Intel® Client System Setup Utility
User's Guide
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Legal Information

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Using the Client System Setup Utility

Remote System Setup

System functions for managed servers can be setup remotely, using the Client System Setup Utility. The Server System Setup Utility runs on the server console and provides all of the necessary setup functions. The Client System Setup Utility provides the tools to do the same functions remotely:

- Assign resources to devices and add-in boards before loading the OS,
- Specify boot device order and system security options,
- View and clear the system event log (SEL),
- View the system field replaceable unit records (FRUs) and sensor data records (SDRs),
- Troubleshoot the server when the OS is not operational,
- View the server system-level I/O devices,
- Save and restore the system configuration.
- The tools are implemented as plug-in Active-X controls called add-ins. The specific functions provided will vary with individual platforms.

When to Run the Client System Setup Utility

Use the Client SSU when you need to do any of these tasks remotely:

- Add and remove boards affecting the assignment of resources (ports, memory, IRQs, DMA)
- Modify the server's boot device order or security settings
- Change the server's configuration settings
- Save the server configuration
- View or clear the SEL
- View FRU information
- View the SDR information

To determine a system configuration, the Client SSU uses the following information from the server system:

- The baseboard CFG file
- Configuration registers
- CMOS and non-volatile storage

The Client SSU stores configuration values in flash memory in the server. These values take effect when you boot the server.

The BIOS checks the values against the actual hardware configuration; if the values do not agree, the BIOS generates an error message. You must then run the Client SSU to specify the correct configuration before the server boots.

The Client SSU always includes a checksum with the configuration data, so the BIOS can detect any potential data corruption before the actual hardware configuration occurs.

Using the Phonebook

The Phonebook Dialog

The Client SSU includes a phonebook—which is shared with other ISC components—to organize dialing information needed to establish connections with supported platforms. Use the phonebook when the Client SSU is run outside of an enterprise management console, or when the Client SSU is unable to make a server connection when started within an enterprise management console. The dialog box used to maintain existing or edit new phonebook entries is shown in the following figure.

You can open the phonebook from the Main Menu, using the icon on the toolbar, or by choosing Server>Phonebook.
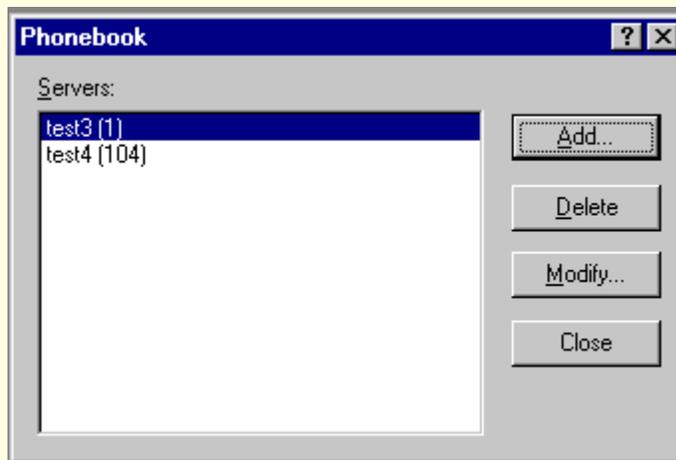
Phonebook Dialog

Options available in the dialog are:

- **Servers:** Displays a list of server names and associated phone numbers previously stored in the phonebook.
- **Add:** Opens the Add/Modify dialog, which you can use to add a new server to the phonebook.
- **Modify:** Edits an existing entry. Before selecting this option, you must first select an existing entry from the Servers list and modify the existing phone number. Click <OK> to store this entry in the phonebook.

- **Delete:** Deletes an entry from the phonebook. You must first select an existing server from the Server box before selecting this option. Click <OK> to delete the entry.
- **Close:** Exits the dialog with no action taken.

Phonebook Add/Modify Dialog

The Client SSU includes a Phonebook Add/Modify dialog.
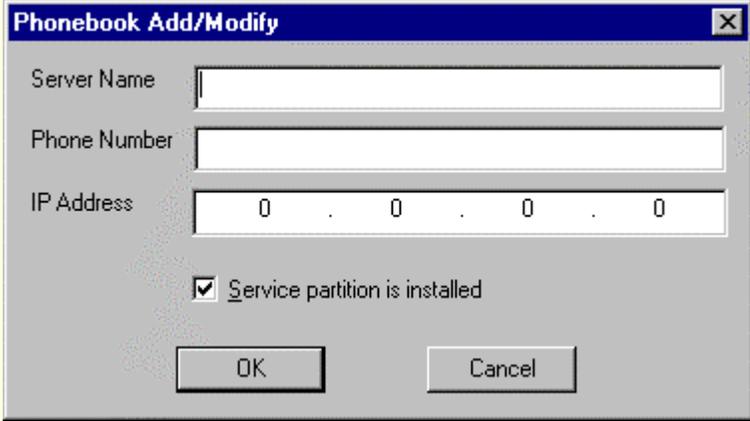
Phonebook Add/Modify Dialog

Server Name

The Server Name area allows you to specify the name of the server associated with a phonebook entry. Any change of the Server Name takes effect once the OK button is selected.

Phone Number

The Phone Number area allows you to specify the phone number associated with a phonebook entry. Like the Server Name edit control, any change of the Phone Number takes effect once the OK button is selected.

IP Address

The IP Address area allows you to specify the IP address of the selected server.

Service Partition

Use the Service Partition checkbox to specify whether the selected server has a service partition. A fully-populated service partition is required on the server for the Client SSU to establish a connection.

OK Button

The OK button updates the phonebook based on the information contained in various dialogs.

Cancel Button

The Cancel button discards any changes to the phonebook entry, closes the phonebook, and returns to the Main Window.

Connect Dialog

The Client SSU also includes a Connect dialog, which is used to establish the connection between the Client SSU and the SSU Server in those cases where the phone number has not been passed to the Client SSU on the command line or when the Client SSU was unable to make a server connection with the phone number provided. The dialog box used to establish a connection is shown in the Connect Dialog.
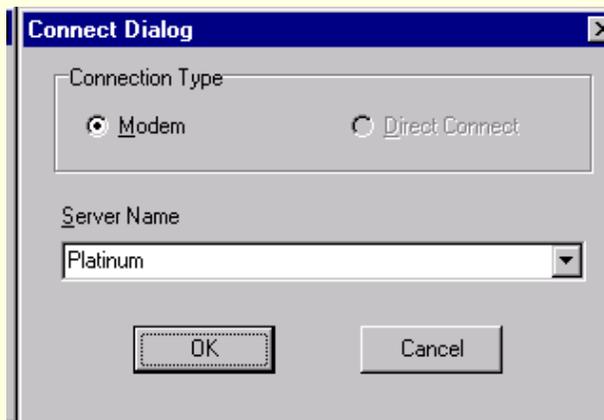
Connect Dialog

Modem

The Modem button selects the connection type for the server specified in the Server Name edit control.

Direct Connect

The Direct Connect button is not used.

Server Name

The Server Name area provides an alphabetized list of server platforms that the Client SSU may attempt to connect to. The list is based upon information maintained in the phonebook.

OK Button

The OK button attempts to establish a connection with the specified server platform. When selected, the OK button prompts for an EMP password and if successful reboots the server to the service partition and attempts to establish the connection with the server SSU. If the connection cannot be established an error message displays and the server system should be rebooted to its primary operating system using the DPC. While the connection is being established the Client SSU displays connection information on the status bar.

Cancel

The Cancel button closes the connection dialog and returns to the Main Window.

Using the EMP Password Dialog

The Emergency Management Port Password dialog opens when you click the OK button in the Connect dialog. Enter the password that will allow you to use the EMP Port on the selected server.
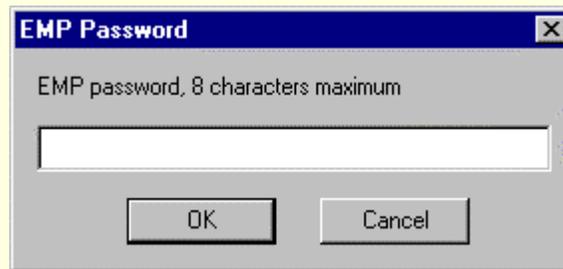
Configuring Resources

The Resource Configuration Add-in (RCA) provides two major functions:

- Modifying the contents of the system by adding and removing devices
- Modifying the resources used by devices

The Resource Configuration Add-in (RCA) provides the resource conflict detection and resolution services. Its purpose is to help create a working configuration after adding or removing hardware from the system. Only a single instance of the RCA may be used at one time.

RCA Main Window

The RCA presents a main window that supports several features, which are described in the following sections.
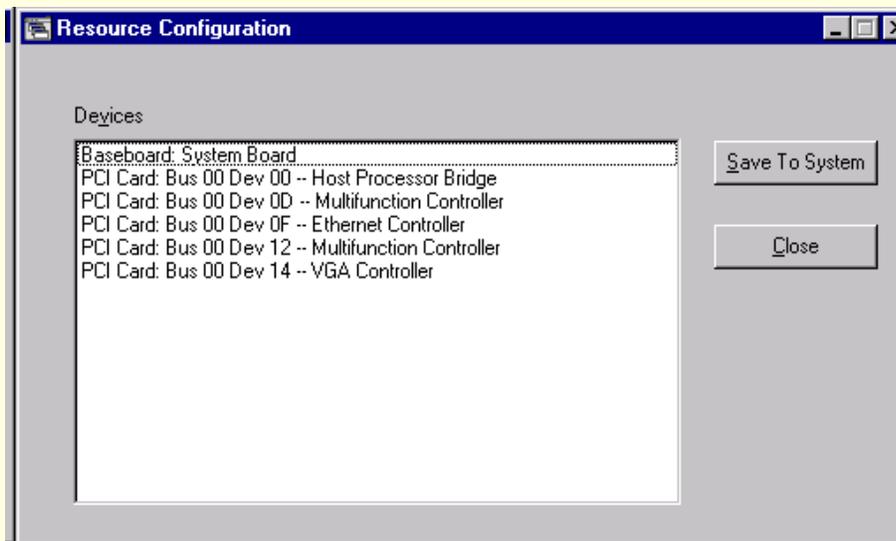
Resource Configuration Main Window

Devices

It may be necessary to modify the resources of a device to accommodate certain operating systems, applications, and drivers. It may also be necessary to modify resources to resolve a conflict. To modify the resources associated with a device, highlight the device in the Devices list box and double-click on the entry.

Save to System Button

The Save to System option writes the current configuration to non-volatile storage on the server system. The stored configuration information is used by the server's BIOS to configure the platform during power-up.

Although the RCA can be started multiple times during a Client SSU session, it is recommended that the managed server be rebooted once the 'Save To System' operation is performed. Configuration changes to PCI devices will not be recognized during subsequent RCA uses unless the managed server is rebooted.

Close Button

The Close option exits the RCA. Although no configuration information is automatically written to non-volatile storage with this selection, you will be prompted to save any outstanding changes before exiting.

Device Window

It may be necessary to modify the resources of a device to accommodate certain operating systems, applications, and drivers. The Device Window provides several features to aid in this process.
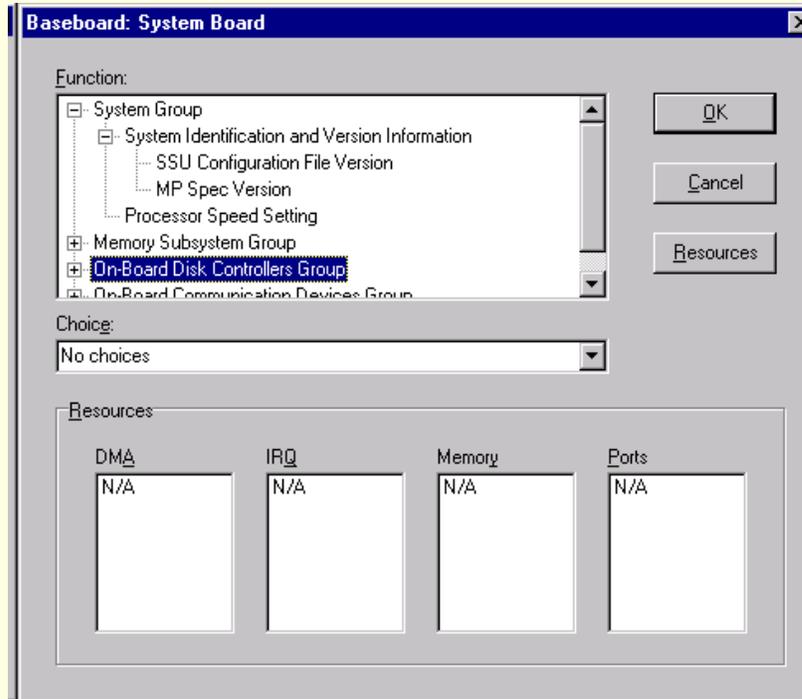
Device Window

Function

Use the Function tree to select a device function so that the configuration choices and resources associated with the function may be updated. Selecting a new function updates the Choice box and the DMA, IRQ, Memory, and Ports list boxes as required. Some functions may not contain choices or resources and are simply used for grouping or organizational purposes.

Choice

The Choice area shows a list of configuration choices associated with the current function. Change choices by selecting the desired option. Selecting a new choice may update the DMA, IRQ, Memory, and Ports list boxes.

DMA

Use the DMA list box to change an existing setting of a DMA resource associated with the current choice. DMA resources can be changed by double-clicking the desired entry and updating the DMA entry in the Change DMA window. If a DMA resource is not required for the current choice, N/A is displayed as the only item in the DMA list box.

IRQ

Use the IRQ list box to change an existing setting of a IRQ resource associated with the current choice. Change the resource by double-clicking the desired entry and updating the IRQ entry in the Change IRQ window. If an IRQ resource is not required for the current choice, N/A is displayed as the only item in the IRQ list box.

Memory

Use the Memory list box to change an existing setting of a memory resource associated with the current choice. Change settings by double-clicking the desired entry and updating the memory entry in the Change Memory window. If a memory resource is not required for the current choice, N/A is displayed as the only item in the Memory list box.

Ports

Use the Ports list box to change an existing setting of a port resources associated with the current choice. Change the setting by double-clicking the desired entry and updating the port entry in the Change Port window. If a port resource is not required for the current choice, N/A is displayed as the only item in the Port list box.

OK

The OK button commits any resource changes made to the device to the internal resource database. Updated information is not stored in non-volatile storage on the server system until the Save to System button is selected on the RCA main window.

Cancel

The Cancel button discards any changes made to the device and returns to the RCA main window.

Note that after the RCA conflict detection and resolution algorithm is run, it is not possible to cancel changes to the selected device.

Resources Button

Click the Resources button to start the Resource Usage window.

System Resource Usage Window

Viewing system resources is useful for setup and debugging system configurations. The System Resource Window provides several features to present this information.

System Resource Usage

Resource

○ IRQ   ○ Ports   ○ All
○ DMA   ○ Memory

Resource List

```
IRQ  Device / Function
0    Baseboard:  System Board / Timer
1    Baseboard:  System Board / Chipset
3    Baseboard:  System Board / Serial Port 2 Configuration
4    Baseboard:  System Board / Serial Port 1 Configuration
5    PCI Card:   Bus 00 Dev 0F -- Ethernet Controller / Ethernet Controller
6    Baseboard:  System Board / On-Board Floppy Controller
7    Baseboard:  System Board / Parallel Port Configuration
8    Baseboard:  System Board / RTC
9    Baseboard:  System Board / ACPI SCI Interrupt
```

Dump To File   Close

System Resource Usage Window

Resource

The Resource List box shows a complete listing of the specified resources currently used in the system, except for any relocatable expansion ROM images. Because they are fully relocatable by the system BIOS, Relocatable expansion ROM images are not included. The address ranges occupied by these expansion ROM images should not be considered in the conflict detection and resolution algorithm provided in the RCA.

IRQ

The IRQ button updates the Resource list box to include only IRQ resources.

DMA

The DMA button updates the Resource list box to include only DMA resources.

Ports

The Ports button updates the Resource list box to include only port resources.

Memory

The Memory button updates the Resource list box to include only memory resources.

All

The All button updates the Resource list box to include all system resources: IRQs, DMAs, ports, and memory resources.

Dump to File

The Dump to File button writes the system resource use information to the specified plain text file. The system resource use information file may be stored on either the client or server system.

Close

The Close button exits the System Resource Usage window.

Controlling Boot Options

The Multiboot Add-in (MBA) provides a means for selecting Initial Program Load (IPL) devices. Using the MBA, you can identify all IPL devices in the system and organize their boot order. On power-up, the managed server's BIOS will sequentially attempt to boot from each device. Only a single instance of the MBA may be used at one time.
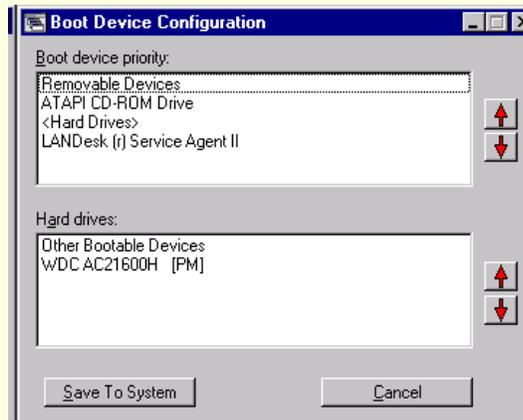
Multiboot Main Window

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MBA Main Window

The MBA main window is described in the following sections.

Boot Device Priority

The Boot Device Priority list box contains the IPL devices in the system in descending boot priority.

Hard Drives

The Hard Drives list box contains the list of Boot Connection Vector (BCV) devices in descending priority. Typically, the BCV device list contains hard disks installed in the system. The Hard Drives list shows the order in which the drives will be tried when trying to boot from a hard drive.

Move Up / Move Down

The Move Up/Move Down buttons allow you to move the selected IPL or BCV device in the Boot Device Priority or Hard Drives list box respectively.

Save to System Button

The Save to System button writes the updated boot priority information to non-volatile storage on the server system.

Cancel Button

The Cancel button exits the Multiboot Add-in. Configuration information is not written to non-volatile storage on the server system with this selection, but you will be prompted to save any outstanding changes before exiting.

Managing Passwords and Security Options

The Password Add-in (PWA) provides security and password support options. Within the PWA, you can either set or modify the current server system BIOS User or Administrator passwords or update any of the various security options available. Only a single instance of the PWA may be used at a time.

PWA Main Window

The PWA presents a main window with three sections relating to the Administrative Password, User Password, and the Security Options, which are described in the following sections.
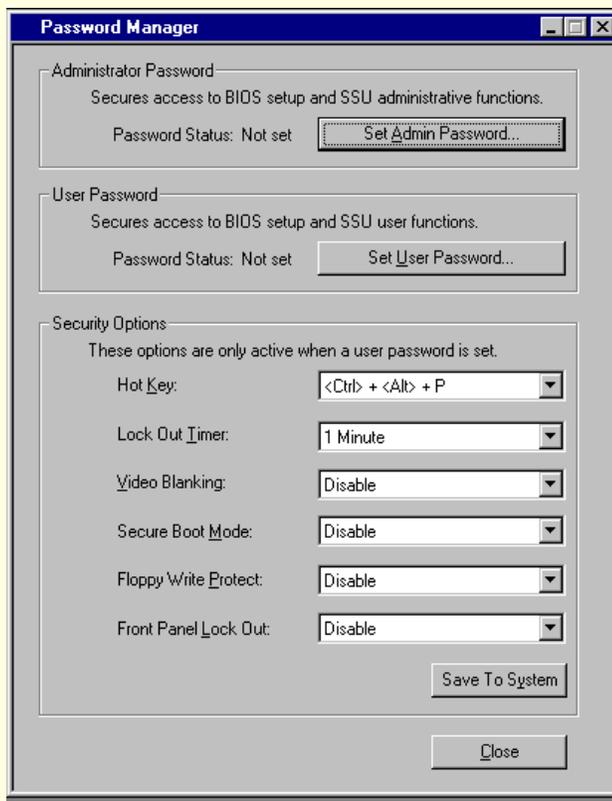
Password Main Window

Administrator Password Status

The administrator password status control displays either Set or Not Set, depending on the current status of the BIOS administrative password on the server system.

Change/Clear Admin Password

The Change/Clear Admin Password button allows you to set or change the administrator password on the server system used by both the SSU and the system BIOS. All changes to the admin password take place immediately and do not require the Save to System button to be pressed.

User Password Status

The User Password Status control displays either Set or Not Set, depending on the current status of the BIOS user password on the server system.

Change/Clear User Password

The Change/Clear User Password button allows you to set or change the user password on the server system that is used by both the SSU and the system BIOS. All changes to the user password take place immediately and do not require the Save to System button to be pressed.   A change to the user password is immediately reflected in the user password control.

Hot Key

The Hot Key box provides a list of valid key combinations that can be used to put a system in secure mode. This option is only available when the user password is set—otherwise the option is grayed out. The Hot Key selection is saved to the platform via the Save To System button.

(Support for this option may vary between platforms.)

Lock Out Timer

The Lock Out Timer box provides a list of valid secure mode timer values that may be selected. If no keyboard or mouse activity is detected for the specified interval, the server will change to Secure Mode. The option is available only when the user password is set, otherwise it is grayed out. The Lock Out Timer option is saved to the platform via the Save to System button.

(Support for this option may vary between platforms.)

Secure Boot Mode

The Secure Boot Mode box allows you to enable or disable secure boot mode. The option is available only when the user password is set, otherwise it is grayed out. The Secure Boot Mode option is saved to the platform via the Save to System button.

(Support for this option may vary between platforms.)

Video Blanking

The Video Blanking box allows you to enable or disable the server system's video screen when the secure mode is active. The option is available only when the user password is set, otherwise it is grayed out. The Video Blanking option is saved to the platform via the Save to System button.

(Support for this option may vary between platforms.)

Floppy Write Protect

The Floppy Write Protect box allows you to enable or disable writing to the floppy diskette drive when secure mode is active. The option is available only when the user password is set, otherwise it is grayed out. The Floppy Write Protect option is saved to the platform via the Save to System button.

(Support for this option may vary between platforms.)

Front Panel Lock Out

The Front Panel Lock Out box allows you to enable or disable the reset and power buttons when secure mode is active. The option is available only when the user password is set, otherwise it is grayed out. The Front Panel Lock Out option is saved to the platform via the Save to System button.

(Support for this option may vary between platforms.)

Save to System

The Save to System button writes the updated security options to non-volatile storage on the server system. Note that the Save To System button does not update either the administrator or user password, because they are updated immediately following a change.

Cancel Button

The Cancel button exits the PWA. No configuration information is automatically written to non-volatile storage with this selection, but you will be prompted to save any outstanding changes before exiting.

Using the System Event Log

The System Event Log (SEL) contains a sequential record of events that have occurred in the remote server.

The contents of the SEL will help you to determine the cause of server system failures.

The SEL viewer allows you to

- Examine SEL records via the Baseboard Management Controller (BMC)

- Examine SEL records by sensor or event type

- Save SEL records to a file on the local or remote system

- Clear SEL records from the nonvolatile storage area on the server system

Click the SEL icon **SEL** in the Client SSU toolbar to start the SEL Manager. This also places a SEL menu on the toolbar.

For each entry, the SEL viewer displays:

- A record identifier

- Time stamp information

- A generator identifier

- The sensor type

- The sensor number

- An event description

Use the online help to find information about specific controls and features of the SEL Manager.

You can sort the columns in the SEL Manager by clicking the column heading.

Using the Sensor Data Records

The Sensor Data Records (SDR) contain the information recorded from each of the configured sensors in the managed server. Record data is displayed in hexadecimal or binary form.

The contents of the SDR file will help you to determine the cause of server system failures.

Using the SDR tool, you can

- Examine Sensor Data Records

- Examine SDRs by Record type

- Save SDRs to a file on the local or remote system

Click the SDR icon **SDR** in the Client SSU toolbar to start the SDR Manager. An SDR menu is placed on the toolbar, which provides access to SDR Manager properties.

Information is displayed when a specific sensor type is selected in the SDR information tree.

Use the online help to find information about specific controls and features of the SDR Manager.

SDR Manager Window

Using the FRU Inventory

The Field Replaceable Unit (FRU) inventory records contain information about the components that comprise the remote server. The information, based on the Intelligent Peripheral Management Interface (IPMI) specification, includes such things as part numbers, serial numbers, manufacturer's names, version numbers, and asset tag numbers.

The contents of the FRU inventory files will help you to identify components that may be of interest while troubleshooting a system failure. Using the FRU, you can

- Examine individual FRU inventory areas

- Save FRU inventory information to a file on the local or remote system

Click the FRU icon **FRU** in the Client SSU toolbar to start the FRU Manager. If a server connection exists, you'll see a status message to tell you that the FRU inventory records are loading. If no server is connected, then you'll see a connect dialog.

Starting the FRU Manager adds an FRU menu to the toolbar, which you can use to see the FRU properties or reload the FRU Manager.

The FRU Manager displays a hierarchical tree of FRU components, and detailed inventory information for each selected unit. Highlight a component in the tree with the mouse to see its associated inventory information.

The FRU Manager does not display all of the FRU information defined in the IPMI specification. It displays selected information from the chassis, board, and product areas that will be helpful in identifying the components of a managed server.

Use the online help to find information about specific controls and features of the FRU Manager.