
iLO MP

The **Integrated Lights-Out Management Processor** (iLO MP) offers remote server management through an independent management processor (MP). It provides a way for you to connect to a server and perform administration or monitoring tasks for the server hardware. iLO MP is available whenever the server is connected to a power source, even if the server main power switch is in the off position.

iLO controls power, reset, and Transfer of Control (TOC) capabilities; provides console access; displays and records system events; and can display detailed information about the various internal subsystems. iLO also provides a virtual front panel that you can use to monitor server status and see the state of front panel LEDs. All iLO functions are available through the server LAN and the local RS-232 and remote RS-232 ports. Access to local and remote ports, telnet, and secure shell (SSH) is through the iLO text interface, while Web access is through a graphical user interface (GUI).

iLO was introduced into most Integrity Entry Class servers in late 2004. Prior to that, embedded remote server management was referred to as management processor functionality. All legacy MP functionality has been carried forward and combined with new features, all under the heading of “iLO MP”. Therefore, “iLO” and “MP” mean the same thing for Entry Class servers.

Firmware version E.03.13 (or later) supports the following iLO MP features:

- Always-on capability: iLO is active as long as the power cord is plugged in
- Multiple access methods: Local, remote, telnet, SSH use the iLO text interface. Web access uses a GUI.
 - Local Serial Port: Use a terminal or laptop computer for direct connection.
 - Remote/Modem Serial Port: Use a dedicated modem RS-232 port and external modem.
 - LAN: Use telnet, Web, or SSH to access iLO LAN.
- Remote power cycle; power on or power off; reset
- Mirrored console: The system console output stream is reflected to all connected console users, and any user can provide input.
- Independent, non mirrored sessions (from local and modem ports)
 - Direct session with OS using the iLO MP command `SE`
 - Connection to another iLO using the iLO MP command `CSP`
- Display of information about various internal subsystems
 - Field replaceable unit (FRU) information
 - System power state, temperature information, and fan status
 - Status of processors
- Logging, display, and keyword search of:
 - System console history
 - System events
- User access control
- DHCP and DNS support
- IPMI over LAN
- Licensing

- iLO Advanced Pack features, such as SSH access, group actions capability, and LDAP

NOTE A complete description of the iLO MP is provided in the *HP Integrity and HP 9000 Integrated Lights-Out Management Processor Operations Guide*.

Configuring the iLO MP LAN Port IP Address

By connecting the iLO MP LAN port to an active network, you have two options for configuring an IP address. The first option is to use a DHCP server, which automatically assigns an IP address, and the other is to use the ping command from another host on the same subnet to set a static IP address for the iLO MP. After the IP address has been set, you can establish a telnet session to configure additional parameters.

If you are using a DHCP server, and it provides the Domain Name, and if the primary DNS server accepts dynamic DNS (DDNS) updates or has been configured through the DHCP server, then you can use a default host name to connect to the iLO MP through telnet. The default host name is 14 characters long, consisting of the letters “mp” followed by the 12 characters of the Media Access Protocol (MAC). See “Configure an IP Address” on page 209 to determine the MAC address. If no DNS access is available, the telnet session can use the assigned IP address.

If you are using DHCP, proceed to “Accessing the iLO MP” on page 209. For more information on configuring DHCP, see “Configuring the iLO MP LAN Information” on page 211. For a non-DHCP implementation, perform the following steps to configure a static IP address.

Configuring a Static IP Address (Non-DHCP)

To configure a static IP address for the iLO MP LAN port, follow these steps:

1. Set up local terminal access.
2. Configure the IP address.

Set Up Local Terminal Access After powering on the terminal, ensure the communications settings are as follows:

- 8/none (parity)
- 9600 baud
- None (receive)
- None (transmit)

If the terminal is a PC using Reflection 1, check or change these communications settings by performing the following steps:

Step 1. From the Reflection 1 Main screen, pull down the Connection menu and choose **Connection Setup**.

Step 2. Choose **Serial Port**.

Step 3. Choose **Com1**.

Step 4. Check the settings and change, if required.

Go to More Settings to set Xon/Xoff. Click **OK** to close the More Settings window.

Step 5. Click **OK** to close the Connection Setup window.

Step 6. Pull down the Setup menu and choose **Terminal** (under the Emulation tab).

Step 7. Choose a supported terminal type.

The preferred type is VT100.

Step 8. Click **Apply**.

This option is not highlighted if the terminal type you want is already selected.

Step 9. Click **OK**.

Configure an IP Address To configure the iLO MP LAN static IP address, perform the following steps:

Step 1. Determine the Media Access Control (MAC) address of the iLO MP LAN interface by viewing the label located at the rear of the server.

Step 2. Connect a LAN cable on your local subnet to the core I/O LAN port.

Step 3. Add an Address Resolution Protocol (ARP) table entry to another host located on your local subnet. This ARP table entry maps the MAC address of the core I/O LAN interface to the IP address chosen for that interface.

NOTE Adding an entry to the ARP table is typically done using the ARP command with the appropriate option. For example, `arp -s` is used with Windows. Consult your operating system documentation for more information.

Step 4. Use the `ping` command from the host that has the new ARP table entry. The destination address is the IP address that is mapped to the MAC address of the iLO MP. The iLO MP LAN port should now be configured with the appropriate IP address.

Step 5. Use the `telnet` command to connect to the iLO MP from a host on the local subnet.

Accessing the iLO MP

You can connect to the iLO MP using the following methods:

- The local serial port using a local terminal
- The remote Customer Service Modem (CSM) port using external modem (dial-up) access, if remote modem access is configured
- The iLO MP LAN port using the Web interface, telnet, or SSH, if login access through the iLO MP LAN is enabled

Local Terminal Access to the iLO MP

Establish communication with the iLO MP by connecting a terminal to the local CSM I/O serial port.

Establish a terminal session using a standalone terminal or using terminal emulation software, such as HyperTerm, Putty, or Reflection 1 running on a PC.

During installation, communicating with the iLO MP enables such tasks as:

- Verifying that the components are present and installed correctly
- Configuring the LAN port

Interacting with the iLO MP

To interact with the iLO MP command line interface, perform the following steps:

NOTE On initial server installation, the iLO MP has two default user accounts:

- All Rights (Administrator) level user; login = Admin, password = Admin (both are case sensitive).
- Console Rights (Operator) level user; login = Oper, password = Oper (both are case sensitive).

For security reasons, HP recommends that you use the UC command during the initial logon session to modify default passwords (enter **CM** at the MP> prompt, and enter **UC** at the MP:CM> prompt).

IMPORTANT If default users such as Admin are modified, configuration parameters in HP Systems Insight Manager (HP SIM) need to be changed for the group actions feature to work properly. For more information regarding HP SIM, refer to the HP Systems Insight Manager User and Installation Guide at the following web site: www.hp.com/go/hpsim.

Step 1. Log in using your iLO MP user account name and password.

NOTE If you are logged in, the **iLO MP Main Menu** displays. To follow this procedure, make sure you are at the **iLO MP Main Menu**. Use **Ctrl+B** to return to the **iLO MP Main Menu**.

Step 2. Use the iLO MP menus and commands as needed. Main Menu commands are shown in “iLO MP Main Menu”. You can access commands not displayed in the iLO MP Main Menu in command mode by first using the CM command at the MP prompt. You can display a list of available commands using the iLO MP help function. Initiate the help function from either the iLO MP Main Menu or the Command Menu prompts by entering **HE** followed by **LI**. You can return to the iLO MP Main Menu by pressing **Ctrl+B**.

Step 3. Log out using the X command (enter **X** at the MP> prompt) after returning to the iLO MP Main Menu.

iLO MP Main Menu

Following are the iLO MP Main Menu commands:

```
MP MAIN MENU:
CO: Console
VFP: Virtual Front Panel
CM: Command Menu
CL: Console Logs
SL: Show Event Logs
CSP: Connect to Service Processor
SE: Create OS Session
HE: Main Menu Help
X: Exit Connection
```

NOTE The previous example shows the Main Menu screen accessed through the local serial or remote modem ports. The list of commands displayed might be different and depends on your method of access to the iLO MP.

Configuring the iLO MP LAN Information

LAN information includes the iLO MP network name, IP address information, and configuring DHCP and DNS service information.

To configure the iLO MP LAN IP address:

Step 1. At the iLO MP Main Menu prompt (MP>), enter **CM** to choose command mode.

Step 2. At the command mode prompt (MP:CM>), enter **LC** (for LAN configuration).

The screen displays the default values and asks if you want to modify them. It is good practice to write down the information, because you might need it for future troubleshooting. See “The LC Command Screen” on page 212.

NOTE The default value in the “IP address” field is set at the factory. You must configure the actual iLO MP LAN IP address.

Step 3. The screen displays the current LC data. When prompted to enter a parameter name, **A** to modify All, or **Q** to Quit, enter **A** to choose all parameters.

Step 4. The screen displays the current DHCP status. If DHCP is used to acquire IP address information, enter **E** to enable, **D** to disable, or **Q** unless you are using the local serial port.

Step 5. Enter the **LC** command to disable DHCP.

CAUTION Modifying the DHCP status, IP address, gateway IP address, or subnet mask parameters drops all present LAN and Web connections.

NOTE Changing DHCP status to Enabled or Disabled resets IP address, gateway IP address, and subnet mask parameters to factory default values. If DHCP status was changed to disabled, you can change the values.

If the IP address, gateway IP address, and subnet mask are obtained through DHCP, you cannot change them without first disabling DHCP.

Step 6. The screen displays the current IP address. When prompted to enter a new value or **Q**, enter the new IP address.

Step 7. The screen displays the current host name. When prompted to enter a new value or **Q**, enter the new iLO MP network name.

This is the host name for the iLO MP LAN displayed at the command prompt. It is also used to identify the iLO MP LAN interface in a DNS database. The name can be up to 64 characters in length, and must start with a letter, end with a letter or number, and contain only letters, numbers, or dashes.

NOTE The host name is not case sensitive.

- Step 8.** The screen displays the current subnet mask name. When prompted to enter a new value or **Q**, enter the new subnet mask name.
- Step 9.** The screen displays the current gateway address. When prompted to enter a new value or **Q**, enter the new gateway address.
- Step 10.** The screen displays the current link state information. When prompted to enter a new value or **Q**, press **enter**. The message -> Current Link State has been retained displays.
- Step 11.** The screen displays the current Web console port number. When prompted to enter a new value or **Q**, press **enter**. The message -> Current Web Console Port Number has been retained displays.
- Step 12.** The screen displays the current SSH console port number. When prompted to enter a new value or **Q**, press **enter**. The message -> Current SSH Console Port Number has been retained displays.

NOTE SSH settings will not display if you do not have Integrated Lights-Out Advanced Pack licensing.

- Step 13.** The screen displays a new **LC** listing, including the values entered in the preceding steps. Verify that the desired values have been accepted. When prompted to enter a parameter for revision, **Y** to confirm, or **Q** to Quit, enter **Y** to confirm all parameters.

```
-> Check all LAN parameters to ensure they are correct before commit.  
-> "SP_NAME_STR" will be reset if you confirm the changes.  
MP Host Name: mpserver
```

- Step 14.** Enter **XD -reset** to reset the iLO MP (only necessary if you are connected through a serial port).
- Step 15.** After the iLO MP resets, log in to the iLO MP again. Enter the iLO MP command mode (enter **CM** at the **MP:** prompt).
- Step 16.** At the **MP:CM>** prompt, enter **LS** to confirm the new LAN settings.
- Step 17.** Enter **SA** to enable or disable the Web console and telnet access after the iLO MP has been reset.

NOTE HP recommends disabling access methods that you do not intend to use. For example IPMI over LAN. IPMI over LAN allows access to the iLO MP through the LAN and has no password by default. HP recommends disabling this port if IPMI management console software is not being used in your data center (use the **SA** command). If console management tools are being used, HP recommends using the tools to set a password on the IPMI over LAN port.

The LC Command Screen

The following screen shows **LC** command output:

```
MP:CM> LC -nc  
Current LAN Configuration:  
  MAC Address       : 0x0060b0f54c51  
  DHCP Status      : Enabled  
  IP Address        : 127.1.1.1
```