Intel® LANDesk® Client Manager 6.3

User's Guide

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Contents

Introducing Client Manager 6.3

About Intel® LANDesk® Client Manager 6.3 (client version)

Intel® LANDesk® Client Manager can help you manage your computer and troubleshoot common computer problems before they become serious. Use Client Manager to:

- **View system inventory**—Client Manager provides extensive information about the computer's hardware and software configuration.
- **Monitor a computer's health**—Client Manager reports when the computer is in a warning or critical health state based on several health contributor such as temperature, voltage, free memory, and disk space.
- **Receive alerts for system events**—Client Manager uses up to four alert methods to notify you of problems.

Client vs. administrator versions

Client Manager has two different management consoles that you can install: a client (single, end-user) console and an administrator (multi-node manager) console.

- **Client**—The client version enables an end user to view information and manage alerts for a local computer. This version doesn't permit a user to select and view remote computers, or power on/off other computers.
- **Administrator**—The administrator version enables you to manage remote client computers on the network. This means you can view information, generate reports, receive alerts, and power on/off other computers remotely. To remotely reboot, power off, or power on client computers, the administrator version must be installed on at least one computer that is attached to the network.

If you want to manage your own computer as well as other computers, you can install both the client and administrator versions on your computer at the same time by choosing the "Full" option during installation.

Note—Because Client Manager 6.3 runs in Internet Explorer, TCP/IP must be installed on your computer.

Client Manager documentation

Intel® LANDesk® Client Manager documentation is available in three formats. Choose the format that is most convenient for you. The information is the same in each format.

- **HTML online help**—The online help (and the Client Manager product) requires TCP/IP and Internet Explorer 5.5 or later. You can print selected topics from the online help by displaying the topic and clicking **File** | **Print**. If you want to print all of the documentation as a book, use one of the formats listed below.
- **Microsoft Word 97 or later**—This is an electronic printable format that requires Microsoft Word* 97 or later. The User's Guide is named **enuLDCMc.doc** and covers the client-only installation. The Administrator's Guide is named **enuLDCMa.doc** and covers both client and administrator installations. Depending on the type of installation you perform (client, administrator, or full), the appropriate .DOC file is installed in the Program Files\Intel\Ldcm\wwwRoot\Help directory.
- **Adobe Acrobat .PDF format**—This is an electronic printable format that requires Adobe Acrobat* Reader. (The latest free version of Adobe Acrobat Reader can be downloaded from http://www.adobe.com.) If Adobe Acrobat Reader is installed, you can access the guide from the Windows Start menu by clicking **Programs** | **Intel LANDesk Management** | **Client Manager** | **User's Guide** (or **Administrator's Guide**). The User's Guide is named **enuLDCMc.PDF**. The Administrator's Guide is named **enuLDCMa.PDF**. Depending on the type of installation you perform (client, administrator, or full), the appropriate .PDF file is installed in the Program Files\Intel\Ldcm\wwwRoot\Help directory.

System requirements

To run Client Manager on your network, the administrator and client computers must comply with these system requirements.

Administrator computers

- Windows* 2000 or Windows XP for the administrator console
- 64 MB of RAM for Windows 2000, 128 MB of RAM for Windows XP

Client computers

- Windows 98 Second Edition, Windows Me, Windows NT* 4.x (Service Pack 6a or later), Windows 2000, or Windows XP for the client console
- 24 MB of RAM for Windows 98 Second Edition, 32 MB of RAM for Windows Me or Windows NT, 64 MB of RAM for Windows 2000, 128 MB of RAM for Windows XP

Administrator and client computers

- Intel® Pentium® microprocessor or higher
- 100 MB of available hard disk space to install
- 40-100 MB of available hard disk space to run (depending on cluster size)
- TCP/IP
- A network adapter or modem connection
- Internet Explorer 5.5 or later
- A monitor resolution of 1024x768, 256 colors or greater is recommended

Connecting to a computer from any browser

You can manage and view information about Client Manager computers using a browser on any computer, even if that computer doesn't have Client Manager administrator installed. In order to do this, however, the following conditions must be met:

- The remote computer must have the Client Manager client software installed on it.
- The remote computer must be powered on and connected to the network.
- You must use a valid account that exists on the remote computer to connect to it.
- You must use Internet Explorer 5.5 (or later) on the computer where you are attempting to connect from.
- When connecting directly to a computer in this manner, you can only view the inventory information. You can't power on/off or reboot the computer, or access some of the other management functions. You can, however, connect to an administrator computer and use it to manage and power on/off the remote computer. To do this, you need a valid account on both the remote client and remote administrator computers.

To connect to a client computer from a browser on the network

1. Open **Internet Explorer**.
2. In the Address window, type:

```
http://[computer name]:[port number]/index.tpc
```

The ***[computer name]*** is generally the Windows computer name. If you're using a proxy server to access the Internet, you may need to enter the full domain name, which you can find by right-clicking the Internet Explorer icon, clicking Properties, and then clicking the Connections tab.

The ***[port number]*** refers to the port number your browser uses to access Client Manager. Client Manager generally uses 6787. If this port number doesn't work, you may need to first determine the port number for the remote computer. (To do this, go to the remote computer, run Client Manager, and display the properties for the computer by clicking the + sign next to the computer name. Under Network, you'll find the Management HTTP Port.)

Here's an example of what you'd type if the computer name was MYCOMPUTER and the port was 6787:

```
http://MYCOMPUTER:6787/index.tpc
```

If you receive an error message "Internet Explorer cannot open the Internet site at http://***[computer name]***:***[port number]***/index.tpc," then either the computer name or port information is incorrect.

If you receive an error message "404 NOT FOUND -- The requested object was not found on this server," you may have mistyped the index.tpc portion of the address or there may be a problem with the remote installation of Client Manager.

To connect to an administrator computer from a browser on the network

1. Open **Internet Explorer**.
2. In the Address window, type:

```
http://[computer name]:[port number]/index.tpc?ADMIN=1
```

Selecting an administrator to manage your computer

You can select a Client Manager administrator computer to automatically notify when certain problems occur on your computer. This administrator computer can monitor alerts from your computer, view hardware and software information, and take corrective action to repair problems.

Client Manager administrator computers automatically "discover" all the computers they manage (as long as they reside on the same network) without any action needed on your computer. However, if your computer resides on a different network from the administrator, you may need to specify the administrator you want to manage your computer.

To select an administrator to manage your computer

1. From your network administrator, obtain the computer name (or IP address) and communication port of the administrator computer. (The port number is usually 6787.)
2. From the Windows Start menu, click **Programs** | **Intel LANDesk Management** | **Client Manager** | **Options**.
3. Click the **Remote Administrator** tab.
4. Specify either the computer name or IP address for the administrator computer. Type the communication port Client Manager is using, such as 6787. (This port number appears on the Administration tab of the same Options dialog on the administrator computer.)
5. Click **Apply**.

Using the inventory

Using inventory data

Client Manager can display information about the hardware and software components on your computer. You can access inventory with these methods:

- View all inventory data
- Export all inventory data

What kind of data is available?

The following list describes the information available in the default Client Manager inventory. Some components may not be available for some computers, depending on the computer's motherboard and the manufacturer's configuration of Client Manager.

- **Computer Summary**—Displays a summary of the computer's hardware and software information.
- **Asset Management**—Displays information (if provided) about the computer's user, such as name, phone number, department, location, and position. The computer name and an asset number may also be available.
- **Battery**—If the computer is a laptop running the Client Manager mobile options, battery information will be available.
- **BIOS**—Displays the BIOS manufacturer, version, date, and size.
- **Drives**—Displays the computer's available and used disk space, and the configured thresholds that trigger alerts if disk space is running low. The partition, file system, cylinder, and sector information is also provided for each hard disk.
- **Installed Applications**—Displays a list of applications installed on the computer with version, date, filename, size, and path information.
- **Keyboard/Mouse**—Displays the type of keyboard and mouse the computer uses.
- **Memory**—Displays the computer's available and used memory (physical and virtual), sockets, and the configured thresholds that trigger alerts if memory is running low. Memory upgrade options are also provided.
- **Motherboard**—Displays motherboard manufacturer, model, current CPU speed, maximum CPU speed supported, and system slot information.
- **Multimedia**—Displays information about the computer's multimedia devices.
- **Network**—Displays information about the computer's network adapter and driver, IP address configuration, data statistics, and network connections.
- **Operating System**—Displays operating system and version information, Windows tasks, environment variables, and real mode device drivers.
- **Ports**—Displays the port name, IRQ, I/O address, and other information for the computer's parallel and serial ports.
- **Processor**—Displays processor, speed, socket, and cache information.
- **System Resources**—Displays the computer's IRQ settings, DMA channels, input/output addresses, and memory addresses.
- **Video**—Displays information about the computer's monitor (if available), video adapter and driver, and supported video resolutions.

Viewing inventory data

Client Manager can display information about hardware and software components on your computer. The type of data that is available is described in Using the Inventory. You can also export inventory data.

To view inventory data

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click any of the items.

Exporting inventory data

Using Client Manager, you can export information about the hardware and software components on your computer. The type of data that is available is described in Using the Inventory.

Exporting from the client console

Because Client Manager gathers all of a computer's inventory information during an export, the export process can sometimes take up to a minute or more.

When exporting inventory data, you can choose from these formats:

- **Comma Separated Values (.CSV) file—**This format is useful for importing into other database or spreadsheet applications.
- **HTML printable file—**This format is useful for printing or viewing the computer's summary in a browser.

To export inventory data to a .CSV or HTML printable file

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. In the left pane under Tools, click **Export**.
4. Click **Comma separated values (.CSV) file or HTML printable file**:

    - If you selected .CSV file, click **Save this file to disk** and **OK**. Specify a filename and location, then click **Save**. Or, you can click **Open** to open the file in Notepad.
    - If you selected HTML printable file, the file will open in a new browser window.

Viewing CIM information

Common Information Model (CIM) is a standard, managed by the Desktop Management Task Force (DMTF), for managing computer components (such as network adapters, processors, and disk drives). CIM offers a richer modeling language than DMI and promises an increased management potential as it gains acceptance throughout the industry. Client Manager uses both CIM and DMI models to manage components. CIM is optional on Windows 98 Second Edition and Windows NT 4.0 and is standard on Windows Me, 2000, and XP. To use CIM on a Windows

98 or Windows NT computer, you must first install the CIM Module, available on Microsoft's Web site.

Why would I use the CIM Browser?

Not all CIM data is considered useful in managing computers, so only a fraction of this data appears on the inventory pages. If you want to view all the available CIM data for a component, you can use the CIM Browser.

To view CIM information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Tools, click **CIM Browser**.
5. Click the class whose data you want to view.
6. Click the instance whose data you want to view.
7. Click **View all properties**.

Note—You can't change any of the CIM data using the CIM Browser.

Viewing DMI information

Desktop Management Interface (DMI) is a standard, created and managed by the Desktop Management Task Force (DMTF), for managing computer components (such as network adapters, processors, and disk drives). To be DMI compliant, components must provide a Management Information Format (MIF) file. MIF files describe a component's attributes, such as a processor's clock speed.

Ideally, DMI-compliant components also provide instrumentation. With DMI instrumentation, Client Manager can display attribute values in realtime. For example, a DMI-compliant disk drive can report exactly how much drive space is available when the instrumentation requests that data. For more information about MIF files, instrumentation, and DMI, visit http://www.dmtf.org on the World Wide Web.

To manage computer components, Client Manager uses a Windows-based Service Provider. This Service Provider manages the MIF database (SLDB.DMI), which is created from the contents of the MIF files. The Service Provider also manages component information provided by instrumentation.

As the Service Provider collects and manages the DMI data from the MIF database and component instrumentation, it displays the most useful information about these components in the Client Manager inventory pages. Because not all DMI data is considered to be useful in managing computers, only a fraction of all DMI data is displayed in the inventory pages. If you want to view all the available data for a component, you can use the DMI Browser.

To view DMI information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Tools, click **DMI Browser**.

5. Click the component name whose data you want to view.
6. Click the group name whose data you want to view.

Installed Applications

Client Manager provides two types of information about applications installed on client computers. This information is displayed in two separate lists:

- **Programs**—This list corresponds to the programs shown in Add/Remove Programs in the Windows Control Panel.
- **File and Version Information**—This list contains specific file and version information obtained from .EXE files. File and version information is provided for all applications that properly register "per-application paths" in the Windows registry.

Note—These two lists are obtained from different sources and aren't directly related. The File and Version Information list often contains more entries than the Programs list. The Programs list should be used to determine what applications are installed on the client computer. The File and Version Information list is used when more specific information is needed.

Using the File and Version Information list, you can view the following information:

- **Application**—The names of the applications installed on the computer (based on .EXE files found on the computer's hard disk.)
- **Version**—The version number of the application executable file.
- **Date**—The date of the application executable file.
- **Filename**—The name of the application executable file.
- **Size**—The size of the application executable file.
- **Path**—The path of the application executable file.

To view applications information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **Installed Applications**.

Asset Management

If the computer supports intrusion detection, Client Manager's Asset Management page reports when the computer's case has been opened. You can also configure alert actions to notify you when a case has been opened.

Client Manager enables you to manage and view the following user and asset information for the computer:

- **User name**—The primary user's name.
- **Phone number**—The primary user's phone number.
- **Location**—The primary user's location in the building.
- **Department**—The primary user's department.
- **Position**—The primary user's job position.
- **System name**—The Windows system name.

- **Asset number**—The asset tracking number assigned to the computer. This is sometimes assigned by the computer's manufacturer and stored in the computer's BIOS.
- **Motherboard system serial number**—A serial number assigned to the motherboard by its manufacturer.

To view and edit asset information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **Asset Management**.
5. Place the cursor in any edit box and enter the new text.
6. Click **Apply**.

Note—The asset information fields can only be edited if you have Administrator rights.

To set alert actions for intrusion detection

Note—Not all client computers support this feature.

1. In the Set Alert Actions box, select an alert action to notify you when the computer's case is open.
2. Select the health severity levels you want to trigger the alert action (OK=closed, Warning=open).
3. Click **Apply**.
4. Repeat these steps for other alert actions you want to configure (for the same severity level or other severity levels).

To clear the intrusion detection indicator, click **Clear** (this button only appears when the computer case has been opened).

Mobile battery

Client Manager displays the following mobile battery information for laptop computers:

Attribute	Description
A/C line status	Whether the computer is connected to A/C power or running on battery power.
Charging status	Whether the battery is charging and the status of the battery charge: critical, low, or high.
Remaining time	The approximate amount of time remaining before the battery is discharged. Based on the remaining battery charge and the current system demands on the battery.
Full charge life time	An estimate, based on current system conditions, of how long a full battery charge will last.
Battery charge	The approximate percentage of charge remaining in the battery.

To view battery information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **Battery**.

BIOS

Client Manager displays the following BIOS information for the computer:

- **Manufacturer**—The manufacturer of the BIOS chip installed on the motherboard.
- **Version**—The version of the BIOS chip installed on the motherboard.
- **Date**—The date of the BIOS chip installed on the motherboard.
- **Size**—The size of the BIOS chip (reported in kilobytes).

You can also use this page to set alert actions for POST (power-on self test) errors that may occur when a computer boots.

To view BIOS information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer**.
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **BIOS**.

To set alert actions for POST errors

1. In the Set Alert Actions box, select an alert action to notify you when a POST error occurs.
2. Select the health severity levels you want to trigger the alert action (OK, Warning).
3. Click **Apply**.
4. Repeat these steps for other alert actions you want to configure (for the same severity level or other severity levels).

Computer Summary

Client Manager displays the following computer summary information for the computer:

- **Computer name**—The Windows name assigned to the computer.
- **Processor**—The type of processor installed on the motherboard.
- **Manufacturer**—The manufacturer of the computer.
- **Model**—The model number of the computer.
- **Asset number**—The asset tracking number assigned to the computer. This number is sometimes assigned by the computer's manufacturer and stored in the computer's BIOS.
- **BIOS version**—The version of the BIOS installed on the computer's motherboard.
- **TCP/IP address**—The four-byte address assigned to the computer for communicating on TCP/IP networks.
- **Total physical memory**—The amount of total memory capacity of the computer's memory chips. (This doesn't include virtual memory.)

- **Operating system**—The operating system currently running, such as Windows 98 Second Edition, Windows Me, Windows NT, Windows 2000, or Windows XP.
- **Version**—The operating system version, build number, and service pack release number.
- **Total hard drive space**—The size of the installed hard disk, reported in megabytes.
- **Total free hard drive space**—The amount of available hard disk space, reported in megabytes or gigabytes.

To view computer summary information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. The Computer Summary page opens with information for the selected computer.

Drives

Using Client Manager, you can view information about your computer's drives. You can also set thresholds that will trigger alerts if exceeded.

- **Set thresholds**—Use the Set thresholds bar to configure warning and critical thresholds for disk space alerts. The colored portion of the bar (green, yellow, or red) is the used disk space. The white portion of the bar is the available disk space. You can drag the colored arrows and click Apply to change the thresholds. (Used and available disk space are not updated dynamically. If you want to refresh the available and used disk space information, click Apply or Refresh.)
- **Used space**—The percentage and amount of disk space used on the drive.
- **Free space**—The percentage and amount of disk space available on the drive.
- **Set alert actions - Disk space**—Determines which alert actions to take when a disk space threshold is crossed. You can set different alert actions for different severity levels.
- **Set alert actions - Disk failure prediction**—Determines which alert actions to take when a disk failure is predicted.

To set alert actions for disk space or drive failure prediction

1. In the Set Alert Actions box, select the alert action if the computer's hard disks run out of available space or fail.
2. Select the health severity levels you want to trigger the alert action. Drive errors can generate both a warning and critical alert, based on thresholds you define. If the computer exceeds one of the thresholds, Client Manager only reports the problem once. If you want to know when the problem is resolved, configure an alert action on "When health is OK."
3. Click **Apply**.
4. Repeat these steps for other alert actions you want to configure (for the same severity level or other severity levels).

Logical drives

- **Used space**—The percentage of disk space used on the logical drive.
- **Free space (%)**—The percentage of disk space available on the logical drive.

- **Drive capacity**—The size of the logical drive (measured in megabytes or gigabytes).
- **Free space**—The amount of disk space (measured in megabytes or gigabytes) available on the logical drive.

Physical drives

- **Total capacity**—The size of the physical drive, measured in megabytes or gigabytes.
- **Cylinders**—The number of concentrical tracks on the hard disk that the drive's read/write head can be positioned over.
- **Sectors**—The number of total sectors on the hard disk.
- **Heads**—The number of total heads on the hard disk.
- **Partition**—A drive letter assigned to the partition, such as C: or D:.
- **Capacity**—The size of the drive partition, measured in megabytes or gigabytes.
- **File system**—The file system in use by the partition, such as FAT, FAT32, or NTFS.
- **Volume label**—A name given to the partition.
- **Free space**—The amount of disk space (measured in megabytes) available on the partition.
- **CD-ROM or DVD**—Information about the CD, DVD, Jaz, or ZIP drive.

To view drives information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **Drives**.

Fans

Client Manager can monitor the speed for cooling fans installed in the computer (if the motherboard and fans support this feature). These can include:

- Processor fans for each microprocessor installed on the motherboard
- Rear chassis fans
- Front chassis fans
- Other fans included by the computer's manufacturer

The first time the computer boots after Client Manager is installed, Client Manager autodetects any fans installed in the computer. After these fans are first detected, Client Manager makes no further attempt to detect installed fans. Once a fan has been detected, Client Manager monitors the fan's speed and generates an alert if the fan ever stops.

To view fans information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **Fans**.

To set alert actions for fan problems

1. In the Set Alert Actions box, select the alert action that will notify you if a problem occurs with the computer's fans.
2. Select the health severity levels you want to trigger the alert action.
3. Click **Apply**.
4. Repeat these steps for other alert actions you want to configure (for the same severity level or other severity levels).

Keyboard/Mouse

Client Manager displays the following keyboard and mouse information for the computer:

Keyboard

- **Type**—The manufacturer and make of keyboard attached to the computer.
- **Connector type**—The type of connector used to attach the keyboard to the computer, such as PS/2, Micro-DIN, USB or DB-9.
- **Layout**—The keyboard layout selected in the operating system (in Control Panel | Keyboard), such as US, French (Standard), or German (Standard).

Mouse

- **Type**—The manufacturer and make of pointing device attached to the computer.
- **Connector type**—The type of connector used to attach the keyboard to the computer, such as PS/2, Micro-DIN, USB or DB-9.
- **Mouse driver**—The filename of the mouse driver.
- **Driver version**—The version of the mouse driver.

To view keyboard/mouse information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **Keyboard/Mouse**.

Memory

Client Manager displays the following memory information for computers on the network:

- **Total physical memory**—The amount of total memory capacity of the computer's memory chips. (This doesn't include virtual memory.)
- **Total virtual memory**—The total memory available for use (the physical memory plus the amount of disk space assigned for use as virtual memory).
- **Free virtual memory**—The amount of available virtual memory.
- **Set thresholds**—Use the Set thresholds bar to configure warning and critical thresholds for memory alerts. The colored portion of the bar (green, yellow, or red) is the used memory. The white portion of the bar is the available memory. You can drag the colored arrows and click Apply to change the thresholds. (Used and available memory is not updated dynamically. If you want to refresh the available and used memory information, click Apply or Refresh.)

To set alert actions for virtual memory

1. In the Set Alert Actions box, select the alert action that will notify you if a problem occurs with the computer's virtual memory.
2. Select the health severity levels you want to trigger the alert action. Memory errors can generate both a Warning and Critical alert, based on thresholds you define. If the computer exceeds one of the thresholds, Client Manager only reports the problem once. If you want to know when the problem is resolved, configure an alert action on "When health is OK."
3. Click **Apply**.
4. Repeat these steps for other alert actions you want to configure (for the same severity level or other severity levels).

Memory module information

- **Socket**—The type of memory sockets used to hold the memory modules.
- **Size**—The size of the memory module currently installed in a given socket, such as 64 MB, 128 MB, or Empty.
- **Characteristics**—Any details regarding the memory module installed in the socket, such as EDO, SIMM, DIMM, and so on.
- **ECC**—The error correction code of the memory module. This code can detect both single-bit and multi-bit errors and correct single-bit errors.
- **Speed**—The speed of the memory module, such as 100 MHz, 133 MHz, 166 MHz.
- **ECC parity errors**—Lists the number of ECC errors that have been detected.

Memory upgrade information

Client Manager enables you to easily obtain information on upgrading your physical memory (some motherboards don't support this feature). Client Manager knows the types of memory and memory sizes the system can upgrade with. For example, if you want to add 128 MB of memory to your computer, Client Manager can tell you the different memory configuration options.

To view memory upgrade information

1. Under Memory Upgrade Information, select the total amount of physical memory you want the computer to have (after installing the new memory).
2. View the memory upgrade options that display in the box.

To view memory information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **Memory**.

Motherboard

Client Manager displays the following information about a computer's motherboard:

- Temperature
- Motherboard information
- System slots

Temperature

- **Current temperature**—The temperature (in Celsius) of the computer's motherboard.
- **Critical threshold**—A threshold (in Celsius) that the motherboard's temperature should not exceed (as determined by the motherboard manufacturer).

Note—Some motherboards don't provide temperature information.

To set alert actions for motherboard temperature

1. In the Set Alert Actions box, select the alert action that will notify you if a problem occurs with the computer's motherboard.
2. Select the health severity levels you want to trigger the alert action. If the motherboard exceeds the critical temperature threshold, Client Manager only reports the problem once (or at every reboot if the threshold is still exceeded). If you want to know when the problem is resolved, configure an alert action on "When health is OK."
3. Click **Apply**.
4. Repeat these steps for other alert actions you want to configure (for the same severity level or other severity levels).

Motherboard information

- **Manufacturer**—The manufacturer of the computer's motherboard.
- **Model**—The model of the computer's motherboard.
- **Maximum CPU speed supported**—The maximum speed of a processor that can be installed on the motherboard.

System slots

- **Slot description**—The type of expansion slots available on the computer's motherboard, such as ISA, EISA, MCA, PCI, SCSI, or PCMCIA.
- **Slot width**—The bus width of the expansion slot, such as 16-bit or 32-bit.
- **In use**—Indicates if the slot is available or currently in use.

Note—The computer may have two expansion slots (such as an ISA slot and a PCI slot) that share the same opening in the computer's case and can't be used at the same time.

To view motherboard information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**

3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **Motherboard**.

Multimedia

Client Manager displays the following multimedia information for the computer:

- **Manufacturer**—The manufacturer of the multimedia device.
- **Device type**—One of the following types of multimedia devices:

Audio compression codec	A driver that compresses and decompresses audio.
Audio device	A driver that controls a piece of audio hardware.
Line input device	A driver that handles input from a physical-line input device.
Media control device	A driver that uses Media Control Interface (MCI) commands to control a multimedia device.
MIDI device	A Musical Instrument Digital Interface (MIDI) driver that delivers MIDI format to sound devices.
Mixer device	A driver that provides mixer functionality for a sound card.
Video capture device	A driver that handles input from a video device.
Video compression codec	A driver that compresses and decompresses video.

- **Device name**—The name of the multimedia device.
- **Product name**—The device's product name (if different from the device name).
- **Version**—The product version number.

To view multimedia information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **Multimedia**.

Network

Client Manager displays the following network information for the computer:

Network information

- **Network adapters—**A description of the network adapter (or adapters) installed in the computer.
- **Node (MAC) address—**The computer's unique six-byte hexadecimal MAC address.
- **Driver rate—**The speed configured for the driver to send and receive data, such as 10 Mbps or 100 Mbps.

- **Driver—**The filename of the network adapter driver.
- **Driver version—**The version number of the network adapter driver file.
- **Driver description—**A description of the network adapter driver, such as NDIS 3.0 driver.
- **TCP/IP address—**The four-byte address assigned to the computer for communicating on TCP/IP networks.
- **Subnet mask—**The four-octet number (such as 255.255.255.0) that is paired with an IP address. This number tells an IP router which octets in the IP address are the network ID and which octets are the node ID.
- **Primary gateway—**The IP address of the router that is configured as a default gateway for packets leaving the network.
- **DNS server—**The IP address for each Domain Name Service (DNS) server on your network. You may have more than one.

Data statistics since startup

- **Packets transmitted—**The number of network packets transmitted from the computer since startup.
- **Packets received—**The number of network packets received at the computer since startup.
- **Transmit errors—**The number of times since startup that the computer was unable to transmit a packet.
- **Receive errors—**The number of times since startup that the computer was unable to receive a packet.
- **Host errors—**The number of transmit or receive errors that have occurred since startup because of buffer overruns.
- **Wire errors—**The number of transmit or receive errors that have occurred since startup because of CRC errors, alignment errors, or maximum collisions reached.

Network connections

- **User**—This applies only to Windows XP, which supports Fast User Switching.
    - If you're logged on to Client Manager as an administrator, you will see all active network connections for all logged on users.
    - If you're logged on to Client Manager as a non-administrator (power user, for example), then you will not see the drive mappings of other users. You will see your own drive mappings if your Client Manager login name matches your Windows login name.
- **Drive—**The driver letter assigned to a particular network drive, such as F: or G:.
- **Connection name—**The UNC name of the network resource, such as \\server\sharename.

To view network information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **Network**.

Operating System

Client Manager displays the following information about the computer's operating system:

- **Operating system—**The operating system currently running.
- **Version—**The operating system version, build number, and service pack release number.

Windows tasks

- **Task name—**The task names of all Windows-based 16-bit and 32-bit tasks.
- **Type—**A description of the task, such as 32-bit task or 16-bit task.

System variables

- **Variable—**Variables that are initialized on startup and used by the operating system.
- **Value—**The value or text assigned to the system variable.

User environment variables

Information about user environment variables is available for clients running Windows 2000 or Windows XP. Windows 98 Second Edition and Windows Me do not support user environment variables. If you're running Windows NT, you will see user environment variables grouped with system variables.

- **User—**The login name of the user that set the variable.
- **Variable—**User-specific variables that are initialized on startup and used by the operating system.
- **Value—**The value or text assigned to the variable.

Real-mode device drivers

- **Driver name—**The name of the real-mode device driver.
- **Version—**The version number of the real-mode device driver.
- **Date—**The release date and time of the real-mode device driver.

To view operating system information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **Operating System**.

I/O Ports

Client Manager displays the following port information for the computer:

Serial ports

- **Name**—The name of the serial port, such as COM1 or COM2.
- **IRQ**—The interrupt request number assigned to the serial port, such as 3 or 4.
- **I/O address**—The starting memory address (represented in hexadecimal) designated for the input/output of data from the serial port.
- **Maximum speed**—The maximum baud rate of data transfer for the serial port.

Note—Although Windows 98 Second Edition enables you to select a baud rate faster than the maximum speed reported by Client Manager (currently 115200), the serial port may not actually support that speed. The ability to select baud rates faster than 115200 was provided in the Windows operating system to support future baud rates as they become available in newer hardware.

Parallel ports

- **Name**—The name of the parallel port, such as LPT1.
- **IRQ**—The IRQ assigned to the port.
- **I/O address**—The starting memory address (represented in hexadecimal) designated for the input/output of data from the parallel port.
- **Type**—The connector type, such as DB-25 pin female.

To view ports information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **I/O Ports**.

Voltages

On motherboards that support voltage monitoring, Client Manager monitors the power voltages on the computer's power supply lines. When the voltage on a given power supply line exceeds a threshold defined by the manufacturer, Client Manager can notify you of a potential problem with the computer's power supply. The monitored voltages vary depending on the computer's motherboard. Also, the voltage thresholds that trigger an alert can vary across voltage lines, and can also be adjusted by the motherboard manufacturer. The typical voltages Client Manager monitors and their associated thresholds are:

- **1.5 volts**—The threshold is generally plus or minus 0.1 volts. (On some computers, the 1.5-volt supply may be a 2.5-volt supply.)
- **CPU core**—This voltage can vary greatly from processor to processor, ranging from 1.6 volts to 2.3 volts. So it is simply listed as CPU core. The threshold is generally plus or minus 0.1 volts.
- **3.3 volts**—The threshold is generally plus or minus 0.6 volts.
- **5 volts**—The threshold is generally plus or minus 1 volt.
- **-5 volts**—The threshold is generally plus or minus 1 volt.
- **12 volts**—The threshold is generally plus or minus 1.2 volts.
- **-12 volts**—The threshold is generally plus or minus 1.2 volts.

To view voltage information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Health, click **Voltages**.

To set alert actions for voltage

1. In the Set Alert Actions box, select the alert action that will notify you if a problem occurs with the computer's power supply.
2. Select the health severity levels you want to trigger the alert action.
3. Click **Apply**.
4. Repeat these steps for other alert actions you want to configure (for the same severity level or other severity levels).

Processor

Client Manager displays the following processor information for the computer:

- **Processor**—The type of processor installed on the motherboard.
- **Processor speed**—The speed (measured in megahertz and gigahertz) at which the processor is currently running.
- **Socket type**—The type of socket on the motherboard that the processor plugs in to, such as Slot 1, Slot 2, ZIF socket, or LIF socket.
- **Number of processors**—The number of microprocessors installed on the motherboard.
- **Vendor ID**—An unique ID assigned to the processor which identifies its manufacturer.
- **Cache type**—Indicates whether the cache is internal (primary) or external (secondary) to the microprocessor.
- **Size**—The size of memory cache (measured in kilobytes) available to the processor.
- **Write policy**—The type of memory cache used, such as Write Through or Write Back.

To view processor information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **Processor**.

System Resources

Client Manager displays the following system resources for computers on the network:

- **IRQ**—Lists all of the interrupt request lines currently assigned and the devices that are using them.
- **DMA**—Lists all of the DMA channels currently assigned and the devices that are using them.
- **I/O**—Lists all of the input/output addresses in memory currently assigned to devices, and the devices that are using them.
- **Memory**—Lists all of the memory addresses currently assigned to devices, and the devices that are using them.

To view system resources information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **System Resources**.

Video/Monitor

Client Manager displays the following video and monitor information for the computer:

Monitor (Windows 2000 and XP only)

Monitor information is available only on computers running Windows 2000 or Windows XP. More than one monitor may be listed if the computer has ever been connected to multiple monitors.

- **Name**—The name of the monitor as it appears in the Display properties of the Windows Control Panel. If no specific driver is installed for the monitor, the name may be "Default Monitor."
- **Vendor**—The name of the manufacturer. For example, Hitachi. If no specific driver is loaded for the monitor, the vendor may be "Standard monitor types."

Video device

- **Manufacturer**—The manufacturer and make of video card installed in the computer.
- **Model**—The model number of the video card installed in the computer.

Driver information

- **Driver**—The filename of the video driver.
- **Driver version**—The version number of the video driver file.
- **Date**—The date of the video driver file.

Resolution

- **Current resolution**—The pixel resolution and number of colors the video card is currently set to display, such as 1024 x 768 pixels, 65536 colors.
- **Supported resolutions**—A list of the resolutions the video card is capable of displaying, such as 640 x 480, 800 x 600, and 1024 x 768.

To view video information

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **Video**.

Monitoring computer health

Monitoring health

Client Manager monitors important computer functions and resources so it can alert you to problems as soon as it becomes aware of them. Depending on the computer's hardware, some of the resources and functions Client Manager can monitor include:

- **Logical drives**—Monitors how much drive space remains on each logical drive. Thresholds are configurable for each logical drive.
- **Disk failure prediction**—Monitors a S.M.A.R.T. drive for potential disk failure.
- **Free virtual memory**—Monitors how much virtual memory remains available to the computer. Thresholds are configurable.
- **Parity errors**—Monitors the computer's memory for parity errors which indicate that a memory chip might be failing.
- ***Intrusion detected**—Monitors the computer's case to determine if it has been opened. (An opened case might indicate that an unauthorized individual has tampered with or removed some of the computer's components.)
- ***Power supplies**—Monitors the nominal and current voltage of the computer's various power supplies to see that they remain within an acceptable range.
- ***Temperature**—Monitors the temperature of the computer's processor and/or motherboard to see that it remains within an acceptable range.
- ***Fans**—Monitors the computer's fans and fan speed to help ensure the computer's cooling system is functioning properly.
- ***Non-critical boot failures**—Reports a computer's failed attempt to power up (as long as the computer doesn't hang).
- ***Boot virus detected**—Monitors for boot viruses while the computer is powering up. (This virus detection does not cover other types of viruses and should not be used as a solitary defense against computer viruses.)

*Some motherboards don't support this feature. If this is the case, the feature doesn't appear in Client Manager.

When a problem occurs in one of the areas listed above, the computer's health status changes from normal to warning or critical, depending on the event and its severity. (The icons may vary slightly depending on the Client Manager tool you use.) You can observe a computer's health change using any of three Client Manager tools:

- **Inventory**—The inventory page for the item generating the health status change displays a description of the problem and steps you can take to resolve it. (The Computer Summary page also displays a description of the problem, but no resolution steps are included.)
- **Taskbar icon**—Client Manager displays a health icon on the Windows taskbar.
- **Alerts**—Client Manager includes up to four different alert actions to notify you of health changes.

Using the Client Manager taskbar icon

The Windows taskbar displays an icon you can use to launch Client Manager. Depending on which version of Client Manager is installed (client, administrator, or both), the taskbar icon also indicates the health status of your computer or other computers on the network. Placing the mouse pointer over the icon displays the health status and number of unacknowledged alerts generated by this computer.

With a client-only installation, the taskbar icon indicates that the computer's health is currently in one of these three states:

 Normal

 Warning

 Critical

The taskbar icon's background also changes color to indicate the most severe, unacknowledged notification in your local log file:

 Normal

 Warning

 Critical

This icon can display both current health and log status by combining the above icon schemes. Here are a few examples:

 The most severe, unacknowledged notification in the log is critical, and the current health status is still critical.

 The most severe, unacknowledged notification in the log is critical, but the problem that caused that notification has been resolved or reduced to a warning status.

 The current health status is critical, but the notification for that event has been acknowledged in the notification log. At least one unacknowledged warning notification still exists in the log.

To run Client Manager from the taskbar

1. Right-click the taskbar icon.
2. Click **Manage This Computer**.

Configuring and viewing alerts

Configuring alerts

When a problem or other event occurs on a computer (for example, the computer is running low on disk space), Client Manager can send an alert. You can customize these alerts by choosing the severity level or threshold that will trigger the alert.

How do I see alerts?

Client Manager can notify you of problems or other computer events by:

- Adding information to the notification log.
- Displaying information in the notification monitor.
- Sending an SNMP trap to an SNMP management console on the network.
- Forwarding information to the Alert Management System² (AMS²) so other alert actions can be generated.

Note—The SNMP and AMS² options are only available if the SNMP and AMS² software are installed on the Client Manager computer. This software is not included on the Client Manager CD. SNMP is available on the Windows NT or Windows 98 Second Edition Setup CD; AMS² is available with other Intel products such as Intel® LANDesk® Management Suite. If Client Manager doesn't detect these components when it loads, these options aren't available to select when configuring alert actions.

What kinds of computer problems can generate alerts?

Client Manager monitors computers differently depending on the hardware and chipset that is installed. For example, intrusion detection might not be available for all computers on your network. Some of the events that Client Manager can monitor are listed below:

- **Disk failure prediction**—A S.M.A.R.T. drive has predicted a potential disk failure.
- **Disk space**—Disk space is running low on a logical drive.
- **Memory**—Client Manager can warn you if memory usage exceeds thresholds you set.
- **BIOS**—A problem was detected during the computer's Power-On Self Test at startup.

Configuring severity levels for events

Computer problems or events have some or all of the severity levels shown below. You can choose the severity level or threshold that will trigger the alert.

- **Information**—Is available to support configuration changes, BSA events, or computer events that manufacturers may include with their systems.
- **OK**—Notifies you when a problem has been resolved and returned to an acceptable level.
- **Warning**—Provides some advance warning of a problem before it reaches a critical point.
- **Critical**—Probably needs your immediate attention.

Depending on the nature of the event or computer problem, some severity levels don't apply and aren't included. For example, with the Intrusion Detection event, the computer's chassis is either open or closed. If it is open, this can trigger an alert action with a severity of warning. Other events, such as Disk Space and Virtual Memory, include three severity levels (OK, warning, and critical).

Example: Configuring an individual alert for a disk space problem

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Inventory, click **Drives**.
5. Set warning and critical thresholds for local drives, then click **Apply**.
6. Set an alert action for disk space (either add to the notification log or display in the notification monitor), then click **Apply**.
7. Set an alert action for disk failure prediction (either add to the notification log or display in the notification monitor), then click **Apply**.

Hearing an alert

You can configure different .WAV files to play when information, OK, warning, or critical alerts occur on your computer.

To configure .WAV files for alerts

1. From the Windows Start menu, click **Programs | Intel LANDesk Management | Client Manager | Options**.
2. Click the **Sounds** tab.
3. Enable the **Play notification sounds** option.
4. Place your cursor in one of the Information, OK, Warning, or Critical notification edit boxes.
5. Click the  icon to browse to a .WAV file. Select a file, then click **Open**.
6. To test the .WAV file, click the  icon next to the .WAV file you want to test.
7. Repeat steps 4-6 for each .WAV file you want to configure.
8. Click **OK**.

To disable .WAV files for alerts

1. Clear the **Play notification sounds** option.
2. Click **OK**.

Viewing the notification log

When an event occurs on a Client Manager computer, Client Manager records the event details in your computer's notification log.

You can filter the log file to view only certain categories of events. This may be useful if the log file is large and contains many entries. About 50 categories of log entries are available, including configuration changes, processor missing, and disk space.

The notification log continues to store events until you empty the log or until it reaches maximum size. When the log reaches its maximum size, the older entries are removed as new entries are added. You can set the local log size to be 4 KB to 80 KB. Resizing clears the log.

To view the local notification log

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Tools, click **Local Log**.
5. Use the View drop-down list in the log file toolbar to select one particular event to view, or view All Events. By default, the local log displays data for all events.
6. Click the **Next** and **Previous** buttons to scroll through the pages of notifications in the log.

To delete or resize a log file

1. Display the local log file as described above.
2. If you want to resize the log, click  , enter a new size, then click **Resize**. This will reinitialize the log and delete all current entries.
3. If you want to delete the log, click  .

To copy the notification log contents to another application

1. Select the notification log entries you want to copy. (Use the Ctrl + shift keys to select multiple entries.)
2. Click **Edit** | **Copy** to copy the selection to the Windows clipboard.
3. In the application where you want to copy the notification log entries, click **Edit** | **Paste**.

Using the notification monitor

The notification monitor displays information about events that have occurred on your computer. You can configure which events and which severity levels trigger the notification monitor to open. See Configuring alert actions for more information.

Notifications are cleared from the notification monitor each time you log out or the computer shuts down. However, notifications are not deleted from the notification log when the computer boots.

If you're running Windows XP with Fast User Switching

If you're running Windows XP with Fast User Switching enabled, the following rules apply:

- The notification monitor will pop up for the current user who is logged on to the computer. Other users will see a flashing Client Manager icon in the taskbar as described in Using the taskbar icon. These users can display the notification monitor by clicking the Client Manager icon.
- If multiple users are logged on and the current user dismisses the notification monitor, other users will still see the notification when they switch back.

Choosing notification monitor options

In addition to the computer name and event details, the notification monitor includes the following options:

- **More Info**—Connects you to the computer that generated the notification, displays a more detailed description of the problem, or provides suggestions for corrective action.
- **Acknowledge**—Clears the current notification from the notification monitor and displays the next notification. The notification monitor closes when the last notification has been cleared.
- **Do not display new notifications**—Prevents the notification monitor from appearing when new notifications are received.
- **Advanced options**—Right-click in the notification monitor message box to access these advanced options:
  - **Acknowledge all**—Clears all notifications and closes the notification monitor.
  - **Copy**—Copies the current notification to the clipboard.
  - **Options**—Gives you the opportunity to change the number of notifications stored in the queue and change the hot key used to display the notification monitor. The queue has a minimum of one notification and a maximum of 300.

Use the Page-Up and Page-Down arrows to cycle through a circular list of accumulated unacknowledged notifications.

Note—If you aren't logged in, notifications from your computer are stored in the log file.

To display the notification monitor

- Click the Client Manager taskbar icon.

  or

  Press the notification hotkey combination on the keyboard (Ctrl+Alt+N by default)

To change the character used for the notification monitor hotkey

1. From the Windows Start menu, click **Programs** | **Intel LANDesk Management** | **Client Manager** | **Options**.
2. In the Hotkey to display Notification Monitor box, type a letter or number and click **OK**.

To close the monitor using the keyboard

- Press **Esc** or **Alt+F4**.

Using Alert on LAN

Alert on LAN* is an optional Client Manager feature that you can use if these conditions are met:

- Your computer has Alert on LAN technology.
- Your administrator enabled the Alert on LAN options during Client Manager Setup. (Or the original equipment manufacturer shipped the computer with these Client Manager options enabled.)
- You have Client Manager administrator or power user rights to configure Alert on LAN on your computer.

Overview

Alert on LAN refers to a microchip on a computer's motherboard or network adapter that monitors some of the computer's critical functions. A software agent residing on the computer periodically polls the computer's Alert on LAN chip for information and generates alerts as needed. For example, if the computer is hung, disconnected from the network, or experiencing a temperature or voltage problem, the Alert on LAN chip can send an alert.

The Alert on LAN chip is wired by the computer manufacturer to monitor different computer components. The specific components that are monitored depend on the computer manufacturer, but the Alert on LAN chip typically reports such things as:

- **The computer case is open (intrusion detection)**—This is detected even if the computer is powered off (but still plugged in to the power supply and connected to the network).
- **The computer is disconnected from the network (LAN leash tamper)**—This is detected even if the computer is powered off and unplugged from the power supply.
- **The computer's processor is missing**—This is detected even if the computer is powered off (but still plugged in to the power supply and connected to the network).
- **The computer's voltage, temperature, or fan speed has exceeded a threshold**—These are detected even if the computer is powered off (but still plugged in to the power supply and connected to the network).

Client Manager displays Alert on LAN alerts on a designated proxy server (usually a Client Manager administrator) on the network. For both the client and administrator computers, Alert on LAN alerts can be viewed:

- On the Alert on LAN page for a specific computer. (In the left pane under Tools, click Alert on LAN.)
- In the notification monitor
- In the notification log

The Alert on LAN page provides the following information:

- **Computer name**—The Windows computer name assigned to the computer.
- **System ID**—A system identification number assigned to the computer.

- **Unique system ID**—A unique-16 byte number that positively identifies the computer. This ID is assigned by the BIOS manufacturer and is stored in the computer's BIOS.
- **Alert status**—Lists the Alert on LAN alerts that have occurred on the computer.

To configure Alert on LAN alerts

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**
3. Log on to the computer using your Client Manager username and password.
4. In the left pane under Tools, click **Alert on LAN**.
5. Click the **Enable Alert on LAN** option to turn on the hardware chip.
6. Type the **Server IP address** and **UDP port** where you want Alert on LAN alerts to be sent. This server is usually a Client Manager administrator that has the Alert on LAN proxy software installed. The UDP port Alert on LAN uses is 5500.

   Note—Only one Client Manager administrator or Alert on LAN proxy can be configured to receive these alerts at a time.
7. Select the events you want to create alerts for.
8. Configure the Alert on LAN **Watchdog** timer and/or **Heartbeat** option.

Set watchdog timer	Enables the watchdog timer on the client computer. The watchdog timer is a counter that is periodically reset to zero as long as the operating system is functioning properly. If the operating system fails, the watchdog timer fails to reset at the established intervals and the timer continues to count upward indefinitely. When this happens, an alert is sent to the administrator computer indicating that the operating system is probably hung.
Timer interval	Determines how frequently the watchdog timer is reset. Depending on the version of Alert on LAN chip your computer uses, the watchdog timer interval you specify is rounded to the closest value the hardware permits.
Send heartbeat	Enables the heartbeat on the client computer when it's in a powered-down state. The administrator computer monitors the heartbeats and, if they stop, generates an alert. Since a heartbeat only stops if the computer is unplugged or disconnected from the network, this alert is often an indication of tampering or unauthorized removal of equipment. **Note**—The Heartbeat feature is only configurable with certain versions of Alert on LAN and may not appear on this page.
Heartbeat interval	Specifies how often the Alert on LAN agent sends a heartbeat packet to the administrator computer. Depending on the version of Alert on LAN chip your computer uses, the heartbeat interval you specify is rounded to the closest value the hardware permits.

9. If your Alert on LAN version supports it, type the number of times the client attempts to send its alerts to the server. (Alert on LAN uses UDP to send alerts, so a single attempt to send an alert may fail.) Select the amount of time between alert attempts.
10. If your Alert on LAN version supports it, select the corrective actions that you will allow a system administrator to perform on this computer.
11. Click **Apply**.

To clear Alert on LAN alerts

- Select the alert you want to clear and click **Clear**.

  or

  Click **Clear All** to clear all Alert on LAN alerts.

Client Manager accounts

Adding new user accounts

Before you can use Client Manager to access a computer, you must have a valid user account on the computer you want to access. During Client Manager installation, you are required to create an initial user account. This account is automatically assigned administrator rights. For security reasons, it is strongly recommended that you change this account name and/or password during installation or soon afterward.

You can create multiple user accounts on each managed computer, and assign different access rights to each user account.

User accounts can be assigned the following access rights:

- **No access**—This account is essentially disabled.
- **Browser**—Includes read rights.
- **User**—Includes read/write rights.
- **Power user**—Includes read/write rights, plus some vendor-definable rights.
- **Administrator**—Includes all rights. In order to access the administrator version of Client Manager, you must use an account with administrator rights. This can either be the initial administrator account you created during Setup, or another administrator account.

To add a new user

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer**.
3. Log on to the computer using your Client Manager username and password.
4. In the left pane, click **Client Manager Accounts**.
5. Click **Add new user**.
6. Enter a username. (Usernames are case insensitive.)
7. Enter a password. (Up to 31 characters. Valid characters include a-z, A-Z, 0-9, !, $, -, and _. Passwords are case sensitive.)
8. Specify the access rights and other account/password options.
9. Click **OK**.

For information about changing a user account, see editing, deleting, or disabling user accounts.

Editing, deleting, or disabling user accounts

When editing, deleting, or disabling a Client Manager user account, remember these things:

- Ensure that you always retain at least one administrator account to access the administrator console with full rights.
- You can't change access rights for the user account you're currently using. Some of the password options are also unavailable for the user account you're currently using. For example, for accounts with administrator rights, you can't select the User Cannot Change Password option.
- You can't delete or disable the user account you are currently using to log into Client Manager. For the current account, these options are not displayed.

Tip—If you plan to use an account some time in the future, don't delete it. Just disable the account temporarily.

To edit, delete, or disable a user account

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer**.
3. Log on to the computer using your Client Manager username and password.
4. In the left pane, click **Client Manager Accounts**.
5. Click the user account you want to edit, delete, or disable.
6. Make the necessary changes to the account (note that you can't rename a user account), or click **Delete** or **Account disabled**.
7. Click **OK**.

Displaying user properties

You can easily view the properties information for each user account created on a computer. The user properties include:

- **Username**—Displays name assigned to the user account. User accounts are listed in the order they were created or modified. Your current logon account is highlighted.
- **Access Rights**—Displays the access rights assigned to the account: No Access (account disabled), Browser (read rights), User (read/write rights), Power User (read/write rights, plus other vendor-definable rights), and Administrator (full access).
- **Account Status**—Displays whether the account is enabled or disabled.
- **Password Status**—Displays the password status for the account:
    - **Expires in __ days**—The user account password must be changed after the number of days indicated.
    - **Never expires**—The user account password never expires.
    - **Has expired**—The account's password has expired. The account can't be used until you change the account password.
    - **Need to change**—The user is required to change the account password during the next logon.

To display user properties

1. Right-click the Client Manager taskbar icon.
2. Click **Manage This Computer.**

3. Log on to the computer using your Client Manager username and password.
4. In the left pane, click **Client Manager Accounts**.

Reference information

Converting Celsius to Fahrenheit

Because temperature-monitoring computer hardware reports the temperature in degrees Celsius, users in the United States may want to convert the reported temperature to Fahrenheit. The table below lists the Fahrenheit equivalents to the Celsius values reported by Client Manager.

°C	°F	°C	°F	°C	°F	°C	°F
0°	32.0°	26°	78.8°	51°	123.8°	76°	168.8°
1°	33.8°	27°	80.6°	52°	125.6°	77°	170.6°
2°	35.6°	28°	82.4°	53°	127.4°	78°	172.4°
3°	37.4°	29°	84.2°	54°	129.2°	79°	174.2°
4°	39.2°	30°	86.0°	55°	131.0°	80°	176.0°
5°	41.0°	31°	87.8°	56°	132.8°	81°	177.8°
6°	42.8°	32°	89.6°	57°	134.6°	82°	179.6°
7°	44.6°	33°	91.4°	58°	136.4°	83°	181.4°
8°	46.4°	34°	93.2°	59°	138.2°	84°	183.2°
9°	48.2°	35°	95.0°	60°	140°	85°	185.0°
10°	50.0°	36°	96.8°	61°	141.8°	86°	186.8°
11°	51.8°	37°	98.6°	62°	143.6°	87°	188.6°
12°	53.6°	38°	100.4°	63°	145.4°	88°	190.4°
13°	55.4°	39°	102.2°	64°	147.2°	89°	192.2°
14°	57.2°	40°	104.0°	65°	149.0°	90°	194.0°
15°	59.0°	41°	105.8°	66°	150.8°	91°	195.8°
16°	60.8°	42°	107.6°	67°	152.6°	92°	197.6°
17°	62.6°	43°	109.4°	68°	154.4°	93°	199.4°
18°	64.4°	44°	111.2°	69°	156.2°	94°	201.2°
19°	66.2°	45°	113.0°	70°	158.0°	95°	203.0°
20°	68.0°	46°	114.8°	71°	159.8°	96°	204.8°
21°	69.8°	47°	116.6°	72°	161.6°	97°	206.6°
22°	71.6°	48°	118.4°	73°	163.4°	98°	208.4°
23°	73.4°	49°	120.2°	74°	165.2°	99°	210.2°

°C	°F	°C	°F	°C	°F	°C	°F
24°	75.2°	50°	122.0°	75°	167.0°	100°	212.0°
25°	77.0°						

Client Manager error messages

"An administrator on computer *[computer name]* attempted to shutdown / reboot this computer. Because you cancelled that action, you will need to reboot this computer before any changes take effect. Contact your system administrator immediately."

You will receive this message when a system administrator attempts to power off (or reboot) your computer to perform computer maintenance tasks, such us updating drivers. Because you cancelled the action, the maintenance tasks were not performed (or not completed) on your computer. You should contact your system administrator to find out what maintenance was being performed and how to proceed.

"An internal program error has occurred. Please contact your system administrator for assistance."

The Client Manager installation has probably been damaged. Uninstall and reinstall Client Manager.

"Client Manager needs additional time to load the requested page. Wait 20 seconds, then click the Refresh button on the browser window. If the problem persists, contact the system administrator."

The computer may have been busy or rebooting when Client Manager tried to load the requested page. Wait 30 or 40 seconds and click Retry to see if Client Manager can load the page. If the page still fails to load, try restarting the Win32sl and Intel CI Manager services (if you're running on Windows NT) and restart Client Manager. If the page still fails to load, increase the computer's virtual memory, reboot the computer, and try it again. If the page still fails to load after rebooting, the installation of Client Manager probably has some damaged or missing files. Uninstall and reinstall Client Manager.

"Notification Monitor could not establish a default hotkey. The hotkey provides keyboard access to the Notification Monitor. Please free up hotkey resources."

Each time a Client Manager computer starts up, Client Manager attempts to assign Ctrl + Alt + N as the hotkey to display the notification monitor. If Ctrl + Alt + N is already assigned as a hotkey for another program, Client Manager will try to assign another letter of the alphabet (working from

A to Z) until it finds an available letter. If all 26 letters have been assigned to other programs, Client Manager displays the error message. Try using a number (0-9), or free up some of your hotkey resources. To set the hotkey: From the Windows Start menu, click **Programs** | **Intel LANDesk Management** | **Client Manager** | **Options**. Click the **Notifications** tab and type the alpha-numeric character in the **Hotkey to display Notification Monitor** box. Click **OK**.

"Only a letter or number may be used as a Hotkey."

This message refers to the hotkey used to open the notification monitor. Use an alpha character (A-Z) or a number (0-9) for the hotkey.

"The administrator computer could not be found. Verify that the computer name or IP address, and communication port is correct."

This error message appears if you provide administrator connection information with an incorrect computer name or IP address in the dialog located at **Programs | Intel LANDesk Management | Client Manager | Options**. You can verify the computer name and IP address information on the Computer Summary page of the administrator computer.

"The Client Manager HTTP server host for this computer is unavailable. Please restart the computer or contact your system administrator."

Client Manager's HTTP server is no longer running properly in the computer's memory. Usually restarting the computer will resolve this problem. If it does not, some of Client Manager's files may be corrupted. Uninstall and reinstall Client Manager.

"The description for this notification is not available."

This default message appears if no other notification description is available. This message will probably only appear for notifications that have been added in special implementations of Client Manager by the computer's manufacturer.

"The Hotkey you have chosen is currently in use."

The hotkey you have chosen to display Client Manager's notification monitor is currently assigned to another program. Specify another alpha-numeric character.

"The system is running dangerously low on memory. Close any unnecessary applications and try again."

Client Manager is running out of physical and virtual memory, and may crash if memory isn't made available. Close any applications you aren't currently using.

"The system received a shutdown / reboot command from computer *[computer name]* and will initiate system shutdown in *[time]*."

You will receive this message when a system administrator attempts to power off (or reboot) your computer to perform computer maintenance tasks, such us updating drivers. Because remotely powering off your computer can potentially interrupt your work or result in lost data, you may cancel the shutdown or reboot action within the indicated time. If you cancel the shutdown / reboot action, you should contact your system administrator to find out what maintenance was being performed and how to proceed.

"This application requires that Microsoft Internet Explorer version 5.5 or above be installed on this system to run. Please contact your system administrator for assistance."

Microsoft Internet Explorer 5.5 is one of the system requirements for Client Manager 6.3. Before you can run Client Manager, install (or reinstall) Internet Explorer 5.5 or above.

"You do not have sufficient rights to perform this operation."

The account you have used to log in to Client Manager has limited rights and doesn't permit you to perform this action. You must have administrator rights to configure the rights for other user accounts. User account rights are set under User Management. This error message is the equivalent of "401 Unauthorized" or "403 Forbidden" as defined in the HTTP Specification (RFC2068). &&Verify that user management page still exists.

Glossary

AMS²

Alert Management System². A component of Intel® LANDesk® management products that provides various alerting capabilities, such as paging, Internet mail, and broadcasts.

AGP

Advanced Graphics Port. A high-performance bus type that uses short expansion slots for AGP video cards. AGP buses are targeted at 3D graphics applications and based on a set of performance enhancements to PCI.

BIOS

Basic Input/Output System. A set of software routines generally stored in a firmware chip located on the motherboard. The BIOS is responsible for your computer's input/output activities, such as interpreting keystrokes and mouse clicks, displaying images and characters on the screen, and sending data to the printer.

cache

A block of fast memory that holds data or instructions the processor is most likely to use next. A primary cache is built into the microprocessor. A secondary cache is external to the microprocessor and uses its own memory chips. The write policy of a memory cache can be implemented in two ways: a write-through cache and a write-back cache.

COM1

First communications port (Communications 1). Because serial ports are often used for connecting long-distance communications devices (such as modems) to a computer, the serial ports on a computer are named "COM1" (Communications 1) and "COM2" (Communications 2).

CIM

Common Information Model. An industry standard for managing a computer's components. Like DMI, CIM is also sponsored by the Desktop Management Task Force (DMTF). Client Manager uses both CIM and DMI to gather information about a computer's components.

CRC

Cyclical Redundancy Check. A network error-checking procedure that calculates a checksum of a packet's contents before sending the packet, then stores that checksum in the trailer of the packet to be delivered. When the packet arrives at its destination on the network, the checksum is recalculated to verify the data integrity. If a discrepancy exists, the originating computer receives a request to resend the packet.

DMI

Desktop Management Interface. An industry standard set forth by the Desktop Management Task Force (DMTF) for managing the computer's components. DMI uses a combination of static MIF files and instrumentation to gather and report information about a computer's components. Client Manager uses both DMI and CIM.

DIMM

Dual In-line Memory Module. A small circuit board that contains memory chips on both sides of the module. Like the SIMM, the DIMM is easily inserted into a socket on the motherboard to increase the amount of RAM available to the computer. The DIMM connector tabs use 168 pins with separate contacts on each side of the circuit board. The dual contacts allow twice as much

data to pass in and out of the DIMM. (DIMM also refers to the socket type designed to receive the DIMM circuit board.)

DMA

Direct Memory Access. The process of moving data from devices (such as a hard disk) directly into memory. This process frees up the processor substantially so it can focus on other tasks.

discover

Searching specified networks for computers.

DMA channel

One of seven channels (numbered 0-6) used to move data from devices (such as a hard disk) directly into memory.

DNS server

Domain Name Service server. Maintains a dynamic database of computers on the Internet with a network address (usually an IP address) and a meaningful domain name, such as "www.intel.com." To find an Internet resource, type a domain name and a DNS server finds the associated IP address of that resource.

ECC

Error Correction Code. The error correction code of the memory module. This code can detect both single-bit and multi-bit errors and correct single-bit errors.

EDO

Extended Data Output. A type of memory chip technology that can increase the CPU's memory access time by 10 to 15 percent over a non-EDO chip. To achieve the performance increase, however, the computer must be designed to take advantage of the speed benefit EDO memory offers.

EISA

Enhanced Industry Standard Architecture. One of two immediate successors to the ISA bus standard. The EISA bus was developed by a consortium of IBM competitors to challenge IBM's MCA bus.

environment variables

Variables that are initialized on startup and used by the operating system.

expansion slots

Long, narrow sockets on a motherboard used to install custom expansion cards into your computer for extended functionality. For example, you can plug a network adapter into an expansion slot so your computer can connect to a network. Other examples of expansion cards include video cards, sound cards, and modems.

FAT

File Allocation Table. A common file system supported by most operating systems. FAT is widely used and requires little overhead, but does not offer many of the features available in more advanced file systems, such as NTFS or FAT32.

FAT32

File Allocation Table 32-bit. FAT32 supports larger disk sizes (up to 2 terabytes) than the original FAT. It also uses a smaller cluster size, which reduces the amount of slack space (unused space) in each cluster.

file system

The portion of an operating system responsible for managing, saving, and retrieving files on a hard disk or other media. Three of the more common file systems are FAT, FAT32, and NTFS.

GDI

Graphical Device Interface. An executable program that serves as a graphical display buffer between device-independent applications and device-specific drivers.

gigahertz

One billion cycles per second. A microprocessor's speed (also known as its clock speed), is measured in gigahertz. Because each computer instruction requires a fixed number of cycles, the clock speed determines how many instructions the microprocessor can execute in one second. A microprocessor that runs at 10 GHz executes 10 billion cycles per second.

hexadecimal

A base-16 system of counting used to enumerate and provide addresses for many aspects of computer circuitry, such as memory, IRQs, and network adapter addresses. The hexadecimal digits are: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, and F. These digits represent the decimal numbers 0 through 15. After counting to the digit F in hexadecimal, you continue counting in double digits from 10 to 1F (16-31 in decimal), 20 to 2F (32-47 in decimal), and so forth.

HTTP server

Hypertext Transfer Protocol server. A server computer that stores files, such as HTML Web pages, and serves those files to HTTP client computers as they are requested.

I/O address

A hexadecimal address in base memory used for input and output.

IP address

A number composed of four octets separated by decimals, such as 127.17.5.12. Each address identifies a unique computer on the Internet. IP Addresses are used exclusively with the TCP/IP network protocols.

instrumentation

The executable code that provides DMI management functionality for a particular component. The instrumentation code is provided by the component manufacturer.

Interrupt Request (IRQ)

A prioritized signal line used by hardware devices to interrupt the processor and request processing attention. Each hardware device generally requires its own IRQ address--a number from 0 to 15 (0 to F in hexadecimal).

ISA

Industry Standard Architecture. The original bus standard used in IBM and compatible computers. ISA was later superseded by more technologically advanced bus architectures, such as EISA, MCA, PCI, and SCSI.

LIF socket

Low Insertion Force socket. An older socket type used on early motherboards for processors and other chips. Unlike its successor, the ZIF socket, you must use considerable force when inserting a chip into a LIF socket, and a special tool or screwdriver is generally required to remove a chip from a LIF socket.

LPT1

First parallel printer port (Line Printer 1). Because parallel ports are typically used for connecting printers to a computer, the parallel port names LPT1 and LPT2 were named after the early "line printers" that connected to them (line printer 1, line printer 2, and so forth).

MAC address

Media Access Control address (also known as the hardware address or node address). A unique six-byte hexadecimal address (such as 00AA00C778F7) that is permanently coded into the network adapter and can be used to identify a specific computer on a network.

MIF

Management Information Format. The file format used by DMI to describe components.

MIF database

The collection of known MIF files, maintained by the Service Provider in an implementation-specific format (in the SLDB.DMI file) for fast access.

MIF file

A text file that describes a component. MIF files are generally organized in a hierarchy of components, groups, attributes, and attribute values.

MOF

Managed Object Format. The file format used by CIM to describe components. MOF files are text files generally organized in a hierarchy of classes, instances, properties, and values.

MCA

Microchannel Architecture. A bus architecture developed by IBM as a successor to the ISA bus.

megahertz

One million cycles per second. A microprocessor's speed (also known as its clock speed), is measured in megahertz. Because each computer instruction requires a fixed number of cycles, the clock speed determines how many instructions the microprocessor can execute in one second. A microprocessor that runs at 450 MHz executes 450 million cycles per second.

NDIS

Network Device Interface Specification. A standard that defines how the MAC sublayer (in the OSI model) communicates with the various protocol drivers. This interface is used to enable different protocols (such as TCP/IP, IPX*/SPX*, and NetBEUI*) running in the same computer to communicate with the network adapter.

NTFS

New Technology File System. A proprietary, feature-rich file system developed by Microsoft and used in Windows NT. Among other things, NTFS supports long filenames, file level security, and file compression.

packets

Discrete chunks of data, packaged with control and addressing information, that travel over a network cable between sending and receiving computers.

parity errors

Parity errors occur when a memory error-checking procedure finds that some data stored in memory has become flawed. Parity errors are generally caused by a physical problem in the memory chips and often signal that a memory chip is going bad.

parallel port

A hardware port that is used to connect printers or other devices using parallel communication. Parallel ports and cables are generally used over short distances because "cross talk" (data from one wire bleeding over onto another) is a problem with parallel cables over long distances.

PCI

Peripheral Component Interconnect. A bus architecture developed by Intel that has wide support as a successor to the original ISA bus.

PCMCIA

Personal Computer Memory Card International Association, also known as PC Card. An expansion card about the size of a credit card, originally developed for the portable computer market.

primary cache

Memory cache that is built into the microprocessor. The close proximity of a primary cache to the microprocessor's circuitry gives a primary cache more speed-up potential than a secondary cache.

primary gateway

In a TCP/IP network, the router that all network packets are sent to if their ultimate destination is not on the local network.

provider

The CIM instrumentation that collects and manages data from CIM components.

proxy server

A server that resides on the network between an application (such as a Web browser), and another server (such as an HTTP server). Proxy servers improve performance by caching and fulfilling requests for files that have been previously accessed by the proxy server. Proxy servers also provide security for the network by filtering requests made to the server.

resolution

The number of tiny individual picture elements ("pixels") of a screen that combine to make up a screen display. A high resolution (1280 x 1024) uses many more pixels than a low resolution (640 x 480) and yields a sharper screen image. Higher resolutions are generally selected by users with larger monitors to achieve a more economical use of the large screen's viewing area.

SCSI

Small Computer Systems Interface. A bus type that allows up to seven SCSI devices to be chained together and share a common bus. Without processor intervention, SCSI devices can arbitrate which device in the chain has access to the bus at any given time. Two SCSI devices (such as a SCSI hard disk and a SCSI tape drive) can even relay data directly between each other without processor intervention.

secondary cache

Memory cache that uses a cache controller and memory chips that are external to the microprocessor. Secondary cache does not offer the same degree of speed-up potential as primary cache. However, it can be considerably larger than a primary cache and therefore hold more instructions and data.

serial port

A hardware port that is used to connect serial devices (modem, mouse, and keyboard) to the computer. Serial ports convert the computer's parallel data into serial data that can be sent over a serial cable one bit (or voltage pulse) at a time. Serial ports and cables are used for long-distance communication to eliminate the "cross talk" (data from one wire bleeding over onto another) that can occur with parallel communication over long distances. Serial ports are also used to connect the mouse and keyboard to a computer. These devices don't send much data and therefore don't require the extra bandwidth of a parallel cable.

SIMM

Single In-line Memory Module. A small circuit board that contains usually eight or nine memory chips in a single bank. The SIMM is easily inserted into a socket on the motherboard to increase the amount of memory available to the computer.

Slot 1

The processor socket type used for some Intel® Pentium® processors. Slot 1 uses a 242-contact slot that accepts a processor packaged as a Single Edge Contact (SEC) cartridge. A motherboard has one or two Slot 1s. Slot 1 only supports communication between the L2 cache and processor at half the processor's clock speed.

Slot 2

The processor socket type used for the Intel® Pentium® II Xeon™ processors. Slot 2 uses a 330-contact slot that accepts a processor packaged as a Single Edge Contact (SEC) cartridge. The Slot 2 design allows the processor to communicate with the L2 cache at the processor's full clock speed.

slot type

The type of expansion slots available on the computer's motherboard, such as ISA, EISA, MCA, PCI, SCSI, or AGP. (Not to be confused with the processor's socket types: Slot 1 and Slot 2.)

S.M.A.R.T.

Self Monitoring Analysis and Reporting Technology. A drive technology that monitors its own health and reports potential problems before they occur.

subnet mask

A 32-bit number composed of four octets separated by decimals, such as 255.255.255.0. The subnet mask is paired with an IP address, such as 127.17.5.12, to tell an IP router which octets in the IP address are the network ID and which octets are the node ID. A subnet mask of 255.255.255.0, for example, would indicate that the first three octets of an IP address (such as 127.17.5) are the network ID, and the last octet of the IP address (such as .12) is a node ID. (The valid numbers that can be used in a subnet mask are 255, 254, 252, 248, 240, 224, 192, 128, and 0.)

taskbar

A Windows toolbar that usually appears at the bottom of the screen (although it can be moved to the top or either side of the screen). The taskbar includes the Windows Start menu, buttons representing the running applications, and a system tray (on the far right side of the taskbar) which includes the current time and icons for various tools and programs.

threshold

A configurable value that, if passed, can trigger an alert action. You can set the thresholds for some system events, such as available disk space and memory.

UDP

User Datagram Protocol. A connectionless transport-layer protocol commonly used in the TCP/IP protocol family. Unlike TCP, when a UDP packet is sent over the network, UDP makes no effort to verify that the packet was successfully received on the other end.

UNC

Universal Naming Convention or Uniform Naming Convention. A format for specifying the location of resources (such as computers and printers) on a network. A UNC name uses this format:

\\computer name\shared resource pathname. Example: \\My computer\My documents\file.txt

write-back cache

A write-back cache writes data into the cache, then periodically checks for discrepancies between cache data and memory data. (Discrepancies can occur, for example, from a hard disk transferring data directly into memory via DMA). Write-back cache is faster than write-through cache, but the overhead to monitor discrepancies between memory and cache makes write-back cache more expensive.

write-through cache

A write-through cache writes the same data into memory and cache in a single operation. A write-through cache is slower than a write-back cache, but potentially safer because it guarantees that cache data and corresponding memory data are always the same.

ZIF socket

Zero Insertion Force (ZIF) socket is a socket type used on motherboards for processors and other chips. Unlike the LIF socket, little pressure is needed to seat a chip into a ZIF socket, and a special tool or screwdriver is not required to remove a chip from a ZIF socket. The ZIF socket was designed to reduce the risk of accidentally bending a pin (or whole row of pins) on an expensive processor when seating the chip into a socket.

Manually removing Client Manager from Windows 98/Me/NT/2000/XP

To uninstall Client Manager from a computer, you should generally use the Add/Remove Programs option in the Windows Control Panel. However, if certain Client Manager program files are corrupt, it may be necessary to manually remove the program files and registry keys that Client Manager installs during Setup.

Note—You should only try to manually remove Client Manager if all of the following conditions are met:

- Uninstall failed to remove part or all of Client Manager.
- You're unable to reinstall Client Manager because of the failed uninstall.
- The computer does not have any other Intel LANDesk products installed on it (such as Intel® LANDesk® Management Suite).
- The drives on which Client Manager was installed are FAT or FAT32 (or you're using a third-party NTFS utility).

To remove the Client Manager files and folders

1. Boot to DOS using the Windows boot disk created during installation.
2. From a command prompt, delete these files and folders (and any files and folders beneath them) if they exist. **Note**—Some of these files and folders may not exist depending on the Windows version and type of Client Manager installation (Client or Administrator). On Windows 98 computers, you'll need to look in the "System" folder rather than the "System32" folder.

    - {InstallPath}\Intel\Alert on LAN
    - {InstallPath}\Intel\BootStrap Agent
    - {InstallPath}\Intel\Common
    - {InstallPath}\Dmi
    - {InstallPath}\LDCM
    - {WindowsPath}\System32\msgsys.dll
    - {WindowsPath}\System32\nts.dll
    - {WindowsPath}\System32\pds.dll
    - {WindowsPath}\System32\drivers\smbus.sys
    - {WindowsPath}\System32\drivers\smbusp.sys
    - {WindowsPath}\System\drivers\smbus.vxd

To remove the Client Manager registry keys

1. Boot to Windows.
2. From the Windows Start menu, click **Run**.
3. Type **REGEDIT** and click **OK**.
4. Delete these registry keys (and any keys and values below them) if they exist:

Windows 98

- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\RunServices\aolnsrvr
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\RunServices\Intel PDS
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\RunServices\Intel File Transfer
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\RunServices\DMIStart

Windows NT

- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\aolnsrvr
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Intel File Transfer
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Intel IIDS
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Intel SSM
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Intel Bootstrap Agent
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Intel CI Manager
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\win32sl

Windows 98/Me/2000/NT/XP

- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\App Paths\NML.exe
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\App Paths\SMBus Driver
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Run\User Space Manager
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Intel BootStrap Agent
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Client Manager 6.0
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\SMBus
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SNMP\Parameters\ExtensionAgents\{the number that contains the path to the snmp.ssp file}
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SMBus
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SMBusP
- HKEY_LOCAL_MACHINE\SOFTWARE\Intel\Alert on LAN
- HKEY_LOCAL_MACHINE\SOFTWARE\Intel\BootStrapAgent
- HKEY_LOCAL_MACHINE\SOFTWARE\Intel\cimgr
- HKEY_LOCAL_MACHINE\SOFTWARE\Intel\DMI 2.0 SDK
- HKEY_LOCAL_MACHINE\SOFTWARE\Intel\LANDesk
- HKEY_LOCAL_MACHINE\SOFTWARE\Intel\Shared Components
- HKEY_LOCAL_MACHINE\SOFTWARE\Intel\SharedComponents
- HKEY_LOCAL_MACHINE\SOFTWARE\Intel\SMBus Driver

5. Click **Registry** | **Exit** to close REGEDIT.
6. Reboot the computer.

Release notes

Client Manager 6.3 release notes

This document contains a list of the known issues in this release of Intel® LANDesk® Client Manager. While these errors were not considered significant enough to delay this release, every effort will be made to address these issues in the next maintenance release of Client Manager 6.3.

Setup issues

Changing the installation path only changes the Client Manager path

Changing the installation path during Setup only changes the location of the LDCM directory tree. Other files and directories Client Manager installs, such as Alert on LAN*, DMI, SMBus and Bootstrap agent, are still installed to the default directories on the C: drive.

Creative DVD decoder card causes Client Manager service provider to crash

When installing Client Manager on a Windows 98 Second Edition computer with a Creative DVD decoder card, the Client Manager service provider Win32sl.exe crashes and displays the following message:

Win32sl.exe caused an invalid page fault at 0000:efefefef.

This is followed by two or three blue screens with the following message:

Fatal exception error 0E at 0028:C006F20B in VXD VNETBIOS(01) + 000005EB.

Error when uninstalling Client Manager: "Failed to create an instance of AOL 2 Agent object"

Uninstalling a full Client Manager installation (including the Alert on LAN agent) on a computer running Windows NT 4.0 displays an error message with the title: "Failed to create an instance of AOL 2 Agent object." The dialog contains only a title and an OK button. This message box can be ignored as it is not reporting an actual problem.

Uninstall leaves program folders under Program Files

When Client Manager uninstalls, some folders and files may remain under Program Files.

Don't over-install the client version

If you need to reinstall the client software, either on the client or as part of a full installation at the administrator computer, you must first uninstall the Client Manager software.

Uninstalling Client Manager with CIM on Japanese Windows 2000 displays errors in Event Viewer

On a computer running the Japanese version of Windows 2000 professional, if you install the CIM instrumentation during Client Manager Setup and then uninstall Client Manager, errors are displayed in the Windows 2000 Event Viewer. These errors should not display in the Event Viewer.

Removing network adapter causes shutdown problems

If the network adapter is removed from the computer after Client Manager is installed, the operating system can't shut down. When you attempt to shut down the operating system, it displays the message "Please wait while your computer shuts down," and never completes the shutdown. A network adapter (or modem) and TCP/IP are required for Client Manager to run. Removing the network adapter after Client Manager is installed results in an invalid hardware configuration for Client Manager.

Intel® InBusiness™ Remote Services Center deletes crucial Client Manager DLLs when uninstalled

If you install Intel InBusiness Remote Services Center and then install Client Manager administrator on the same computer, they both run and co-exist quite well. But if you uninstall Remote Services Center and reboot, Client Manager doesn't start properly and displays error messages such as "Unable to locate DLL." It is looking for NTS.DLL. If you manually restore this file and launch Client Manager, it displays a message indicating that PDS.DLL is missing.

Discovery and network issues

Japanese Windows 98 SE computers running Client Manager can't shut down if system resources are low

Japanese Windows 98 Second Edition computers with Client Manager installed sometimes can't shut down properly if system resources are at 20 percent or lower.

Client Manager computer names can't contain spaces

If the computer name contains a space, the browser can't connect to the HTTP server. Other operations, such as inventory export, remote reboot, and remote power off/on also do not work if the computer name contains a space.

Workaround—Instead of using a space in the computer name, use a hyphen character (-).

Double-byte Japanese computer names not supported

If double-byte Japanese characters are used to name a computer, the Computer field in the notification monitor displays dashes (-). Also, if you try to select a computer that uses a double-byte name in the Select Computer page, the hotlink to log on to that computer will not be available and you will not be able to access the computer. According to RFC-1034, DNS is limited to 7-bit ASCII characters for computer domain names. Double-byte characters are not supported.

Inventory issues

Adaptec PCI Ultra2 SCSI controller reports being connected to IRQ 52

The Adaptec PCI Ultra2 SCSI controller shows that it is connected to IRQ 52, but computers only have 16 IRQs, numbered 0-15. Windows NT also reports the IRQ as 52 in Control Panel. The instrumentation appears to be reporting the value from the controller's BIOS. This problem is being investigated with Adaptec.

Partial video information on a multi-monitor Windows 98 SE or Windows 2000 system

Windows 98 Second Edition and Windows 2000 both support multiple monitors. On these computers, the information displayed in Client Manager's Video inventory page is not the information for the primary video card. Ideally, this page should display information for all installed video cards.

Network adapter not detected by instrumentation

On some computers, the network adapter information is not detected by Client Manager instrumentation. The Network Adapter Name field in the Network inventory page is left blank.

Refreshing the Asset Management inventory page displays confusing message

When you change data on the Asset Management page and click Apply, then right-click in the right frame and click Refresh, a dialog appears asking if you want to "Repost form data?" This happens because the data you just changed was updated (posted) when you clicked Apply, and now you're asking to post the same data to the form again.

Video doesn't show supported resolution with default vga.sys driver

When Client Manager is running on Windows NT and using the default vga.sys video driver, the Video inventory page doesn't display the supported video resolutions. The driver supports at least two modes: 800x600 with 16 colors, and 640x480 with 16 colors.

Computers with two mice (one PS/2, one USB) only report information for one mouse (USB)

On computers that have two mice connected (one PS/2, one USB), Client Manager only displays information on the Keyboard/Mouse inventory page for the USB mouse.

Operating System inventory page doesn't display information for device drivers

When Client Manager is running on a Windows 98 Second Edition computer, the Operating System inventory page doesn't display version or date information for Real Mode Device Drivers. On computers running Windows NT, these fields display the version and date information for the Windows NT device drivers.

Drives information reported for stripe sets and volume sets can be misleading

If a computer has a stripe set or volume set configured across multiple hard disks, the Drives inventory page reports information that can be misleading. For example, if a D drive stripe set is created on physical disks 0, 1, and 2, Client Manager lists all of drive D as a partition on disk 0 because disk 0 is the first disk of the stripe set. Client Manager doesn't report that the D drive is striped, so it appears that disk 0 is much larger than it actually is.

Client Manager doesn't autodetect new processor core voltage if the processor is replaced

The first time Client Manager runs, it autodetects the CPU core voltage (if it was set to autodetect). The Windows registry is then updated with the processor information, and the processor autodetection is turned off. After this happens, if you upgrade or replace the processor to a processor with a different core voltage, Client Manager generates voltage warnings for the CPU core voltage because it doesn't match the value in the Windows registry.

Workaround—From the Client Manager CD, navigate to the ASICCFG directory and double-click the .REG file. (The name of the .REG file will vary depending on the computer manufacturer.) This forces Client Manager to autodetect the new processor's core voltage.

Missing data in the I/O Ports page

If the computer's BIOS settings for the serial/parallel ports are set to AUTO, the I/O Ports inventory page doesn't display the port information on Windows NT computers. Windows NT doesn't load the drivers (or set the registry) if the port is set to AUTO.

Workaround—Configure the port to ENABLED in the BIOS and reboot.

Discrepancies exist between Client Manager's System Resources and Windows utilities

Some Windows utilities (such as Device Manager and WINMSD.EXE) report IRQs, memory addresses, and I/O ports differently than what Client Manager reports on its System Resources inventory page. This is due to differences in the way these programs read the system resource information of a computer.

Operating System information doesn't appear unless logged in with administrator rights

If you are not logged in to a Windows NT operating system with administrator rights, the Real Mode Tasks and System Variables inventory information will not appear on the Operating System page (or in the export files if you export the information). This has been modified to work with Windows 2000 and Windows XP.

Mouse connector type incorrectly reported as "PS/2"

On installations of Windows NT 4.0, the Client Manager inventory may incorrectly report the Mouse Connector Type as "PS/2" and the Keyboard Port Type as "Unknown" for Universal Serial Bus (USB) mice and keyboards. This is because Windows NT 4.0 does not support USB.

Computers running Windows NT 4.0 with USB keyboards and mice can do so only because of the ability of the BIOS to convert USB signals to PS/2 signals. PS/2 is supported by Windows NT 4.0.

Drives information different than that reported by Windows 98 SE

Windows 98 Second Edition reports some Drives inventory values differently. The values reported for "Set Thresholds Disk Space" and "Total Capacity" may vary (about 1 percent) on Windows 98 Second Edition computers. Also, the "Total Capacity" reported by Client Manager may differ (about 1 percent) from the amount reported by the operating system, particularly on drives larger than 8.4 GB. This is because the method used to calculate drive capacity differs between Client Manager and the Windows operating system.

System Resources information different than that reported by Windows

On the System Resources inventory page, the values reported for IRQ, I/O, Memory, and DMA may not be consistent with values reported by the operating system.

BIOS information not displaying

The BIOS information does not display on the BIOS inventory page if the BIOS event logs are stored in General Purpose Non-Volatile memory on Windows NT and Windows 2000/XP computers.

Health issues

S.M.A.R.T. drive errors not detected with CD-ROM as master and hard drive as slave

When a CD-ROM is configured as a master and a hard drive is configured as a slave, the Client Manager instrumentation does not pick up S.M.A.R.T. drive errors from the slave hard drive. The following configuration results in this problem:

Main HD on Primary IDE controller

CD-Rom on secondary IDE controller (Master)

Second HD (generating SMART errors) on secondary IDE controller (Slave)

S.M.A.R.T. drive errors not very descriptive

When Client Manager reports a S.M.A.R.T. drive error, it reports the drive as "IDE 0," "IDE 1," and so forth. Descriptions for these physical drive names are provided below:

IDE 0—The master drive on primary controller

IDE 1—The slave drive on primary controller

IDE 2—The master drive on secondary controller

IDE 3—The slave drive on secondary controller

Alerting issues

Alert on LAN support

The Alert on LAN agent is not supported on Client Manager clients running Windows Me.

A client computer's store and forward queue can't be turned off

If a client computer is off the network for several days or weeks and generates dozens or hundreds of alerts during that time, when it finally reconnects to the network, it sends all of its alerts to the administrator computer(s) it previously registered with. This can generate significant network traffic and quickly fill the administrator computer's notification monitor. The store and forward queue can't be turned off to prevent these alerts from forwarding. It is very unlikely, however, that such a scenario would occur since administrator computers are removed from the client's list of administrator computers in approximately 60 days.

Deleting a client computer may not prevent it from forwarding alerts to the administrator

If a client computer is disconnected from the network, and the administrator then deletes that computer from its Selected Computers list, when the client computer is reconnected to the network (without rebooting) it continues to forward its alerts to the administrator.

Workaround—Ideally, you should delete the computer from the list before disconnecting it from the network. If the client computer has already been removed from the network and then deleted, reboot the client after it is reconnected to the network. You can also rediscover from the administrator and then delete the client computer again.

Health icon on status bar may display incorrect health in rare conditions

The health status icon that Client Manager displays on the status bar may be incorrect and inconsistent with the health status reported in other areas of Client Manager. This generally occurs when rare steps are taken to create and resolve a Client Manager health problem.

POST errors aren't reported if date is set back

If you set the computer's system date back, after the BIOS scan has occurred, POST errors are no longer reported in Client Manager until after the scan date is reached, or the registry values are set to zero.

Workaround—In the Windows registry, navigate to HKEY_LOCAL_MACHINE\Software \Intel \cimgr \Instrumentation \Intel.IOSystem.2.1 \POSTError \Health Contributor. Reset the keys ScanTimeHiDWORD and ScanTimeLoDWORD to 0.

JN440BX motherboards may generate a cover tamper alert when computer is powered down

Computers that use an Intel® JN440BX motherboard may send a cover tamper alert to the Alert on LAN proxy server when they are powered down, even when the computer's cover is not open.

Store-and-forward alerts from client aren't forwarded until administrator clicks Refresh on the Select Computer page

If a client computer generates an alert while it (or the administrator computer) is off the network, the client computer stores the alert, then forwards it to the administrator when both computers are back on the network. The administrator computer must display the Select Computer page to receive the stored alert.

Client Manager doesn't discover both networks on computers with two network adapters

When Client Manager is installed on a Windows 98 Second Edition or Windows Me computer with two network adapters, using a discovery broadcast address of 255.255.255.255 should discover Client Manager computers on both networks, but it doesn't. Only one network is discovered.

Alert on LAN proxy server can be changed but not removed

You can change the IP address for the Alert on LAN proxy server to another IP address, but you can't delete it.

Workaround—Disable Alert on LAN on the client.

Alert on LAN proxy server receives "presence heartbeat expired" alert when heartbeat is disabled on the client

When the Alert on LAN "presence heartbeat expired" alert is disabled on the client computer, the proxy server receives a notification stating the Alert on LAN client computer is no longer available. This is incorrect—the computer is still available.

Client Manager account issues

No issues.

User interface issues

Client Manager taskbar icon disappears when computer has critically low memory

When a computer is critically low on memory, many of its 16-bit applications can begin crashing. In addition, the Client Manager taskbar icon (as well as other icons) are unloaded from the operating system's taskbar. When the memory problem is corrected, the Client Manager taskbar icon is not automatically reloaded. This is not a defect of Client Manager; Client Manager is simply responding as it should when the operating system begins shutting down applications as a result of insufficient memory.

Solution—Reboot the computer to restore the Client Manager taskbar icon.

Pressing F1 in Client Manager displays Internet Explorer Help

Pressing the F1 key anywhere in the Client Manager program causes the Internet Explorer Help to appear instead of Client Manager Help. This is working as designed, but may cause some confusion if you press F1 expecting to see Client Manager Help.

Client Manager randomly displays error text in a frame

Client Manager randomly displays the text INVALID CGI REQUEST in a frame.

Workaround—Refresh the browser or close and restart Client Manager.

Alert on LAN page accepts invalid character input

The Alert on LAN page accepts invalid characters (alpha characters where numbers are expected) without displaying an error message.

Selecting "Open in New Window" generates a script error

When you right-click an option in the left pane of the client console and click Open in New Window, Client Manager displays an Internet Explorer Script Error: "Object doesn't support this property or method."

Workaround—Use the Open option instead of Open in New Window.

Client Manager shouldn't run as an Active Desktop element

Don't run the Client Manager interface as a Windows Active Desktop element. If you do, clicking many of the inventory links generates a script error.

Clicking Refresh in log and global log pages can clear log

If the Client Manager log or global log has been cleared, right-clicking in the right pane and clicking Refresh deletes the log again. To refresh the right pane, click the Refresh button rather than clicking Refresh on the right-click menu.

BIOS date format doesn't reflect format in regional settings

On the BIOS inventory page, the BIOS date always displays in the MM/DD/YYYY format, even when a different date style is selected under Regional Settings for the operating system.

Conflict with OpenGL Screen Savers

If you attempt to access Client Manager while running an OpenGL* screen saver, your computer might crash.

Large fonts cause display problem in the Select Computer page

When you run Windows using the Large Fonts font size (Control Panel | Display | Settings tab | Font Size), the column headings in the Select Computer page don't display correctly and are unreadable.