Intel® LANDesk® Client Manager 6.1

User's Guide

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Contents

1 Introducing Client Manager 6.1

This chapter introduces Intel® LANDesk® Client Manager and explains how Client Manager can help you reduce a computer's total cost of ownership. In this chapter, you'll learn about:

- Total cost of ownership
- What's new in this version of Client Manager
- Client Manager documentation
- System requirements
- Running Client Manager Setup
- Connecting to a computer from any browser
- Selecting an administrator to manage your computer

Introducing Intel® LANDesk® Client Manager 6.1 (client version)

With the growth of the computer industry, computer systems have become more complex and difficult to manage. The time spent maintaining and repairing a computer over its years of operation can increase its Total Cost of Ownership (TCO) beyond the initial purchase price.

Intel® LANDesk® Client Manager can help reduce TCO by making it easier to manage a computer and troubleshoot common computer problems. 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 contributors, 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, 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.

Full: If you want to manage your own computer as well as other computers, install both the client and administrator versions on your computer. (This documentation set covers client installations of Client Manager.

Note: Because Client Manager 6.1 runs in Internet Explorer, you also need to have TCP/IP installed on your computer. (Client Manager doesn't support IPX/SPX*).

Total Cost of Ownership (TCO)

Client Manager helps reduce the total cost of owning a computer by providing basic management technologies in three key areas: computer health, alerting, and computer management.

Computer health
Improper maintenance of computers can lead to emergency repairs. This tends to increase TCO by:

- Creating down time for computer users
- Creating emergency situations that require immediate attention

Use Client Manager's health feature to anticipate and schedule certain maintenance tasks so they don't result in down time or interfere with other time-sensitive work.
Client Manager uses a simple three-icon health meter to indicate the computer's health status:

 Normal
 Warning
 Critical

Client Manager determines a computer's health by monitoring critical operating functions, such as available hard drive space, available memory, temperature, and voltage. When a health event occurs (such as low disk space), the health status changes to reflect the severity of the event. A notification log keeps track of notifications from Client Manager. This early warning system can notify you of needed maintenance tasks before they become emergencies.

Alerting
Alerting plays an important role in helping to reduce TCO. The early warnings provided by Client Manager enable you to resolve problems as soon as they arise, or even before they arise.

When a problem or other event occurs on a computer (for example, it's running low on disk space or the case has been opened), Client Manager can notify you of the event by performing one or more alert actions.

Computer management
Client Manager also helps reduce TCO by providing inventory tools to help you troubleshoot common problems.

What's new in this version of Client Manager?

Some of the more significant changes added to the Client Manager 6.1 release are:

- **Web-based enterprise management:** You can now run Client Manager from any computer on the network that has an Internet Explorer 5.0 browser installed, even if Client Manager isn't installed on that computer. This offers greater flexibility in managing computers from multiple locations.
- **CIM support:** In addition to DMI, Client Manager now uses CIM to collect and manage component data.
- **User account management:** Client Manager offers a different security model, requiring and managing user accounts for anyone who accesses Client Manager.
- **Ability to configure independent threshold settings for each disk drive:** You can now configure independent thresholds for multiple disk drives in a computer.
- **Alert queuing (store and forward):** Client Manager computers can now store their alerts while off the network (or while an administrator computer is off the network), and forward those alerts to the administrator computer as soon as both computers are attached to the network.

Client Manager documentation

Client Manager documentation is available in three formats:

- **HTML online Help:** The online Help (and the Client Manager product) requires TCP/IP and Internet Explorer 5.0 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:** This is an electronic printable format that requires Microsoft Word 97. 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 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/prodindex/acrobat/readstep.html. If the Adobe Acrobat Reader is installed, you can also access this 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 file is installed in the Program Files\Intel\Ldcm\wwwRoot\Help directory.

Note: The documentation provided in each of these sources contains the same information.

System requirements

To run Client Manager (client or administrator version) on a computer, the computer must comply with these system requirements:

- Windows* 95 OSR2.5/98SE/2000, or Windows NT* v4.x (Service Pack 6 or later)
- Pentium® microprocessor or higher
- 16 MB of RAM for Windows 95/98; 24 MB of RAM for Windows NT (32 MB recommended)
- 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 (to run Client Manager in the Internet Explorer browser)
- A network adapter or modem
- Internet Explorer 5.0 or later
- A monitor resolution of 600x800, 256 colors or greater

Running Client Manager Setup

Using a single Client Manager Setup program, you can install the client software, the administrator software, or both. If you want to install both the client and administrator versions, the best solution is to perform one installation and select Full on the Setup Type screen. Alternatively, you can install the client version and then install the administrator version at a later time (without uninstalling the client version).

Note: Client Manager Setup does not support installing the client-only version on a computer after an administrator version has been installed.

To run Client Manager Setup

1. Log on as Administrator or equivalent (if installing on Windows NT).
2. From the Client Manager CD, run SETUP.EXE and follow the instructions on your monitor.

   During Setup, Client Manager attempts to auto-detect the hardware configuration of the computer and install the appropriate hardware configuration file from the \ ASICCfg directory. If Setup is unable to detect a hardware configuration but only one configuration file is present, Client Manager automatically installs the hardware configuration file present in the \ ASICCfg directory. If Setup is unable to detect a hardware configuration and multiple configuration files are present, you will be asked to select the hardware configuration you want to use.

Note: If your network uses a proxy server to connect to the Internet, Client Manager must be able to bypass the network's proxy server for local (intranet) communication. To set this up: in Internet Explorer 4.x, click **View** | **Internet Options** and the **Connection** tab. If "Access the Internet using a proxy server" is selected, you must also select **Bypass proxy server for local (intranet) addresses**.

To uninstall Client Manager

1. On the Windows Start menu, click **Settings** | **Control Panel**.
2. Double-click **Add/Remove Programs**.
3. Select **Intel LANDesk Client Manager 6.1** and click **Add/Remove**.
4. When prompted, click **Yes**.
5. When Uninstall is finished, reboot the computer.

To perform a "stealth" installation of Client Manager

Note: The stealth installation enables a client computer to be managed by an administrator computer, without providing the management interface on the client computer. The Client Manager client user interface is disabled during a stealth installation.

1. At the client computer, log on as Administrator or equivalent (if installing on Windows NT).
2. From a command prompt, type **SETUP.EXE STEALTH**
3. Complete the Client Manager installation.

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 5.0 (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, then clicking Properties, and the Connection 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. The Management HTTP Port is listed under Network.)

   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.

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**.

2 Using the inventory

This chapter explains how to use Intel LANDesk Client Manager inventory to review a computer's hardware and software configuration. In this chapter, you'll learn about:

- Using the inventory
- Exporting the inventory information
- Asset Management
- BIOS
- Computer Summary
- Drives
- Fans
- Installed Applications
- Keyboard/Mouse
- Memory
- Motherboard
- Multimedia
- Network
- Operating System
- Ports
- Power
- Processor
- System Resources
- Video
- Viewing CIM information
- Viewing DMI information

Using the Inventory

The Client Manager inventory displays information about the hardware and software components of the selected computer. 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 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 can also be viewed here.
- **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, and connector information.
- **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, 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, system variables, real-mode device drivers, Windows tasks, and real-mode tasks.
- **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 video adapter and driver, and supported video resolutions.

Exporting inventory information

If you want to review all the inventory information for a computer, you can export the information to one of these file 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 viewing the computer's summary in a browser, or printing.

The inventory summary contains all of the information available in the Client Manager inventory as configured by the original equipment manufacturer of the computer. Therefore, the contents of the inventory information can vary from computer to computer. 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.

To export inventory information to a .CSV file

1. Click **Export**.
2. Click **Comma separated values (.CSV) file**.
3. Click **Save this file to disk** and **OK**.
4. Specify a filename and location.
5. Click **Save**.

To export inventory information to an HTML printable file

1. Click **Export**.
2. Click **HTML printable file**.

Asset Management

If the computer supports intrusion detection, Client Manager's Asset Management page reports if the computer's case is open. You can also configure alert actions to notify you when the case is open.
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.

To view and edit asset information

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Asset Management** under Inventory.
3. Place the cursor in any edit box and enter the new text.
4. Click **Apply**.

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

To set alert actions for intrusion detection

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Asset Management** under Inventory.
3. In the Set Alert Actions box, select alert action to notify you when the computer's case is open.
4. Select the health severity levels you want to trigger the alert action (OK=closed, Warning=open).
5. Click **Apply**.
6. 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

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Asset Management** under Inventory.
3. Click **Clear** (this button only appears when the computer case has been opened).

BIOS

Client Manager enables you to view the following BIOS information for the computer:

- **POST errors:** Hardware errors detected by the computer's POST routine while the computer is booting. Client Manager only reports that a POST error has occurred; it doesn't describe the POST error. The computer manufacture defines which POST errors can be reported by Client Manager. This list can include:
  - The mouse and keyboard plugs are swapped
  - The keyboard is locked or not functional
  - The computer's memory has decreased in size
  - The computer's floppy disk controller has failed
  - The computer's CMOS battery has failed
- **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).

To view BIOS information

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **BIOS** under Inventory.

To set alert actions for POST errors

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **BIOS** under Inventory.
3. In the Set Alert Actions box, select the alert action to notify you when a POST error occurs.
4. Select the health severity levels you want to trigger the alert action. Only Warning-level POST errors are reported. If a critical POST error occurs and the computer can't complete its POST, it will not report a problem (since Client Manager will be unable to load). If the computer experiences a problem during its POST, Client Manager reports a POST error each time the computer boots (until the problem is resolved). If you want to know when the problem is resolved, configure an alert action on "When health is OK."
5. Click **Apply**.
6. Repeat these steps for other alert actions you want to configure (for the same severity level or other severity levels).

Computer Summary

Client Manager enables you to view 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, such as Pentium, Pentium Pro, Pentium II, and so on.
- **Manufacturer:** The manufacturer of the computer.
- **Model:** The model number of the computer.
- **Serial number:** The computer's unique serial number stored in the BIOS on the motherboard. This number is determined by the computer manufacturer.
- **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 chip 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 95, Windows 98, or Windows NT 4.0.
- **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.

To view computer summary information

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Computer Summary**.

Drives

Client Manager enables you to view and configure the following drives information for computers on the network:

- **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 is 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.

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.
- **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.
- **Floppy disk:** Information about the floppy disk currently in the floppy disk drive. (You must insert the disk all the way into the drive for this information to be available.)
- **Compact disk:** Information about the CD or DVD currently in the drive.

To view drives information

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Drives** under Inventory.

To set alert actions for drive space

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Drives** under Inventory.
3. In the Set Alert Actions box, select the alert action that will notify you if the computer's hard disks run out of available space.
4. Select the health severity levels you want to trigger the alert action.
5. Click **Apply**.
6. Repeat these steps for other alert actions you want to configure (for the same severity level or other severity levels).

Fans

Client Manager can monitor the fan 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 (unless you change a setting in the Windows registry.) Once a fan has been detected, Client Manager monitors the fan's speed and generates an alert if the fan ever stops (unless you have manually disabled fan monitoring in the Windows registry).

To view fans information

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Fans** under Inventory.

To set alert actions

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Fans**.
3. In the Set Alert Actions box, select the alert action that will notify you if a problem occurs with the computer's fans.
4. Select the health severity levels you want to trigger the alert action.
5. Click **Apply**.
6. Repeat these steps for other alert actions you want to configure (for the same severity level or other severity levels).

To re-enable fan autodetection in the Windows registry

1. On the computer where you want to enable fan autodetection, from the Windows Start menu, click **Run**.
2. Type **REGEDIT** and click **OK**.
3. Navigate to: HKEY_LOCAL_MACHINE\SOFTWARE\Intel\LANDesk\SMAL\AsicDevices\Device1\Fans\Fan.
4. Double-click **AutoDetect**.
5. Press **Delete**, type **1**, and click **OK**. (This should change the number from 0 to 1).
6. Click **Registry** | **Exit** to close REGEDIT.

To disable a detected fan in the Windows registry

1. On the computer where you want to enable fan autodetection, from the Windows Start menu, click **Run**.
2. Type **REGEDIT** and click **OK**.
3. Navigate to: HKEY_LOCAL_MACHINE\SOFTWARE\Intel\LANDesk\SMAL\AsicDevices\Device1\Fans\Fan.
4. Double-click **Enabled**.
5. Press **Delete**, type **0**, and click **OK**. (This should change the number from 1 to 0).
6. Click **Registry** | **Exit** to close REGEDIT.

Installed Applications

Client Manager enables you to view the following information about applications installed on the computer:

- **Installed applications:** The names of the applications installed on the computer.
- **Version:** The version number of the application.
- **Date:** The date of the application file.
- **Filename:** The name of the application file.
- **Size:** The size of the application file.
- **Path:** The path to the application file.

Client Manager uses LDISCN32.EXE to discover installed applications on client computers. LDISCN32.EXE saves the information it gathers in the files LDISCAN.MIF and SOFTWARE.TXT. When you access the Installed Applications page, Client Manager loads this list of discovered applications from SOFTWARE.TXT.

By default, Client Manager runs LDISCN32.EXE each time the computer boots, or once a week (by default) if the computer is left on for several days at a time. Because LDISCN32.EXE can take several seconds to run (especially if you have many applications installed), you can configure Client Manager to only run LDISCN32.EXE when you access the Installed Applications page. This improves boot time, but results in a delay each time you access the Installed Applications page.

You can configure several LDISCN32.EXE discovery options using the file LDAPPL.INI, such as which applications to include or ignore when discovering. LDAPPL.INI is a text file and includes detailed documentation.

To view applications information

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Installed Applications** under Inventory.

To adjust the scan frequency when computers are left on for several days

1. From the Windows Start menu, click **Run**.
2. Type **REGEDIT** and click **OK**.
3. Navigate to: HKEY_LOCAL_MACHINE\SOFTWARE\Intel\cimgr\Instrumentation\Intel.IOApps.2.1.
4. Double-click **DaysBetweenScan**.
5. Type the number of days (1-49) you want Client Manager to wait each time before scanning for new applications.
6. Click **OK**.
7. Click **Registry** | **Exit** to close REGEDIT.

To configure LDISCN32.EXE to run only when you access the Installed Applications page

1. From the Windows Start menu, click **Run**.
2. Type **REGEDIT** and click **OK**.
3. Navigate to: HKEY_LOCAL_MACHINE\SOFTWARE\Intel\cimgr\Instrumentation\Intel.IOApps.2.1.
4. Double-click **ScanOnLogin**.
5. Type **0** and click **OK**.
6. Click **Registry** | **Exit** to close REGEDIT.

To configure scan options in LDAPPL.INI

1. Open the file LDAPPL.INI in Notepad or any text editor. (It's located in the Program Files\Intel\Ldcm\Bin\Intel folder).
2. Make any needed changes to the following sections:

   [LANDesk Inventory]: Includes several scan options, such as whether LDISCN32.EXE scans for applications listed in the [Applications] section, applications *not* listed in the [Applications] section, or all applications (listed and unlisted).

   [Applications]: Lists all of the applications Client Manager searches for (by default). Add files to this list that you want included during an applications scan. Intel frequently updates this section with new applications, but you'll want to update this with applications that are used in your organization.
   The syntax for listed applications is: <Method>, filename, size, application, version. Methods include:
   <F>: Uses the file description from .EXE file headers for Windows applications.
   <P>: Uses the product description from .EXE file headers for Windows applications.
   <I>: Uses the file and product description from LDAPPL.INI.

   [Ignore]: Lists specific filenames LDISCN32.EXE ignores. Add files to this section to reduce the number of files scanned and speed up database processing.

3. Save the file and close the text editor.

Keyboard/Mouse

Client Manager enables you to view 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, 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, 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. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Keyboard/Mouse** under Inventory.

Memory

Client Manager enables you to view 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.)

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 8 MB, 16 MB, or Empty.
- **Characteristics:** Any details regarding the memory module installed in the socket, such as EDO, SIMM, DIMM, and so on.

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 16 MB of memory to your computer, Client Manager can tell you the different memory configuration options.

To view memory information

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Memory** under Inventory.

To set alert actions for virtual memory

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Memory** under Inventory.
3. In the Set Alert Actions box, select the alert action that will notify you if a problem occurs with the computer's virtual memory.
4. 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."
5. Click **Apply**.
6. Repeat these steps for other alert actions you want to configure (for the same severity level or other severity levels).

To view memory upgrade options

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Memory** under Inventory.
3. Under Memory Upgrade Information, select the total amount of physical memory you want the computer to have (after installing the new memory).
4. Your upgrade options appear in the box below.

Mobile battery

Client Manager enables you to view the following mobile battery information for the computer:

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.
Battery charge	The approximate percentage of charge remaining in the battery.
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.

Motherboard

Client Manager enables you to view the following motherboard information for the computer:

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.

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 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. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Motherboard** under Inventory.

To set alert actions for temperature

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Motherboard**.
3. In the Set Alert Actions box, select the alert action that will notify you if a problem occurs with the computer's motherboard.
4. 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. If you want to know when the problem is resolved, configure an alert action on "When health is OK."
5. Click **Apply**.
6. Repeat these steps for other alert actions you want to configure (for the same severity level or other severity levels).

Multimedia

Client Manager enables you to view the following multimedia information for the computer:

Multimedia devices

- **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. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Multimedia** under Inventory.

Network

Client Manager enables you to view 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 of the Domain Name Service server.

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**
- **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. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Network** under Inventory.

Operating System

Client Manager enables you to view the following operating system information for the computer:

- **Operating system:** The operating system currently running, such as Windows 95/98 or Windows NT 4.0.
- **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.

Real-mode tasks

- **Task name:** The task names of any DOS-based tasks running in 16-bit real mode.
- **Process segment:** The segment in conventional memory that the process is running in.
- **Size:** The size of the process.

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.

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. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Operating System** under Inventory.

Ports

Client Manager enables you to view 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 95/98 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. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Ports** under Inventory.

Processor

Client Manager enables you to view the following processor information for the computer:

- **Processor:** The type of processor installed on the motherboard, such as Pentium, Pentium Pro, Pentium II, and so on.
- **Processor speed:** The speed (measured in megahertz) 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.
- **Processor serial number:** A unique serial number assigned to the processor by its manufacturer. This can be used for tracking activity on the network and Internet.

Cache

- **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. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Processor** under Inventory.

System Resources

Client Manager enables you to view 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. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **System Resources** under Inventory.

Video

Client Manager enables you to view the following video information for the computer:

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 mouse 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. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Video** under Inventory.

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 +/- 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 +/- 0.1 volts.
- **3.3 volts:** The threshold is generally +/- 0.6 volts.
- **5 volts:** The threshold is generally +/- 1 volt.
- **-5 volts:** The threshold is generally +/- 1 volt.
- **12 volts:** The threshold is generally +/- 1.2 volts.
- **-12 volts:** The threshold is generally +/- 1.2 volts.

To view voltage information

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Voltages** under Health.

To set alert actions for voltage

1. If you're using the administrator console, in the Select Computer list, click the computer you want to manage and log on. (If you're using the client console, skip this step.)
2. Click **Voltages** under Health.
3. In the Set Alert Actions box, select the alert action that will notify you if a problem occurs with the computer's power supply.
4. Select the health severity levels you want to trigger the alert action.
5. Click **Apply**.
6. Repeat these steps for other alert actions you want to configure (for the same severity level or other severity levels).

Viewing CIM information

Component Instrumentation Model (CIM) is a relatively new 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. For now, Client Manager uses both CIM and DMI models to manage components.

CIM-compliant components use providers to obtain component information in realtime. For example, a CIM-compliant disk drive provider can report exactly how much drive space is available when Client Manager requests that data. Components can also provide a Managed Object Format (MOF) file. MOF files describe a component's attributes, such as a processor's clock speed. For more information about CIM, visit http://www.dmtf.org on the World Wide Web.

To manage CIM components, Client Manager uses a CIM Object Manager (CIMOM), which runs as a service under Windows NT (Windows Management). CIMOM manages the CIM Repository, which is a database of all CIM data. As the CIMOM collects and manages the CIM data, it displays the most useful information about these components in the Client Manager inventory pages.

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. The CIM Browser organizes all CIM data into a hierarchy of classes, instances, properties, and values.

For example:
Class = Win32_Processor
Instance = (Class Path) Win32_Processor.DeviceID="CPU0"
Property = CurrentClockSpeed
Value = 450 (MHz)

Note: The CIM schema defines several classes that have no instances. These classes simply display the message "No instances of this class are available."

To view CIM information

1. Click **CIM Browser** under Tools (or Administrator Tools).
2. Click the class whose data you want to view.
3. Click the instance whose data you want to view.
4. 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.

Why would I use the DMI Browser?
Not all DMI 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 DMI data for a component, you can use the DMI Browser. The DMI Browser organizes all DMI data into a hierarchy of components, groups, attributes, and attribute values.

For example:
Component = CPU
Group = Processor
Attribute = Current speed
Attribute value = 450 (MHz)

To view DMI information

1. Click **DMI Browser** under Tools (or Administrator Tools).
2. Click the component name whose data you want to view.
3. Click the group name whose data you want to view.

Note: You can't change any of the DMI data using the DMI Browser.

3 Using health

This chapter explains how to use Intel LANDesk Client Manager's health feature to identify which computers are experiencing a problem or even a potential problem. In this chapter, you'll learn about:

- Using health
- Using the taskbar icon

Using health

Client Manager monitors several of a computer's important 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:

- **Disk failure prediction:** Monitors a S.M.A.R.T. drive for potential disk failure.
- **Disk space:** Monitors how much drive space remains on each logical drive. Thresholds are configurable for each logical drive.
- ***Fans:** Monitors the computer's fans and fan speed to help ensure the computer's cooling system is functioning properly.
- ***Intrusion detected:** Monitors the computer's case to determine if it is open. (An opened case might indicate that an unauthorized individual has tampered with or removed some of the computer's components.)
- **Parity errors:** Monitors the computer's memory for parity errors which indicate that a memory chip might be failing.
- ***POST errors:** Reports POST errors that occur while the computer is booting (as long as the computer doesn't hang).
- ***Temperature:** Monitors the temperature of the computer's processor and/or motherboard to see that it remains within an acceptable range.
- **Virtual memory:** Monitors how much virtual memory remains available to the computer. Thresholds are configurable.
- ***Voltages:** Monitors the nominal and current voltage of the computer's various power supplies to see that they remain within an acceptable range.

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

Where the health is reported
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 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 your 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

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

4 Configuring alerts

This chapter explains how to configure alert actions to notify you of a potential problem with a computer. In this chapter, you'll learn about:

- Configuring alert actions
- Using the notification log
- Using the notification monitor
- Using SNMP
- Using LANDesk Alert Management System
- Alert on LAN

Configuring alert actions

When a problem or other event occurs on a computer (for example, the computer is running low on disk space or the computer case has been opened), Client Manager can notify you by performing one or more of these alert actions:

- Adding the event information to the notification log.
- Displaying the event information in the notification monitor.
- Sending an SNMP trap containing the event information to an SNMP management console on the network.
- Forwarding the event information to the Alert Management System^2 (AMS^2) so other alert actions can be generated.

Note: The SNMP and AMS^2 options are only available if the SNMP and AMS^2 software is 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 95/98 Setup CD; AMS^2 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 things can Client Manager monitor for problems?
Client Manager can use these alert actions to notify you of several different events. These events may vary, however, depending on the computer's hardware. The events supported for each computer are listed in Client Manager's left navigation pane under Global Alert Actions. For most computers, this list of events includes such things as:

- **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.
- **Fans:** One of the computer's fans may not be functioning properly.
- **Intrusion detection:** The computer's case has been opened.
- **Parity error detection:** A parity error occurred in the computer's memory, which may indicate that a memory chip is failing.
- **POST error detection:** A problem was detected during the computer's Power-On Self Test at startup.
- **Temperatures:** The temperature of the computer's processor and/or motherboard has exceeded an acceptable threshold.
- **Virtual memory:** Virtual memory is running low for the computer.
- **Voltages:** The voltage of one of the computer's voltage lines has exceeded an acceptable threshold.
- **Other events:** This event isn't generally used, but is available to cover all other events the computer manufacturer has included on the system.

Configuring severity levels for these events
Each of these events has up to four severity levels that can trigger an alert action (information, OK, warning, and critical). Depending on the nature of the event, 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). The warning level provides some advance warning of a problem before it reaches a critical point. (You can configure thresholds for these events on the Memory and Drives inventory pages.) Client Manager uses the OK level to notify you when a problem has been resolved and returned to an acceptable level. (The Information level isn't generally used, but is included to support other events that computer manufacturers may include with their systems.)

You can select different alert actions for different severity levels (where more than one severity level is available). For example, for the Disk Space event you could configure Client Manager to:

- Add the event to the notification log when Disk Space reaches a warning level.
- Add the event to the notification log, display the event in the notification monitor, and send an SNMP trap when Disk Space reaches a critical level.
- Add the event to the notification log and display the event in the notification monitor when Disk Space reaches an OK level (so you know the problem is now resolved).

Using the notification log

When an event occurs on a Client Manager computer, Client Manager can record the event details in your computer's notification log. (The administrator version of Client Manager also has a global notification log that records event details for other Client Manager computers on the network.) This log includes the date and time the event occurred, the computer name (global notification log only), a brief description of the event, and an icon indicating the event severity.

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 log size to be 4 KB to 80 KB. To do this, enter the new log size and click Resize. To empty the log, click Clear.

To display the local notification log

1. Under Tools, click **Local Log**.
2. Click the **Next** and **Previous** buttons to scroll through the pages of notifications in the log.

To copy the notification log contents to another application

1. Using your mouse, select the notification log entries you want to copy.
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. The notification monitor appears in your computer's bottom right corner. The 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.)

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

More Info: Displays a more detailed description of the problem and 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, as well as 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 taskbar icon.
  or
- Press the hotkey combination on the keyboard (**Ctrl+Alt+N** by default).

To change 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 **Apply**.

To close the notification monitor using the keyboard

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

Using SNMP

When an event occurs on a Client Manager computer, Client Manager can send an SNMP trap to an SNMP management console. Configuring a Client Manager computer to send an SNMP trap requires several steps, depending on the computer's operating system. In general, you need to:

- Install SNMP.
- Specify a destination for the SNMP traps. This destination can be either an IP address or a computer name.
- Start SNMP and the SNMP Trap Service if you're running under Windows NT.

Client Manager can send SNMP traps to a management console using two different routes:

- **From the Client Manager clients directly to a management console.** This method is more reliable than having an administrator forward the events, because if the administrator computer responsible for sending the SNMP traps goes off the network, none of the SNMP traps will be sent.
- **From the Client Manager clients to an administrator. The administrator then sends the SNMP trap to a management console.** This method, although less reliable than the first, is much easier to implement. Instead of installing and configuring the SNMP software on each client computer on your network, you can install it on one administrator computer. The administrator computer can then send SNMP traps to a management console on behalf of all client computers it manages.

Using Alert Management System^2

If the ^{2} (AMS^2) is installed on the Client Manager computer, you can have Client Manager forward event information to AMS^2. AMS^2 can then generate any of these alert actions:

- Display a message box.
- Send a pager message.
- Send an Internet mail message.
- Run a program.
- Send a network broadcast.
- Send an SNMP trap.
- Log the event in the Windows Event Log.
- Load a Netware NLM*.

Note: The AMS^2 software is not installed with Client Manager or included on the CD. AMS^2 is available with other Intel products such as Intel LANDesk Management Suite. If Client Manager doesn't detect AMS^2 when it loads, the AMS^2 option isn't available when configuring alerts. For more information about AMS^2, refer to the documentation included with Intel LANDesk Management Suite.

5 Client Manager accounts

This chapter explains how to create and manage user accounts for accessing Intel LANDesk Client Manager. In this chapter, you'll learn about:

- Adding new users
- Displaying user properties

Adding new users

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.

Security
For security reasons, it is strongly recommended that you change the default account name and password during installation or as soon as possible. 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.

Note: Client Manager doesn't enable you to create user accounts for multiple computers as a group function.

When accounts you've created are no longer needed, you can either disable or delete them. (**Tip:** If you plan to use the account some time in the future, don't delete it. Just disable the account temporarily.)
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 accounts with administrator rights, you can't select the User Cannot Change Password option.

To add a new user

1. Connect to the computer where you want to create a user account.
2. Click **Client Manager Accounts**.
3. Click **Add New User**.
4. Enter a username (using only lowercase letters).
5. Enter a password. (Up to 31 characters. Valid characters include a-z, A-Z, 0-9, !, $, -, and _.)
6. Specify the access rights and other account/password options.
7. Click **OK**.

To edit a user account

1. Connect to the computer where you want to edit the user account.
2. Click **Client Manager Accounts**.
3. Click the user account you want to edit.
4. Make the needed changes.
5. Click **OK**.

Note: You can't rename user accounts.

To delete or disable a user account

1. Connect to the computer where you want to delete or disable the user account.
2. Click **Client Manager Accounts**.
3. Click the user account you want to edit, delete, or disable.
4. Click **Delete** or **Account disabled**.
5. Click **OK**.

Note: You can't delete or disable the user account you're currently using to log in to Client Manager. (These options don't appear.)

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. Connect to the computer where the user accounts are created.
2. Click **Client Manager Accounts**.

Appendix A: Reference information

This appendix includes information about:

- Converting Celsius to Fahrenheit
- Client Manager Error messages
- Glossary
- Installing SNMP on Windows 95/98
- Installing SNMP on Windows NT
- Manually removing Client Manager from Windows NT
- Manually removing Client Manager from Windows 95/98
- Windows NT services

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:

ºC	ºF	ºC	ºF	ºC	ºF	ºC	ºF
0º	32.0º	26º	78.8º	51º	123.8º	76º	168.8º
1º	33.8º	27º	80.6º	52º	125.6º	77º	170.6º
2º	35.6º	28º	82.4º	53º	127.4º	78º	172.4º
3º	37.4º	29º	84.2º	54º	129.2º	79º	174.2º
4º	39.2º	30º	86.0º	55º	131.0º	80º	176.0º
5º	41.0º	31º	87.8º	56º	132.8º	81º	177.8º
6º	42.8º	32º	89.6º	57º	134.6º	82º	179.6º
7º	44.6º	33º	91.4º	58º	136.4º	83º	181.4º
8º	46.4º	34º	93.2º	59º	138.2º	84º	183.2º
9º	48.2º	35º	95.0º	60º	140º	85º	185.0º
10º	50.0º	36º	96.8º	61º	141.8º	86º	186.8º
11º	51.8º	37º	98.6º	62º	143.6º	87º	188.6º
12º	53.6º	38º	100.4º	63º	145.4º	88º	190.4º
13º	55.4º	39º	102.2º	64º	147.2º	89º	192.2º
14º	57.2º	40º	104.0º	65º	149.0º	90º	194.0º
15º	59.0º	41º	105.8º	66º	150.8º	91º	195.8º
16º	60.8º	42º	107.6º	67º	152.6º	92º	197.6º
17º	62.6º	43º	109.4º	68º	154.4º	93º	199.4º
18º	64.4º	44º	111.2º	69º	156.2º	94º	201.2º
19º	66.2º	45º	113.0º	70º	158.0º	95º	203.0º
20º	68.0º	46º	114.8º	71º	159.8º	96º	204.8º
21º	69.8º	47º	116.6º	72º	161.6º	97º	206.6º
22º	71.6º	48º	118.4º	73º	163.4º	98º	208.4º
23º	73.4º	49º	120.2º	74º	165.2º	99º	210.2º
24º	75.2º	50º	122.0º	75º	167.0º	100º	212.0º
25º	77.0º						

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 is taking too long to load the requested page. Wait several seconds and click Retry. 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, 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 Client Manager 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."

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."

In the Intel LANDesk Client Manager Options dialog, if you provide administrator connection information with an incorrect computer name or IP address, this error message appears. 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 5.00 or above be installed on this system to run. Please contact your system administrator for assistance."

Microsoft Internet Explorer version 5.00 is one of the system requirements for Client Manager 6.1. Before you can run Client Manager, install (or reinstall) Internet Explorer.

"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).

Glossary

Alert on LAN
Alert on LAN* refers to a microchip on a computer's motherboard 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 depends on the computer manufacturer. Alert on LAN is only one component of Client Manager's alerting capabililty.

AMS^2
Alert Management System 2. A component of Intel LANDesk management products that provides various alerting capabilities, such as paging, Internet mail, and broadcasts.

advanced graphics port (AGP)
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.

broadcast
A Client Manager administrator uses a network broadcast to discover computers on the network running Client Manager client software. The broadcast is a message sent to all computers on the network (and specified subnets). Those computers running Client Manager client software respond to the message by sending a reply to the administrator. The administrator receives the replies and creates a list of those computers that replied to the broadcast.

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.

CMOS
Complementary Metal Oxide Semiconductor. (Pronounced "see-moss") A semiconductor technology used in many of today's computer microchips. CMOS semiconductors use both negative polarity and positive polarity circuits in a complementary way. Since only one of the circuit types is on at any given time, CMOS chips require less power than chips using just one of the transistor types. Personal computers use a small amount of battery-powered CMOS memory to hold the date, time, and system setup parameters.

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
Component Instrumentation Model. A relatively new 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, and 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. A more recent model for gathering this type of information is CIM, which seems to be gaining a wider industry acceptance. 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 newly added 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. An error detection scheme that uses three extra bits for every byte of storage. In contrast to parity error detection schemes, ECC is capable of fixing multi-bit errors. (Parity only repairs 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 an outdated 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, including MS-DOS, Windows 3.1, Windows 95, Windows NT, and OS/2*. 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. A newer version of the file allocation table (FAT) file system available in Windows 95 OSR2 and Windows 98. 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.

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).

IPX address
A network address format used by the IPX and SPX protocols, typically on Novell NetWare* networks. An IPX address consists of a unique 4-byte (32-bit) hexadecimal network number followed by a unique 6-byte (48-bit) node number, such as 0000005C.00AA00C778F7.

IPX/SPX
Internetwork Packet Exchange/Sequenced Packet Exchange. A pair of networking protocols used by the Novell NetWare operating systems.

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.

localhost
The name Client Manager uses to refer to the computer running the Client Manager client software. This is usually the computer you are physically using (if you run Client Manager from the Windows Start menu). The name "localhost" appears as part of the URL in the browser's Address window and in the top left corner of the Client Manager application. When you connect to a computer other than the localhost (some other computer on the network), this name changes to reflect the name of the computer you're connected to.

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 (aso 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 used to identify a specific computer on a network.

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

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.

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.

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.

POST
Power On Self Test. A hardware self test the computer runs each time it powers on. During the POST, the computer checks such things as keyboard and mouse connections, memory, disk controllers, and CMOS battery. If problems are detected, the POST uses a unique sequence of beeps to indicate a problem. A single beep at the conclusion of the computer's POST generally indicates a successful boot.

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.

registry
Files that the Windows operating system uses to store configuration settings for hardware and software associated with the computer. Generally, the Windows registry is only accessed by software installation programs as new hardware and software is added to the computer. You can, however, edit the Windows registry directly using a utility called REGEDIT.EXE. Use this utility with caution, however, because you can render a computer inoperable by manually changing configuration settings that should be left alone.

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 real estate.

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.

Service Provider
The software code that arbitrates access to DMI component instrumentation and manages the MIF database.

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 Intel's Pentium II 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 Intel's 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, or SCSI. (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.

SNMP
Simple Network Management Protocol. A network management protocol that is part of the standard TCP/IP protocol suite. SNMP is used to monitor network devices and notify of extraordinary events or problems that occur on the network.

SNMP management console
A computer on the network that has software installed to receive and manage SNMP traps. Some products commonly used for this purpose include Microsoft* Systems Management Server, HP Node Manager*, CA Unicenter*, and Tivoli NetView*.

SNMP trap
A notification of some network event that SNMP sends to a specified destination, usually an SNMP management console.

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 exceeded, 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

Wake on LAN technology
A standard method for remotely waking a personal computer from sleep mode or a power-off condition. Wake on LAN technology is only supported on computers that contain a Wake on LAN network adapter, which enables a sleeping computer to monitor network traffic and respond to a Wake on LAN instruction.

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.

Installing SNMP on Windows 95/98

To install SNMP on Windows 95/98

1. From the Windows 95/98 Control Panel, double-click **Network**.
2. Click **Add**
3. In the Select Network Component Type dialog, double-click **Service**.
4. In the Select Network Service dialog, click **Have Disk**.
5. In the Install From Disk dialog, type the path to the ADMIN\NETTOLLS\SNMP directory on the Windows 95/98 CD.
6. Click **OK**.
7. In the Models list, click **Microsoft SNMP Agent**.
8. Click **OK**.

   Note: You may be prompted to specify the location of additional files. If this happens, specify the path to the Windows 95/98 source files at another location, such as a shared directory or the Windows 95/98 CD.

9. Restart the computer for the changes to take effect. After rebooting, use System Policy Editor to configure SNMP.

   Note: You'll need to install System Policy Editor from the Windows 95/98 compact disk if you haven't already done so. It's usually located in the \WIN95\SETUP\UPGRADE.CD \ADMIN\APPTOOLS\POLEDIT directory, but may vary depending on your CD.

10. Run POLEDIT.EXE.
11. Click **File** | **Open Registry**.
12. Type the computer name or IP address of your network's SNMP management console (where you want the traps sent).
13. Click **Add**.
14. Double-click **Local Computer**.
15. Double-click **Network**.
16. Double-click **SNMP**.
17. Select the Traps for '[community name]' community check box.
18. Click **Show**.
19. Click **Add**.
20. Type the computer name or IP address of your network's SNMP management console (where you want the traps sent).
21. Click **OK** three times.
22. Click **File** | **Save**.
23. Click **File** | **Exit** to exit System Policy Editor.

Installing SNMP on Windows NT

To install and start the services for SNMP on Windows NT

1. From the Windows NT Control Panel, double-click **Network**.
2. Click the **Services** tab.
3. Click **Add**.
4. Double-click **SNMP Service**.
5. Specify a location for the Windows NT install files and click **Continue**.
6. At the Microsoft SNMP Properties dialog, click the **Traps** tab.
7. In the Community Name box, type a name for the SNMP community, such as Public.
8. Click **Add**.
9. Below the Trap Destinations box, click **Add**.
10. Type the computer name or IP address of your network's SNMP management console (where you want the traps sent).
11. Click **Add**.
12. Click **OK**.
13. Click **Close**.
14. When prompted, click **Yes** to restart your computer.
15. When the computer restarts, from the Windows NT Control Panel, double-click **Services**.
16. If it's not already started, click **SNMP** and **Start**.
17. If it's not already started, click **SNMP Trap Service** and **Start**.
18. Click **Close**.

Note: After installing SNMP, you must reinstall any Windows NT Service Pack that was installed on the computer.

Manually removing Client Manager from Windows NT

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. Before doing so, you need to stop the Client Manager services.

To stop the Client Manager services on Windows NT

1. On the Windows Start Menu, click **Settings**, **Control Panel**.
2. Double-click **Services**.
3. In the Service list, click each service listed below, and then click **Stop**.
   - Alert on LAN II Proxy
   - Intel CI Manager
   - Intel File Transfer
   - Intel IIDS
   - Intel PDS
   - Intel SSM
   - Windows Management
   - Win32sl
4. When finished, click **Close**.

To remove the Client Manager registry keys

1. From the Windows Start menu, click **Run**.
2. Type **REGEDIT** and click **OK**.
   Delete the following registry keys, but first verify that they're not used by other installed products.
   Note: Some registry keys (marked with an asterisk*) may be shared by other Intel LANDesk products.

   - HKEY_LOCAL_MACHINE\SOFTWARE\Intel\cimgr
   - HKEY_LOCAL_MACHINE\SOFTWARE\Intel\Alert on LAN
   - HKEY_LOCAL_MACHINE\SOFTWARE\Intel\CSSM_s*
   - HKEY_LOCAL_MACHINE\SOFTWARE\Intel\LANDesk\Client Manager
   - HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Run\User Space Manager
   - HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Client Manager 6.1
   - HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\aolnsrvr
   - HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\asicid
   - HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Intel CI Manager
   - HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Intel File Transfer
   - HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Intel PDS
   - HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Intel SSM
   - HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Win32sl
   - HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Intel IIDS

3. Click **Registry** | **Exit** to close REGEDIT.

To remove the Client Manager files and folders

1. From the Windows Start menu, click **Programs** | **Windows Explorer**.
2. Delete these folders:

   Note: Some program files (marked with an asterisk*) may be shared by other Intel LANDesk products. Verify that they're not used by other installed products before deleting them.
   - Program Files\Intel\Alert on LAN
   - Program Files\Intel\Dmi*
   - Program Files\Intel\Ldcm
   - Winnt\system32\Cba*

Note: If you get an error message indicating that some files can't be deleted because they're currently in use, reboot the computer and finish deleting the files.

Manually removing Client Manager from Windows 95/98

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.

To remove the Client Manager registry keys

1. From the Windows Start menu, click **Run**.
2. Type **REGEDIT** and click **OK**.
3. Delete the following registry keys, but first verify that they're not used by other installed products.

   Note: Some registry keys (marked with an asterisk*) may be shared by other Intel LANDesk products.

   - HKEY_LOCAL_MACHINE\SOFTWARE\Intel\cimgr
   - HKEY_LOCAL_MACHINE\SOFTWARE\Intel\Alert on LAN
   - HKEY_LOCAL_MACHINE\SOFTWARE\Intel\CSSM_s*
   - HKEY_LOCAL_MACHINE\SOFTWARE\Intel\LANDesk\Client Manager
   - HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Run\User Space Manager
   - HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\RunServices\Alert on LAN Proxy
   - HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\RunServices\DMIStart
   - HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\RunServices\Intel File Transfer
   - HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\RunServices\Intel PDS
   - HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Client Manager 6.1

4. Click **Registry** | **Exit** to close REGEDIT.
5. Reboot the computer for the changes to take effect.

To remove the Client Manager files and folders

1. From the Windows Start menu, click **Programs** | **Windows Explorer**.
2. Delete these folders:
   Note: Some program files (marked with an asterisk*) may be shared by other Intel LANDesk products. Verify that they're not used by other installed products before deleting them.
   - Program Files\Intel\Alert on LAN
   - Program Files\Intel\Dmi*
   - Program Files\Intel\Ldcm
   - Windows\system\Cba*

Note: If you get an error message indicating that some files can't be deleted because they're currently in use, reboot the computer and finish deleting the files.

Windows NT services

Client Manager runs up to six Windows NT services, depending on the components installed.

- **Intel CI Manager:** Intel Component Instrumentation Manager. Runs the instrumentation that queries and returns dynamic information about the computer.
- **Intel File Transfer:** Enables applications on one computer to transfer files to or from another computer.
- **Intel PDS:** Intel Ping Discovery Service. Enables Client Manager to discover other Client Manager computers on the network.
- **Intel SSM:** Intel System Space Manager. Loads and unloads Client Manager components (such as the HTTP server, DMI event listener, node discovery engine, node log file, health manager, store and forward, and SNMP) as they are needed by Client Manager.
- **Windows Management:** Gathers and manipulates information about system resources such as processor, memory, and disks. This is a Microsoft service that manages Component Information Model (CIM) objects.
- **Win32sl:** Gathers and manipulates information about system resources such as processor, memory, and disks. This is an Intel Windows 32-bit service provider that manages Desktop Management Interface (DMI) objects.

To start a Windows NT service

1. On the Windows Start Menu, click **Settings**, **Control Panel**.
2. Double-click **Services**.
3. In the Service list, click the service you want to start.
4. Click **Start**.

B Appendix B: Release notes

This appendix includes the release notes for Intel LANDesk Client Manager. Issues that were known at the time Client Manager shipped are listed in these categories:

- Setup issues
- Discovery and network issues
- Inventory issues
- Health issues
- Alerting issues
- User management issues
- User interface issues

Client Manager 6.1 release notes

This document contains a list of the known issues in this release of 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 6.1.

Setup issues

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.

SMBus driver appears in the Add/Remove Programs dialog

Since the SMBus driver is not a stand-alone software application, it shouldn't appear in the Add/Remove Programs dialog. If you uninstall the SMBus driver and later uninstall Client Manager, the Client Manager uninstall reports an error. Also, if you uninstall the SMBus driver, the hardware monitoring no longer works.

Changing the installation path only changes the LDCM 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 Tivoli, are still installed to the default directories.

Setup allows installation to begin even when insufficient disk space is detected

Client Manager Setup's Select Components screen includes a field (in the bottom right corner) indicating how much hard drive space is required, and how much is available. Setup allows the installation to proceed even when the available space is substantially less than the space required. If Setup continues, Client Manager begins copying files and eventually aborts due to lack of space.

Creative DVD decoder card causes Client Manager service provider to crash

When installing Client Manager on a Windows 98 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.

Client Manager log doesn't record new Client Manager installations

The Client Manager log file doesn't record when Client Manager is reinstalled, or if an installation attempt was aborted or failed.

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.

Installing Japanese version when browser is set to English results in English interface

If you install the Japanese version of Client Manager on a computer whose browser has the default language set to English, Client Manager installs and displays the English interface.
Workaround: Set the browser's default language to Japanese before installing a Japanese version of Client Manager.

CIMOM not installed with Client Manager

If you want Client Manager to use the optional CIM hardware instrumentation to provide inventory information, you must download and install the WMI core download from Microsoft's Web site: http://download.microsoft.com/msdownload/wbem/2.0/x86core/en/wbemcore.EXE. The CIM hardware instrumentation is not necessary in order to run Client Manager and view inventory information. If you use the CIM instrumentation, you must install it on the computer before installing Client Manager.

Uninstall leaves program folders under Program Files

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

Client Manager fails when installed in the root directory

If you install Client Manager into the root directory, such as C: or D:, Client Manager doesn't run.
Workaround: Always install Client Manager into a subdirectory on a drive.

Administrator console is slow when loading a fully-qualified hostname

If you type a fully-qualified hostname in the browser's address field (such as http://computername.company.com:6787/index.tpc) instead of the abbreviated host name (such as http://computername:6787/index.tpc), the administrator console is slow in loading the page.
Workaround: Double-click Windows Control Panel's Network icon, click the Protocols tab, select TCP/IP Protocol, click Properties, click the DNS tab, and make sure all the information is filled out for your computer's DNS settings.

Different versions of Client Manager administrator should not be installed on the same computer

If you install Client Manager 6.1 administrator on a computer, you should not install an earlier version of Client Manager (such as 3.32, which is available with Intel LANDesk Management Suite) on the same computer. Doing so causes some interface irregularities. Also, uninstalling the older (3.32) version removes some files needed by the 6.1 version.

Updated network adapter required for Alert on LAN agent

If you plan to install the Alert on LAN agent on a computer using an Intel network adapter, the computer's network adapter driver must be dated March 5, 1999 or later. The latest drivers for Intel network adapters are available at the Intel Web site.

Don't install the Alert on LAN agent on a computer that doesn't support Alert on LAN

Installing the Alert on LAN agent on a computer that doesn't support Alert on LAN causes problems during install and uninstall. If you're not sure if the computer supports Alert on LAN, don't install the Alert on LAN agent.

Don't overinstall the client version

If you need to reinstall the client (or full) version of Client Manager after it has already been installed, you must first uninstall the Client Manager software.

Client Manager not compatible with other DMI service providers

Client Manager should not be installed on computers running a DMI service provider from another vendor. DMI service providers from other vendors need to be removed from a computer before running Client Manager Setup.

Error message running Client Manager with HP OpenView, Tivoli, or CA

When Client Manager is installed on a Windows NT computer that is also running HP OpenView, CA Unicenter, or Tivoli TME 10, the error message "Ordinal 383 could not be found in WDMIUTIL.DLL" may occur. Client Manager requires a newer version of the WDMIUTIL.DLL file and will not function when this error occurs.

Workaround:

1. Install the Client Manager Application Integration Module (AIM), which will replace the DLL with the newer version Client Manager needs.
2. Rename the WDMIUTIL.DLL in the Windows\System32 directory.
3. Copy the newer version of the WDMIUTIL.DLL file from the Program files\Intel\DMI\BIN directory to the Windows\System32 directory.
4. Reboot the computer.

Unable to install Client Manager on computers running the French version of Windows 2000 PRO:

If you try to install Client Manager 6.1 on a computer running the French version of Windows 2000 PRO, the Setup program terminates prematurely and does not complete the installation.

Workaround: On French machines running Windows 2000, the User Temp variable is too long and French Installshield doesn't handle this many characters. The user needs to reduce this path length to do an install. Example "c:\temp" or "c:\winnt\temp". The other way is to delete the User Temp variable which will result in the system reverting back to the system temp variable (which is typically "c:\winnt\temp") and that should allow the setup to continue.

Discovery and network issues

Client Manager computer names can't contain spaces

If the computer name contains a space, the browser can't connect to the HTTP server.
Workaround: Instead of using a space in the computer name, use an underscore character (_).

Unable to connect to 3.x clients by browsing to an administrator from a remote browser

If you connect to a Client Manager administrator computer from a browser on a remote computer and attempt to select a Client Manager 3.x computer from the Select Computer list, Client Manager doesn't respond. You can only connect to and manage computers running Client Manager 3.x directly from a computer that has the administrator software installed. You will also not be able to export inventory information or launch Windows Explorer on a Client Manager 3.x computer via another administrator computer.

Administrator can't connect to client temporarily if client's IP address changes

If a client computer on the network using one IP address later connects to the network using a different IP address (through a RAS connection, for example) the administrator can't connect to the client computer until the DNS server resolves the computer name with its new IP address.
Workaround: On the client computer, provide the IP address of the administrator computer you want to manage the client (from the Windows Start menu, click **Programs** | **Intel LANDesk Management** | **Client Manager** | **Options** | **Remote Administrator** tab). Or if you know the new IP address of the client, on the administrator computer's Select Computer page, delete the old reference to the client computer and add the new IP address using the Add Computer button on the toolbar.

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.

Microsoft TV Data Adapter prevents discovery of clients from administrator console

If the Microsoft TV Data Adapter is installed on a Windows 98 computer, the Client Manager administrator console is unable to discover client computers. This is because the TV Data Adapter registers with the operating system as the first network adapter installed, and Client Manager attempts to use the first network adapter it finds when performing a discovery.
Workaround: Uninstall the TV Data Adapter. To do this, from the Windows Start menu, click Settings | Control Panel. Double-click the Network icon. On the Configuration tab, select TV Data Adapter and click Remove.

Administrators using a Japanese language computer only see English information from non-Japanese clients

Install the Japanese OS language pack on Windows NT 4.0 clients from the operating system CD. Once you do this, information from these clients will appear in Japanese on Japanese Client Manager administrator computers. **Note:** This only resolves the problem for Windows NT 4.0 clients, not for Windows 95/98 clients.

Remote administrator doesn’t completely power down some Windows 2000 computers

When a remote administrator sends a power-down instruction to computers, some computers running Windows 2000 may only shut down to the screen “It is now safe to turn off your computer” but not actually power off the computer.
Workaround: In the Windows registry, navigate to HKEY_LOCAL_MACHINE/SOFTWARE/Microsoft/Windows NT/Winlogon. Change the powerdownaftershutdown value to 1.

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.

Wrong video information on a multi-monitor Windows 98 system

Windows* 98 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.

Celeron™ processor socket 370 shows up as Slot 1

On the Processor inventory page, DMI reports the Socket Type field for a Celeron™ processor as Slot 1. It is really socket 370. This is a problem with DMI.

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. Information should be provided for both mice.

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

When Client Manager is running on a Windows 95/98 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: Reinstall Client Manager so it can autodetect the new processor.

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.

Export file name displays the file extension twice

When exporting inventory information to a CSV file, the default filename that is created may display as "EXPORT.CSV..CSV" (on Windows NT4 and Windows 98) or "EXPORT.CSV..CS" (on Windows 95).
Workaround: In the Windows File Options dialog, select the "Hide file extensions for known file types" checkbox.

Client Manager 3.3 doesn’t display battery charging status information on Windows NT/2000 computers

When you connect to a mobile computer running Client Manager 3.3 and Windows NT 4.0 Workstation and attempt to view it’s Mobile battery information, Client Manager doesn’t display any battery charging status information. On computers running Windows 2000, if this information is displayed, it may be incorrect. On Windows NT and Windows 2000, the operating system doesn’t return the correct information for battery charging status.

Descepancies 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 the 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).

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

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 after 30 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.

Clearing global log and refreshing deletes the log again

When the global log in the administrator console is cleared and then receives a new alert, if you right-click in the right pane and choose Refresh, the log doesn't display the new alert(s). Instead, Client Manager deletes any new alerts that have been received by the global log.
Workaround: Instead of right-clicking in the right pane and choosing Refresh, click the Global Log link in the left pane again. (If you right-click in the right panel and choose Refresh, clicking Global Log won't show the new event.)

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.

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

Computers that use an Intel Juneau 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 displays 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 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 even though the computer is still available.

Alerts from Client Manager 3.2J mobile clients not supported

The Client Manager administrator console running on Windows 98 SE will not detected an alert sent from a Client Manager 3.2J mobile client.

Client Manager account issues

Error message "401 UNAUTHORIZED" appears randomly when logging into local computer from Select Computer page

On the administrator console's Select Computer page, when you click the local computer name to connect, then click the "Click here to log on to..." link, the error "401 UNAUTHORIZED" is sometimes displayed. This seems to happen only on certain computers, but occurs fairly consistently on those computers.

Changing username and password from a remote console transmits data as clear text

When you connect to a remote installation of Client Manager from a browser on the network, then make changes to the Client Manager user accounts, the usernames and passwords you create or change are transmitted over the network using clear text. Although this information will remain invisible to the average user, using clear text makes it possible to identify Client Manager account information using a packet sniffer on the network.
Workaround: If you're concerned about the security of your Client Manager accounts, only create and modify user accounts from the computer on which they reside.

Rebooting or powering down a client computer requires an account on the client computer

In order to reboot or power down a client computer from an administrator console, you must be logged into the administrator console using a username and password that is identical to a user account on the client computer.

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 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.

Critical and Warning icons disappear from log page if it's refreshed while alerts are being received

The Warning and Critical icons in the Global Log page either no longer appear or don't display properly if you refresh the Global Log page several times when new alerts are received.
Workaround: Right-click the broken image icon and click Show Picture.

Clicking Discover Computers button more than once causes display problem on IE5

On the Select Computer page, if you click the Discover Computers button more than once before it has finished writing the page, the Select Broadcast Addresses box is grey and blank. This only happens if you're running Client Manager in Internet Explorer 5.
Workaround: Click the Add Computers button next to it, then click the Discover Computers button again.

Tabs on inventory dialogs may not display when connecting to 3.x client from 6.1 administrator

When connecting to a Client Manager 3.x client from a 6.1 administrator, the tabs on a tabbed inventory dialog (such as Memory) may not appear. This depends on the video card and drivers that are used.
Workaround: Place the mouse cursor over where the tab should appear and click. The tabbed page comes to the foreground.

Administration tab in Options dialog has useless tab key movement

In the Administration tab on the Options dialog, pressing the tab key moves the focus through fields that aren't editable, such as Computer Name, IP Address, and Communications Port. Since these fields aren't editable, tabbing through them serves no useful purpose.

Client console randomly displays error text in place of left pane scroll bar

On some Windows 95/98 computers, the client console randomly displays the text INVALID CGI REQUEST in place of the left panel's scroll bar.
Workaround: 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 check boxes in the 3.x Configuring Notifications dialog using the spacebar causes display problems

When connecting to a Client Manager 3.2 or 3.32 client and displaying its Configure Notifications dialog, if you use the space bar to select or deselect a check box, the dialog doesn't display properly. This is only a display problem; the dialog controls all still function normally. Tabbing through the dialog may restore some of the dialog text.
Workaround: Use the mouse to select the checkboxes instead of the space bar.

Selecting "Open in New Window" generates a script error

When you right-click an option in the left pane of the client console and choose Open in New Window, Client Manager displays an Internet Explorer Script Error: "Object doesn't support this property or method." The only practical solution to this problem was to disable the entire right-click menu, which would result in reduced functionality.
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.

Selecting a large number of computers for file transfer may cause computer to hang

If you select a large number of computers from the discovered list and attempt a file transfer, the computer may hang and you will have to reboot. The number of discovered computers in Desktop Manager can be very large, and it is possible to select a large number of computers for file transfer. The number of computers on which you can actually perform file transfer, however, is limited by the resources on your computer.

Date format is inconsistent between administrator console and notification monitor

An administrator console displays its dates in the mm-dd-yyyy format. However, for notifications that display in the notification monitor, the date format used is according to the regional settings specified on the computer generating the alert, which may be a format of dd-mm-yyyy.

Clicking PC Health button on Client Manager 3.3 console causes client to stop responding

From a Client Manager 6.01 administrator console, if you select a computer running Client Manager 3.3 and click the PC Health button on the 3.3 console before the console items finish loading, the 3.3 client stops responding. The only way to close Client Manager is to use Ctrl-alt-del and terminate the process in Windows Task Manager.

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 choosing 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 LANDesk Client Manager while running an OpenGL* screensaver, your computer will crash.
Workaround: Code has been added to HTTP.DLL to determine if an OpenGL screensaver is running. If so, it will close the screensaver before attempting to create the TPC process. Non-OpenGL screensavers will not be closed. The computer where the problem was noted is running McAfee* software, which seems to have a wrapper executable in which the screensavers are run. The new code also takes this into account, querying the registry key McAfee uses to determine which screensaver is the active one if, in fact, McAfee is installed. The workaround code will only be executed if a special registry value is present (NoOpenGL.reg) and the computer is running Windows* 95.

Large fonts causes 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.