Oracle Integrated Lights Out Manager (ILOM) 3.0

Supplement for the Sun Netra 6000 Modular System

Part No. E21625-01
April 2011

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Contents

Using This Documentation

This supplement describes Oracle Integrated Lights Out Manager (ILOM) 3.0 features that are specific to Oracle's Sun Netra 6000 modular system. This document is written for system administrators, authorized service providers, and users who have experience administering computer systems. This document is available online in the Sun Netra 6000 Modular System Topic Set and as an individual PDF file.

Note – This guide provides instructions for the AC and DC models of the modular system. Most of the topics apply to both models unless otherwise noted. Illustrations show one model or the other and might not match your equipment exactly.

The following topics are covered:

Related Documentation

The modular system documents listed as online are available at:

(http://www.oracle.com/pls/topic/lookup?ctx=E19945-01&id=homepage)

Activity	Title	Format	Location
Late-breaking information	*Sun Netra 6000 Modular System Product Notes*	PDF	Online
Installation	*Sun Netra 6000 AC Modular System Getting Started Guide* *Sun Netra 6000 DC Modular System Getting Started Guide*	Printed, PDF	Shipping kit, Online
	Rack Alignment Template (AC) *Rack Alignment Template* (DC)	Printed, PDF	Shipping kit Online

Activity	Title	Format	Location
	Sun Netra 6000 Modular System Installation Guide	Topic set, PDF	Online
Remote management (ILOM)	*Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for the Sun Netra 6000 Modular System*	Topic set, PDF	Online
Service	*Sun Netra 6000 Modular System Service Guide*	Topic set, PDF	Online
Safety	*Sun Netra 6000 Modular System Safety and Compliance Manual*	PDF	Online
	Important Safety Information for Sun Hardware Systems	Printed	Shipping kit

Additional Oracle Integrated Lights Out Manager (ILOM) documentation is available at:

(http://www.oracle.com/pls/topic/lookup?ctx=E19860-01&id=homepage)

	Title
General ILOM 3.0 information	*Oracle Integrated Lights Out Manager (ILOM) 3.0 Getting Started Guide*
	Oracle Integrated Lights Out Manager (ILOM) 3.0 Concepts Guide
	Oracle Integrated Lights Out Manager (ILOM) 3.0 Web Interface Procedures Guide
	Oracle Integrated Lights Out Manager (ILOM) 3.0 CLI Procedures Guide
	Oracle Integrated Lights Out Manager (ILOM) 3.0 Feature Updates and Release Notes
	Oracle Integrated Lights Out Manager (ILOM) 3.0 Management Protocols Reference Guide
	Oracle Integrated Lights Out Manager (ILOM) CMM Administration Guide for Sun Blade 6000 and Sun Blade 6048 Modular Systems

Documentation, Support, and Training

These web sites provide additional resources:

- Documentation: (http://www.oracle.com/technetwork/documentation/index.html)

- Support: (http://support.oracle.com)
- Training: (http://education.oracle.com)

Understanding Oracle ILOM on the Modular System

The following topics provide information about the Oracle ILOM 3.0 software and describe the Oracle ILOM features that are specific to the modular system.

Note – For a complete discussion of Oracle ILOM 3.0 and its capabilities along with user procedures, refer to the Oracle ILOM 3.0 documentation collection at: (http://www.oracle.com/pls/topic/lookup?ctx=E19860-01&id=homepage)

Related Information

- *Modular System Product Notes*
- "Configuring CMM ILOM" on page 5
- "Administering the Modular System (CMM ILOM)" on page 23
- "Interpreting Sensors" on page 37

Oracle ILOM Overview

Oracle ILOM is included in firmware that is preinstalled on Oracle systems. Oracle ILOM enables you to remotely manage your servers regardless of the state of the host system.

You interact with Oracle ILOM through the Oracle ILOM browser-based web interface or through the Oracle ILOM CLI. You can also configure Oracle ILOM to integrate with other management tools in your datacenter.

In the modular system, Oracle ILOM is preinstalled on the CMM and on the SP of each server module.

Note – To distinguish between Oracle ILOM on the CMM from Oracle ILOM on the server module SPs, this supplement uses the terms *CMM ILOM* and *server module SP ILOM*.

You can use CMM ILOM to do the following:

- Customize your CMM ILOM configuration by creating users, and LDAP, RADIUS, and SNMP services.
- Display and configure chassis components such as power supplies, fans, and NEMs.
- Display and configure server modules that are installed in the chassis.
- Control the power state of modular components.
- View the status of indicators and sensors.
- Receive alerts about system events.

For a complete discussion of Oracle ILOM 3.0 and its capabilities along with user procedures, refer to the Oracle ILOM 3.0 documentation collection at: (http://www.oracle.com/pls/topic/lookup?ctx=E19860-01&id=homepage)

Related Information

- "Oracle ILOM 3.0 Features Specific to the Modular System" on page 2
- "Configuring CMM ILOM" on page 5
- "Administering the Modular System (CMM ILOM)" on page 23
- "Interpreting Sensors" on page 37

Oracle ILOM 3.0 Features Specific to the Modular System

The following Oracle ILOM 3.0 features are product-specific to the modular system.

Server Module Power Allocation

Oracle ILOM 3.0 manages the power allotment to the server and storage modules.

When a server or storage module is powered on, the module requests power from CMM ILOM. CMM ILOM allocates power to the slot, enabling the module to power on. When a module is powered off, the power allotment is returned to CMM ILOM.

If you have a system full of high-powered modules that exceed the permitted power usage, CMM ILOM limits the number of modules that can power on. In such a situation, you can only power on a subset of modules.

Fan Speed Control

CMM ILOM uses ambient temperature readings from the power supplies to determine the lowest fan speed that will maintain appropriate temperatures and to ensure the lowest acoustic levels are attained in a NEBs-compliant environment.

Modular System Oracle ILOM Targets

Oracle ILOM *targets* represent all software and hardware components and services managed by Oracle ILOM. You specify targets when you interact with ILOM.

Targets are identified by a hierarchal path similar to the directories and files of a file system.

The modular system has two top-level ILOM CMM targets that are referred to as *name spaces*:

- `/CMM` – Represents the CMM ILOM space. Use this target to configure CMM ILOM attributes for such things as alerts, clients, the ILOM clock, network addresses, and users.
- `/CH` – Provides component inventory, environmental status, and hardware management at the chassis level. The subtargets under `/CH` correspond to names of the installed hardware components. For example, the subtarget `/CH/BL0` is the name space for component that is installed in slot BL0.

Each target has a set of properties. Properties are the configurable attributes specific to each target.

Related Information

- "Display a List of Targets With Descriptions" on page 26
- "Administering the Modular System (CMM ILOM)" on page 23

- "Interpreting Sensors" on page 37
- "Oracle ILOM Overview" on page 1

Configuring CMM ILOM

The following topics describe some of the common CMM ILOM configuration tasks for the modular system.

Related Information

Logging Into and Out of CMM ILOM

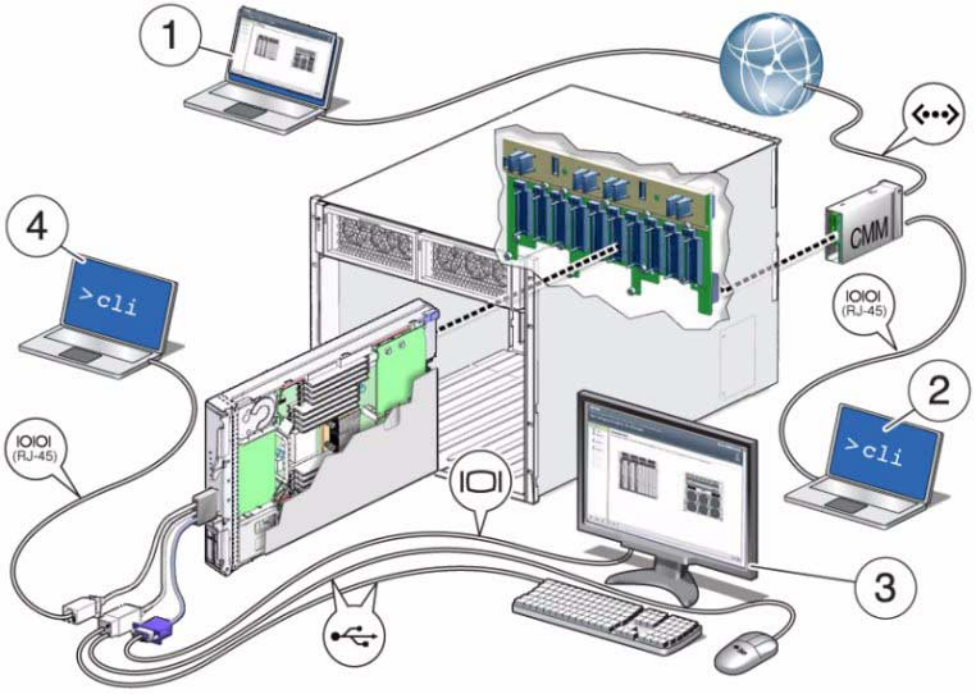
The following topics provide information about connecting to CMM ILOM on the modular system:

Related Information

Connectivity Choices

The following illustration and table show some of the ways you can connect to Oracle ILOM to perform administrative tasks.

Instructions for making cable connections are described in the *Modular System Installation Guide*, connecting to and powering on the modular system.



No.	Source	Destination	Description
1	(Ethernet) CMM NET MGT port	Your network	The CMM Net MGT port is connected to your network. From your network, log into Oracle ILOM on the CMM using the IP address of the CMM. Once logged in, you can navigate to an individual server module SP to administer that server module. You can use the Oracle ILOM CLI or the web interface.

No.	Source	Destination	Description
2	(Serial) CMM SER MGT port	Terminal device	A terminal device is connected to the CMM SER MGT port. From the terminal device, log into Oracle ILOM on the CMM. Once logged in, you can navigate to an individual server module SP to administer that server module. You can only use the Oracle ILOM CLI though this connection. **Note -** To meet NEBs requirements, always use a shielded twisted-pair serial cable.
3	(Local KVM connection) Server module SP UCP port (dongle required)	USB keyboard and mouse, and a VGA monitor	A USB keyboard and mouse are connected to a dongle on the server module. A VGA monitor is connected to the 15-pin dongle connector. You can log into Oracle ILOM on the server module SP using the Oracle ILOM CLI or the web interface.
4	(Serial connection) Server module SP UCP port (dongle required)	Terminal device	A terminal device is connected to a dongle that is connected to a server module. You can log into Oracle ILOM on the server module SP using the CLI.

Related Information

- *Modular System Installation Guide*, connecting to and powering on the modular system
- "Identify Modular System IP and MAC Addresses" on page 15
- "Configure the CMM NET MGT Port With a Static IP Address" on page 16
- "Configure the Modular System IP Addresses Using Your DHCP Server" on page 17
- "Log Into the CMM Through the SER MGT Port" on page 7
- "Log Into the CMM ILOM Through the CMM NET MGT Port" on page 8
- "Log Out of CMM ILOM" on page 9

▼ Log Into the CMM Through the SER MGT Port

Perform this task when you want to perform CMM ILOM tasks though a serial device rather than through your network.

Note – You can only run Oracle ILOM CLI commands through the SER MGT port. You cannot run the Oracle ILOM web interface through the SER MGT port.

1. **Ensure that you have a terminal device connected to the CMM SER MGT port.**

   Refer to *Modular System Installation Guide*, cable the CMM SER MGT port.

   When a terminal device is connected and the modular system is powered on, a login prompt is displayed.

2. **From your terminal device, log into the CMM SER MGT port specifying a valid Oracle ILOM user account and password.**

   The following factory default CMM ILOM account is valid until changed:

   - User account – `root`
   - Password – `changeme`

   This default account has administrator privileges.

   Once you are logged in, you communicate with the CMM using the CMM ILOM CLI. For additional CLI details, refer to the *Oracle Integrated Lights Out Manager (ILOM) 3.0 CLI Procedures Guide*.

Related Information

- *Modular System Installation Guide*, cable the CMM SER MGT port
- "Performing Common CMM ILOM Configuration Tasks" on page 10
- "Connectivity Choices" on page 6
- "Log Into the CMM ILOM Through the CMM NET MGT Port" on page 8
- "Log Out of CMM ILOM" on page 9
- "User Account Roles" on page 14

▼ Log Into the CMM ILOM Through the CMM NET MGT Port

Perform this task when you want to access the CMM ILOM through your network. You can use the Oracle ILOM web interface or CLI. Topics in this supplement use the CLI. For Oracle ILOM web interface information, refer to the *Oracle Integrated Lights Out Manager (ILOM) 3.0 Web Interface Procedures Guide*.

1. **Ensure that the following conditions are met:**

   - The CMM NET MGT is connected to your network.

     Refer to the *Modular System Installation Guide*, cable the CMM NET MGT port, and to "Identify Modular System IP and MAC Addresses" on page 15.

- An IP address is assigned to the CMM and you know the address.

  Refer to *Modular System Installation Guide*, CMM IP address configuration, and to "Viewing and Configuring IP and MAC Addresses" on page 15.
- You know a valid CMM ILOM account and password.

Note – The default login account is `root` and default password is `changeme`.

---

2. **From your network, use the following syntax followed by the password to log into the CMM ILOM CLI:**

   `ssh` *ilom_user_name@cmm_ip_address*

   Example:

```
$ ssh root@10.7.94.151
Password: CMM_root_password
->
```

   Once you are logged in, the Oracle ILOM -> prompt is displayed. You can perform Oracle ILOM commands that are valid on the CMM. You can also access and administer the modular components.

Related Information

- "Identify Modular System IP and MAC Addresses" on page 15
- "Performing Common CMM ILOM Configuration Tasks" on page 10
- "Connectivity Choices" on page 6
- "Log Into the CMM Through the SER MGT Port" on page 7
- "Log Out of CMM ILOM" on page 9
- "User Account Roles" on page 14

▼ Log Out of CMM ILOM

- **Type:**

```
-> exit
Connection to 10.6.153.33 closed.
```

You are logged out of CMM ILOM.

Related Information

- "Connectivity Choices" on page 6

Performing Common CMM ILOM Configuration Tasks

The following topics describe some of the common activities you perform to configure CMM ILOM for your modular system.

Related Information

▼ Change the CMM ILOM `root` Account Password

1. **Log into the CMM ILOM `root` account.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Perform the following Oracle ILOM command to change the password:**

```
-> set /CMM/users/root password=new_password
```

   For more information about creating new Oracle ILOM user accounts and assigning a role (privileges) to a user account, refer to Oracle ILOM documentation.

Related Information

- "Add a User Account and Assign Privileges" on page 12
- "Display Active Oracle ILOM CMM Sessions" on page 11

▼ Display the CMM Firmware Version

This topic describes how to display the version of CMM ILOM firmware that is running on your modular system. For details on how to update the firmware, refer to *Modular System Product Notes*.

1. **Log into CMM ILOM as any valid user.**

   "Logging Into and Out of CMM ILOM" on page 5.

2. **View the CMM ILOM version information.**

```
-> version
CMM firmware 3.0.6.11
CMM firmware build number: 51292
CMM firmware date: Mon Jan 04 11:01:21 PST 2010
CMM filesystem version: 0.1.22
->
```

Related Information

- *Modular System Product Notes*, firmware updates

▼ Display Active Oracle ILOM CMM Sessions

1. **Log into CMM ILOM as any valid user.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Display active sessions.**

```
-> show /CMM/sessions

 /CMM/sessions
    Targets:
        5 (current)

    Properties:
```

```
    Commands:
        cd
        show
```

Related Information

- "Add a User Account and Assign Privileges" on page 12

▼ Add a User Account and Assign Privileges

You can either configure local accounts as described in this topic, or you can have Oracle ILOM authenticate accounts against a remote user database, such as Active Directory, LDAP, LDAP/SSL, or RADIUS. With remote authentication, you can use a centralized user database rather than configuring local accounts on each Oracle ILOM instance. Refer to Oracle ILOM documentation for information about creating remote accounts.

1. **Log into CMM ILOM as** `root`**.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Create the user account and assign the password.**

```
-> create /CMM/users/nightop
Creating user...
Enter new password: ********
Enter new password again: ********
Created /CMM/users/nightop
```

3. **Display the user accounts:**

```
-> show /CMM/users

 /CMM/users
    Targets:
        root
        nightop
```

4. **Assign roles to the user account using the following syntax.**

   By default, new user accounts are assigned the role of Read only (o). See "User Account Roles" on page 14.

   `set /SP/users/`*`username`* `role=[aucr]`

   Example:

```
-> set /CMM/users/nightop role=ur
Set 'role' to 'ur'

-> show /CMM/users/nightop

 /CMM/users/nightop
    Targets:
        ssh

    Properties:
        role = uro
        password = *****
```

Related Information

- "User Account Roles" on page 14
- "Logging Into and Out of CMM ILOM" on page 5

User Account Roles

Role	Description
Admin (a)	Authorized to view and change the state of all Oracle ILOM configuration variables.
Console (c)	Authorized to create and delete user accounts, change user passwords, change roles assigned to other users, and enable or disable the physical-access requirement for the default user account. This role also includes authorization to set up LDAP, LDAP/SSL, RADIUS, and Active Directory.
Read Only (o)	Authorized to access the Oracle ILOM Remote Console and the SP console, and to view and change the state of the Oracle ILOM console configuration variables.
User Management (u)	Authorized to operate the system, which includes power control, reset, hot-plug, enabling and disabling components, and fault management.
Reset and Host Control (r)	Authorized to view the state of the Oracle ILOM configuration variables without making any changes. Users assigned this role can also change the password and the Session Time-Out setting for their own user account.

Related Information

- "Add a User Account and Assign Privileges" on page 12
- "Logging Into and Out of CMM ILOM" on page 5
- "Reset the CMM" on page 14

▼ Reset the CMM

1. **Log into the CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Reset the CMM:**

```
-> reset /CMM
```

Related Information

- "Administering the Modular System (CMM ILOM)" on page 23

Viewing and Configuring IP and MAC Addresses

The following topics describe how to view and set modular system IP and MAC addresses:

- "Identify Modular System IP and MAC Addresses" on page 15
- "Configure the CMM NET MGT Port With a Static IP Address" on page 16
- "Configure the Modular System IP Addresses Using Your DHCP Server" on page 17

Related Information

- "Managing the CMM Clock" on page 19
- "Logging Into and Out of CMM ILOM" on page 5
- "Performing Common CMM ILOM Configuration Tasks" on page 10

▼ Identify Modular System IP and MAC Addresses

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Display the CMM network information:**

```
-> show /CMM/network

 /CMM/network
    Targets:
        test

    Properties:
        commitpending = (Cannot show property)
        dhcp_server_ip = none
        ipaddress = 10.7.95.153
        ipdiscovery = static
        ipgateway = 10.7.95.254
        ipnetmask = 255.255.255.0
        macaddress = 00:21:28:3E:2B:B6
        pendingipaddress = 10.7.95.153
        pendingipdiscovery = static
```

```
        pendingipgateway = 10.7.95.254
        pendingipnetmask = 255.255.255.0
        state = enabled
        switchconf = port0
```

3. Display server module SP network information:

```
-> show /CH/BLx/SP/network

 /CH/BL0/SP/network
    Targets:

    Properties:
        type = Network Configuration
        commitpending = (Cannot show property)
        ipaddress = 10.7.95.155
        ipdiscovery = static
        ipgateway = 10.7.95.254
        ipnetmask = 255.255.255.0
        macaddress = 00:21:28:14:F6:5B
        pendingipaddress = 10.7.95.155
        pendingipdiscovery = static
        pendingipgateway = 10.7.95.254
        pendingipnetmask = 255.255.255.0
        state = enabled
```

Related Information

- "Connectivity Choices" on page 6
- "Configure the CMM NET MGT Port With a Static IP Address" on page 16
- "Configure the Modular System IP Addresses Using Your DHCP Server" on page 17

▼ Configure the CMM NET MGT Port With a Static IP Address

Use this task to assign a static IP address to the CMM NET MGT port. Alternatively, you can use DHCP services to dynamically assign the IP address as described in "Configure the Modular System IP Addresses Using Your DHCP Server" on page 17.

Note – When the CMM is configured with a static IP address, the CMM no longer broadcasts for a DHCP address.

---

1. **Log into the CMM SER MGT port with an account that has administrator privileges.**

   See "Log Into the CMM Through the SER MGT Port" on page 7.

2. **Access the CMM network directory:**

```
-> cd /CMM/network
```

3. **Specify the IP, netmask, and gateway addresses for the CMM ILOM:**

```
-> set pendingipaddress=static_IP_address
-> set pendingipnetmask=static_netmask_address
-> set pendingipgateway=ip_gateway_address
-> set pendingipdiscovery=static
```

4. **Commit the changes:**

```
-> set commitpending=true
```

Related Information

- "Connectivity Choices" on page 6
- "Identify Modular System IP and MAC Addresses" on page 15
- "Configure the Modular System IP Addresses Using Your DHCP Server" on page 17

▼ Configure the Modular System IP Addresses Using Your DHCP Server

This task uses your DHCP server to dynamically assign the CMM NET MGT port IP address. Alternatively, you can assign a static IP address as described in "Configure the CMM NET MGT Port With a Static IP Address" on page 16.

Note – Once you configure the modular system with a static IP address, the modular system no longer broadcasts to receive an IP address from a DHCP server.

---

1. **Verify that your DHCP server is configured to accept new MAC addresses.**
2. **Verify that the CMM NET MGT port is cabled to your network.**

3. **Ensure that the CMM is configured to use DHCP services.**

   By default, the modular system is configured to use DHCP services. If you want to check and set the configuration, perform the following steps.

   a. **Log into the CMM SER MGT port with an account that has administrator privileges.**

      See "Log Into the CMM Through the SER MGT Port" on page 7.

   b. **Check the configuration.**

      View the `ipdiscovery` property. This property must be set to `dhcp` to use DHCP services.

```
-> show /CMM/network

 /CMM/network
    Targets:
        test

    Properties:
        commitpending = (Cannot show property)
        dhcp_server_ip = none
        ipaddress = 10.7.95.153
        ipdiscovery = static
        ipgateway = 10.7.95.254
        ipnetmask = 255.255.255.0
        macaddress = 00:21:28:3E:2B:B6
        pendingipaddress = 10.7.95.153
        pendingipdiscovery = static
        pendingipgateway = 10.7.95.254
        pendingipnetmask = 255.255.255.0
        state = enabled
        switchconf = port0
```

   c. **If the `ipdiscovery` property is not set to `dhcp`, set it.**

```
-> cd /CMM/network
-> set pendingipdiscovery=dhcp
-> set commitpending=true
```

4. **Apply power to the modular system or reset the CMM.**

   See "Reset the CMM" on page 14.

   The modular system automatically broadcasts to receive an IP address from a DHCP server.

Related Information

- "Connectivity Choices" on page 6
- "Identify Modular System IP and MAC Addresses" on page 15
- "Configure the CMM NET MGT Port With a Static IP Address" on page 16

Managing the CMM Clock

The following topics describe how to configure the CMM ILOM clock.

- "Display the CMM Clock" on page 19
- "Configure the CMM Clock to Use NTP Servers" on page 20
- "Set the CMM Clock Manually" on page 21

Related Information

- "Logging Into and Out of CMM ILOM" on page 5
- "Performing Common CMM ILOM Configuration Tasks" on page 10

▼ Display the CMM Clock

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Display the clock setting:**

```
-> show /CMM/clock

 /CMM/clock
    Targets:

    Properties:
        datetime = Wed Jan 27 18:46:27 2010
        timezone = GMT (GMT)
        usentpserver = disabled

    Commands:
        cd
        set
        show
```

Related Information

- "Configure the CMM Clock to Use NTP Servers" on page 20
- "Set the CMM Clock Manually" on page 21

▼ Configure the CMM Clock to Use NTP Servers

You can configure the CMM to have an NTP server automatically set the CMM clock.

Note – NTP servers provide UTC time. Therefore, if NTP is enabled on the CMM ILOM, the CMM ILOM clock is set to UTC time.

---

1. **Log into the CMM ILOM `root` account.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Configure the CMM to obtain its time setting from NTP servers by using the following syntax:**

   `set /CMM/clients/ntp/server/`*n* `address=`*ntpserver_IP_address*

   `set /CMM/clock/usentpserver=enabled`

   - *n* is either `1` for the first NTP server or `2` for the second NTP server.
   - *ntpserver_IP_address* is the IP address of an NTP server on your network.

   Example:

```
-> set /CMM/clients/ntp/server/1 address=125.128.84.16
-> set /CMM/clients/ntp/server/2 address=125.128.84.17
-> set /CMM/clock/usentpserver=enabled
```

Note – After you enable the NTP service, it can take up to five minutes for the clock to synchronize.

Related Information

- "Display the CMM Clock" on page 19
- "Set the CMM Clock Manually" on page 21

▼ Set the CMM Clock Manually

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Ensure that the CMM clock is configured for manual setting:**

```
-> set /CMM/clock/usentpserver=disabled
```

3. **Set the CMM clock using the following syntax:**

   `set /CMM/clock datetime=`*MMDDhhmmYYYY*

   where:

   - *MM* – month
   - *DD* – day
   - *hh* – hour
   - *mm* – minutes
   - *YYYY* – year

   The following example sets the CMM clock to January 11, 2010, 9:33 am.

```
-> set /CMM/clock datetime=011109332010
```

Related Information

- "Display the CMM Clock" on page 19
- "Configure the CMM Clock to Use NTP Servers" on page 20

Administering the Modular System (CMM ILOM)

The following topics describe common modular system administrative activities that you perform using CMM ILOM.

Related Information

- "Understanding Oracle ILOM on the Modular System" on page 1
- "Configuring CMM ILOM" on page 5
- "Interpreting Sensors" on page 37

Managing the Chassis Using the CLI

The following topics describe how to use the CMM ILOM CLI to perform common administrative tasks.

Related Information

- "Accessing Server Modules (CMM ILOM)" on page 32

▼ View Chassis Components

For the modular system, targets under the `/CH` space represent the components.

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Access the chassis space and display the modular system components.**

   The following example shows output of a typical modular system.

```
-> cd /CH
/CH
-> show
 /CH
    Targets:
        BL0
        BL1
        BL2
        BL3
        BL4
        BL6
        BL7
        BL8
        BL9
        CMM
        FM0
        FM1
        FM2
        FM3
        FM4
        FM5
        MIDPLANE
        NEM0
        PS0
        PS1
        HOT
        LOCATE
        OK
        SERVICE
        TEMP_FAULT
        T_AMB0
        VPS
```

```
    Properties:
        type = Chassis
        ipmi_name = /CH
        chassis_name = SUN NETRA 6000 MODULAR SYSTEM
        chassis_part_number = 541-3789-01
        chassis_serial_number = 0925BD161D
        chassis_manufacturer = SUN MICROSYSTEMS
        product_name = SUN NETRA 6000 MODULAR SYSTEM
        product_part_number = 541-4254-01
        product_serial_number = 0925BD161D
        product_manufacturer = SUN MICROSYSTEMS
        fru_serial_number = 1005LCB-0918YK00PR
        fault_state = OK
        clear_fault_action = (none)
        power_state = On

    Commands:
        cd
        set
        show
        start
        stop
```

3. **View the items under** `Properties` **for information about the target.**

4. **View information about subtargets.**

   Either navigate to the subtarget, or specify the subtarget with the `show` command.

   - Navigate to the subtarget.

     Example:

```
-> cd NEM0
/CH/NEM0

-> show

 /CH/NEM0
    Targets:
        PRSNT

    Properties:
        type = Network Express Module
        ipmi_name = NEM0
        fault_state = OK
        clear_fault_action = (none)

    Commands:
```

```
        cd
        set
        show
```

- Type the `show` command and specify the subtarget.

  Example:

```
-> show NEM0

 /CH/NEM0
    Targets:
        PRSNT

    Properties:
        type = Network Express Module
        ipmi_name = NEM0
        fault_state = OK
        clear_fault_action = (none)

    Commands:
        cd
        set
        show
```

Related Information

- "Display a List of Targets With Descriptions" on page 26
- *Modular System Installation Guide,* modular system overview

▼ Display a List of Targets With Descriptions

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Type:**

```
-> help targets

Target                                  Meaning

/                                       Hierarchy Root
/CH                                     Sensors, Indicators, and FRU Information
/CMM                                    Chassis Monitoring Module
/CMM/alertmgmt                          Alert rule management
/CMM/alertmgmt/rules                    Alert rules
```

```
/CMM/check_physical_presence            Require a physical presence check for
certain system commands
/CMM/cli                                 Command line interface
/CMM/clients                            Clients that connect to external services
.
.
.       < remaining output omitted>
```

Related Information

- *Modular System Installation Guide*, modular system overview

Modular System Installation Guide, modular system overview

- "View Chassis Components" on page 24

▼ Display Component Information

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Use the Oracle ILOM `show` command with a target.**

   The following example displays information about a server module in slot BL4:

```
-> show /CH/BL4

 /CH/BL4
    Targets:
        ERR
        PRSNT
        STATE
        VPS
        SP
        SYS

    Properties:
        type = Blade
        ipmi_name = BL4
        product_name = SUN NETRA X6270 SERVER MODULE
        product_part_number = 000-0000-00
        product_serial_number = 0000000000
        fru_name = ASSY,BLADE,X6270
        fru_part_number = 501-7918-09
        fru_serial_number = 0328MSL-09174Y01GX
        fru_extra_1 = FW 3.0.6.10
        fault_state = OK
        clear_fault_action = (none)
```

Related Information

- "View Chassis Components" on page 24
- "Display Indicator Information" on page 28
- "Display Sensor Information" on page 28

▼ Display Indicator Information

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Use the Oracle ILOM `show` command with a target.**

   The following example displays information about the Service indicator:

```
-> show SERVICE

 /CH/SERVICE
    Targets:

    Properties:
        type = Indicator
        ipmi_name = SERVICE
        value = Off
```

Related Information

- "Display Component Information" on page 27
- "Display Sensor Information" on page 28

▼ Display Sensor Information

Note – For detailed sensor information, see "Interpreting Sensors" on page 37.

---

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Use the Oracle ILOM `show` command with a target.**

   The following example displays information about a temperature sensor (`T_AMB0`):

```
-> show /CH/T_AMB0

 /CH/T_AMB0
    Targets:

    Properties:
        type = Temperature
        ipmi_name = T_AMB0
        class = Threshold Sensor
        value = 30.000 degree C
        upper_nonrecov_threshold = N/A
        upper_critical_threshold = N/A
        upper_noncritical_threshold = N/A
        lower_noncritical_threshold = N/A
        lower_critical_threshold = N/A
        lower_nonrecov_threshold = N/A
        alarm_status = cleared
```

Related Information

- "Interpreting Sensors" on page 37
- "View Chassis Components" on page 24
- "Display Component Information" on page 27
- "Display Indicator Information" on page 28

▼ Display the Modular System Event Log

Note – The CMM ILOM tags all events or actions with `LocalTime=GMT` (or UDT). Browser clients show these events in local time, which can cause apparent discrepancies in the event log.

---

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Display the system event log.**

```
-> show /CMM/logs/event/list

  /CMM/logs/event/list
```

```
    Targets:

    Properties:

    Commands:
        cd
        show

ID     Date/Time                  Class     Type      Severity
-----  -------------------------  --------  --------  --------
808    Wed Jan 6 20:09:21 2010 IPMI      Log       critical
       ID =  2df : pre-init timestamp : Module/Board : BL0/STATE :
 Transition to Running
807    Wed Jan 6  20:08:51 2010 IPMI      Log       critical
       ID =  2de : pre-init timestamp : Module/Board : BL0/STATE :
 Transition to Power Off
806    Wed Jan 6 20:05:48 2010 Fault     Repair    minor
       Fault fault.chassis.device.fail on component /CH/BL0 cleared
805    Won Jan 4 20:05:48 2010 IPMI      Log       critical
       ID =  2dd : pre-init timestamp : OEM sensor : BL0/ERR :
 Predictive Failure Deasserted
804    Wed Jan 6 19:59:10 2010 IPMI      Log       critical
       ID =  2dc : pre-init timestamp : Module/Board : BL0/STATE :
 Transition to Running
803    Wed Jan 6 19:58:39 2010 IPMI      Log       critical
      ID =  2db : pre-init timestamp : Module/Board : BL0/STATE : Transition to
        Power Off
802    Wed Jan 6 19:55:21 2010 Fault     Fault     critical
       Fault detected at time = Wed Apr  5 19:55:21 1972.
  The suspect component:
        /CH/BL0 has fault.chassis.device.fail with probability=100.
Paused: press any key to continue, or 'q' to quit
```

3. **Control the display with the following keys:**
   - Scroll down – Type any key except `q`.
   - Stop displaying the event log – Type `q`.

Related Information

- "Clear the Modular System Event Log" on page 30

▼ Clear the Modular System Event Log

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Clear the event log.**

```
-> set clear=true
Are you sure you want to clear /CMM/logs/event (y/n)? y
Set 'clear' to 'true'
```

Related Information

- "Display the Modular System Event Log" on page 29

▼ Control the Locate LED

You can illuminate the white modular system Locate LED to help you find a particular device in a crowded equipment room.

Note – You can also control the Locate LED by pressing the Locate LED toggle button on the chassis. Typically you turn on the Locate LED from CMM ILOM. When you identify the modular system in your data center, you manually turn off the Locate LED.

---

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Perform one of the following commands:**

   - Turn on the Locate LED:

```
-> set /CH/LOCATE value=Fast_Blink
```

   - Turn off the Locate LED:

```
-> set /CH/LOCATE value=Off
```

Related Information

- "Shut Down the Chassis" on page 32
- "Restart the Chassis" on page 32

▼ Shut Down the Chassis

Caution – Do not shut down the chassis unless all the server modules in the chassis are shut down. Shutting down the chassis when server modules are not shut down can damage chassis components and the server modules.

This command shuts down the entire chassis, including fans, power supplies, and all server modules.

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Type:**

```
-> stop /CH
```

Related Information

- "Restart the Chassis" on page 32
- "Reset the CMM" on page 14

▼ Restart the Chassis

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Type:**

```
-> start /CH
```

Related Information

- "Shut Down the Chassis" on page 32
- "Reset the CMM" on page 14

Accessing Server Modules (CMM ILOM)

You can access Oracle ILOM running on the server module SPs through CMM ILOM.

The following topics discuss how to access server modules from CMM ILOM. For more comprehensive topics, refer to the Oracle ILOM documentation.

- "Access Oracle ILOM on a Server Module SP" on page 33
- "Exit From the Server Module Service Processor" on page 34
- "Change the Server Module Network Configuration" on page 34

Related Information

- "Managing the Chassis Using the CLI" on page 23

▼ Access Oracle ILOM on a Server Module SP

You must know the server module SP password to perform this task.

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Navigate to the desired server module SP.**

   Server modules are identified by their chassis slot ID (0–9). Using the following example, replace the *n* with the number of your server module.

```
-> cd /CH/BLn/SP/cli
/CH/BL2/SP/cli
```

3. **Initiate the connection and type the server module SP password.**

Note – The CMM ILOM logs into the server module SP using the user name in the user target under `/CH/BLn/SP/cli` (where *n* is the server module number). The default is `root`.

```
-> start
Are you sure you want to start /CH/BL2/SP/cli (y/n)? y
Password:  server_mod_SP_password
...

->
```

You are accessing the Oracle ILOM on the server module SP. Refer to the server module documentation for valid Oracle ILOM commands.

Related Information

- "Exit From the Server Module Service Processor" on page 34
- "Change the Server Module Network Configuration" on page 34

▼ Exit From the Server Module Service Processor

- **If you are connected to a server module SP, perform this task to exit.**

```
-> exit
Connection to 10.6.153.33 closed.

->
```

You are returned to CMM ILOM.

Related Information

- "Access Oracle ILOM on a Server Module SP" on page 33

▼ Change the Server Module Network Configuration

You can configure the Ethernet addressing of a server module's SP through CMM ILOM.

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Navigate to the server module SP network space:**

```
-> cd /CH/BLn/SP/network
```

   Replace *n* with the slot number of the server module.

3. **Set the server module SP network parameters according to your networking environment.**

   - Example of setting the server module SP with static IP addressing:

```
-> set pendingipaddress=server_mod_SP_IP_address
```

```
-> set pendingipnetmask=server_mod_SP_netmask_addr
-> set pendingipgateway=server_mod_SP_gateway_addr
-> set pendingipdiscovery=static
```

- Example of setting the server module SP to use DHCP:

```
-> set pendingipdiscovery=dhcp
```

4. Commit your changes.

```
-> set commitpending=true
```

Related Information

- "Access Oracle ILOM on a Server Module SP" on page 33
- "Exit From the Server Module Service Processor" on page 34

Interpreting Sensors

The following topics describe the modular system sensors.

Related Information

- "Understanding Oracle ILOM on the Modular System" on page 1
- "Configuring CMM ILOM" on page 5
- "Administering the Modular System (CMM ILOM)" on page 23

Sensor Overview

The modular system is equipped with a number of IPMI-compliant sensors that measure voltages, temperatures, fan speeds, and other attributes. Sensors also detect when components are installed and removed.

CMM ILOM regularly polls the sensors and reports any events about sensor state changes or threshold crossings to the Oracle ILOM event log. If sensors detect a condition that indicates that service might be required, Oracle ILOM illuminates modular system LEDs.

You can view sensor readings from the Oracle ILOM web interface or CLI.

There are two types of sensors:

Type	Description	Information Displayed
Discrete	Displays a single value from a set of possible values.	Targets – If applicable, subsensors are listed. Properties: • Type – Describes the sensor type. • Class – Indicates if the sensor is discrete or a threshold sensor. • Value – Shows the sensor value.
Threshold	Displays analog readings, such as temperature or voltage levels, and associated thresholds for that reading.	Targets – If applicable, subsensors are listed. Properties: • Type – Describes the sensor type. • Value – A near real-time analog reading from the sensor. • Units – Specifies the units for the value. • Threshold – A definition of the type of threshold.

Related Information

- "Display Sensor Readings (CLI)" on page 38
- "Chassis Sensors" on page 40
- "Fan Sensors" on page 41
- "Power Supply Sensors" on page 42
- "NEM Sensors" on page 44
- "Server Module Sensors" on page 45

▼ Display Sensor Readings (CLI)

1. **Log into CMM ILOM.**

   See "Logging Into and Out of CMM ILOM" on page 5.

2. **Use the following syntax to display sensor data:**

   `show` *target*

   where *target* is the path to the sensor. All chassis sensors are located in the `/CH` space.

   The properties describing the sensor are displayed.

   Example:

```
-> show /CH/FM3/F0/TACH

 /CH/FM3/F0/TACH
    Targets:

    Properties:
        type = Fan
        ipmi_name = FM3/F0/TACH
        class = Threshold Sensor
        value = 3200.000 RPM
        upper_nonrecov_threshold = N/A
        upper_critical_threshold = N/A
        upper_noncritical_threshold = N/A
        lower_noncritical_threshold = N/A
        lower_critical_threshold = N/A
        lower_nonrecov_threshold = N/A
        alarm_status = cleared
```

Note – Alternatively, you can navigate to the target and type the `show` command without any arguments.

Related Information

- "Chassis Sensors" on page 40
- "Fan Sensors" on page 41
- "Power Supply Sensors" on page 42
- "NEM Sensors" on page 44
- "Server Module Sensors" on page 45
- "Sensor Overview" on page 37

Chassis Sensors

The following tables list the chassis sensors.

Sensor	Reading	State	Event	Description
/CH/HOT	0x0001	State Deasserted	No	Indicates that monitored temperatures do not require full fan speed.
	0x0002	State Asserted	No	Indicates that monitored temperatures require increased fan speed.

Sensor	Threshold	Description
/CH/T_AMBO	Value	Reports ambient temperature in the chassis midplane.
	Upper nonrecoverable	
	Upper critical	
	Upper noncritical	
	Lower noncritical	
	Lower critical	
	Lower nonrecoverable	
/CH/VPS	Value	Virtual power sensors that report the total power used by the chassis (the sum of PS0/IN_POWER and PS1/IN_POWER).
	Upper nonrecoverable	
	Upper critical	
	Upper noncritical	
	Lower noncritical	
	Lower critical	
	Lower nonrecoverable	

Related Information

- "Display Sensor Readings (CLI)" on page 38

- "Fan Sensors" on page 41
- "Power Supply Sensors" on page 42
- "NEM Sensors" on page 44
- "Server Module Sensors" on page 45
- "Sensor Overview" on page 37

Fan Sensors

The modular system chassis contains six fan modules, numbered `FM0` to `FM5`. Each module contains two fans, numbered `F0` to `F1`.

Sensor	Threshold	Direction	Event	Description
`/CH/FM`*n*`/F`*n*`/TACH`	Lower nonrecoverable	Assert	Yes	Fan speed has decreased below lower nonrecoverable threshold. Indicates that the fan has failed or has been removed.
	Lower noncritical	Deassert	Yes	Fan speed has returned to normal from lower nonrecoverable. Indicates that the fan has returned to normal or has been replaced.

Sensor	Reading	State	Event	Description
`/CH/FM`*n*`/ERR`	`0x0001`	Predictive Failure Deasserted	No	Indicates that the fan module has not failed.
	`0x0002`	Predictive Failure Asserted	Yes	Indicates that the fan module has failed.

Related Information

- "Display Sensor Readings (CLI)" on page 38
- "Chassis Sensors" on page 40
- "Power Supply Sensors" on page 42
- "NEM Sensors" on page 44
- "Server Module Sensors" on page 45
- "Sensor Overview" on page 37

Power Supply Sensors

The modular system chassis contains two power supply modules, numbered PS0 and PS1. Each power supply module contains two *sides*, numbered S0 and S1.

Note – The power sensors are only accurate when the chassis is drawing a significant amount of power. Under low power conditions, the chassis cannot accurately measure power and reports no reading. Typically, accurate power cannot be reported if the chassis is drawing less than 1500W.

Sensor	Reading	State	Event	Description
/CH/PS*n*/PRST	0x0001	Device Absent	Yes	Power supply is absent.
	0x0002	Device Present	Yes	Power supply is present.
/CH/PS*n*/V_3V3_ERR	0x0001	Predictive Failure Deasserted	No	Indicates that a power supply 3_3V fault has not occurred.
	0x0002	Predictive Failure Asserted	Yes	Indicates that a power supply 3_3V fault has occurred.
/CH/PS*n*/TEMP_WRN	0x0001	Predictive Failure Deasserted	No	Indicates that a power supply ambient temperature has not reached the 50°C to 60°C range.
	0x0002	Predictive Failure Asserted	Yes	Indicates that a power supply ambient temperature has reached the 50ºC to 60ºC range.
/CH/PS*n*/TEMP_ERR	0x0001	Predictive Failure Deasserted	No	Indicates that a power supply temperature fault has not occurred.
	0x0002	Predictive Failure Asserted	Yes	Indicates that a power supply temperature fault has occurred.
/CH/PS*n*/FAN_ERR	0x0001	Predictive Failure Deasserted	No	Indicates that a power supply fan fault has not occurred.
	0x0002	Predictive Failure Asserted	Yes	Indicates that a power supply fan fault has occurred.
/CH/PS*n*/S*n*/V_OUT_OK	0x0001	Predictive Failure Deasserted	No	Indicates that a power supply side fault has not occurred.
	0x0002	Predictive Failure Asserted	Yes	Indicates that a power supply side fault has occurred.

Sensor	Reading	State	Event	Description
/CH/PS*n*/S*n*/V_IN_ERR	0x0001	Predictive Failure Deasserted	No	Indicates that a power supply side fault has not occurred.
	0x0002	Predictive Failure Asserted	Yes	Indicates that a power supply side fault has occurred.
/CH/PS*n*/S*n*/V_12V_ERR	0x0001	Predictive Failure Deasserted	No	Indicates that a power supply side 12V voltage fault has not occurred.
	0x0002	Predictive Failure Asserted	Yes	Indicates that a power supply side 12V voltage fault has occurred.
/CH/PS*n*/S*n*/I_12V_ERR	0x0001	Predictive Failure Deasserted	No	Indicates that a power supply side 12V voltage fault has not occurred.
	0x0002	Predictive Failure Asserted	Yes	Indicates that a power supply side 12V voltage fault has occurred.
/CH/PS*n*/S*n*/I_12V_WRN	0x0001	Predictive Failure Deasserted	No	Indicates that a power supply side 12V current does not exceed 240A for 100 msec.
	0x0002	Predictive Failure Asserted	Yes	Indicates that a power supply side 12V current exceeds 240A for 100 msec.

The following table describes the threshold sensors for power supplies.

Sensor	Description
/CH/PS*n*/IN_POWER	Threshold sensors that report the input (AC) power to the power supplies in Watts.
/CH/PS*n*/OUT_POWER	Threshold sensors that report the output (DC) power from the power supplies in Watts.
/CH/PS*n*/T_AMB	Threshold sensors that report the ambient temperature of the power supply modules.
/CH/PS*n*/V_12V	Threshold sensors that report the power supply module 12V voltage reading.
/CH/PS*n*/V_3V3	Threshold sensors that report the power supply module 3_3V voltage reading.
/CH/PS*n*/I_3V3	Threshold sensors that report the power supply module 3_3V current rating.
/CH/PS*n*/FAN*n*/TACH	Threshold sensors that report the speed of the two fans in the power supply.
/CH/PS*n*/S*n*/I_12V	Threshold sensors that report the power supply side 12V voltage reading.

Related Information

- "Display Sensor Readings (CLI)" on page 38
- "Chassis Sensors" on page 40
- "Fan Sensors" on page 41
- "NEM Sensors" on page 44
- "Server Module Sensors" on page 45
- "Sensor Overview" on page 37

NEM Sensors

The following table lists possible sensors for NEMs (`NEM0` and `NEM1`).

Note – Not all NEMs have all sensors.

Sensor	Reading	State	Event	Description
`NEM`*n*`/PRSNT`	`0x0001`	Device Absent	Yes	NEM is absent.
	`0x0002`	Device Present	Yes	NEM is present.
`NEM`*n*`/STATE`	`0x0001`	Running	Yes	NEM is running.
	`0x0004`	Powered Off	Yes	NEM is powered off.
	`0x0040`	Degraded	Yes	NEM needs to be serviced.
`NEM`*n*`/ERR`	`0x0001`	Predictive Failure Asserted	Yes	NEM has failed.
	`0x0002`	Predictive Failure Deasserted	Yes	NEM has not failed.

Related Information

- "Display Sensor Readings (CLI)" on page 38
- "Chassis Sensors" on page 40
- "Fan Sensors" on page 41
- "Power Supply Sensors" on page 42
- "Server Module Sensors" on page 45
- "Sensor Overview" on page 37

Server Module Sensors

The following tables lists possible sensors for server modules. Not all server modules have all sensors.

Sensor	Reading	State	Event	Description
BL*n*/PRSNT	0x0001	Device Absent	No	Server module is not present.
	0x0002	State Present	No	Server module is present.
BL*n*/STATE	0x0001	Running	No	Server module is running.
	0x0004	Power Off	No	Server module is not powered off.
	0x0020	Off Duty	No	Server module is ready to remove.
BL*n*/ERR	0x0001	Predictive Failure Asserted	Yes	Server module has failed.
	0x0002	Predictive Failure Deasserted	Yes	Server module has not failed.
BL*n*/VPS	n/a	n/a	n/a	Reports the virtual power for the server modules.

Related Information

- "Display Sensor Readings (CLI)" on page 38
- "Chassis Sensors" on page 40
- "Fan Sensors" on page 41
- "Power Supply Sensors" on page 42
- "NEM Sensors" on page 44
- "Sensor Overview" on page 37

Identifying SNMP Trap and PET Event Messages

These topics describe SNMP trap and PET event messages that are generated by devices that Oracle ILOM monitors.

Related Information

- *Oracle Integrated Lights Out Manager (ILOM) 3.0 Management Protocols Reference Guide*

SNMP Traps

SNMP traps are generated by the SNMP agents that are installed on the SNMP devices being managed by Oracle ILOM. Oracle ILOM receives the SNMP traps and converts them into SNMP event messages that appear in the event log.

SNMP Event	SNMP Trap Sent	Sensor Name	Severity	Description
event fault.chassis.device.fail	sunHwTrapIOFault	/CH/NEM	Major	A component in the IO subsystem is suspected of causing a fault.
event fault.chassis.device.fail	sunHwTrapIOFaultCleared	/CH/NEM	Informational	An IO subsystem component fault has been cleared.
Upper critical threshold exceeded	sunHwTrapTempCritThresholdExceeded	/CH/T_AMB /CH/PS*x*/T_AMB	Major	A temperature sensor has reported that its value has gone above an upper critical threshold setting or below a lower critical threshold setting.
Upper critical threshold no longer exceeded	sunHwTrapTempCritThresholdDeasserted	/CH/T_AMB /CH/PS*x*/T_AMB	Informational	A temperature sensor has reported that its value has gone below an upper critical threshold setting or above a lower critical threshold setting.
Upper fatal threshold exceeded	sunHwTrapTempFatalThresholdExceeded	/CH/T_AMB /CH/PS*x*/T_AMB	Critical	A temperature sensor has reported that its value has gone above an upper fatal threshold setting or below a lower fatal threshold setting.

SNMP Event	SNMP Trap Sent	Sensor Name	Severity	Description
Upper fatal threshold no longer exceeded	sunHwTrapTempFatalThresholdDeasserted	/CH/T_AMB /CH/PS*x*/T_AMB	Informational	A temperature sensor has reported that its value has gone below an upper fatal threshold setting or above a lower fatal threshold setting.
Assert	sunHwTrapPowerSupplyError	/CH/P_OVER_WARN	Major	A power supply sensor has detected an error.
Deassert	sunHwTrapPowerSupplyOk	/CH/P_OVER_WARN	Informational	A power supply sensor has returned to its normal state.
Assert	sunHwTrapComponentError	/CH/HOT /CH/PS*x*/S*x*/V_OUT_OK	Major	A sensor has detected an error. This generic *component* trap is generated when the SNMP agent does not recognize the component type.

SNMP Event	SNMP Trap Sent	Sensor Name	Severity	Description
Deassert	sunHwTrapCOmponentOk	/CH/HOT /CH/PS*x*/S*x*/V_OUT_OK	Informational	A sensor has returned to its normal state. This generic *component* trap is generated when the SNMP agent does not recognize the component type.
Lower fatal threshold exceeded	sunHwTrapFanSpeedFatalThresholdExceeded	/CH/PS*x*/FAN*x*/TACH	Critical	A fan speed sensor has reported that its value has gone above an upper fatal threshold setting or below a lower fatal threshold setting.
Lower fatal threshold no longer exceeded	sunHwTrapFanSpeedFatalThresholdDeasserted	/CH/PS*x*/FAN*x*/TACH	Informational	A fan speed sensor has reported that its value has gone below an upper fatal threshold setting or above a lower fatal threshold setting.

PET Event Messages

PET events are generated by systems with ASF or an IPMI baseboard management controller. The PET events provide advance warning of possible system failures.

SNMP Event	SNMP Trap Sent	Sensor Name	Severity	Description
Temperature Upper critical threshold has been exceeded	petTrapTemperatureUpperNonCriticalGoingHigh	/CH/T_AMB /CH/PS*x*/T_AMB	Major	Temperature has increased above upper critical threshold.
Temperature Upper critical threshold no longer exceeded	petTrapTemperatureUpperNonCriticalGoingLowDeassert	/CH/T_AMB /CH/PS*x*/T_AMB	Warning	Temperature has decreased below upper critical threshold.
Temperature Lower fatal threshold has been exceeded	petTrapTemperatureUpperNonRecoverableGoingHigh	/CH/T_AMB /CH/PS*x*/T_AMB	Critical	Temperature has increased above upper nonrecoverable threshold.
Temperature Lower fatal threshold no longer exceeded	petTrapTemperatureUpperNonRecoverableGoingLowDeassert	/CH/T_AMB /CH/PS*x*/T_AMB	Major	Temperature has decreased below upper nonrecoverable threshold.
Temperature sensor ASSERT	petTrapTemperatureStateAssertedAssert	/CH/HOT	Critical	Temperature event occured. Possible cause: CPU is too hot.
Temperature sensor DEASSERT	petTrapTemperatureStateDeassertedAssert	/CH/HOT	Informational	Temperature event occured.
Entity Presence Insert	petTrapEntityPresenceDeviceInsertedAssert	/CH/BL*x*/PRSNT /CH/BL*x*/HDD*x*/PRSNT /CH/BL*x*/FMOD*x*/PRSNT /CH/BL*x*/ESM/PRSNT /CH/NEM*x*/PRSNT /CH/PS*x*/PRSNT	Informational	A device is present or has been inserted.

SNMP Event	SNMP Trap Sent	Sensor Name	Severity	Description
Entity Presence Remove	petTrapEntityPresenceDeviceRemovedAssert	/CH/BL*x*/PRSNT /CH/BL*x*/HDD*x*/PRSNT /CH/BL*x*/FMOD*x*/PRSNT /CH/BL*x*/ESM/PRSNT /CH/NEM*x*/PRSNT /CH/PS*x*/PRSNT	Informational	A device is absent or has been removed.
Module Transition to Running assert	petTrapModuleBoardTransitionToRunningAssert	/CH/BL*x*/STATE /CH/NEM*x*/STATE	Informational	A device has transitioned to the normal running state. For a blade, this indicates that the host has powered on.
Module Transition to In Test assert	petTrapModuleBoardTransitionToInTestAssert	/CH/BL*x*/STATE /CH/NEM*x*/STATE	Informational	A device is in a transitional state. (Only used for NEMs.)
Module Transition to Power Off assert	petTrapModuleBoardTransitionToPowerOffAssert	/CH/BL*x*/STATE /CH/NEM*x*/STATE	Informational	A device has powered off.
Module Transition to On Line assert	petTrapModuleBoardTransitionToOnLineAssert	/CH/BL*x*/STATE /CH/NEM*x*/STATE	Informational	A device is online and ready to enter the running state. (Only used for NEMs.)
Module Transition to Off Line assert	petTrapModuleBoardTransitionToOffLineAssert	/CH/BL*x*/STATE /CH/NEM*x*/STATE	Informational	Unused.
Module Transition to Off Duty assert	petTrapModuleBoardTransitionToOffDutyAssert	/CH/BL*x*/STATE /CH/NEM*x*/STATE	Informational	A device is no longer in use and is ready to be removed.

SNMP Event	SNMP Trap Sent	Sensor Name	Severity	Description
Module Transition to Degraded assert	petTrapModuleBoardTransitionToDegradedAssert	/CH/BL*x*/STATE /CH/NEM*x*/STATE	Informational	A device has entered a state of degraded operation, for example, due to a hardware fault or an overtemperature condition that caused the device to shut itself down.
Module Transition to Power Save assert	petTrapModuleBoardTransitionToPowerSaveAssert	/CH/BL*x*/STATE /CH/NEM*x*/STATE	Informational	Unused.
Module Install Error assert	petTrapModuleBoardInstallErrorAssert	/CH/BL*x*/STATE /CH/NEM*x*/STATE	Informational	Unused.
OEM Reserved reporting Predictive Failure	petTrapOEMPredictiveFailureAsserted 12583937 QUESTION This number was in the C10 doc. Was it supposed to be there?	/CH/BL*x*/ERR /CH/BL*x*/ESM/ERR /CH/NEM*x*/ERR	Major	OEM predictive failure asserted.
OEM Reserved Return to normal	petTrapOEMPredictiveFailureDeasserted	/CH/BL*x*/ERR /CH/BL*x*/ESM/ERR /CH/NEM*x*/ERR	Informational	OEM predictive failure deasserted.
Fan reporting Predictive Failure	petTrapFanPredictiveFailureAsserted	/CH/FM*x*/ERR /CH/PS*x*/FAN_ERR	Major	Fan Predictive Failure detected.
Fan Return to normal	petTrapFanPredictiveFailureDeasserted	/CH/FM*x*/ERR /CH/PS*x*/FAN_ERR	Informational	Fan Predictive Failure state has been cleared.
Voltage reporting Predictive Failure	petTrapVoltagePredictiveFailureAssertedAssert	/CH/PS*x*/V_3V3_ERR /CH/PS*x*/S*x*/V_IN_ERR /CH/PS*x*/S*x*/V_12V_ERR	Major	Voltage Predictive Failure detected.
Voltage Return to normal	petTrapVoltagePredictiveFailureDeassertedAssert	/CH/PS*x*/V_3V3_ERR /CH/PS*x*/S*x*/V_IN_ERR /CH/PS*x*/S*x*/V_12V_ERR	Informational	Predictive failure state due to voltage event has been cleared.

SNMP Event	SNMP Trap Sent	Sensor Name	Severity	Description
Temperature reporting Predictive Failure	petTrapTemperaturePredictiveFailureAsserted	/CH/PS*x*/TEMP_WRN /CH/PS*x*/TEMP_ERR	Major	System is reporting a predictive failure as a result of high temperature.
Temperature Return to normal	petTrapTemperaturePredictiveFailureDeasserted	/CH/PS*x*/TEMP_WRN /CH/PS*x*/TEMP_ERR	Informational	Predictive failure state due to high temperature has been cleared.
Fan Lower fatal threshold has been exceeded	petTrapFanLowerNonRecoverableGoingLow	/CH/PS*x*/FAN*x*/TACH	Critical	Fan speed has decreased below lower nonrecoverable threshold. Fan failed or removed.
Fan Lower fatal threshold no longer exceeded	petTrapFanLowerNonRecoverableGoingHighDeassert	/CH/PS*x*/FAN*x*/TACH	Major	Fan speed has increased above lower nonrecoverable threshold.
Voltage sensor ASSERT	petTrapVoltageStateAssertedAssert	/CH/PS*x*/S*x*/V_OUT_OK	Informational	Voltage event occured.
Voltage sensor DEASSERT	petTrapVoltageStateDeassertedAssert	/CH/PS*x*/S*x*/V_OUT_OK	Informational	Voltage event occured.
Current reporting Predictive Failure	petTrapCurrentPredictiveFailureAsserted	/CH/PS*x*/S*x*/I_12V_ERR /CH/PS*x*/S*x*/I_12V_WRN	Major	Predictive Failure due to electric current conditions.
Current Return to normal	petTrapCUrrentPredictiveFailureDeasserted	/CH/PS*x*/S*x*/I_12V_ERR /CH/PS*x*/S*x*/I_12V_WRN	Informational	Predictive failure caused by electric current conditions.

Glossary

A

ASF Alert standard format.

B

blade Generic term for server modules and storage modules.

blade server Server module.

C

chassis Modular system enclosure.

CMM Chassis monitoring module. Oracle ILOM runs on the CMM providing lights out management of the components in the chassis. See Oracle ILOM.

CMM ILOM Oracle ILOM that runs on the CMM. See Oracle ILOM.

CRU Customer-replaceable unit.

D

disk module or disk blade Interchangeable terms for storage module.

E

ESD Electrostatic discharge.

F

FEM Fabric expansion module. FEMs enable server modules to use the 10GbE connections provided by certain NEMs.

FRU Field-replaceable unit.

FIM Front indicator module.

H

HBA Host bus adapter.

I

ILOM See Oracle ILOM.

Installation Title of the portion of the HTML topic set that corresponds to the PDF book *Sun Netra 6000 Modular System Installation Guide*.

IPMI Intelligent platform management interface.

K

KVM Keyboard, video, mouse. Refers to using a switch to enable sharing of one keyboard, one display, and one mouse with more than one computer.

L

L/R Ratio of inductance to resistance.

M

MAC or MAC address Media access controller address.

MPS Modular power system.

N

name space Top-level ILOM CMM targets.

NEM Network express module. NEMs provide 10/100/1000 Ethernet, SAS connectivity to storage modules, and 10GbE Ethernet ports.

NET MGT port Network management port. An Ethernet port on the CMM and on server module service processors.

NTP Network Time Protocol.

O

Oracle ILOM Oracle Integrated Lights Out Manager (ILOM). Oracle ILOM firmware is preinstalled on a variety of Oracle systems. Oracle ILOM enables you to remotely manage your Oracle servers regardless of the state of the host system.

P

PCI EM PCIe ExpressModule. Modular components that are based on the PCI Express industry-standard form factor and offer I/O features such as Gigabit Ethernet and Fibre Channel.

PET Platform event trap.

PS Power supply, as in device and sensor names, such as `/CH/PS0/PRST`.

power supply side Each of the AC power supplies has an A side and a B side. The major 12V power paths of the two sides are independent. The two sides share a common 3.3V stand-by power output, a diagnostics and control section, and a fan module.

R

REM RAID expansion module. Sometimes referred to as a host bus adapter (HBA). Supports the creation of RAID volumes on disk drives.

Remote Management (ILOM) Title of the portion of the HTML topic set that corresponds to the PDF book *Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for the Sun Netra 6000 Modular System*.

S

SER MGT port Serial management port. A serial port on the CMM and on server modules service processors.

server module Modular component that provides the main compute resources (CPU and memory). Server modules might also have onboard storage, and connectors that hold REMs and FEMs.

Service Title of the portion of the HTML topic set that corresponds to the PDF book *Sun Netra 6000 Modular System Service Manual*.

SNMP Simple Network Management Protocol.

SP Service processor.

storage module Modular component that provides compute storage to the server modules.

U

UCP Universal connector port.

Index

T

U

V