Using **IPMI** on Cisco **CDE 250**

This appendix provides supplementary information on the Intelligent Platform Management Interface (IPMI) for VQE on Cisco CDE-250 hardware. This appendix has the following major topics

Overview

IPMI provides access to multiple users from different locations to monitor system health and manage computer events from a remote location. IPMI operates independently of the operating system (i.e. out-of-band) to allow administrators to manage a system remotely in the absence of an operating system or a system management software. This interface can be used before an OS has booted and after OS or system failure. It allows for managing mutiple disparate servers from a single remote location.

IPMI functionality is provided by the BMC Controller present in the motherboard. This controller provides serial link connections between the South Bridge (one of the components in the BMC Controller) and other onboard system components, allowing for network interfacing via remote access. IPMI configuration can be done via a GUI interface.

Configuring IPMI on Cisco CDE-250

To configure IPMI on Cisco CDE-250, do the following:

Step 1 Connect the CDE 250 IPMI Ethernet Port to a IP Network with a valid DHCP Server. The IPMI Controller present in the hardware sends DHCP requests to the DHCP Server and acquires an IP Address to be assigned to IPMI Ethernet port.

Step 2 Execute the following linux CLI command to verify the IP Address configured:

```
ipmiutil lan -c
```

Note In absence of a DHCP server, the linux CLI command `ipmiutil lan -e -l <IP Address> -G <Gateway IP>` can be used to configure IP Address and Gateway IP for IPMI dedicated ethernet port.

Step 3 Using your web browser, enter the IP address of IPMI.

Note IPMI GUI Interface supports Internet Explorer version 6 or higher, and Mozilla Firefox version 3.6 or higher.

For example, if the IP address of your CDSM is 192.168.0.236, enter:

http://192.168.0.236

Step 4 Enter the username and password and click **Login**. The IPMI home page is displayed.

The built-in username is **ADMIN** and the initial password is **ADMIN**.

Configuring Active Directory Settings for IPMI

To configure Active Directory Settings for IPMI, do the following:

Step 1 Choose **Configuration > Active Directory**. The Active Directory Settings Table page is displayed.

Step 2 Click **Advanced Settings.** The Active Directory- Advanced Settings page is displayed.

Step 3 Enter the settings as appropriate. See Table J-1 for a description of fields.

Table J-1   Active Directory Advanced Settings Fields

Field	Description
Enable Active Directory Authentication	To enable/disable Active Directory, check or uncheck the "Enable Active Directory Authentication" checkbox respectively.
User Domain Name	Specifies the domain name of the user
Port	Specifies the port number for sending active directory queries. The default value is 389 **Note** If the port value is incorrect, then it will take a couple of minutes, while trying to authenticate to the Active Directory server and finally authentication will fail. In the meantime, web server will not be able to serve any other request(s).
Time Out	Specifies the time in seconds for Active Directory queries to complete. The range is from 15 to 300 seconds. The default is 120 seconds.
Domain Controller Server Address 1	The IP address of Active Directory server. Atleast one Domain Controller Server Address must be configured.

Table J-1   Active Directory Advanced Settings Fields

Field	Description
Domain Controller Server Address 2	The IP address of Active Directory server. Atleast one Domain Controller Server Address must be configured.
Domain Controller Server Address 3	The IP address of Active Directory server. Atleast one Domain Controller Server Address must be configured.
Default Active Directory Certificate	Specifies the defauly active directory certificate. If no certificate is uplaoded then the default certificate is used.
Uplaod New Active Directory Certificate	Browse the Active Directory Certificate file using Browse button.

Step 4   Click **Save** to save the settings.

Configuring Role Group

To configure Role Group for the serve, do the following:

Step 1   Choose **Configuration > Active Directory**. The Active Directory Settings Table page is displayed.

Step 2   Select an empty slot in the list and click **Add Role Group** button. Add New Role Group page is displayed

Step 3   Enter the settings as appropriate. See Table J-1 for a description of fields.

Table J-2   Role Group Settings Fields

Field	Description
Role Group Name	Enter a name that identifies the role group in the Active Directory. This name should match the role group name configured in the Active Directory server. **Note** Role Group Name is a string of 255 alpha-numeric characters.Special symbols hyphen, underscore and dot are allowed.

Table J-2   Role Group Settings Fields

Field	Description
Role Group Domain	Enter a domain where the role group is located.
	Note Domain Name is a string of 255 alpha-numeric characters.Special symbols hyphen, underscore and dot are allowed.
Role Group Privelege	Choose the level of privilege to assign to this role group. The drop-down list has the following values:
	• Administrator
	• Operator
	• User
	• Call Back
	• No Access

Step 4   Click **Add** to save the settings and return to Role Group list page

Note   After creating role groups, a new user can be created in the Active Directory Server and can be assigned to appropriate group and domain in the AD server. The user can also be assigned suitable privileges depending on his role.

Note   For additional information on Configuring Active Directory via IPMI GUI, see Chapter 2 Section 2.4.4 of SuperMicro Embedded BMC/IPMI Manual, Revision 2.0

Remote Server Health Monitoring

The data related to server health such as sensor readings and the event log, can be viewed remotely via IPMI GUI Interface.

Viewing System Sensor Information

To view system sensor information of various sensors, do the following:

Step 1   Choose **Server Health > Sensor Readings.** The Sensor Readings page is displayed, that displays a list of the sensors with their Name, Status, and Readings.

Step 2   To select the type of sensor readings to be displayed in the list, select the Sensor Type from the dropdown list.

Step 3   To refresh the Sensor Reading, click **Refresh.**

Step 4   To view the low and high threshold assignments for each sensor, click **Show Thresholds**.

Viewing Event Log Information

To view event log information, do the following:

Step 1   Choose **Server Health > Event Log.** The Event Log page is displayed, that displays a list of event logs with their ID, Timestamp, Sensor Name, Sensor Type and Sensor Description.

Step 2   To select a particular event log category to be displayed in the list, select the event log category from the dropdown list.

Step 3   To clear event logs, click **Clear Event Log.**

Note   For additional information on Remote Server Health Monitoring via IPMI GUI, see Chapter 2 Section 2.3 of SuperMicro Embedded BMC/IPMI Manual, Revision 2.0

Remote Control of Cisco CDE 250 via IPMI

IPMI provides support for the user to carry out activities and perform operations on a remote server via remote access. It provides support for the following remote activities:

- To launch remote console support and manage the remote server using JAVA plugin installed on IE or Firefox

Note   Ensure JAVA plugin for the browser is installed on the remote host from where console is launched

- To enable Serial_Over_LAN support.
- To display server power state and configure server power settings.
- To configure virtual media settings.

Launching Remote Console

To launch remote console, do the following:

Step 1   Choose **Remote Control,** the Remote Control Operations page is displayed.

Step 2   Click **Launch Console** option and download jviewer.jnlp (Java Web Start File).

Step 3   Open jviewer.jnlp file to launch the console. The remote console is dsiplayed through IPMI dedicated LAN port.

Note   There will be few seconds delay in display of the output on the console screen. Press **Enter** multiple times for immediate display of output on the console screen. When reboot command is issued, there will be few seconds deloy before the output is displayed on the screen

Launching SOL

SOL feature provides serial port connections over LAN to allow the user to access / monitor a host server via Console Redirection from a remote site.

> ✎
> **Note**   Ensure JAVA plugin for the browser is installed on the remote host from where the console is launched

To launch SOL, do the following:

Step 1   Choose **Remote Control,** the Remote Control Operations page is displayed.

Step 2   Click **Launch SOL** option. The console screen appears.

Step 3   Select the baud rate as 9600 (CISCO configured baudrate in BIOS on CDE 250) from the drop-down list and click **Start.**

> ✎
> **Note**   There will be few seconds delay in display of the output on the console screen. Press **Enter** multiple times for immediate display of output on the console screen.

Power Control Operations

To view the current server power state and perform remote power control operations, do the following:

Step 1   Choose **Remote Control,** the Remote Control Operations page is displayed.

Step 2   Click **Power Control** option. The Power Control and Status page is displayed.

Step 3   To perform one of the remote power control operations, do the following:

    a.   Check **Reset Server** checkbox to reboots the system without powering off (warm boot).

    b.   Check **Power Off Server- Immediate** checkbox to immediately power off the server.

    c.   Check **Power Off Server - Orderly Shutdown** checkbox to initiate Operating System shutdown.

    d.   Check **Power On Server** checkbox to power on the server.

    e.   Check **Power Cycle Server** checkbox to power off the server and then reboot (cold boot)

Step 4   Click **Perform Action** to perform the operation.

Virtual Media Operations

The virtual media feature is used for reimaging the system with a software (iso image) when the system is suspected to be corrupted.

To configure the image file, do the following:

Step 1   Choose **Remote Control,** the Remote Control Operations page is displayed.

Step 2   Click **Virtual Media** option. The Virtual Media page is displayed.

Step 3   Enter the settings as appropriate. See Table J-3 for a description of fields.

Table J-3   Virtual Media Fields

Field	Description
Share Host IP	The IP Address of the Host where the iso image is placed
Share Folder Name	The name of the shared folder
Path to Image	Location of the iso image within the shared folder
Image Type	Identifies the type of emulation and the options are • Floppy Disk • CD-ROM **Note**
User Name	
Password	

Step 4   Click **Set** to save the settings. Once the iso file is mounted as CDROM, the page displays **Successfully Set Virtual CD** message is displayed.

✎

Note   Once the above steps are completed successfully, system should be Rebooted / Powered On to start the installation from the ISO image mounted as a Virtual CD Drive on this host.

Unit Reset

To reset the IPMI device, do the following:

Step 1   Choose **Maintenance > Unit Reset.** the Unit Reset page is displayed.

Step 2   Click **Reset** to reboot the IPMI device.

References

For additional information on IPMI GUI, see SuperMicro Embedded BMC/IPMI Manual, Revision 2.0

References