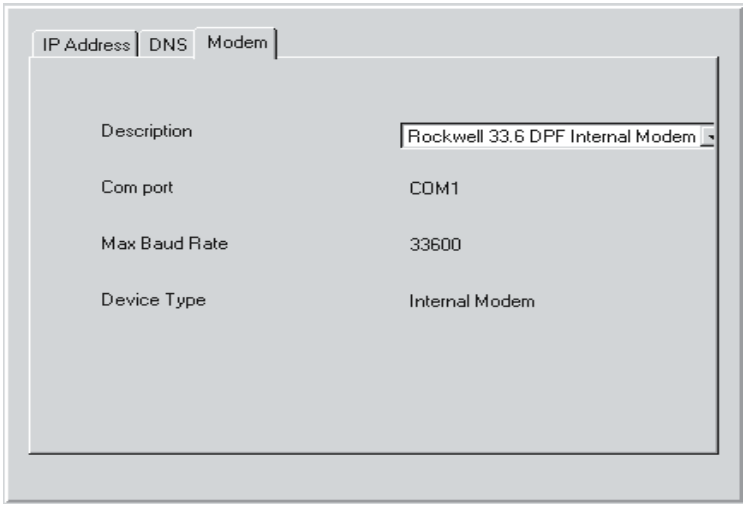
Item	Description
DNS Service	A list of IP addresses for the DNS server that is related to your Netfinity server.

Modem Tab

Note: The Modem tab appears only if a modem is connected to the client system or installed in the client system.

The Modem tab, which is located within the Network task if a modem is present, displays the characteristics of the modem.

Click the **Tasks** → **Configuration** → **Network** → **Modem** to display the Modem screen.



The following items are available from the modem screen.

Item	Description
Description	A description of the type of modem attached to the client system. Select the appropriate item from the drop-down list.

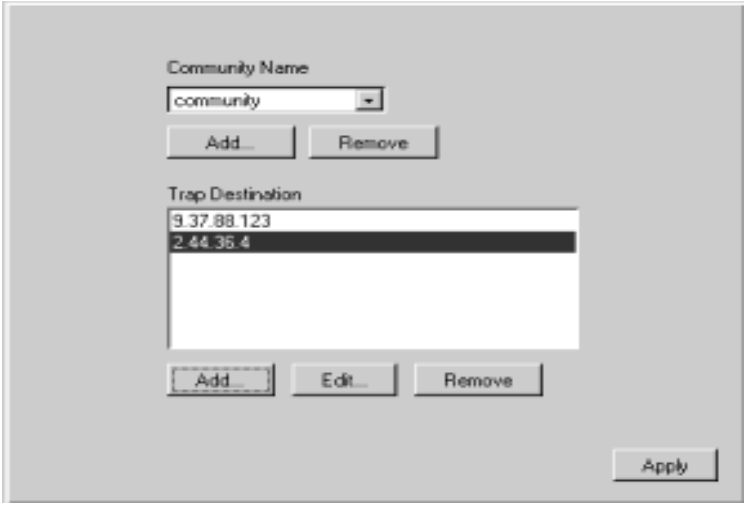
Item	Description
COM Port	The port to which the modem is connected (for example, COM 1).
Max Baud Rate	The maximum baud rate for the modem (for example, 28800).
Device type	Displays whether the modem is internal or external.

SNMP

Note: The SNMP task appears on the task list only if the SNMP service is installed on the operating system.

The SNMP task provides the ability to work with community strings that are used in network communication and to set trap destination addresses.

Click **Tasks** → **Configuration** → **Network** → **SNMP** to display the SNMP screen.



The following items are displayed on the **SNMP** screen.

Item	Description
Community name	A unique character string that identifies the community. The community name enables your network-management system (NMS) to verify that a server is authorized to take a specific action. If the server community name matches the community name assigned to the requested information or action, the NMS provides the information or action to the server. You can add or remove a unique community name.
Trap Destination	A list of network management system IP addresses to which the server can send alerts. You can add, remove or edit a trap destination. To modify a trap destination, select an IP address and click **Edit**.

User Security

The User Security option displays user names, provides the ability to add and remove user names, and sets the security level and password options for each user name.

Security Levels

The security level assigned to a user affects that user's ability to access the UM Services program, the ability to view, manipulate, and access selected features in the program. The following describes the security levels associated with UM Services.

Disabled A disabled user is not permitted to log in (usually a temporary state). The disabled state is not technically a security level, but is included here because users with Administrator privileges can use it to override other security levels and temporarily prevent access to the UM Services program.

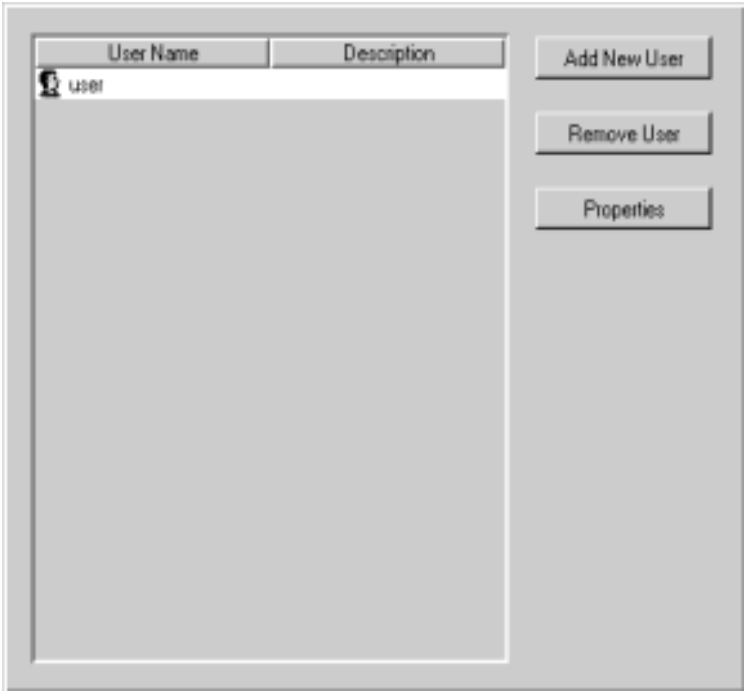
Browse, User, and Power User

Users with Browse, User, or Power User privileges can access much of the UM Services program. They cannot change settings or save entered information. In this release of the UM Services program, there are no practical differences between the Browse, User, and Power User privileges.

Administrator

Users with Administrator privileges have full control over the UM Services program. In addition to having full read and write access to the UM Services program, they can add new users, assign and change passwords, and assign security levels.

Click **Tasks** → **Configuration** → **Network** → **User Security** to display the following screen.



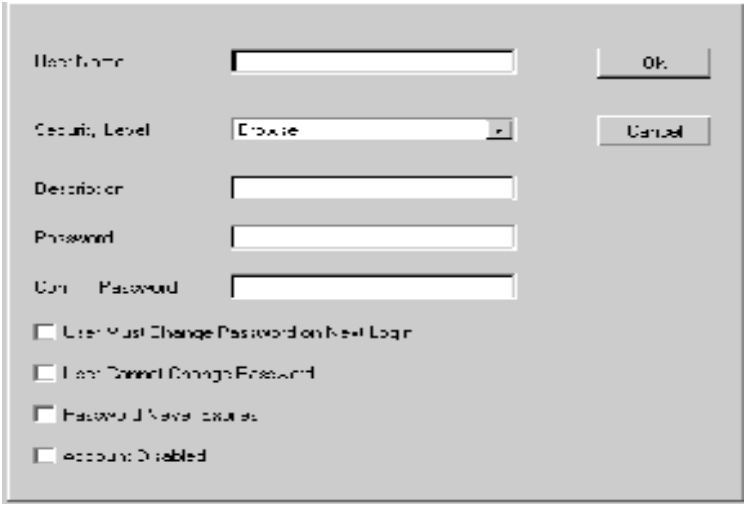
The following items are displayed on the User Security interface.

Item	Description
User Name	A unique name to identify the user. The user name is assigned when the new user is added (see “Adding a New User” on page 81).
Description	Information about the user, such as title, department, or reason for granting access to the UM Services program. This information is entered when the new user is added. This is a free-form field, with a 32-character maximum.

Adding a New User

Use the Add New User interface to add UM Services new users with the appropriate security levels and password options.

To display the Add New User interface, from the User Security screen, click **Add New User**.



The Add New User interface contains the following fields.

Item	Description
User Name	A unique character string that identifies the end user (32 characters maximum).
Security Level	The level of system access authority the user is granted. From the drop-down list, select the security level that is appropriate for the user you are adding.
Description Type	Information about the user, such as title, department, or reason for granting access to the UM Services program (32 character maximum).

Item	Description
Password Type	The user password (32 character maximum, case sensitive). There are no restrictions on the characters that can be used in passwords.
Confirm Password Type	This field must contain the same character string as the Password field (32 character maximum, case sensitive).
User Must Change Password at Next Logon	Select this check box if you want to force the user to change the password the next time the user accesses the UM Services program.
User Cannot Change Password	Select this check box if you want to prevent the user from changing the password. If this check box is selected, only someone with Administrator privileges can change the password.
Password Never Expires	Select this check box if you do not require the password to be changed at regularly scheduled intervals.
Account Disabled	Select this check box if you want to temporarily disable this user's access to the UM Services program. As a system administrator, you cannot disable your own account. This ensures that at least one account with Administrator privileges remains active.

The following table lists the user security levels.

Security Level	Description
Disabled	No access (temporary)
Browse	Limited read/write

Security Level	Description
User	Limited read/write
Power User	Limited read/write
Administrator	Read/write, lock/unlock, assign security levels, add new users and passwords

Notes:

- Disabled users can not access the UM Services program. Administrators can use the disabled state to override other security levels and temporarily prevent access to the UM services programs.
- Users with Browse, User, or Power User have similar privileges in this release of the product. Though these users can access much of the UM Services program, they cannot change settings or save entered information.
- Users with Administrator privileges have the highest degree of control over the UM Services program. In addition to having full read and write access to the UM Services program, they can add new users, assign and change passwords, lock and unlock selected features, and assign security levels.

Removing a User

You can use the User Security interface to remove a user from UM Services. To remove a user, do the following:

1. From the User Security screen, highlight the user you want to remove.
2. Click **Remove User**. The following message is displayed:

   ```
   Are you sure you want to remove user?
   ```

3. Click **Yes**. The user is removed.

Viewing User Properties

You can use the User Security interface to review or edit user properties such as description, security level, and password options. To view or edit user properties, do the following:

1. From the **User Security** interface, highlight the user that you want to view or edit.
2. Click **Properties**. The **User Properties** interface is displayed.

You can view or edit the properties listed in this interface.

Tools

There are two UM Services tools listed on the UM Services task list:

- **Remote Control —**Provides a way to control one computer to from another computer.
- **Shutdown —** Provides three shutdown options.

Remote Control

Notes:

- The Remote Control service appears on the task list only if the Remote Control option is installed on the client system. If you did not select Remote Control during the UM Services installation, the Remote Control option is not displayed.
- Remote Control is not supported when you use a Web browser or MMC to manage the client systems.

You can use the Remote Control interface to set configuration options for remote-control sessions.

Click **Tasks** → **Tools** → **Remote Control** to display the Remote Control interface.

The following items are displayed on the Remote Control screen.

Item	Description
Access type	The access type (**Monitor** or **Active**) determines whether you will monitor the client system or actively control it.
Grace period	Number of seconds before the management server takes active control of the client system. This is the number of seconds between the warning and the actual active control. If you are having trouble with the management server timing out, increase the grace period.
Proceed if timeout	This timeout option is associated with the grace period. If you select **Yes**, the management server automatically takes control of the client system if the grace period times out before you get a response from the client system.

Item	Description
Change state on Target	If you select **Yes**, the client system can take back control from the remote computer.
Desktop optimization	If you select **Yes**, you can disable the background wallpaper of the client system for faster transmission between computers.
Color reduction	For faster transmission between computers, you can compress the display on the client system. This number (**16**, **256**, or **Nothing**) represents the number of pixels to which the display will be compressed.
Enable compression	If you select **Yes**, the system compresses data for faster transmission between computers, but the user must wait for the compressed data to decompress after the transfer. If you are having difficulty transferring the data, enable compression.
Refresh rate	A numeric value that represents the delay time between the controlling computer and the client system. The default is 100 milliseconds.

Shutdown

The Shutdown service provides three options for shutting down your system:

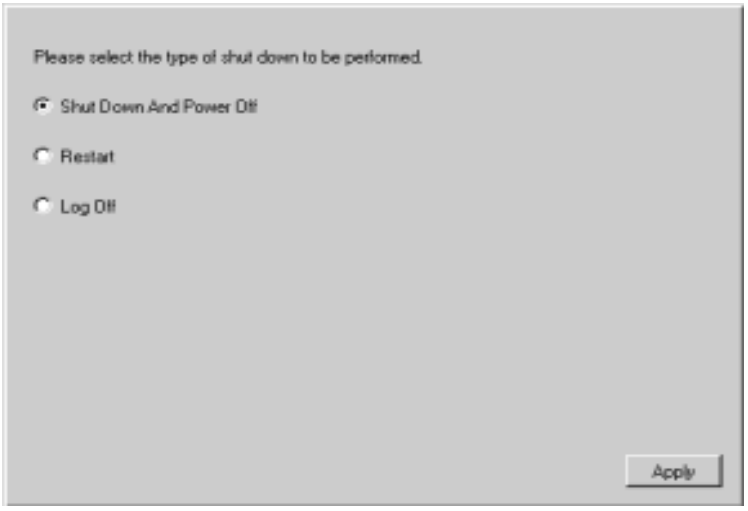
- **Shutdown and Power Off —** Shut down and turn off the computer.

  Note: Shutdown and Power Off is available only on systems that support and have enabled Advanced Power Management.

- **Restart —** Shut down and restart your computer without turning it off.

- **Log Off —** Log off your operating system without shutting down the computer.

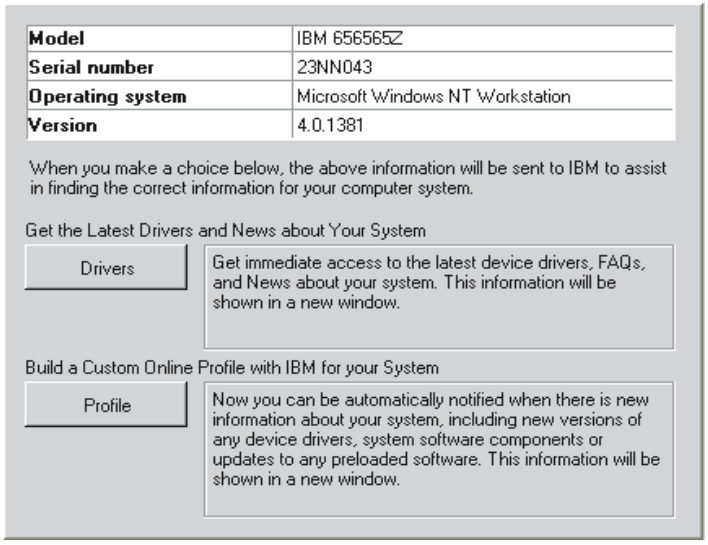
Click **Tasks** → **Tools** → **Shutdown** from the UM Services task list to display the following screen.



Web Links

Use the **System Updates**option to connect to an IBM Internet site that provides updated information for your specific system. This option works only if you have the ability to connect to the Internet.

Click **Tasks** → **Tools** → **System Updates** from the UM Services task list. The System Updates screen opens.



The following items are available from the System Updates screen.

Item	Description
Table of machine information	The client system model number, serial number, operating system, and version number.
Get the latest drivers and news about your system	Immediate access to the latest device drivers, technical information, and news about the client system.
Build a custom online profile with IBM for your system	Be notified automatically when there is new information about the client system.

4

Upward Integration Modules

This chapter provides information on installing and using Upward Integration Modules (UIMs) on supported system-management platforms.

UIMs enable workgroup- and enterprise-level system-management products to interpret and display data provided by clients running UM Services. The modules provide enhancements on the management server that enable the system administrator to start UM Services from within the system-management platform, collect UM Services inventory data, and view UM Services alerts. UIMs are provided for the following system-management platforms:

- Tivoli Enterprise, including Tivoli Framework 3.6, Tivoli Software Distribution 3.6, and Tivoli Enterprise Console 3.6
- Tivoli NetView 5.1.1 and 6.0 for Windows NT
- CA Unicenter TNG Framework for WIN32 Version 2.2, AIM IT Version 3.0, Asset Management Option 3.0, SHIP IT Version 2.0, Software Distribution Option 2.0
- Intel LANDesk Management Suite 6.3
- Microsoft SMS 1.2; Microsoft SMS 2.0

The UM Services installation program enables you to install the Alert on LAN Proxy agent on your system-management platform. The Alert on LAN Proxy is not a UM Services UIM, but this proxy agent must be installed on your system-management platform to receive Alert on LAN messages from Alert on LAN-enabled client systems.

Installing Upward Integration Modules

The method used to install an Upward Integration Module depends on the system-management platform for which you are installing support.

- If you are installing the Tivoli Enterprise Plus Module, see "Installing the Tivoli Enterprise Plus Module" on page 91.
- If you are installing Intel LANDesk Management suite integration, see "Intel LANDesk Management Suite Integration" on page 115.
- If you are installing an Upward Integration Module for any other supported system-management platform or are installing the Alert on LAN Proxy agent, use the UM Services installation program to install the UIM on the system-management platform. Copy the UM Services installation files to a directory on the system-management system and then go to the same platform-specific section of this chapter for additional installation instructions and usage information.

Systems Management Platform	Additional Information
Tivoli NetView	"Tivoli NetView 5.1.1 and 6.0 Integration" on page 99
CA Unicenter TNG	"CA Unicenter TNG Framework Integration" on page 108
Microsoft SMS	"Microsoft SMS Integration" on page 117

- If you are installing the Intel Alert on LAN Proxy on your system-management platform, see "Installing Intel Alert on LAN Proxy" on page 126.

Tivoli Enterprise Plus Module Integration

Tivoli Enterprise is part of Tivoli Management Environment (TME)10. The Tivoli Enterprise UIM adds a module that enables a system administrator using Tivoli Enterprise to manage client systems that have

UM Services installed. For example, the system administrator can shut down, restart (shut down and restart), and wake up any selected client system that has UM Services installed.

Installing the Tivoli Enterprise Plus Module

Notes:

- The TMR Gateway in Netfinity Director is not a true Tivoli Enterprise Framework gateway. You cannot:
  - Migrate endpoints to Netfinity Director
  - Assign the gateway to the endpoint using the **lcs.login_interfaces** setting
  - Use any of the **w** commands.

  The Netfinity Director TMR Gateway is designed to only listen for the login broadcast requests from the endpoint and will make one downcall at that time, the Director client installation. An endpoint usually attempts to contact known gateways. The endpoint can be configured to broadcast in an attempt to find a TMR, if a known gateway cannot be reached.

  To enable communication between the endpoint and the Netfinity Director TMR Gateway, you must configure the endpoint broadcasting feature. Set the bcast_disable parameter in the lasg.cfg file of the endpoint to **0** (the default). For best results, shutdown any true TMR Gateways that may be running in the broadcast space of the Tivoli Management Agent endpoint. See the UM Services deployment instructions on page 97 for more information.
- The ID that you configure on the Director TMR Gateway discovery preferences dialog is just a placeholder. If you do not pass one to the endpoint during its login, login recognition does not occur. The ID has no preferred or set value and can be set to any set of alphanumeric characters.
- The Netfinity Director TMR Gateway does not interact with other Tivoli TMR gateways.

- Currently, Netfinity Director does not support the distribution of unique RSP files for installations using the TMR Gateway method.

Follow these steps to install the Tivoli Enterprise Plus Module:

1. Copy the Tivoli Enterprise Plus Module to a temporary directory on the system that is running Tivoli Enterprise.

   You can download the Tivoli Enterprise Plus Module from

   http://www.ibm.com/pc/ww/software/sysmgmt/products/ums

   The downloaded file is named **UM_Services.tar**

2. Use a file decompression program that supports the TAR file compression format to extract the contents of the file to a temporary directory, for this example, UM Services Plus for Tivoli.

3. Use the Tivoli Desktop to install the Tivoli Enterprise Plus Module.

   a. From the Tivoli Desktop menu, click **Install** → **Install Product**.

   b. Select your host and directory. Choose the temporary directory **UM Services Plus for Tivoli**, which contains the Tivoli Enterprise Plus Module files.

   c. Click **Set Media** → **Close**.

   d. Install the Plus Module Support link binaries first, and then install the UM Services Plus module for Tivoli. You must install the Plus Module on the Tivoli Management Region (TMR) and on any other managed nodes from which the Plus Module will be used.

      Notes:

      - Because of a limitation in Tivoli Enterprise 3.6, the only administrator roles that can install the Plus Module are root (for systems running UNIX) and administrators (for systems running Windows NT).

- When installing the Tivoli Enterprise Plus Module, the administrator must use a fully qualified Tivoli login name (in *name@domain* format).

Enabling Additional Functions

After you install the Tivoli Enterprise Plus Module, use the following information to enable additional functionality.

■ Enabling Wake on LAN® support

To use the Wake on LAN component, you must have a Java Virtual Machine installed on the computer on which the Plus Module is installed. Also, you must install the Inventory module and collect inventory from the client endpoints, before you attempt a wake up.

■ Enabling Software Distribution support

To enable Software Distribution support, install the Software Distribution Gateway from the Software Distribution CD onto a managed node before installing the UM Services Plus Module so that Tivoli endpoints can be targeted. Additionally, you must install the Software Distribution product on any managed node where the Plus Module is installed.

Note: The source path of the UM Services

1. Before you can distribute UM Services software, you need a source computer and a source directory that contains the UM Services installation files. This is your staging location for distributing software.You also need a destination drive and location (for example, **C:\temp**) on the target systems where the installation files will be copied. This destination drive and directory must exist on all client systems before you distribute the software.

   Notes:

   - The source path of the UM Services FilePack profile designates the root directory as the beginning of the installation. If you have changed or added to the installation file path

     `/Win32/Install/en`

then you must edit the correct path in the file **ums_fp_after.bat**.

For example, if you mount the Netfinity Director with UM Services CD on a system running Unix with a mount point of /cdrom, then you add the change directory command of

```
CD CDROM
```

before the other change directory commands. The edited section of the batch file will look like this:

```
REM Next line is Unix CDROM mount
CD CDROM
CD Win32
CD Install
CD en
```

- This destination differs from the final destination for the UM Services software (for example, **C:\program files\ibm\ums**, which must be configured with the **SETUP.ISS** file. For more information on editing the SETUP.ISS file, see "Modifying the SETUP.ISS File Manually" on page 121.

2. Before doing any software distribution, run the **Prepare for UM Services Install** service to configure a UM Services file package. Take the following steps:
   a. Double-click on the icon, **Prepare for UM Services Install**.
   b. In the **Source Host** field, type the machine name of the system where the installation files are located.
   c. In the **Source Path** field, type the directory path where the installation files are located.
   d. In the **Destination Path**, type the directory path of the managed system where the files are to be distributed.
   e. Click **Set and Close**.

f. Right-click on the icon, **Install UM Services**. In the pop-up menu, select **Distribute**.

3. You can distribute UM Services to any supported Windows operating system (Windows 95,Windows 98, or Windows NT 4.0 or later). A log file (named **umsinst.log**) records the results of the software distribution. The file is located in **%DBDIR%\..\tmp**.

Note: DCOM95 must be installed before you install UM Services on systems running Windows 95. DCOM95 is included with Internet Explorer 4.0 or later and NetScape Navigator 4.5 or later. However, if one of these browsers is not installed on the system on which you are installing UM Services, you must install DCOM95 first.

To install DCOM95 and the Microsoft Virtual Machine (both of which are used by UM Services), run the program named **msjavx86.exe**, included in the UM Services installation files. When this program finishes running, restart the system, delete (or rename) msjavx86.exe from the installation directory, and then install UM Services.

If you are distributing UM Services remotely to systems running Windows 95, be sure to distribute and install the msjavx86.exe program first. When running msjavx86.exe remotely, use the following command:

```
MSJAVX86 /Q /R:N
```

Then, restart the client system, delete (or rename) msjavx86.exe from the installation directory, and install UM Services.

- Installing the Inventory Gateway product

  Install the Inventory Gateway product from theTivoli Enterprise Inventory CD onto a managed node before you install the Plus Module. The Inventory Gateway product must be installed on a managed node where the Plus Module is installed.

- Enabling distributed monitors

  Distributed monitors are not supported on Windows 95 or Windows 98 endpoints. To enable distributed monitors on systems

running Windows NT, install the distributed monitor package on a managed node where the Plus Module is installed.

UM Services monitors the UM Services HTTP DAEMON and the SNMP subagent processes.

- Activating Tivoli Enterprise Console (TEC) integration

  To activate TEC integration, run the Setup TEC Event Server for the UM Services task on the TEC server.

  - TEC events from UM Services Monitors

    The UM Services SNMPCheck and HTTPCheck monitors send TEC events when the UM Services SNMP subagent or HTTP DAEMON processes stop. The events register, with the corresponding TEC indicator, changes its temperature icon depending on the severity of the event. Additionally, the events appear in the TEC console as members of the UM_Services_Plus Event Group.

    Note: The default configuration for each monitor is for critical responses only.

    To change the default settings in the **Edit Monitor** window, you first must select the critical response level. Otherwise, you will create a new configuration rather than change the existing one.

  - Automated actions in response to events sent by UM Services Monitors

    When the **httpserv.exe** and **snmp.exe** processes stop, the TEC server responds by restarting them automatically.

- Launching UM Services

  UM Services provides a Web browser-based console that you can use on any system that supports Netscape 4.5 or higher, Internet Explorer 4.01 or higher, and Java 1.1.7b or higher. This includes UNIX-based Tier 1 nodes. However, because the Tivoli application does not import system-wide environment variables on UNIX platforms, such as CLASSPATH, that are needed by UM Services, you must add the CLASSPATH environment variable to the Tivoli **setup_env.sh** or **setup_env.csh** scripts to enable UM

Services startup support. Also, under AIX, the MOZILLA_HOME variable that Netscape uses must be included in the **setup_env.sh** or **setup_env.csh** scripts. After you set these variables, run **setup_env.sh** to enable the launch support for UM Services in the Plus Module.

- Adding Plus Module icons

  The Plus Module installation automatically places launch icons in the collection window for every managed node in the TMR that has the Plus Module installed. The launch functionality for a specific managed node works only when you double-click the launch icon for that managed node (for example, Launch UM Services@<*hostname*>.)

- Managing large numbers of managed nodes

  For TMRs with a large number of managed nodes running the Plus Module, the number of launch icons in the Plus Module collection window can become excessive. You can remove some of these icons from the collection window by clicking an icon to highlight it and choosing **Remove** from the Edit menu. Alternatively, you can create a separate collection just for the launch icons by choosing **Create** → **Collection**, and then dragging and dropping the individual icons into the new collection.

  Note: In this case, the icons still must be removed from the original view.

- Deploying endpoints with UM Services

  Tivoli recommends deploying endpoints with a preconfigured gateway to help ensure their successful initial login. You can specify the gateway for a particular endpoint in the silent installation script **tmasetup.iss** that is included in the UM Services installation package. Open the file and scroll to:

  ```
  [SdShowDlgEdit3-0]
  szEdit1=9494
  szEdit2=9494
  szEdit3=-d1
  Result=1
  ```

The key

`szEdit1`

specifies the port through which the gateway communicates. It is 9494 by default. The key

`szEdit2`

specifies the port through which the endpoint communicates, also 9494 by default. The key

`szEdit3`

specifies any command lines to pass to the install action program. Use this key with the following flags to specify a gateway:

```
szEdit3=-d1 -g gateway host+ gateway
listening port
```

Using the Tivoli Enterprise Plus Module

Tivoli Enterprise Plus Module enables you to perform the following additional system-management tasks from the system where UM Services is installed:

- Configure UM Services for all platforms
- Conduct UM Services queries
- Obtain UM Services inventory on a client computer
- Use the UM Services indicators for monitors

You can also select a remote system and perform any of the following tasks remotely:

- Restart (shut down and restart) a UM Services client system.
- Shut down a UM Services client system.
- Wake up a UM Services client system.

To use the Plus Module to manage client systems:

1. From the Tivoli Management Framework window, double-click the Plus Module icon (found in the upper-right corner of the window). The **Plus Module** window opens.

Note: The items that appear on the **Plus Module** window depend on what you have installed on the computer that you are managing.

2. To be able to restart, shut down, or wake up a client computer, you must first select the client computer from a list of subscribers. Click the **UMS Subscribers** icon on the **Plus Module** window.

Tivoli NetView 5.1.1 and 6.0 Integration

Tivoli NetView can be used to manage clients running UM Services. To enable this functionality, you must use the UM Services installation program to install the UM Services NetView Upward Integration Module on the system that is running NetView Server.

Installing the Tivoli NetView Upward Integration Module

To install the Tivoli NetView UIM:

1. Establish an appropriate remote access policy.

   The NetView system administrator must have access privileges on every remote client system so that UM Services inventory data can be obtained for each client system. The easiest way to do this is to create a Windows NT domain in which every client is a member. The system administrator should be a member of the Domain Admins group. This enables the system administrator to access all the computers in the domain (and any trusted domains) without requiring further authentication.

2. Install UM Services on the client computers.

   Note that you must install the Web Based Access component on UM Services client computers to classify client systems as UM Services-capable. It is important to do this before installing the NetView UIM on the NetView server. For more information on installing UM Services on client systems, see “Chapter 2. Installing UM Services,” on page 15.

3. Use **dcomcnfg.exe** to enable DCOM connections on client systems running Windows 95 and Windows 98.

You can download **dcomcnfg.exe** from

http://www.microsoft.com/com/tech/DCOM.asp

Ensure that **CONNECT** level authentication and **IMPERSONATE** level impersonation are selected.

4. Start the UM Services installation program on the NetView server.

   To start UM Services installation, click **Start** → **Run**, and then type in the **Run** field:

   drive letter:*directory*\setup.exe

   where *drive letter* and *directory* are the drive letter and directory where you have decompressed the UM Services files that you downloaded from the Internet.

5. Click **OK**.

   The installation program displays the **Welcome** window, which advises you to exit from all Windows programs before you begin to install UM Services and notifies you of the copyright laws associated with UM Services.

6. Click **Next**.

   The installation program displays the **Select Language** window. Select the language to be used for this UM Services installation.

7. Click **Next**.

   The installation program displays the **License Agreement** window. Click **I Agree** to proceed.

   Note: You must agree to the terms of the License Agreement to install UM Services. If you click **I Disagree**, the installation program will close.

   The **Setup Options** window opens.

8. From the **Setup Options** window, click the **Workgroup/Enterprise Integration — Installs UM Services integration for management environments** button.

   The **Select Components** window opens.

9. Click **Tivoli NetView Upward Integration**, and then click **Next**.

   The installation program adds the UM Services SmartSet, loads UM Services MIB files, adds trap filters for UM Services SNMP traps, and adds menu items for starting and inventory collection into the NetView Tools menu.

10. When the installation is finished, restart the server.

    The integration setup program configures **nvsniffer.exe** to run after the system is restarted and has populated the UM Services SmartSet.

Starting UM Services on NetView Clients

NetView clients with the UM Services Web Based Access component installed can be targets for starting UM Services. To start UM Services on NetView clients:

1. Open the UM Services SmartSet and then select a client system.
2. From the **Tools** menu, click **Universal Manageability Services.**

   This selection will be disabled and unavailable if the client system you selected does not have the Web Based Access component installed.

UM Services starts on the selected client, using the management system default Web browser. A valid UM Services user ID and password are required to use UM Services to manage a remote client system.

Using Tivoli NetView 5.1.1 and 6.0 to Obtain Inventory Data

NetView clients with the UMSCIM Object capability can be targets for collecting UM Services WBEM-based inventory. Inventory data from UM Services clients can be collected in one of the following ways:

- From the command prompt.

  1. Create a new NetView sniffer configuration file.

     Open the file **nvsniffer.conf**.

  2. Replace the line, **wbem_discovery.conf**, with **ums_wbem.conf**.
  3. Save the file as **ums_wbem_discovery.conf**.
  4. While logged into the NetView server host with an account that is a member of the Domain Admins group, run nvsniffer.exe interactively from the command prompt:

     ```
     nvsniffer.exe -c
     /usr/ov/conf/ums_wbem_discovery.conf
     ```

- From the NT Schedule service.

  Use the NT Schedule service to run **nvsniffer.exe**.

By default, NetView configures the Schedule service to run **nvsniffer.exe** daily at 1:00 a.m. However, because UM Services inventory collection relies on a remote DCOM connection to the client computer to access its WBEM repository, you must reconfigure the Schedule service to log in as a user with remote access privileges on the client system.

To reconfigure the NT Schedule service, do the following:

1. Select the **Control Panel** → **Services**.
2. Select the Schedule service.
3. Click **Startup** and configure the service to **Log On As a user** to join the Domain Admins group.

■ From the NetView Console.

1. Open the NetView console.
2. Open the SmartSets submap.
3. Open the UM Services SmartSet.
4. Select a system in the submap for which to collect inventory information.
5. Open the **Tools** menu and select the **UM Services Inventory** item.

   A pop-up menu displays the different categories of WBEM-based inventory information provided by UM Services on the client.
6. Select **Demand Poll** from the pop-up menu to have the data collected from each client in the Netview database.
7. To see the database logged UM Services inventory data from a particular system, from the command prompt type:

   ```
   ovobjprint -s <hostname>
   ```

   Note: If the client you selected does not have a UMSCIM Object capability (there is no remote access policy to the computer from the NetView server), the UM Services Inventory item will be disabled.

Viewing UM Services SNMP Data from NetView

During the installation of UM Services NetView integration support, trap filters for UM Services SNMP traps are added to the NetView trapd.conf file. Thus, when an SNMP trap is sent from a UM Services client, it can be viewed in the NetView Event Browser. Only traps of critical severity are filtered, and the default action is to change the icon color of the source computer from green to red. Traps indicate an abnormal environment condition on the UM Services client, such as chassis intrusion, a removed processor, or temperature out of range.

To configure the NetView console to display advanced menu items do the following:

1. Click **Options** → **Advanced** to configure the NetView console to display advanced menu items and query this data.
2. Shut down and reopen the NetView console.
3. Open the UM Services SmartSet and select a system from which to view SNMP data.
4. To start the NetView SNMP browser, open the **Tools** menu and click **MIB** → **Browser**. Ensure that the selected system node name is displayed in the **Node Name** or **Address** field, and click **Get Values**.

   Note: To view specific Alert on LAN SNMP traps, you must use the SNMP V2 browser. Click **MIB** → **SNMP V2** → **Browser**.
5. The NetView SNMP collection DAEMON will contact the UM Services SNMP subagent on the client system and query it for the data published in the UM Services MIB files.

Because SNMP support is an optional component of UM Services, and not a required component, not all systems in the UM Services SmartSet will have the UM Services SNMP subagent installed. Those that have the subagent installed will have UMSSnmp Object capability. The **is UMSSnmp** test is not enabled by default in **nvsniffer.conf**, but can be enabled by opening the **nvsniffer.conf** and removing the comment symbol from the line that begins with is **UMSSnmp**.

Forwarding SNMP Trap Information

UM Services forwards SNMP trap alerts to the NetView administrator for critical IBM sytem environmental conditions, low disk space, a failing hard drive, and a system being removed from a LAN. During the installation of the UM Services upward integration support for NetView, these traps are added to NetView's **trapd.conf** file with their Trap Properties configured using the **addtrap.exe** utility.

UM Services forwards the following SNMP traps to the NetView server workstation:

- iBMPSG_TemperatureEvent
- iBMPSG_VoltageEvent
- iBMPSG_ChassisEvent
- iBMPSG_FanEvent
- iBMPSG_StorageEvent
- iBMPSG_SMARTEvent
- iBMPSG_LANLeashEvent

The following list describes the default properties configured for UM Services SNMP traps:

Enterprise: ibm

Trap-Type: Specific <Last field of NOTIFICATION-TYPE OID>

Trap Name: <Label of NOTIFICATION-TYPE>

Display the Trap Category as:
Status Events

With Severity:
Critical

From this Source:
Load MIB

Object Status for Specific Traps:
Critical/Down

Event Description:
<Event> condition critical

Run this command when the trap is received:

“”

Run as: Hidden Application

The MIB file describing the traps is named **umsevent.mib** and is installed in the

`%NV_DRIVE%\usr\ov\snmp_mibs`

directory. Client systems must have SNMP support installed and the UMSSnmp Object Property before they can forward UM Services SNMP traps.

Additionally, the installation program adds placeholders for the following traps, which will be implemented by UM Services in the future:

- iBMPSG_ProcessorEvent
- iBMPSG_AssetEvent
- iBMPSG_POSTEvent
- iBMPSG_ConfigChangeEvent
- iBMPSG_LeaseExpiration
- iBMPSG_WarrantyExpiration

Alert on LAN 2.0 Traps

The Alert on LAN 2.0 networking hardware that is present on certain IBM systems, such as the IBM 300 PL, also has the ability to send alerts when it detects abnormal environmental conditions or system tampering. These alerts are sent to the AOL 2 Proxy tool that can be installed from the UM Services install program by selecting **Workgroup/Enterprise Integration** and then **AOL Proxy**. (For more information, see “Installing Intel Alert on LAN Proxy” on page 126.)

Once the tool is installed, the administrator can configure AOL 2 clients to forward their alerts to the system with the AOL 2 Proxy tool. Once the alerts reach the AOL 2 Proxy system, they are converted to SNMP traps and can be forwarded to the NetView Event Browser

The traps forwarded by AOL 2 Proxy are defined in the **aolntrap.mib** and **aolnpet.mib** files. The files are loaded into NetViw's SNMP MIB

loader when the UM Services upward integration support for NetView is installed. Both MIB files describe the same traps except in different formats. Therefore, it is recommended that one of the MIB files should be unloaded. Specifically, **aolntrap.mib** defines traps whose packets are formatted in the traditional way and **aolnpet.mib** defines traps whose packets are formatted in a way that complies with the newer Intel pET standard.

The traps defined in both MIB files are added to **trapd.conf**. To view the traps, do the following.

1. From the NetView console, click on **Trap Settings**.
2. For aolntrap.mib traps, select **Enterprise Intel, ID 1.3.6.1.4.1.343**.

   For aolnpet.mib traps, select **Enterprise Intel, ID 1.3.6.1.4.1.3183**.
3. Open **Event Details**.

Netfinity Director Traps

During the installation of the UM Services upward integration support for NetView, a trap filter for Netfinity Director is added to **trapd.conf**. This filter allows Administrators to view SNMP traps forwarded from the Netfinity Director Management Server received from a Netfinity Director agent. Netfinity Director only supports one trap type.

To view the details of the trap, including the description, severity, and origin, do the following.

1. From the NetView console, click on **Trap Settings**.
2. Select **Enterprise IBM, ID 1.3.6.1.4.1.2.6.146**.
3. Open **Event Details**.

MIB Browsing

By default, the UM Services upward integration support for NetView installation program loads the UM Services MIBs using the **loadmib.exe** utility. These MIBs comply with the SMIv1 standard, and therefore the SNMP MIB Browser must be used when browsing UM Services systems. In addition, target systems must be installed with the

UM Services SNMP Support install option. See the “Installing UM Services” on page 20 for more information.

CA Unicenter TNG Framework Integration

You can use CA Unicenter TNG Framework to manage client computers that have UM Services. The UM Services integration for Unicenter TNG Framework supports the generation of custom MIF files for the AimIT or Asset Management Option repositories. You can also discover IBM client systems running UM Services, launch IBM UM Services, and create an IBM UM Services software distribution package for installing on client computers.

Configuring CA Unicenter TNG Framework

To receive SNMP traps from UM Services, you first must configure the SNMP trap server to receive UMS Service alerts (critical only) from IBM computers that have UM Services installed. To activate the SNMP trap service, perform the following steps:

1. Click **Start** → **Programs** → **Unicenter TNG Enterprise Management** (or **Unicenter TNG Framework**). Then click **Enterprise Managers**. A window with a **Windows NT** computer icon opens .
2. Double-click the **Windows NT** icon. A window with three options: Calendar, Configuration, and Event opens.
3. Double-click the **Configuration** icon. The **Settings** window opens.
4. Double-click the **Settings** icon. The **Settings** window with tabs, a table and a list of items opens.
5. Select the **Component Activation Flag** at the bottom and the **Client Preferences** tab on the right, and then scroll to the row with **SNMP Trap Server Activated** in the **Description** field.
6. In the **Settings** column, the value should be **YES**. If it is not, double-click the **Setting** box. Click the **YES** option.
7. Click the **Server Preferences** tab, and scroll to the row with **SNMP Trap Server Activated** in the **Description** column.

8. In the **Settings** column, the value should be **YES**. If it is not, double-click the **Setting** box. Click the **YES** option.
9. Set the Windows NT SNMP Trap service to manual by doing the following:
   a. Click **Start** → **Settings** → **Control Panel.**
   b. Double-click **Services**.
   c. Double-click **SNMP Trap Service** .
   d. Set the Startup type to **Manual**.
10. Start all CA Unicenter TNG Enterprise Management services. Open a command prompt window and type:

    ```
    UNICNTRL START ALL
    ```

11. Exit from any Unicenter TNG Framework applications that are running.
12. If you have not restarted the computer since the CA Unicenter TNG Framework was installed, do so now.

Installing the CA Unicenter TNG Framework Upward Integration Module

To install the CA Unicenter Upward Integration Module:

1. Start the UM Services installation program on the CA Unicenter server.

   To start UM Services installation, click **Start** → **Run**, and in the **Run** field, type:

   x:***_directory_**\setup.exe

   where *x* is the drive letter and *directory* is the directory where the UM Services installation program is located.

2. Click **OK**.

   The installation program displays the **Welcome** window, which advises you to exit from all Windows programs before you begin to install UM Services and notifies you of the copyright laws associated with UM Services.

3. Click **Next**.

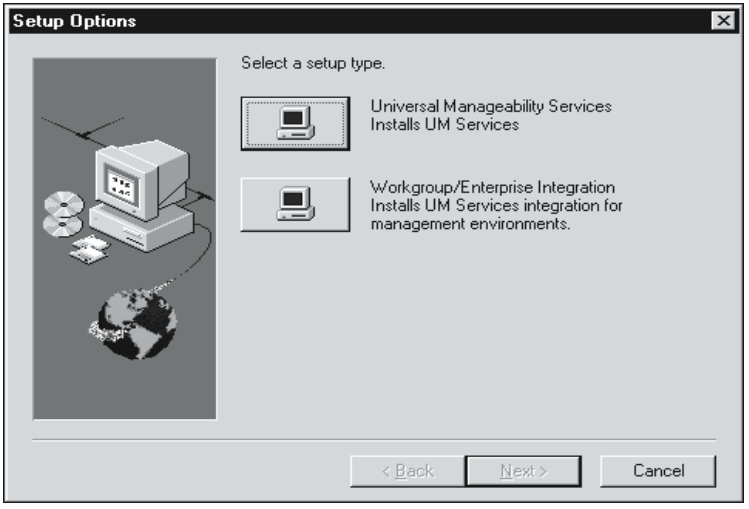
   The installation program displays the **Select Language** window. Select the language to be used for this UM Services installation.

4. Click **Next**.

   The installation program displays the **License Agreement** window. Click **I Agree** to proceed.

   Note: You must agree to the terms of the License Agreement to install UM Services. If you click **I Disagree**, the installation program will close.

   The **Setup Options** window opens.



5. From the **Setup Options** window, click the **Workgroup/Enterprise Integration — Installs UM Services integration for management environments** button.

   The **Select Components** window opens.

6. Click **CA Unicenter Upward Integration,** and then click **Next**.

   The installation program adds the UM Services UIM for CA Unicenter to the Unicenter server.

7. Click **Next**. A Unicenter TNG Framework window opens, prompting you to select a repository. Use the down-arrow or the

Find button to locate a repository, and then click **OK**. You are prompted for a user ID and a password. If a Unicenter TNG Framework session has been initiated before you installed UIM, use that logon procedure.

8. A command prompt window appears, and after a few moments CA Unicenter TNG Framework UIM installation completes. A notification is displayed and informs you that the installation is complete. Click **OK** to close this notification window.

9. You must restart the system to activate the CA Unicenter TNG Framework UIM. A window is displayed and prompts you to restart the system. Click **Restart** to restart the system immediately, or click **Cancel** to exit from the installation program without restarting the system.

Reclassifying Existing Devices

After installation, the Unicenter TNG Framework discovery process runs automatically and identifies IBM systems running UM Services, reclassifying them in Unicenter TNG Framework. However, there can be many existing computers that need to be reclassified. To reclassify existing devices:

1. Run the Reclassify utility by clicking **Start → Programs → IBM Integration with Unicenter TNG → Reclassify Systems in Unicenter TNG**.

   A Unicenter TNG Framework window opens, prompting you to select a repository.

2. Select the repository that you defined during setup. Click **OK** to start the Reclassify utility. A command prompt window opens and displays a message showing that it is finding existing Windows 95, Windows 98, or Windows NT computers that might have UM Services installed on them.

   The process reclassifies existing objects into IBM UM Services objects. These computers can receive UM Services inventory requests and can send SNMP traps.

   If there are many systems to reclassify, the reclassification process can take several minutes to complete. When the reclassification

process is finished, the command prompt window closes. You should have to run the Reclassify utility only once.

Using CA Unicenter TNG Framework UIM

The CA Unicenter TNG Framework UIM enables you to:

- Launch UM Services from the CA Unicenter TNG Framework 2D or 3D Map
- View UM Services inventory from the 2D Map
- Use AimIT to obtain inventory data from client systems
- View SNMP alerts sent by UM Services clients
- Use ShipIT to create a UM Services software package

Launching UM Services with CA Unicenter TNG Framework UIM

To launch UM Services from the CA Unicenter 2D or 3D map:

1. Click **Start** → **Programs** → **Unicenter TNG Framework** → **2D Map** (or **3D Map**). Select the respository defined in setup. The Unicenter TNG Framework Map opens with the **Managed Objects** window opened.
2. In the **Managed Objects**window, double-click the **IBM** icon. The **Computers** window opens.
3. Right-click the computer of your choice, and then select **IBM UM Service**s from the pop-up menu. The UM Services console opens.

Viewing UM Services Inventory from the 2D Map

When AimIT is integrated with CA Unicenter, it enables you to obtain inventory information on CA Unicenter clients. To use AimIT from the 2D Map to view inventory data on UM Services client inventory data:

1. From the **Managed Objects**window, double-click the **IBM** icon.
2. Double-click the client system for which you want information.
3. Right-click the **Inventory** icon, and then select **View** from the menu to open the AimIT Domain window.

4. Click the **Additional** bar at the bottom of the window. An additional inventory list window opens.
5. Click **UM Services Inventory**, and then select any inventory option. The inventory information appears on the right side of the window.

Using AimIT to View Inventory

AimIT can be used to view inventory. To start AimIT, do the following:

1. Click **Start** → **Programs** → **AimIt Workgroup Edition** → **Admin Console**. After you type the CA Unicenter password, the **AimIT Domain** window opens.
2. Double-click**Domain**. A window that contains a list of available domains and computers opens.
3. Click the **Computer** icon, and then double-click on a single computer for which you want to display the inventory. The inventory for the selected computer is displayed.
4. Scroll to the **Inventory** icon in the list, and click it to display primary inventory.
5. Click the **Inventory Browser** icon in the toolbar. The **Inventory**window opens.
6. Click the **Additional** bar at the bottom of the window. To open the window that displays the complete inventory list. You can view the inventory of UM Services by selecting an item under this category in the inventory directory.

Viewing UM Services SNMP Alerts

When an SNMP alert occurs, a banner scrolls at the top of the screen to notify you of the alert. To view all UM Services SNMP Alerts that have been received by the CA Unicenter Framework:

1. Click **Start** → **Programs** → **Unicenter TNG Enterprise Management** (or **Unicenter TNG Framework**). Then click **Enterprise Managers** to open a window with a **Windows NT**computer icon.

2. Double-click the **Windows NT** icon. A window with three options: Calendar, Configuration, and Event opens.
3. Double-click the **Event** icon. A window with three options: Console Logs, Messages, and Messages Action opens.
4. Double-click the **Console Logs** icon.

The **Console Log** window opens. The top of the window shows held messages. Held messages are deleted from the **Console Log** window after you reply to them.

Using ShipIT to Create a UM Services Software Package

You can use ShipIT to create a UM Services installation package, which can then be used to install UM Services onto CA Unicenter TNG Framework client systems.

Note: DCOM95 must be installed before you install UM Services on systems running Windows 95. DCOM95 is included with Internet Explorer 4.0 or later and NetScape Navigator 4.5 or later. However, if one of these browsers is not installed on the system on which you are installing UM Services, you must install DCOM95 first.

To install DCOM95 and the Microsoft Virtual Machine (both of which are used by UM Services), run the program named **msjavx86.exe**, included in theUM Services installation files. When this program finishes running, restart the system, delete (or rename) **msjavx86.exe** from your installation directory, and then install UM Services.

If you are distributing UM Services remotely to the system runningWindows 95, be sure to distribute and install the **msjavx86.exe** program first. When running **msjavx86.exe** remotely, use the following command:

```
MSJAVX86 /Q /R:N
```

Then, restart the client system, delete (or rename) **msjavx86.exe** from the installation directory, and install UM Services.

To create and distribute an installation package:

1. Set up a software package to distribute UM Services from the server to client computers by manually *copying* all of the UM Services installation files into the directory: **c:\TNGFW\IBM\SW_Distribution**
2. Manually run **rr_swdistrib.bat**, to set up the UM Services package into ShipIT Enterprise ED, WkgpEd, or Software Delivery Option (SDO), so that you can install it onto remote clients.
3. To use this ShipIT software, click **Start** → **Programs** → **ShipIt** → **SD Explorer**.
4. Using SDO, drag and drop the package onto the client systems.

Uninstalling the CA Unicenter TNG Framework Upward Integration Module

To remove the UM Services UIM from the Unicenter TNG Framework server, click **Start** → **Programs** → **IBM Integration with Unicenter TNG** → **IBM Integration with Unicenter TNG** → **Uninstall IBM Integration with Unicenter TNG**. After the uninstallation program finishes uninstalling the UIM, remove the modifications made to **umclient.bat**.

Intel LANDesk Management Suite Integration

Unlike other UM Services Upward Integration Modules, LANDesk Management Suite integration requires that an additional component be installed on each UM Services client. When installing UM Services on your client systems, be sure to select the LANDesk Management Suite Integration component from the **Select Components** window.

Remember: Do *not* select Web Based Remote Control when installing UM Services on clients that you will manage using LANDesk Management Suite. LANDesk Management Suite includes a remote control service that is not compatible with the Remote Control service included with UM Services.

For more information, see “Supported Systems-Management Environments” on page 16 and “Installing UM Services” on page 20.

Note: You can install UM Services on clients with the LANDesk integration option enabled, even if you have not yet installed LANDesk Management Suite on your network.

Integrating UM Services Clients into LANDesk Management Suite

You do not need to install additional software to your LANDesk Management Suite administration system to manage UM Services clients that have the LANDesk Management Suite component installed. To integrate UM Services clients into your LANDesk Management Suite environment, configure the batch file **ldinv.bat** to run periodically on each UM Services client. **ldinv.bat** generates custom MIF files that can be used by the LANDesk Management Suite inventory functions. Be sure to run **ldinv.bat** before **ldiscn32.exe** inventory collection. One method you can use to accomplish this task is described in the following procedure:

1. From a login script, run **ldinv.bat**, and then run**ldiscn32.exe** .
2. Create a login script that connects the system to the \LDLOGON share of the LDMS server.
3. Copy the contents of the **%UMS_HOME%\inventory\ldinv.bat** file into the script.
4. Remove the comment symbols from the command line for **ldiscn32.exe** that is included in the batch file and configure it with the name of the inventory server and its network address and any other desired settings. With this line active, whenever a user logs in, the login script generates a MIF file, output it to c:\dmi\dos\mifs (by default), and trigger an inventory scan that will update the LDMS inventory database.
5. Use the LANDesk scheduler to run **ldinv.bat** on each client at a predefined time.
6. Run **ldinv.bat** from the **Startup** folder of each client system. Ensure that **ldiscn32.exe** runs from **ldinv.bat** and that no other copies of **ldiscn32.exe** are run from the **Startup** folder.

Microsoft SMS Integration

Microsoft SMS can be used to manage clients running UM Services. To enable it, use the UM Services installation program to install the UM Services Microsoft SMS Upward Integration Module on the Microsoft SMS server.

Notes:

- After you have installed the Microsoft SMS UIM on the Microsoft SMS 1.2 or Microsoft SMS 2.0 Server or Console, you can use the SMS Software Distribution function to distribute UM Services to your SMS 1.2 or 2.0 client systems. A special installation program designed to facilitate this process, named **umsw32un.exe**, can be downloaded from the Web at:

  http://www.ibm.com/pc/ww/software/sysmgmt/products/ums

- DCOM95 must be installed before you install UM Services on systems running Windows 95. DCOM95 is included with Internet Explorer 4.0 or later and NetScape Navigator 4.5 or later. However, if one of these browsers is not installed on the system on which you are installing UM Services, you must install DCOM95 first.

  To install DCOM95 and the Microsoft Virtual Machine (both of which are used by UM Services), run the program named **msjavx86.exe**, included in the UM Services installation files. When this program finishes running, restart the system, delete (or rename) **msjavx86.exe** from your installation directory, and then install UM Services.

  If you are distributing UM Services remotely to systems running Windows 95, be sure to distribute and install the **msjavx86.exe** program first. When running **msjavx86.exe** remotely, use the following command:

  ```
  MSJAVX86 /Q /R:N
  ```

  Then, restart the client system, delete (or rename) **msjavx86.exe** from the installation directory, and install UM Services.

Installing the Microsoft SMS Upward Integration Module

Installing UIM on the SMS 1.2 server adds a resource file (**ibmsmsresdll**) and bitmaps for IBM features, and provides a ***.atd** file that is used by **smsaddin.exe** to add features to the **Tools** menu of the SMS console.

During installation of the UIM on the SMS 2.0 server, the SMS console is configured with the queries, collections, and tools specific to UMS. Also, the installation provides a Microsoft Management Console (MMC) snap-in module that adds a context to the client systems. The UMS-specific menu items appear only on systems that have UMS installed.

1. Start the UM Services installation program on the Microsoft SMS Console or Server.

   To start UM Services installation, click **Start** → **Run**, and in the **Run** field type:

   ```
   drive letter:\directory\setup.exe
   ```

   where *drive letter* and *directory* are the drive letter and directory where you have decompressed the UM Services files that you downloaded from the Worl Wide Web.

2. Click **OK**.

   The installation program displays the **Welcome** window, which advises you to exit from all Windows programs before you begin to install UM Services and notifies you of the copyright laws associated with UM Services.

3. Click **Next**.

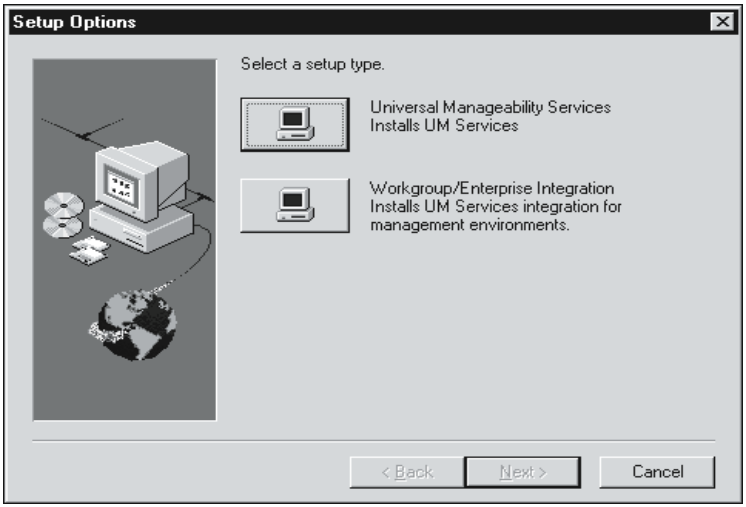
   Select the language to be used for this UM Services installation. The installation program displays the **Select Language** window.

4. Click **Next**.

   The installation program displays the **License Agreement** window. Click **I Agree** to proceed.

Note: You must agree to the terms of the License Agreement to install UM Services. If you click **I Disagree**, the installation program will close.

The **Setup Options** window opens.



5. From the **Setup Options** window, click **Workgroup/Enterprise Integration — Installs UM Services integration for management environments**.

   The **Select Components** window opens.

6. Click **Microsoft SMS Upward Integration** and then click **Next**.

7. Select the version of Microsoft SMS for which you are installing support and then click **Next**. The installation program adds the UM Services UIM to your Microsoft SMS system.

Customizing the SMS Installation

Use the following procedure to modify the UM Services installation routine and to create a new UM Services installation executable file. This procedure requires a compatible compression utility program, such as WinZip, to decompress the original file and to create a new executable file with preset command-line instructions.

Note: In order to customize the UM Services installation file (UMSW32UN.EXE) properly, the compression utility must meet the following basic requirements:

- Has the ability to extract files into a temporary directory
- Allow user to edit and delete compressed files
- Contains a self-extracting process that creates a user defined installation executable file, with the ability to set up specific start-up commands

To create a new UM Services installation file, do the following:

1. Use Windows Explorer to locate the file **UMSW32UN.EXE**.
2. Using the compatible compression utility program, extract the components files of UMSW32UN.EXE into a temporary directory.
3. Edit the extracted file, **SETUP.ISS**, to select the installation components to install for your particular configuration.

   See “Modifying the SETUP.ISS File Manually” on page 121 for more information.
4. To reduce the size of the new package, delete **Tivoli.z** or **Netfin.z** from the temporary directory if they are not required for downloads.
5. Select all the extracted files, including SETUP.ISS, and create a new compressed file with the filename UMSW32UN.
6. Open your self-extracting executable file program using the compressed UMSW32UN file.
7. Label the new file, **UMSW32UN.EXE**.
8. In the Command To Issue field (after the self-extraction operation completes), type:

   en/um_setup.exe -S -SMS.

   Note: To have the client system reboot after installation type:

   en/um_setup.exe REBOOT -S -SMS
9. In the Wait For field, type

   _ISDEL

10. Click **OK** to save the new file.

A customized UM Services installation executable file is created.

Modifying the SETUP.ISS File Manually

This section describes the contents of the UM Services response file, SETUP.ISS, which can be used for the silent installation of UM Services on client systems. You can use this response file for software distribution from the Upward Integration Module environments and other silent installation scenarios.

Note: You must install the UIM before using this process.

The response file is a text file that includes a number of variables that specify installation selections, such as which components are installed or the drive and directory to which the program files will be copied, that would ordinarily be selected during an attended installation. Some portions of the response file must not be changed by the user; making changes to these sections will cause the installation program to fail. All portions of the SETUP.ISS file, including sections that the user should not change, are described in the following pages.

This first four sections of the SETUP.ISS response file provide information about the installation process to the installation program. These entries must not be changed by the user:

```
[InstallShield Silent]
Version=v3.00.000
File=Response File

[Application]
Name=UMS
Version=2.0
Company=IBM

[DlgOrder]
Dlg0=SdOptionsButtons-0
```

```
Dlg1=SdAskOptions-0
Dlg2=AskDestPath-0
Dlg3=AskSecurInfo-0
Dlg4=SdFinishReboot-0
Dlg5=MessageBox-0
Count=6

[SdOptionsButtons-0]
Result=101
```

The next section of the SETUP.ISS response file *can* be customized by the user. This section determines the UM Services components that will be installed on the client system.

To change these options, change the value of Component-count to the total number of components that you want to install, and list the components in sequential order, starting at Component-0.

```
[SdAskOptions-0]
Component-type=string
Component-count=x
```

where *x* is the total number of components to be installed.

The following is the list of components you can install. If your SETUP.ISS file contains all of these examples as shown, all selectable UM Services components will be installed on the client system. Include only the components that you want to install.

```
Component-0=Basic Services
Component-1=&Web Based Access
Component-2=System Health &Monitoring
Component-3=Web Based &Remote Control
Component-4=&LANDesk(TM) Management Suite
Integration
Component-5=&Tivoli Management Agent
```

```
Component-6=&SNMP access and trap forwarding
Result=1
```

The next section of the response file displays the path where you want to install UM Services. The default path is shown. You can change the installation path if necessary.

```
[AskDestPath-0]
szPath="C:\Program Files\IBM\UMS"
Result=1
```

The next section of the response file configures the security information. In this section of the file, type your user ID and password; both items are case-sensitive. Type your password again in the svConfirm line. You can also use this section to specify the TCPIP port number that will be used by UM Services.

```
[AskSecurInfo-0]
svUser=uniqueID
svPassword=uniquePassword
svConfirm=passwordConfirm
svPort=portnumber
Result=1
```

where *uniqueID* is your user ID, *uniquePassword* is your password, *passwordConfirm* is your unique password typed a second time, and *portnumber* is the TCPIP port number that will be used by UM Services. The default port number is 411. You can change this default port if necessary. Other valid port numbers are 6411, 6500, 6600, and 6611.

The last two sections of the SETUP.ISS response file provide information about the installation process to the installation program. These entries must notbe changed by the user.

```
[SdFinishReboot-0]
Result=1
BootOption=0
```

```
[MessageBox-0]
Result=1
```

Uninstalling the Microsoft SMS Upward Integration Module

To remove UM Services from a SMS 1.2 server:

1. Delete the files from the **%UMS_HOME%** directory and remove the directory.
2. Remove the environment variable **UMS_HOME**
3. Remove the Registry key**HKEY_LOCAL_MACHINE\SOFTWARE\IBM\UMS**
4. Remove the Registry key**HKEY_CURRENT_USER\Software\Microsoft\SMS\Applications\IBM - PCCo**

To remove UM Services from a SMS 2.0 Server or Console, do the following:

1. Run **REGSVR32 - U UMSCONS.DLL**
2. Run **REGSVR32 - U UMSSMSE1.DLL**
3. Run **REGSVR32 - U UMSSMSE2.DLL**
4. Run U**MSCOLL . \UMSCOLL.INI *YourSMSSiteServer* -D** where *YOURSMSSiteServer* is the name of the SMS server.
5. Delete the files from the **%UMS_HOME%** directory and remove the directory.
6. Remove the environment variable **UMS_HOME**
7. Remove the Registry key: **HKLM\SOFTWARE\IBM\UMS**

Using Microsoft SMS to View Client Computer Inventory

You can use Microsoft SMS 1.2 or 2.0 to view UM Services client inventory data.

Microsoft SMS 1.2

To view UM Services inventory data or start the UM Services console from the Microsoft SMS 1.2 Console, do one of the following:

- Start the SMS Console, and then double-click a client machine to open the **Personal Computer Properties** window.
- Start the SMS Console, and then click **Issue Wake on Lan Request** → **UM Services Help** → **UM Services Management Tools** → **Update UM Services Client Inventory**.

SMS 1.2 UIM uses a static MIF file to provide inventory data to the SMS server. A MIF file is created for each inventory query file in the UM Services inventory directory. To refresh the client inventory data, select **Update Client Inventory** from the **SMS Tools** menu for the currently selected client computer.

The Microsoft SMS 1.2 UIM also enables the SMS server to receive UM Services alerts (such as System Health messages) as SNMP traps.

Microsoft SMS 2.0

The Microsoft SMS 2.0 UIM enables the SMS server to gather inventory data directly from the CIM agent on Windows 95, Windows 98, or Windows NT clients. It also enables SMS to gather inventory data using the static MIF file method used by Microsoft SMS 1.2.

The Microsoft SMS 2.0 UIM extends the SMS 2.0 Collections tree in the SMS 2.0 console to include UM Services clients. The SMS 2.0 UIM also extends the Queries tree, so that it can retrieve UM Services-specific inventory data. The **Tools** tree is extended as well, so that you can start the UM Services console on a client system.

SMS 2.0 does not support SNMP trap listening. However, the Microsoft SMS 2.0 UIM translates CIM notifications generated by UM Services into SMS 2.0 status messages.

To view the UM Services inventory data from the SMS 2.0 Console, click the **Collections** tree and then do the following:

1. Click **All Systems with UM Services Agent**
2. Right-click a client system in thewindow on the right side.
3. Click **All Tasks** → **Start Resource Explorer**.

4. Click the **Hardware** node. The UM Services inventory data is under **IBM UM Services**.

Installing Intel Alert on LAN Proxy

To install the Intel Alert on LAN Proxy on your system-management system, do the following:

1. Start the UM Services installation program on the system-management system that will receive Alert on LAN messages.

   To start UM Services installation, click **Start** → **Run**, and then in the **Run** field type:

   ```
   drive letter:\directory\setup.exe
   ```

   where *drive letter* and *directory* are the drive letter and directory where you have decompressed the UM Services files that you downloaded from the World Wide Web.

2. Click **OK**.

   The installation program displays the **Welcome** window, which advises you to exit from all Windows programs before you begin to install UM Services and notifies you of the copyright laws associated with UM Services.

3. Click **Next**.

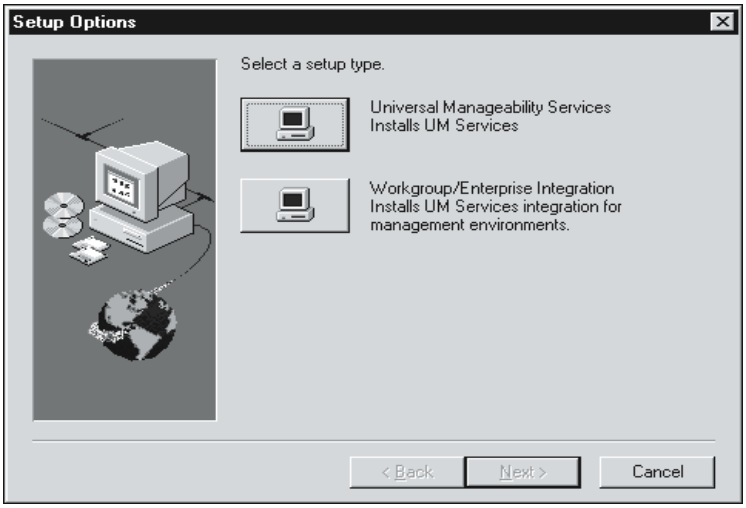
   Select the language to be used for this UM Services installation. The installation program displays the **Select Language** window.

4. Click **Next**.

   The installation program displays the **License Agreement** window. Click **I Agree** to proceed.

   Note: You must agree to the terms of the License Agreement to install UM Services. If you click **I Disagree**, the installation program closes.

   The **Setup Options** window opens.



5. From the **Setup Options** window, click the **Workgroup/Enterprise Integration — Installs UM Services integration for management environments** button.

   The **Select Components** window opens.

6. Click **Intel Alert on LAN Proxy** and then click **Next**.

7. Select a TCPIP port for use by the Alert on LAN Proxy. Then, click **Next** to finish the installation process.

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