SUPER●®

# X9 SMM IPMI

# User's Guide

Revision 1.0

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Manual Revision 1.0
Release Date: Oct. 25, 2012

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# Preface

## About this User's Guide

This user guide is written for system integrators, PC technicians and knowledgeable PC users who intend to configure the IPMI settings supported by the Renesas SH7757 Baseboad Management Controller (BMC) embedded in Supermicro's motherboards. It provides detailed information on how to configure the IPMI settings supported by the Renesas SH7757 BMC chip.

## User's Guide Organization

**Chapter 1** provides an overview to the IPMI Controller. It also introduces the features and the functionality of IPMI.

**Chapter 2** provides detailed instructions on how to configure the IPMI settings supported by the Renesas SH7757 Controller.

**Appendix A** provides detailed information on Flash Tools.

## Conventions Used in the User's Guide

Special attention should be given to the following symbols for proper IPMI configuration.

**Warning:** Important information given to avoid IPMI configuration errors.

**Note:** Additional Information given to ensure correct IPMI configuration and proper system setup.

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# Notes

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***Preface***

# Chapter 1

# Introduction

## 1-1 An Overview of the Renesas SH7757 BMC Controller

The Renesas SH7757 controller is integrated with a robust set of peripheral functions that are necessary for a Baseboard Management Controller (BMC). The RISC (Reduced Instruction Set Computing) CPU core built into the Renesas SH7757 controller offers the user a superb solution to manage PC server systems with great efficiency.

The Renesas SH7757 BMC supports 256 GB of memory and a speed of up to 576 MHz. The motherboard also supports an additional 32 MB of Flash memory to store the firmware. The controller provides on-chip Memory Management Unit (MMU), which yeilds up to 4 GB of virtual address space.

### Renesas SH7757 Periperal Functions

The Renesas SH7757 supports a variety of functions to manage a system. To enable display redirection and recreation for remote system management, the Renesas SH7757 graphics controller integrates a PCI 3.0 Matrox G200 interface with a video data compressor to support Keyboard/Video/Mouse (KVM). The Renesas SH7757 also supports an I$^2$C bus interface, and LPC bus interface, two ethernet controllers, serial communication interfaces, and USB media hosting.

### Other Renesas SH7757 Subsystem Features Supported

- Network Connections: Two Gigabit connections (one dedicated LAN connection and one shared LAN with an onboard LAN controller)

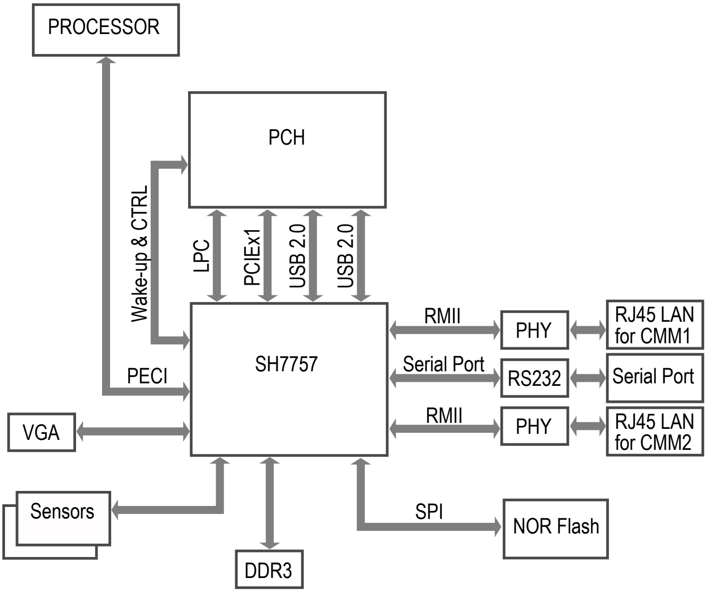
- 1600 x 1200 resolution at 32 bpp (bits per pixel) and 75 Hz

- 1680 x 1050 widescreen resolution at 32bpp and 60 Hz

- Hardware video compression with maximum resolution of 1600 x 1200 with 16-bit color (for KVM)

- Shared-memory type 16 MB frame buffer controller

## 1-2 Block Diagram



The following diagram represents a typical system setup for the Renesas SH7757 Controller.

## 1-3 A Brief Introduction to the IPMI

The Intelligent Platform Management Interface (IPMI) Specification provides remote access to multiple users from different locations for networking. It also allows a system administrator to monitor system health and manage computer events from a remote location.

IPMI operates independently of the operating system. The Renesas SH7757 BMC Controller provides connections between other onboard system components, allowing for network interfacing via remote management. With the Renesas SH7757 Controller and the IPMIView software, an administrator can access, monitor, diagnose and manage a Supermicro computer system from a remote site. It also provides remote access to multiple users from different locations for system maintenance and network management.

## 1-4 Motherboards Supported

The Renesas SH7757 Controller is supported by the motherboards listed below. If your motherboard is not included in the list, please refer to the motherboard product page on our website at www.supermicro.com and download the right BMC/IPMI user's guide for your motherboard.

- X9DRG-QF
- X9DRW-3F
- X9DRW-iF

## 1-5 An Important Note to the User

The graphics shown in this user's guide were based on the latest information available at the time of publishing of this guide. The IPMI screens shown on your computer may or may not look exactly like the screen shown in this user's guide.

# Notes

# Chapter 2

# Configuring the IPMI Settings

Supermicro motherboards, configured with the Renesas SH7757 BMC Controller, allow the user to access, monitor, and manage multiple systems remotely. The necessary firmware for accessing and configuring the IPMI settings are available on Supermicro's website at http://www.supermcro.com/products/nfo/ipmi.cfm. This section provides detailed information on how to configure the IPMI settings.

## 2-1 Configuring BIOS IPMI Settings

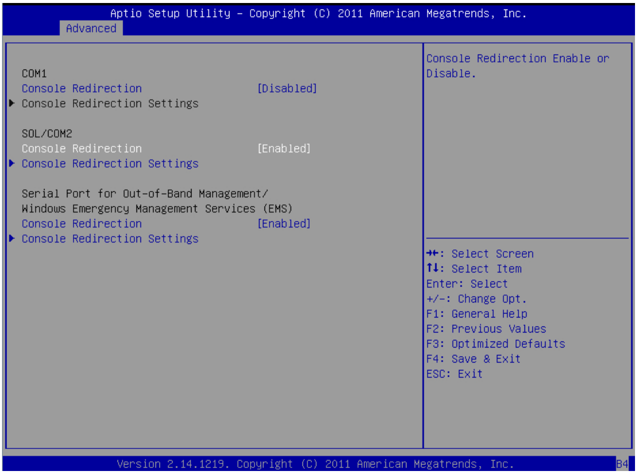
Before configuring IPMI, follow the instructions below to configure the system BIOS settings.

### Enabling COM Port for SOL (IPMI)

1. Press the <Del> key at bootup to enter the BIOS Setup utility.

2. Navigate to the **Advanced** menu, select *Serial Port Console Redirection* and press <Enter>.

3. Make sure that the COM port for SOL (COM2 or COM3) is set to [Enabled], as shown below. If the COM port is set to Disabled, select the port for SOL and press <Enter> to set it to Enabled. (For IPMI to work, console redirection for SOL/COM2 is set to Enabled by default.)



```
            Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
        Advanced

   COM1                                                Console Redirection Enable or
   Console Redirection             [Disabled]          Disable.
 ▶ Console Redirection Settings

   SOL/COM2
   Console Redirection             [Enabled]
 ▶ Console Redirection Settings

   Serial Port for Out-of-Band Management/
   Windows Emergency Management Services (EMS)
   Console Redirection             [Enabled]
 ▶ Console Redirection Settings
                                                       →←: Select Screen
                                                       ↑↓: Select Item
                                                       Enter: Select
                                                       +/-: Change Opt.
                                                       F1: General Help
                                                       F2: Previous Values
                                                       F3: Optimized Defaults
                                                       F4: Save & Exit
                                                       ESC: Exit

              Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.     B4
```

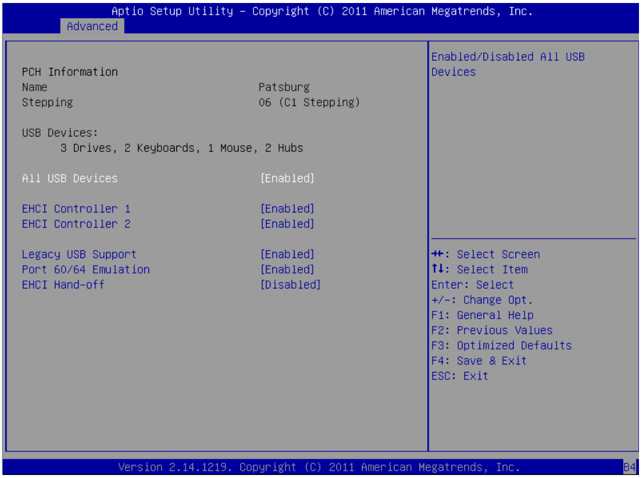
## Enabling All Onboard USB ports

1. Press the <Del> key at bootup to enter the BIOS Setup utility.

2. From the **Advanced** menu, navigate to *Chipset Configuration* and press <Enter>.

3. From the *Chipset Configuration* submenu, select *South Bridge* and press <Enter>.

4. Make sure that *All USB Devices* is set to [Enabled]. If not, select *All USB Devices* and press <Enter> to set as enabled. (This is required for KVM to work properly.)



```
                Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
          Advanced

  PCH Information                                        Enabled/Disabled All USB
  Name                          Patsburg                 Devices
  Stepping                      06 (C1 Stepping)

  USB Devices:
        3 Drives, 2 Keyboards, 1 Mouse, 2 Hubs

  All USB Devices               [Enabled]

  EHCI Controller 1             [Enabled]
  EHCI Controller 2             [Enabled]

  Legacy USB Support            [Enabled]                →←: Select Screen
  Port 60/64 Emulation          [Enabled]                ↑↓: Select Item
  EHCI Hand-off                 [Disabled]               Enter: Select
                                                         +/-: Change Opt.
                                                         F1: General Help
                                                         F2: Previous Values
                                                         F3: Optimized Defaults
                                                         F4: Save & Exit
                                                         ESC: Exit

                Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.      B4
```

## Configuring IP and MAC Addresses Using the BIOS

1. Press the <Del> key at bootup to enter the BIOS Setup Utility.

2. From the **IPMI** menu, navigate to *BMC network configuration* and press <Enter>.

3. Select *Configuration Address Source* and press <Enter> to display the address source options, which are DHCP and Static. If Static is selected, you will need to know the IP address of this computer and enter it to the system manually in the field. If DHCP is selected, the BIOS will search for a DHCP (Dynamic Host Configuration Protocol) server in the network that it is attached to and request the next available IP address for this computer.

The following items are assigned IP addresses automatically if DHCP is selected, or can be configured manually if Static is selected:

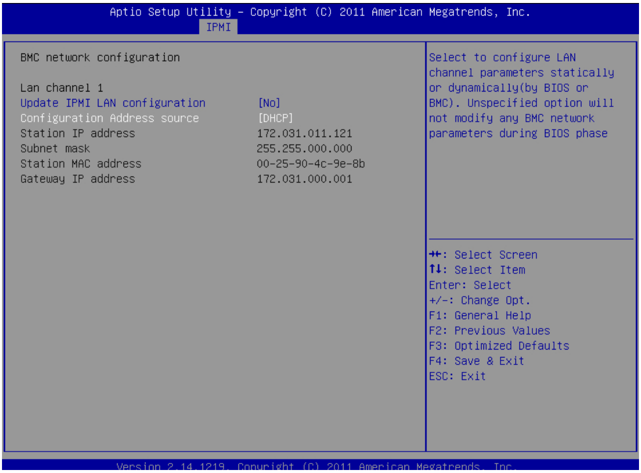
- **Station IP Address:** This item displays the Station IP address for this computer. This should be in decimal and in dotted quad form (i.e., 192.168.10.253).

- **Subnet Mask:** This item displays the sub-network that this computer belongs to. The value of each three-digit number separated by dots should not exceed 255.

- **Station MAC Address:** This item displays the Station MAC address for this computer. Mac addresses are 6 two-digit hexadecimal numbers.

- **Gateway IP Address:** This item displays the Gateway IP address for this computer. This should be in decimal and in dotted quad form (i.e., 192.168.10.253).

4. Make sure that *Update IPMI LAN configuration* is set to Yes. If it is not, select *Update IPMI LAN configuration* and press <Enter> to change the setting to Yes. This will allow any changes made to the Configuration Address Source to take effect at the next system boot.



```
Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
IPMI

BMC network configuration                              Select to configure LAN
                                                       channel parameters statically
Lan channel 1                                          or dynamically(by BIOS or
Update IPMI LAN configuration        [No]              BMC). Unspecified option will
Configuration Address source         [DHCP]            not modify any BMC network
Station IP address                   172.031.011.121   parameters during BIOS phase
Subnet mask                          255.255.000.000
Station MAC address                  00-25-90-4c-9e-8b
Gateway IP address                   172.031.000.001

                                                       →←: Select Screen
                                                       ↑↓: Select Item
                                                       Enter: Select
                                                       +/-: Change Opt.
                                                       F1: General Help
                                                       F2: Previous Values
                                                       F3: Optimized Defaults
                                                       F4: Save & Exit
                                                       ESC: Exit

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```

## Configuring IP/MAC Addresses Using the IPMICFG Utility

1. Go to www.supermicro.com/support and click on **Supermicro FTP Site** (right side of the page).

2. ACCEPT the license agreement and go to **utility > IPMICFG**.

3. Select **DOS** and save a copy of the IPMICFG utility file to a bootble USB.

4. Boot the system into the DOS USB and run the IPMICFG utility.

5. Type IPMICFG and press <Enter> for a list of commands (provided below).

**Note:** For additional IPMI configuration information, see the "readme file included with the IPMICFG utility at the FTP site.

IPMICFG Version 1.35 (Build 2010-04-28) Copyright 2010 Super Micro Computer, Inc. Usage: IPMICFG Parameters (Example: IPMICFG -m 172.31.1.84)

| | |
|---|---|
| -m | Shows IP and MAC |
| -m IP | Sets IP (format: ###.###.###.###) |
| -a MAC | Sets MAC (format: ##:##:##:##:##:##) |
| -k | Shows Subnet Mask |
| -k Mask | Sets Subnet Mask (format: ###.###.###.###) |
| -dhcp | Gets the DHCP status |
| -dhcp on | Enables the DHCP |
| -dhcp off | Disables the DHCP |
| -g | Shows Gateway IP |
| -g IP | Sets Gateway IP (format: ###.###.###.###) |
| -r | BMC cold reset |
| -garp on | Enables the Gratuitous ARP |
| -garp off | Disables the Gratuitous ARP |
| -fd | Resets to the factory defaults |
| -ver | Gets the firmware revision |
| -vlan | Gets VLAN status |
| -vlan on (VLANtag) | Enables the VLAN and sets the VLAN tag (If VLAN tag is not given, it uses previously saved value.) |
| -vlan off | Disables the VLAN |
| -raw | Sends a RAW IPMI request and print the response. Format: NetFn LUN Cmd [Data1...DataN]. |
| -sdr | Shows SDR records and reading |
| -sdr del <SDR ID> | Deletes SDR record |

| | |
|---|---|
| -sdr backup <FILE> | Backups SDR to file |
| -sdr restore <FILE> | Restores SDR from file |
| -sdr ver [<V1><v2>] | Retrieves and sets SDR version (V1, V2) |
| -sel info | Shows SEL info |
| -sel list | Shows SEL records |
| -sel del | Deletes all SEL records |
| -fru info | Shows FRU inventory area info |
| -fru list | Shows all FRU values |
| -fru help | Shows FRU Write help |
| -fru cthelp | Shows chassis type code |
| -fru <Field> | Shows FRU field value |
| -fru <Field> <Value> | Writes FRU |
| -fru backup <File> | Backs up FRU to file |
| -fru restore <File> | Restores FRU from file |
| -fru ver [<V1> <V2>] | Retrieves and sets FRU version (V1, V2) |

## Accessing the Baseboard Management Controller

1. Connect a LAN cable to the dedicated IPMI LAN port or the onboard LAN1 port.

2. Choose a computer connected to the same network and open the IPMIView utility.

3. Go to File > New > System to add a new system.

4. Select the system from the IPMI Domain. Enter the Login ID and Password to login to the IPMIView utility. (The Supermicro default username and password are ADMIN).

## 2-2 Accessing the Remote Server from a Browser on Your Computer

1. Connect a LAN cable to the dedicated IPMI LAN port or the onboard LAN1 port.

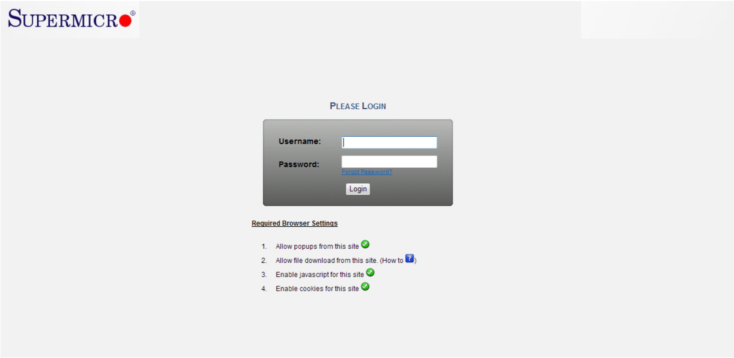
2. Choose a computer that is connected to the same network and open the browser.

3. Enter the IP address of the server that you want to connect to in the address bar of your browser.

4. Once your machine is connected to the remote server, the Log-In screen, as shown on the next page, will display.

## 2.2.1 To Log In

Once you are connected to the remote server, the following screen will display.



Required Browser Settings

1. Allow popups from this site ✓
2. Allow file download from this site. (How to ?)
3. Enable javascript for this site ✓
4. Enable cookies for this site ✓

1. Enter your Username and Password (Supermicro default username and password is ADMIN).

2. Click the Login button to display the main page (shown on the next page).

3. If you forget your password, enter your Username then click on the "Forgot Password?" link. A new password will be generated and sent to the email ID associated with the Username.

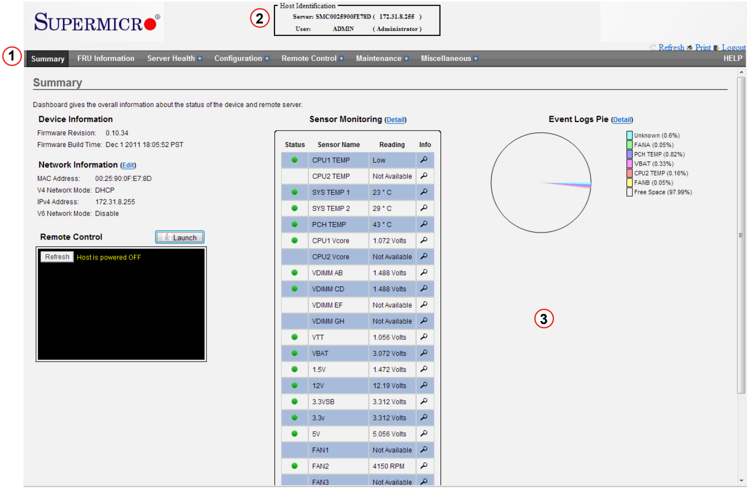
4. The required browser settings are listed below the Login fields. Make sure that all the listed requirements are met before continuing. For further information on these settings, click the "How to ?" link (the blue question mark).

**Note 1**: To use the IPMIView utility to access BMC/IPMI settings, refer to the IPMIView User's Guide for instructions.

**Note 2**: Once you have logged into the BMC using the default password, be sure to change your password for system security.

## 2.2.2 IPMI Main Page

Once you are logged into the IPMI utility, the IPMI Main page will display as shown below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

Summary

Dashboard gives the overall information about the status of the device and remote server.

Device Information
Firmware Revision: 0.10.34
Firmware Build Time: Dec 1 2011 18:05:52 PST

Network Information (Edit)
MAC Address: 00:25:90:0F:E7:8D
V4 Network Mode: DHCP
IPv4 Address: 172.31.8.255
V6 Network Mode: Disable

Remote Control
Host is powered OFF

Sensor Monitoring (Detail)

| Status | Sensor Name | Reading | Info |
|---|---|---|---|
| ● | CPU1 TEMP | Low | 🔍 |
|  | CPU2 TEMP | Not Available | 🔍 |
| ● | SYS TEMP 1 | 23 ° C | 🔍 |
| ● | SYS TEMP 2 | 29 ° C | 🔍 |
| ● | PCH TEMP | 43 ° C | 🔍 |
| ● | CPU1 Vcore | 1.072 Volts | 🔍 |
|  | CPU2 Vcore | Not Available | 🔍 |
| ● | VDIMM AB | 1.488 Volts | 🔍 |
| ● | VDIMM CD | 1.488 Volts | 🔍 |
|  | VDIMM EF | Not Available | 🔍 |
|  | VDIMM GH | Not Available | 🔍 |
| ● | VTT | 1.056 Volts | 🔍 |
| ● | VBAT | 3.072 Volts | 🔍 |
| ● | 1.5V | 1.472 Volts | 🔍 |
| ● | 12V | 12.19 Volts | 🔍 |
| ● | 3.3VSB | 3.312 Volts | 🔍 |
| ● | 3.3v | 3.312 Volts | 🔍 |
| ● | 5V | 5.056 Volts | 🔍 |
|  | FAN1 | Not Available | 🔍 |
| ● | FAN2 | 4150 RPM | 🔍 |
|  | FAN3 | Not Available | 🔍 |

Event Logs Pie (Detail)
Unknown (0.6%)
FANA (0.05%)
PCH TEMP (0.82%)
VBAT (0.33%)
CPU2 TEMP (0.16%)
FANB (0.05%)
Free Space (97.99%)

The IPMI screen contains the following sections:

- The Menu Bar (#1 above)
- The Host Identification Window (#2 above)
- The Main Display area (#3 above)

### *1. Menu Bar*

The menu bar consist of the following menu items:

| Menu Bar | |
|---|---|
| **Summary** | This menu displays system information and a remote console preview. |
| **FRU Information** | This menu displays information from the BMC FRU file. |
| **Server Health** | This menu displays server health monitoring status. |
| **Configuration** | This menu allows the user to configure the IPMI settings. |
| **Remote Control** | This menu allows the user to launch Remote Console, perform power control, or launch SOL console. |
| **Maintenance** | This menu allows the user to update the firmware and BIOS, restore factory defaults, and make changes to the System Admin account. |
| **Miscellaneous** | This menu allows the user to view post snooping codes, view power information, and enable/disable UID. |
| **HELP** | This provides a basic description for each feature on the page. |

Above the HELP menu are several quick button options for the following functions:

- **Refresh** - Click this to refresh the page.
- **Print** - Click this to print the page.
- **Logout** - Click this to logout from the IPMI utility.

### 2. The Host Identification Window

The Host Identification window at the top center of the IPMI screen displays the name and IP address of the host server and the name and privilege level of the logged-in user.

### 3. The Main Display Area

This area displays the body of information associated with a menu selection. The Summary menu, which provides overall information regarding the status of the server, is shown in the main display area after you log in. The following information is included in the Summary menu.

**Device Information**

- Firmware Revision: Displays the current firmware revision number
- Firmware Build Time: Displays the time and the date when this version of firmware was built

**Network Information**

To edit the network information, click Edit. This will bring you to the Network Settings screen in the Configuration submenu. For more information about Network Settings, see section 2.5.9.

- MAC Address: Displays the MAC address of the IPMI
- V4 Network Mode: Displays the v4 network mode (Disable, Static or DHCP) of the IPMI
- IPv4 Address: Displays the IPv4 address of the IPMI (not displayed if V4 Network Mode is disabled)
- V6 Network Mode: Displays the v6 network mode (Disable, Static or DHCP) of the IPMI
- IPv6 Address: Displays the IPv6 address of the IPMI (not displayed if V6 Network Mode is disabled)

### Remote Control

A preview screen of the host server displays in the window of this section. To reload the preview screen, click the Refresh button in the preview window. To redirect and manage the host server remotely, click the Launch button to launch the Java redirection window (JViewer).

### System Overall Health

This section displays the status and reading of all available sensors on the server. The Status column will display one of the following three states:

- 🟢 = Normal State
- ⚠ = Warning State
- ❌ = Critical State

For more detailed information about the sensors, click the *Detail* link. For information on a specific sensor, click the magnifying glass icon next to the sensor.

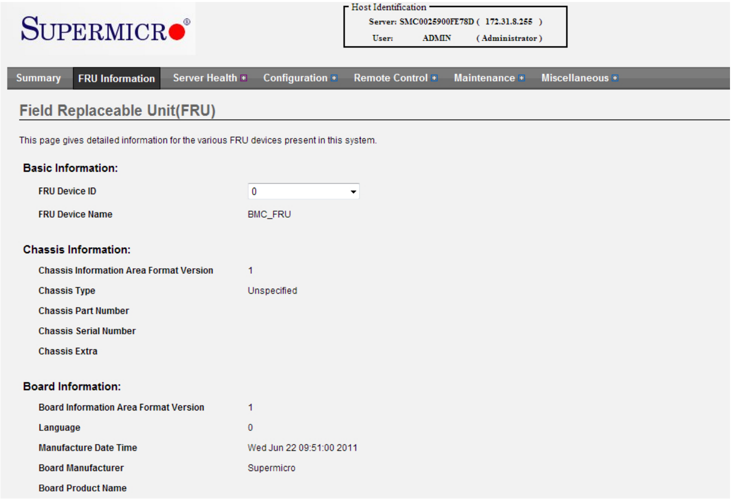
> **Note:** The Details link and the magnifying glass icon will jump you to the Sensor Readings page (Server Health > Sensor Readings). See section 2.4.1. for more information.

### Event Logs Pie

This section displays a pie chart illustration of all events detected by the sensors as well as the available space remaining in logs. To view a list of events for a specific item, click the corresponding color-coded rectangle.

## 2.3 FRU Information

This feature allows the user to view the contents of the BMC FRU file. Click *FRU Information* in the menu bar to display a screen similar to the one shown below.



Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

Field Replaceable Unit(FRU)

This page gives detailed information for the various FRU devices present in this system.

Basic Information:

| | |
|---|---|
| FRU Device ID | 0 |
| FRU Device Name | BMC_FRU |

Chassis Information:

| | |
|---|---|
| Chassis Information Area Format Version | 1 |
| Chassis Type | Unspecified |
| Chassis Part Number | |
| Chassis Serial Number | |
| Chassis Extra | |

Board Information:

| | |
|---|---|
| Board Information Area Format Version | 1 |
| Language | 0 |
| Manufacture Date Time | Wed Jun 22 09:51:00 2011 |
| Board Manufacturer | Supermicro |
| Board Product Name | |

The FRU Information menu contains the following items:

### Basic Information

- FRU Device ID: Choose the desired device ID from the drop-down list.
- FRU Device Name: Displays the name of the FRU device selected.

### Chassis Information

- Chassis Information Area Format Version
- Chassis Type
- Chassis Part Number
- Chassis Serial Number
- Chassis Extra

### Board Information

- Board Information Area Format Version
- Language
- Manufacture Date Time
- Board Manufacturer
- Board Product Name
- Board Serial Number
- Board Part Number
- FRU File ID
- Board Extra

### Product Information

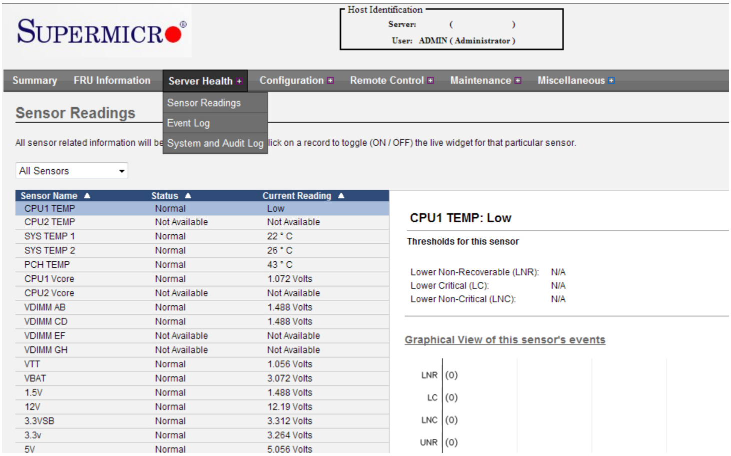
- Product information Area Format Version
- Language
- Manufacturer Name
- Product Name
- Product Part Number
- Product Version
- Product Serial Number
- Asset Tag
- FRU File ID
- Product Extra

## 2.4 Server Health

This feature allows the user to view Server Health Information. The Server Health submenu contains the following items:

- Sensor Readings
- Event Log
- System and Audit Log

Click *Server Health* to display the submenu as shown below.



Host Identification
Server: ( )
User: ADMIN ( Administrator )

Sensor Readings

All sensor related information will be lick on a record to toggle (ON / OFF) the live widget for that particular sensor.

All Sensors

| Sensor Name ▲ | Status ▲ | Current Reading ▲ |
|---|---|---|
| CPU1 TEMP | Normal | Low |
| CPU2 TEMP | Not Available | Not Available |
| SYS TEMP 1 | Normal | 22 ° C |
| SYS TEMP 2 | Normal | 26 ° C |
| PCH TEMP | Normal | 43 ° C |
| CPU1 Vcore | Normal | 1.072 Volts |
| CPU2 Vcore | Not Available | Not Available |
| VDIMM AB | Normal | 1.488 Volts |
| VDIMM CD | Normal | 1.488 Volts |
| VDIMM EF | Not Available | Not Available |
| VDIMM GH | Not Available | Not Available |
| VTT | Normal | 1.056 Volts |
| VBAT | Normal | 3.072 Volts |
| 1.5V | Normal | 1.488 Volts |
| 12V | Normal | 12.19 Volts |
| 3.3VSB | Normal | 3.312 Volts |
| 3.3v | Normal | 3.264 Volts |
| 5V | Normal | 5.056 Volts |

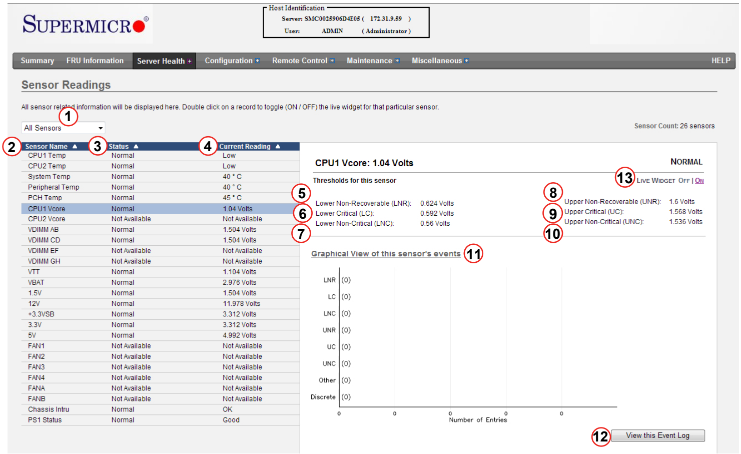
CPU1 TEMP: Low

Thresholds for this sensor

| | |
|---|---|
| Lower Non-Recoverable (LNR): | N/A |
| Lower Critical (LC): | N/A |
| Lower Non-Critical (LNC): | N/A |

### 2.4.1 Sensor Readings

Click this item to display all sensor readings and their thresholds as shown below.



Host Identification
Server: SMC0025906D4E05 ( 172.31.9.59 )
User: ADMIN ( Administrator )

Sensor Readings

All sensor related information will be displayed here. Double click on a record to toggle (ON / OFF) the live widget for that particular sensor.

All Sensors

Sensor Count: 26 sensors

| Sensor Name ▲ | Status ▲ | Current Reading ▲ |
|---|---|---|
| CPU1 Temp | Normal | Low |
| CPU2 Temp | Normal | Low |
| System Temp | Normal | 40 ° C |
| Peripheral Temp | Normal | 40 ° C |
| PCH Temp | Normal | 45 ° C |
| CPU1 Vcore | Normal | 1.04 Volts |
| CPU2 Vcore | Not Available | Not Available |
| VDIMM AB | Normal | 1.504 Volts |
| VDIMM CD | Normal | 1.504 Volts |
| VDIMM EF | Not Available | Not Available |
| VDIMM GH | Not Available | Not Available |
| VTT | Normal | 1.104 Volts |
| VBAT | Normal | 2.976 Volts |
| 1.5V | Normal | 1.504 Volts |
| 12V | Normal | 11.978 Volts |
| +3.3VSB | Normal | 3.312 Volts |
| 3.3V | Normal | 3.312 Volts |
| 5V | Normal | 4.992 Volts |
| FAN1 | Not Available | Not Available |
| FAN2 | Not Available | Not Available |
| FAN3 | Not Available | Not Available |
| FAN4 | Not Available | Not Available |
| FANA | Not Available | Not Available |
| FANB | Not Available | Not Available |
| Chassis Intru | Normal | OK |
| PS1 Status | Normal | Good |

CPU1 Vcore: 1.04 Volts NORMAL

Thresholds for this sensor

LIVE WIDGET OFF | ON

| | | | |
|---|---|---|---|
| Lower Non-Recoverable (LNR): | 0.624 Volts | Upper Non-Recoverable (UNR): | 1.6 Volts |
| Lower Critical (LC): | 0.592 Volts | Upper Critical (UC): | 1.568 Volts |
| Lower Non-Critical (LNC): | 0.56 Volts | Upper Non-Critical (UNC): | 1.536 Volts |

Graphical View of this sensor's events

1. Use the drop-down list to display readings for a particular group of sensors. You can also click on a specific record to display more information such as threshold tolerances and a graphical view of associated events. Sensor selections in the drop-down list include:

   - **All Sensors:** This item displays the readings for all sensors

   - **Temperature Sensors:** This item displays the system temperature.

   - **Voltage Sensors:** This item displays the following items: CPU Vcore, DIMM voltages, +3.3V, +3.3VSB, +1.5V, +12V, +5V and VBAT (Battery Voltage).

   - **Fan Sensors:** This item displays the readings of the onboard fans.

   - **Physical Security:** This item displays the readings of the physical security (i.e. chassis intrusion events).

   - **Power Supply:** This item displays the status of power supply failure monitoring.

2. Sensor Name: This item displays the name of the item being monitored.

3. Status: This item displays the status of the sensor item.

4. Current Reading: This item displays the reading of the sensor.

5. Lower Non-Recoverable (LNR): This is the low threshold of a non-recoverable item. Any item with a reading below this point will ***not*** be recovered.

6. Lower Critical (LC): This is the low threshold of a critical item. Any item with a reading below this threshold is in a critical state.

7. Lower Non-Critical (LNC): This is the low threshold of a non-critical item. Any item with a reading above this threshold is ***not*** in a critical state.

8. Upper Non-Recoverable (UNR): This is the high threshold of a non-recoverable item. Any item with a reading above this point will ***not*** be recovered.

9. Upper Critical (UC): This is the high threshold of a critical item. Any item with a reading above this threshold is in a critical state.

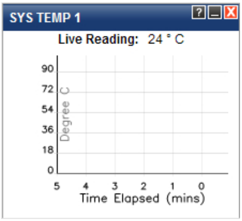
10. Upper Non-Critical (UNC): This is the high threshold of a non-critical item. Any item with a reading below this threshold is ***not*** in a critical state.

11. This area provides a graphical view of the selected sensor's events.

12. View this Event Log: Click this button to view the event log for the selected sensor.

13. Live Widget: Toggle Live Widgets on or off. Live widgets can track the behavior of a sensor over a specific span of time and at defined intervals. The widget displays the results as a line graph. Multiple widgets may be open at once and will remain visible while you navigte through other menu selections. Turning a live widget On will open a live widget window similar to the image shown below.

**Note:** Alternatively, a live widget can be opened by double-clicking on an applicable sensor in the list.

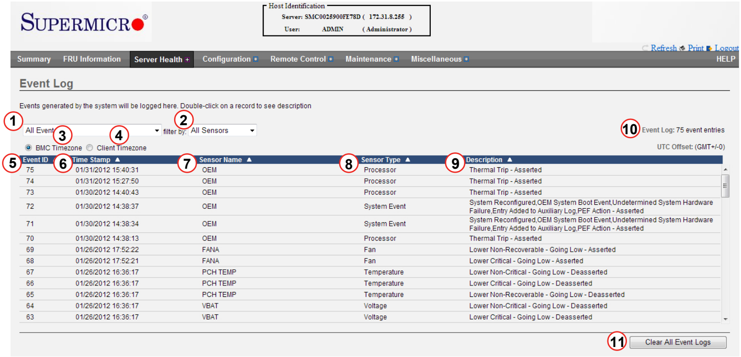


SYS TEMP 1

Live Reading: 24 ° C

### 2.4.2 Event Log

Click this item from the Server Health submenu to display all event log readings, as shown below.



Event Log

Events generated by the system will be logged here. Double-click on a record to see description

All Events filter by: All Sensors

● BMC Timezone ○ Client Timezone

Event Log: 75 event entries

UTC Offset: (GMT+/-0)

| Event ID | Time Stamp ▲ | Sensor Name ▲ | Sensor Type ▲ | Description ▲ |
|---|---|---|---|---|
| 75 | 01/31/2012 15:40:31 | OEM | Processor | Thermal Trip - Asserted |
| 74 | 01/31/2012 15:27:50 | OEM | Processor | Thermal Trip - Asserted |
| 73 | 01/30/2012 14:40:43 | OEM | Processor | Thermal Trip - Asserted |
| 72 | 01/30/2012 14:38:37 | OEM | System Event | System Reconfigured,OEM System Boot Event,Undetermined System Hardware Failure,Entry Added to Auxiliary Log,PEF Action - Asserted |
| 71 | 01/30/2012 14:38:34 | OEM | System Event | System Reconfigured,OEM System Boot Event,Undetermined System Hardware Failure,Entry Added to Auxiliary Log,PEF Action - Asserted |
| 70 | 01/30/2012 14:38:13 | OEM | Processor | Thermal Trip - Asserted |
| 69 | 01/26/2012 17:52:22 | FANA | Fan | Lower Non-Recoverable - Going Low - Asserted |
| 68 | 01/26/2012 17:52:21 | FANA | Fan | Lower Critical - Going Low - Asserted |
| 67 | 01/26/2012 16:36:17 | PCH TEMP | Temperature | Lower Non-Critical - Going Low - Deasserted |
| 66 | 01/26/2012 16:36:17 | PCH TEMP | Temperature | Lower Critical - Going Low - Deasserted |
| 65 | 01/26/2012 16:36:17 | PCH TEMP | Temperature | Lower Non-Recoverable - Going Low - Deasserted |
| 64 | 01/26/2012 16:36:17 | VBAT | Voltage | Lower Non-Critical - Going Low - Deasserted |
| 63 | 01/26/2012 16:36:17 | VBAT | Voltage | Lower Critical - Going Low - Deasserted |

1. From the drop-down menu select an event category to show the event log, which includes the following categories: All Events, Sensor-Specific Events, BIOS-Generated Events, and System-Management Software Events. In addition to these events, it is normal to see boot-up and shutdown events generated by the installed system software (OS). The table below lists examples of these types of events.

| Sensor Type | Event |
|---|---|
| OS Boot | A: boot completed |
| | C: boot completed |
| | PXE boot completed |
| | Diagnostic boot completed |
| | CD-ROM boot completed |
| | ROM boot completed |
| | Boot completed - boot device not specified |
| OS Stop/Shutdown | Stop during OS load/initialization, Unexpected error during system startup, Stopped waiting for input or power cycle/reset |
| | Run-time stop (a.k.a 'core dump', 'blue screen') |
| | OS graceful stop (system powered up, but normal OS operation has shut down and system is awaiting reset pushbutton, power cycle or other external input) |

2. Filter by: From the drop-down menu, select the sensor type to display.

3. BMC Timezone: Displays the events using the BMC UTC Offset timestamp.

4. Client Timezone: Displays the events using the Client UTC timestamp.

5. Event ID: This item displays the event ID of this event.

6. Time Stamp: This item displays the time that the event occurred.

7. Sensor Name: This item indicates the name of the sensor (device) to which the event has occurred.

8. Sensor Type: This item indicates the type of the event.

9. Description: This item provides a brief description of the event.

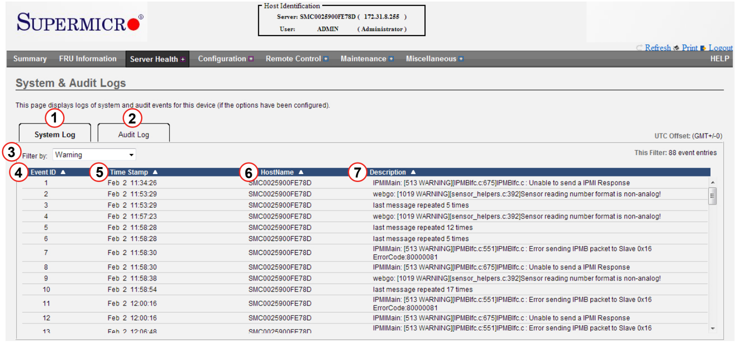
10. Event Log: This item indicates the number of events included on the event log.

11. Clear All Event Logs: Click this button to clear the event log.

### 2.4.3 System and Audit Log

Click this item from the Server Health submenu to display all system and audit logs that occurred as shown below.

**Note:** To display log entries in this submenu, logs must first be configured. To configure logs, click Configuration in the main menu, then click System and Audit Log (see section 2.5.16).



System & Audit Logs

This page displays logs of system and audit events for this device (if the options have been configured).

UTC Offset: (GMT+/-0)

Filter by: Warning

This Filter: 88 event entries

| Event ID ▲ | Time Stamp ▲ | HostName ▲ | Description ▲ |
|---|---|---|---|
| 1 | Feb 2 11:34:26 | SMC0025900FE78D | IPMIMain: [513 WARNING][IPMBIfc.c:675]IPMBIfc.c : Unable to send a IPMI Response |
| 2 | Feb 2 11:53:29 | SMC0025900FE78D | webgo: [1019 WARNING][sensor_helpers.c:392]Sensor reading number format is non-analog! |
| 3 | Feb 2 11:53:29 | SMC0025900FE78D | last message repeated 5 times |
| 4 | Feb 2 11:57:23 | SMC0025900FE78D | webgo: [1019 WARNING][sensor_helpers.c:392]Sensor reading number format is non-analog! |
| 5 | Feb 2 11:58:28 | SMC0025900FE78D | last message repeated 12 times |
| 6 | Feb 2 11:58:28 | SMC0025900FE78D | last message repeated 5 times |
| 7 | Feb 2 11:58:30 | SMC0025900FE78D | IPMIMain: [513 WARNING][IPMBIfc.c:551]IPMBIfc.c : Error sending IPMB packet to Slave 0x16 ErrorCode:80000081 |
| 8 | Feb 2 11:58:30 | SMC0025900FE78D | IPMIMain: [513 WARNING][IPMBIfc.c:675]IPMBIfc.c : Unable to send a IPMI Response |
| 9 | Feb 2 11:58:38 | SMC0025900FE78D | webgo: [1019 WARNING][sensor_helpers.c:392]Sensor reading number format is non-analog! |
| 10 | Feb 2 11:58:54 | SMC0025900FE78D | last message repeated 17 times |
| 11 | Feb 2 12:00:16 | SMC0025900FE78D | IPMIMain: [513 WARNING][IPMBIfc.c:551]IPMBIfc.c : Error sending IPMB packet to Slave 0x16 ErrorCode:80000081 |
| 12 | Feb 2 12:00:16 | SMC0025900FE78D | IPMIMain: [513 WARNING][IPMBIfc.c:675]IPMBIfc.c : Unable to send a IPMI Response |
| 13 | Feb 2 12:06:48 | SMC0025900FE78D | IPMIMain: [513 WARNING][IPMBIfc.c:551]IPMBIfc.c : Error sending IPMB packet to Slave 0x16 |

1. System Log: Click this tab to view system events.

2. Audit Log: Click this tab to view audit events.

3. Filter By: This drop-down is visible only under the System Log tab. Selection options include Alert, Critical, Error, Notification, Warning, Debug, Emergency, and Information.

4. Event ID: This item displays the event ID of this event.

5. Time Stamp: This item displays the time that the event occurred.

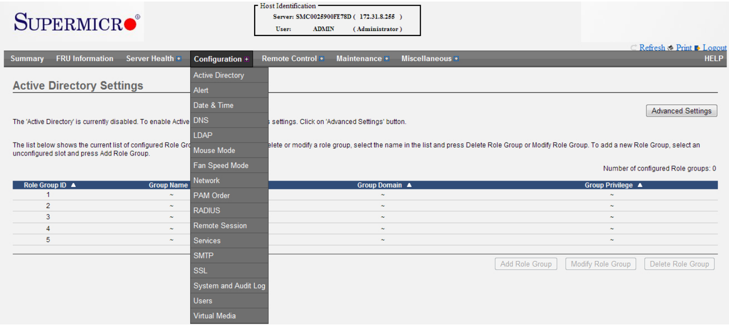
6. HostName: This item displays the hostname of the device where the event occurred.

7. Description: This item provides a brief description of the event.

To clear the System/Audit logs, click the *Clear Event Logs* button at the bottom of the list.

## 2.5 Configuration

This feature allows the user to configure various network settings. Click *Configuration* in the main menu to display submenu items shown below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

Active Directory Settings

The 'Active Directory' is currently disabled. To enable Active settings. Click on 'Advanced Settings' button.

The list below shows the current list of configured Role Gr elete or modify a role group, select the name in the list and press Delete Role Group or Modify Role Group. To add a new Role Group, select an unconfigured slot and press Add Role Group.

Number of configured Role groups: 0

| Role Group ID ▲ | Group Name | Group Domain ▲ | Group Privilege ▲ |
|---|---|---|---|
| 1 | ~ | ~ | ~ |
| 2 | ~ | ~ | ~ |
| 3 | ~ | ~ | ~ |
| 4 | ~ | ~ | ~ |
| 5 | ~ | ~ | ~ |

Select an item to configure its settings. The Configuration submenu contains the following items:

- Active Directory: This item allows the user to configure settings to authenticate and access the Active Directory server.

- Alert: This item allows the user to configure settings for Event Filter, Alert Policy, and LAN Destination.

- Date & Time: This item allows the user to configure Date & Time settings and synchronize with NTP server and devices.

- DNS: This item allows the user to configure DNS settings.

- LDAP: This item allows the user to configure LDAP (Lightweight Directory Access Protocol) settings.

- Mouse Mode: This item allows the user to set the remote console mouse mode.

- Fan Speed Mode: This item allows the user to modify fan speed mode.

- Network: This item allows the user to configure LAN, IPv4, IPv6, and VLAN settings.

- PAM Order: This item allows the user to configure PAM (Pluggable Authentication Module) ordering.

- RADIUS: This item allows the user to configure RADIUS settings.

- Remote Session: This item allows the user to configure KVM and Virtual Meda encryption settings for the next redirection session.

- Services: This item allows the user to configure services running on the BMC.

- SMTP: This item allows the user to configure Simple Mail Transfer Protocol (SMTP) settings. To set up an email alert, enter the IP address of your mail server in the SMTP.

- SSL: This item allows the user to configure Secure Sockets Layer (SSL) certificate settings.

- System and Audit Log: This item allows the user to configure system event logging.

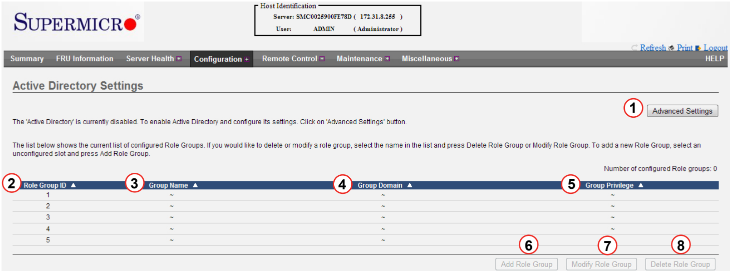
- Users: This item allows the user to add, delete and modify user data, such as username, password, and priviliges.

- Virtual Media: This item allows the user to set the number of virtual media devices.

**Note:** To mount virtual media, launch the remote console (JViewer) and click *Media* > *Virtual Media Wizard* (see section 2.6.1.e for more information).

### *2.5.1 Active Directory*

The active directory stores network and domain data. It also offers a variety of functions that include providing and organizing object information for quick retrieval and easy access for the end user and administrator. Click *Active Directory* in the Configuration submenu to display and configure Active Directory settings.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

Active Directory Settings

The 'Active Directory' is currently disabled. To enable Active Directory and configure its settings. Click on 'Advanced Settings' button.

The list below shows the current list of configured Role Groups. If you would like to delete or modify a role group, select the name in the list and press Delete Role Group or Modify Role Group. To add a new Role Group, select an unconfigured slot and press Add Role Group.

Number of configured Role groups: 0

| Role Group ID ▲ | Group Name ▲ | Group Domain ▲ | Group Privilege ▲ |
|---|---|---|---|
| 1 | ~ | ~ | ~ |
| 2 | ~ | ~ | ~ |
| 3 | ~ | ~ | ~ |
| 4 | ~ | ~ | ~ |
| 5 | ~ | ~ | |

1. Advanced Settings: If Active Directory is currently disabled, click this button to enable it. For more information on enabling the active directory, see section 2.5.1a.

2. Role Group ID: This item displays the role group ID.

3. Group Name: This item displays the name of the role group, which consists of a string of 255 alpha-numeric characters.

4. Group Domain: This item displays the domain of the role group, which consists of a string of 255 alpha-numeric characters.

5. Group Privilege: This item displays the privilege level assigned to the role group.

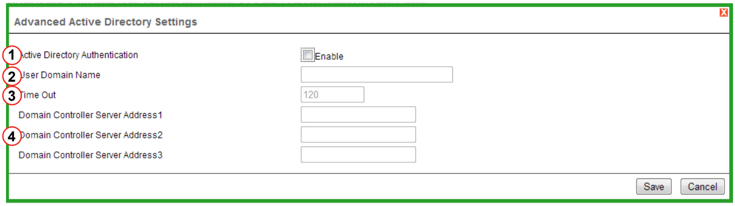
6. Add Role Group: Click this button to add a new role group (see section 5.1.b).

7. Modify Role Group: Click this button to modify a selected role group. A role group may also be modified by double-clicking on its slot.

8. Delete Role Group: Click this button to delete an existing role group.

### *2.5.1.a Active Directory - Advanced Settings*

This feature allows the user to configure Active Directory-Advanced settings. Click the *Advanced Settings* button (see previous page) to display the following window.



Advanced Active Directory Settings

Active Directory Authentication ☐ Enable

User Domain Name

Time Out 120

Domain Controller Server Address1

Domain Controller Server Address2

Domain Controller Server Address3

1. Active Directory Authentication: Click the Enable checkbox to activate and configure the Active Directory server information below.

2. User Domain Name: This field allows the user to enter the user domain name.

3. Time Out: This field allows the user to indicate the time (seconds) to wait before ending an Active Directory query. The range is 15 sec ~ 300 sec.

4. Domain Controller Server Addresses 1~3: These items allow the user to enter the IP addresses for the Domain Controller Servers 1~3. At minimum, one address must be configured.

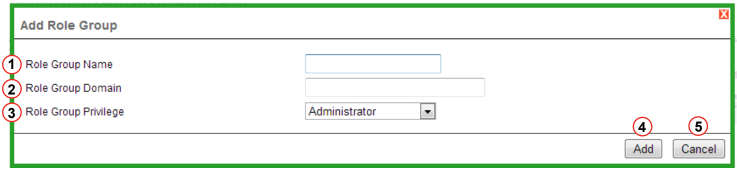
**Note:** Server address supports IPv4 and IPv6 Address format.

After the required information is entered, click the Save button to save the information you've entered, or click Cancel to abort. Either selection will return you to the Active Directory Settings page.

### *2.5.1.b Active Directory - Adding and Modifying Role Groups*

This feature allows the user to add a role group to the Active Directory Settings page. Select a blank row from the Role Group list and click *Add Role Group* to display the window below.

**Note:** Advanced Active Directory settings must be configured to enable the Add Role Group button. See section 2.5.1.a for more information.



Add Role Group

1 Role Group Name

2 Role Group Domain

3 Role Group Privilege: Administrator

1. Role Group Name: Enter a name for the role group.

2. Role Group Domain: Enter the domain location of the role group.

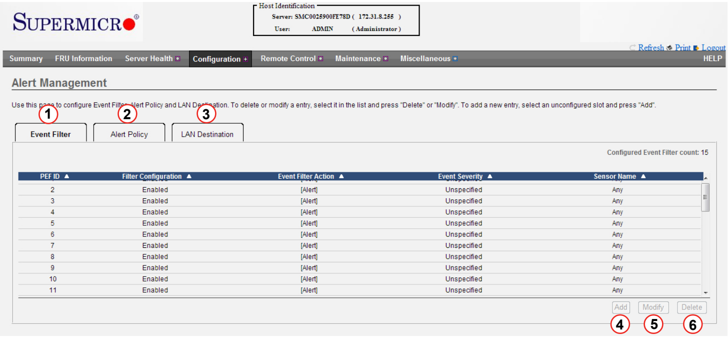
3. Role Group Privilege: Assign a privilege level for the role group. The options are Administrator, Operator, User, OEM Proprietary, and No Access.

4. Click the Add button to save the role group settings and return to the Active Directory Settings page.

5. Click the Cancel button to abort and return to the Active Directory Settings page.

### *2.5.2 Alerts*

This feature allows the user to configure Alert settings. Click *Alerts* in the Configuration submenu to display the Alert Management page shown below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

Alert Management

Use this page to configure Event Filter, Alert Policy and LAN Destination. To delete or modify a entry, select it in the list and press "Delete" or "Modify". To add a new entry, select an unconfigured slot and press "Add".

Configured Event Filter count: 15

| PEF ID ▲ | Filter Configuration ▲ | Event Filter Action ▲ | Event Severity ▲ | Sensor Name ▲ |
|---|---|---|---|---|
| 2 | Enabled | [Alert] | Unspecified | Any |
| 3 | Enabled | [Alert] | Unspecified | Any |
| 4 | Enabled | [Alert] | Unspecified | Any |
| 5 | Enabled | [Alert] | Unspecified | Any |
| 6 | Enabled | [Alert] | Unspecified | Any |
| 7 | Enabled | [Alert] | Unspecified | Any |
| 8 | Enabled | [Alert] | Unspecified | Any |
| 9 | Enabled | [Alert] | Unspecified | Any |
| 10 | Enabled | [Alert] | Unspecified | Any |
| 11 | Enabled | [Alert] | Unspecified | Any |

1. Event Filter: This tab displays the configured event filters and available slots. Add, Modify or delete event filter entries from here (see section 2.5.2.a). There is a default of 15 preconfigured event slots. A maximum of 40 total slots are available.

2. Alert Policy: This tab displays the configured alert policies and available slots. Add, Modify or delete alert policy entries from here (see section 2.5.2.b). A maximum of 60 total slots are available.

3. LAN Destination: This tab displays the configured LAN destinations and available slots. Add, Modify or delete LAN destination entries from here (see section 2.5.2.c). A maximum of 15 total slots are available.

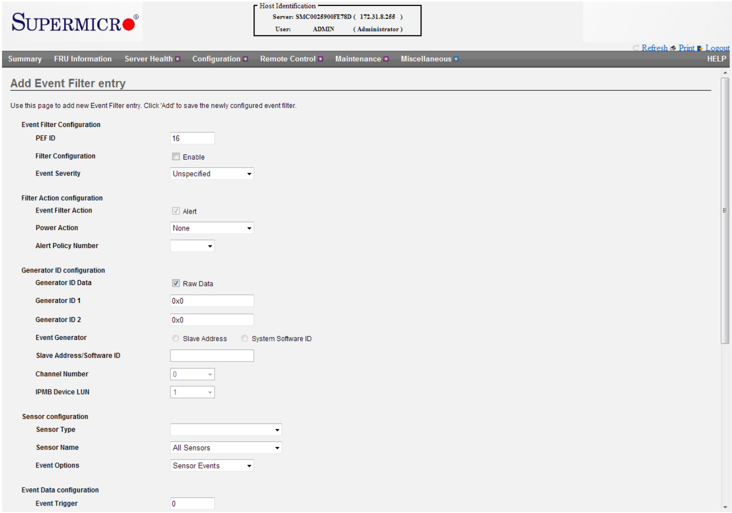
4. Click the Add button to configure an empty slot.

5. Click the Modify button to change settings for a configured slot.

6. Click the Delete button to clear the configured slot.

### *2.5.2.a Alerts - Adding and Modifying Event Filters*

To add a new event filter, click the Event Filter tab, select an empty slot, and click the Add button at the bottom of the page. To modify an event filter, select a configured slot and click the Modify button. Whether adding or modifying an event filter, virtually the same window is displayed, similar to the image below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

Add Event Filter entry

Use this page to add new Event Filter entry. Click 'Add' to save the newly configured event filter.

Event Filter Configuration

| | |
|---|---|
| PEF ID | 16 |
| Filter Configuration | □ Enable |
| Event Severity | Unspecified |

Filter Action configuration

| | |
|---|---|
| Event Filter Action | ☑ Alert |
| Power Action | None |
| Alert Policy Number | |

Generator ID configuration

| | |
|---|---|
| Generator ID Data | ☑ Raw Data |
| Generator ID 1 | 0x0 |
| Generator ID 2 | 0x0 |
| Event Generator | ○ Slave Address ○ System Software ID |
| Slave Address/Software ID | |
| Channel Number | 0 |
| IPMB Device LUN | 1 |

Sensor configuration

| | |
|---|---|
| Sensor Type | |
| Sensor Name | All Sensors |
| Event Options | Sensor Events |

Event Data configuration

| | |
|---|---|
| Event Trigger | 0 |

Enter the required configuration information and settings for the following fields:

**Event Filter Configuration**

- PEF ID: This number (read only) indicates the PEF ID for this entry.
- Filter Configuration: To enable PEF settings, check the Enable box.
- Event Severity: Selects the event severity level. The options are Unspecified, Monitor, Information, Normal, Non-Critical, Critical, and Non-Recoverable.

**Filter Action Configuration**

- Event Filter Action: This field, which enables the PEF alert action, is mandatory and is checked by default.
- Power Action: Select a power action. The options are None, Power Down, Power Reset, and Power Cycle.
- Alert Policy Number: Select between the available configured policy numbers. To create additional alert polices, go to Configuration > Alert > Alert Policy. For more information, see section 2.5.2.b.

### Generator ID Configuration

- Generator ID Data: Check the Raw Data box to enter raw data for the Generator ID.

  **Note:** Checking the Raw Data box will disable (grey-out) the Event Generator field and its associated fields. Unchecking the Raw Data box will disable the Generator ID 1 and ID 2 fields.

- Generator ID 1, ID 2: Enter raw data for generator ID 1 and ID 2.

- Event Generator: Select Slave Address if the event was generated from IPMB. Select System Software if the event was generated from system software.

- Slave Address/Software ID: Enter the Slave Address or the System Software ID.

- Channel Number: Select the channel number that the event was received over. If the event was received through the system interface, primary IPMB, or generated internally by the BMC, select channel 0.

- IPMB Device LUN: Select the appropriate IPMB device LUN if the event was generated by IPMB.

### Sensor Configuration

- Sensor Type: Select the type of sensor will activate the event filter action.

- Sensor Name: Select a sensor name from the drop-down list.

- Event Options: Select either sensor related events or all events.

### Event Data Configuration

- Event Trigger: Use this field to assign an event/reading type value. The range is from 1 to 255.

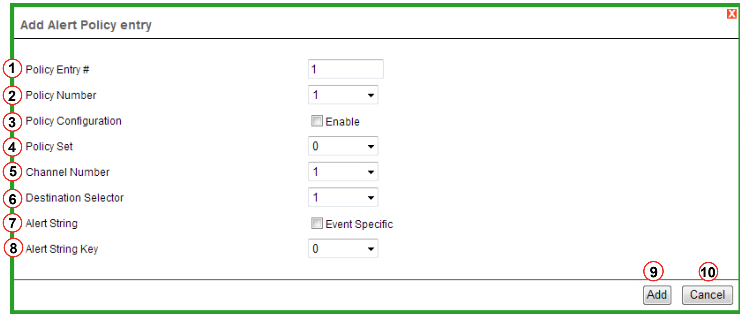
- Event Data 1 AND Mask: Use this field to indicate compared or wildcarded bits. The range is from 1 to 255. (This description also applies to Event Data 2 AND Mask & Event Data 3 AND Mask.)

- Event Data 1 Compare 1 / Compare 2: Use this field to indicate if each bit position's comparison is an exact comparison or not. (This description also applies to Event Data 2 Compare 1/2 & Event Data 3 Compare 1/2.)

Click the Add button to save the new event filter configuration and return to the Event Filter list. Click the Reset button to reset all fields. Click the Cancel button to abort configuration and return to the Event Filter list.

### *2.5.2.b Alerts - Adding and Modifying Alert Policies*

To add a new alert policy, click the Alert Policy tab, select an empty slot from the list, and click the Add button. To modify an alert policy, select a configured slot and click the Modify button. Whether adding or modifying an alert policy, virtually the same window is displayed, similar to the image below.



Add Alert Policy entry

| | |
|---|---|
| Policy Entry # | 1 |
| Policy Number | 1 |
| Policy Configuration | □ Enable |
| Policy Set | 0 |
| Channel Number | 1 |
| Destination Selector | 1 |
| Alert String | □ Event Specific |
| Alert String Key | 0 |

1. Policy Entry #: The policy entry number is displayed. This field is read only.

2. Policy Number: Use this item to select the policy number that was configured in the Event Filter table (see Alert Policy Number field in section 2.5.2.a).

3. Policy Configuration: Click the Enable checkbox to enable policy settings.

4. Policy Set: Use this item to select a policy set number from the drop-down list. The options are:

   - 0: Always send alert to this destination.

   - 1: If alert to previous destination was successful, do not send alert to this destination. Proceed to next entry in this policy set.

   - 2: If alert to previous destination was successful, do not send alert to this destination. Do not process any more entries in this policy set.

   - 3: If alert to previous destination was successful, do not send alert to this destination. Proceed to next entry that is to a different channel.

   - 4: If alert to previous destination was successful, do not send alert to this destination. Proceed to next entry that is to a different destination type.

5. Channel Number: Select an available number from the drop-down list.

6. Destination Selector: Select a destination from the drop-down list.

   **Note:** You must first configure the LAN destination. Go to Cnfiguration > Alert > LAN Destination (See section 2.5.2.c for more information).

7. Alert String: Click the Event Specific checkbox to query whether or not the Alert String is event specific.

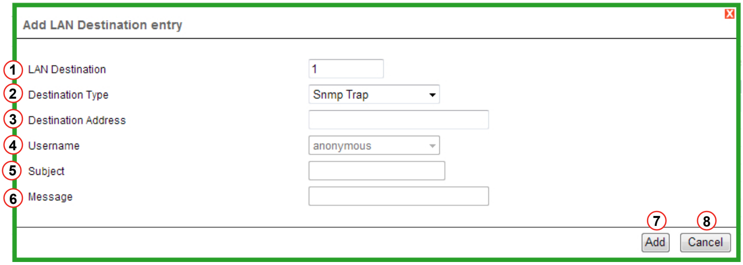
8. Alert String Key: Select a value that will be used to look up the Alert String to send for this Alert Policy.

9. Click the Add button to save the alert policy and return to the Alert Policy list.

10. Click the Cancel button to abort and return to the Alert Policy list.

### *2.5.2.c Alerts - Adding and Modifying LAN Destinations*

To add a new LAN destination, click the LAN Destination tab and select an empty slot from the list, then click the Add button. To modify a LAN destination, select a configured slot and click the Modify button. Whether adding or modifying a LAN destination, a window similar to the image shown below will be displayed.



Add LAN Destination entry

| | |
|---|---|
| LAN Destination | 1 |
| Destination Type | Snmp Trap |
| Destination Address | |
| Username | anonymous |
| Subject | |
| Message | |

1. LAN Destination: The LAN destination number is displayed. This field is read only.

2. Destination Type: Select either SNMP Trap or Email Alert for the destination type. If SNMP Trap is selected, the Destination Address field (below) must be populated and SMTP server information must be entered (see section 2.5.14). If Email Alert is selected, the Username, Subject, and Message fields must be populated.

3. Destination Address: Specify the IP address of the system that will receive the alert. Both IPv4 and IPv6 address formats are supported.

4. Username: Select the username to which the email alert will be sent.

   **Note:** The user email address must first be configured. Go to Configuration > Users (see section 2.5.17 for more information).

5. Subject: Enter a subject for the email alert that will be sent to the specified user.

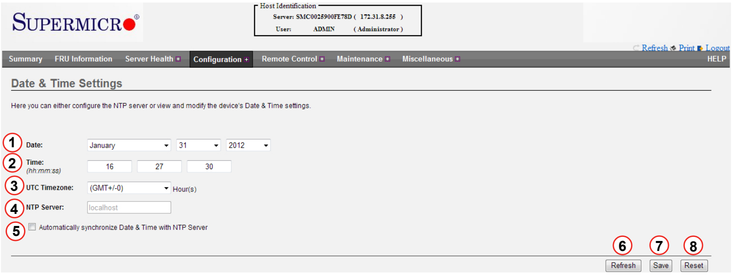
6. Message: Enter a message for the email alert that will be sent to the specified user.

7. Click the Add button to save the entry and return to the LAN Destination list.

8. Click the Cancel button to abort and return to the LAN Destination list.

### 2.5.3 Date and Time

This feature allows the user to modify time and date settings for the host server. Click this item in the Configuration submenu to display the date and time settings as shown below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

Date & Time Settings

Here you can either configure the NTP server or view and modify the device's Date & Time settings.

Date: January 31 2012

Time: (hh:mm:ss) 16 27 30

UTC Timezone: (GMT+/-0) Hour(s)

NTP Server: localhost

□ Automatically synchronize Date & Time with NTP Server

1. Date: Enter month, date and year in this row.

2. Time: Enter hour, minute and second in the (hh:mm:ss) format.

3. UTC Timezone: Select from the list of UTC offset values for the NTP server.

4. NTP Server: Enter the name of the NTP server in this field. This field is disabled if the 'Automatically synchronize...' checkbox (see #5) is not check-marked.

5. Automatically synchronize Date & Time: Check this box to enable synchronization of time and date of the client computer with the NTP server.

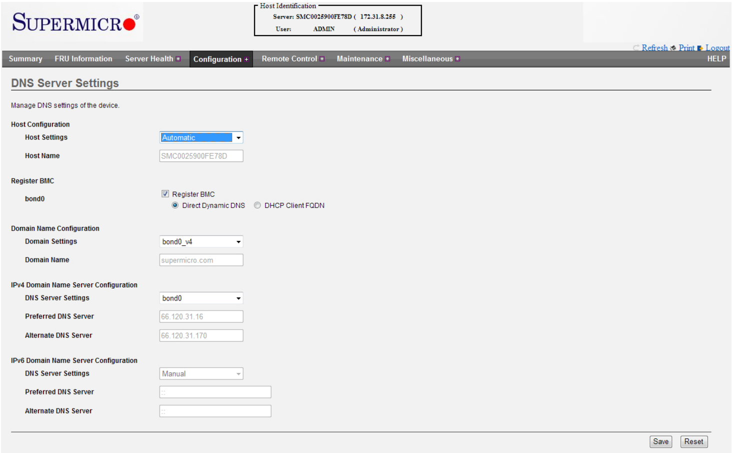
6. Refresh: Click this button to refresh the page.

7. Save: Click this item to save any changes done to the Time and Date settings.

8. Reset: Click this button to reset any changes back to the previous values.

### 2.5.4 DNS

Use this feature to configure DNS settings. Click *DNS* in the Configuration submenu to display the date and time settings as shown below.



DNS Server Settings

Manage DNS settings of the device.

Host Configuration

Host Settings: Automatic

Host Name: SMC0025900FE78D

Register BMC

bond0: ☑ Register BMC
● Direct Dynamic DNS ○ DHCP Client FQDN

Domain Name Configuration

Domain Settings: bond0_v4

Domain Name: supermicro.com

IPv4 Domain Name Server Configuration

DNS Server Settings: bond0

Preferred DNS Server: 66.120.31.16

Alternate DNS Server: 66.120.31.170

IPv6 Domain Name Server Configuration

DNS Server Settings: Manual

Preferred DNS Server: ::

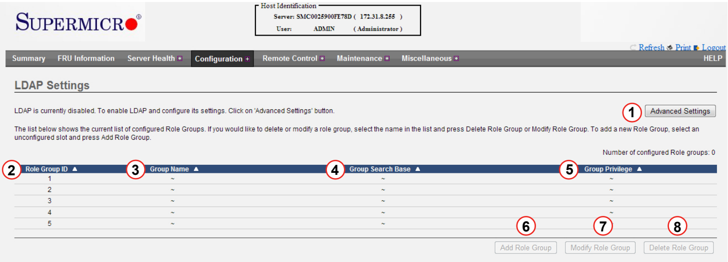
Alternate DNS Server: ::

The DNS page allows you to configure the following items:

- Host Settings: Select between Automatic or Manual. Selecting manual will allow you to enter a host name.
- Host Name: If host settings (above) is set to Manual, enter the host name here.
- Register BMC: If this box is checked, select the BMC network port to register with this DNS setting.
- Domain Settings: Use the drop-down list to make a selection. If you choose DHCP, select v4 or v6 for DHCP servers.
- Domain Name: If Domain Settings (above) is set to Manual, enter the domain name here.
- DNS Server Settings: Use the drop-down list to make a selection for IPv4 / IPv6 Domain Name Server Configuration.
- Preferred DNS Server / Alternate DNS Server: If the DNS Server Settings (above) are set to Manual, enter the preferred/alternate DNS server IP address for IPv4 / IPv6 Domain Name Server Configuration.

### 2.5.6 LDAP (Light-Weight Directory Access Protocol)

LDAP is an internet protocol used for user authentication. With an LDAP server configured on your network, it can be used to authenticate and manage users. Click *LDAP* in the Configuration submenu to display the following the LDAP settings page shown below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

LDAP Settings

LDAP is currently disabled. To enable LDAP and configure its settings. Click on 'Advanced Settings' button.

The list below shows the current list of configured Role Groups. If you would like to delete or modify a role group, select the name in the list and press Delete Role Group or Modify Role Group. To add a new Role Group, select an unconfigured slot and press Add Role Group.

Number of configured Role groups: 0

| Role Group ID ▲ | Group Name ▲ | Group Search Base ▲ | Group Privilege ▲ |
|---|---|---|---|
| 1 | ~ | ~ | ~ |
| 2 | ~ | ~ | ~ |
| 3 | ~ | ~ | ~ |
| 4 | ~ | ~ | ~ |
| 5 | ~ | ~ | |

1. Advanced Settings: If LDAP is disabled, click this button to enable it. For more information on enabling active directory, see section 2.5.6a.

2. Role Group ID: This item displays the role group ID.

3. Group Name: This item displays the name of the role group.

4. Group Domain: This item displays the domain of the role group.

5. Group Privilege: This item displays the privilege level assigned to the role group.

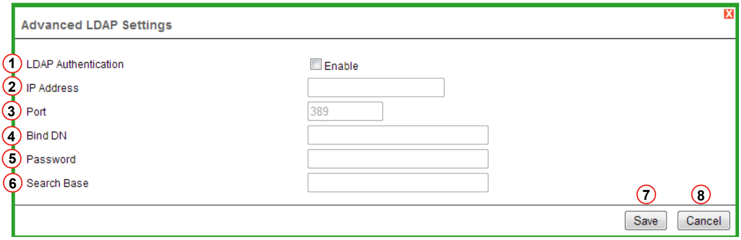
6. Add Role Group: Click this button to add a new role group (see section 5.1.b).

7. Modify Role Group: Click this button to modify a selected role group. A role group may also be modified by double-clicking on its slot.

8. Delete Role Group: Click this button to delete an existing role group.

### *2.5.6.a LDAP - Advanced Settings*

Use this feature to configure LDAP advanced settings. When you click the Advanced Settings button (see previous page), the below window will display.



Advanced LDAP Settings

1 LDAP Authentication ☐ Enable

2 IP Address

3 Port 389

4 Bind DN

5 Password

6 Search Base

1. LDAP Authentication: Click the Enable checkbox to activate and configure the LDAP authentication information below.

2. IP Address: Enter the IP address of the LDAP server.

3. Port: Enter the LDAP port number. The default port is 389. For a secure connection, the default port is set to 636.

4. Bind DN: This is a string of 4 to 64 alpha-numeric characters used to authenticate the client to the server. For example, dc=administrator, dc=com, ou=login.

5. Password: Enter the password of the LDAP server. The password can not exceed 48 characters and white space is not allowed.

6. Search Base: Enter the search base for the LDAP server. This shows the client which port in the external directory tree to use for doing search. For example, dc=administrator, dc=com, ou=login.

   **Note:** Search base must begin with an alpha-numeric character. Special symbols are allowed.

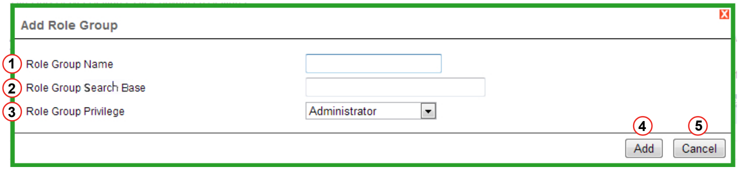
7. Save: Click this button to save the changes.

8. Cancel: Click this button to abort and return to LDAP Settings page.

### *2.5.6.b LDAP - Adding and Modifying Role Groups*

Use this feature to add a role group to the LDAP Settings page. Select a blank row from the Role Group list and click *Add Role Group* to display the window below.

**Note:** Advanced LDAP settings must be configured to enable the Add Role Group button. See section 2.5.6.a for more information.



Add Role Group

1 Role Group Name

2 Role Group Search Base

3 Role Group Privilege: Administrator

1. Role Group Name: Enter a name for the role group.

2. Role Group Search Base: Enter the path from where the role group is located to Base DN.

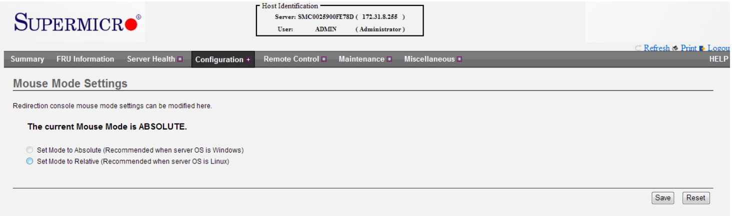
3. Role Group Privilege: This item assign a privilege level for the role group. The options are Administrator, Operator, User, OEM Proprietary, and No Access.

4. Click the Add button to save the role group settings and return to the LDAP Settings page.

5. Click the Cancel button to abort and return to the LDAP Settings page.

### 2.5.7 Mouse Mode

Use this feature to configure how mouse emulation is handled from the local window to the remote screen. Click *Mouse Mode* in the Configuration submenu to display the page below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

Mouse Mode Settings

Redirection console mouse mode settings can be modified here.

**The current Mouse Mode is ABSOLUTE.**

○ Set Mode to Absolute (Recommended when server OS is Windows)
○ Set Mode to Relative (Recommended when server OS is Linux)

- Absolute Mode: Check this radio button to send the absolute position of the local mouse to the server. Absolute mode is recommended for Windows OS, Red Hat Enterprise Linux 6 (RHEL6) and above, and Fedora Core 14 (FC14) and above.

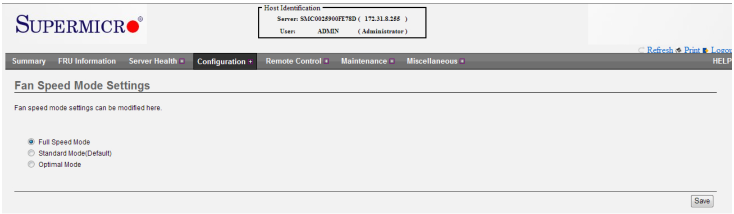
- Relative Mode: Check this radio button to send the relative calculated mouse position displacement to the server. Relative mode is recommended for FC13 and below, RHEL5 and below, and other Linux distributions.

**Note**: IPMI is an OS-independent platform, and KVM support is an added feature for IPMI. For your mouse to function properly, configure the Mouse Mode settings (above) according to the remote server's OS type.

Click the Save button to save any changes, or click the Reset button to reset any modification to the original setting.

### 2.5.8 Fan Speed Mode

Use this feature to modify fan speed settings. Click *Fan Speed Mode* in the Configuration submenu to display the page below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

Fan Speed Mode Settings

Fan speed mode settings can be modified here.

◉ Full Speed Mode
○ Standard Mode(Default)
○ Optimal Mode

- Full Speed Mode: Select this option for the fans to provide maximum cooling.

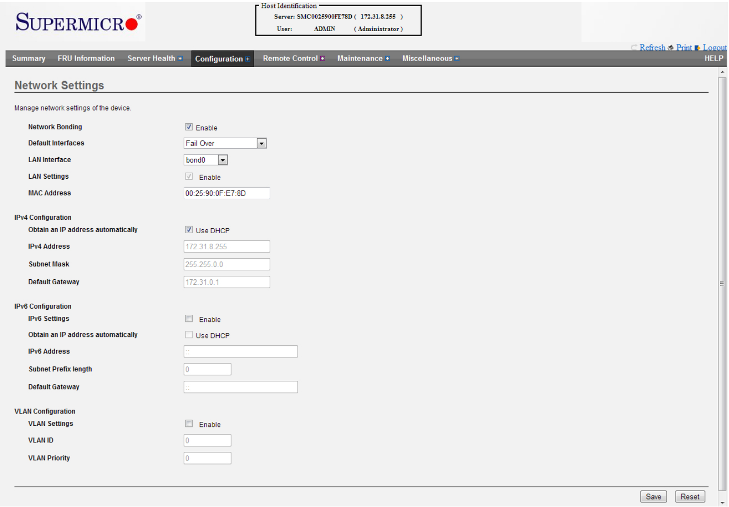
- Standard Mode: Select this option for system fans to operate at predetermined speeds based upon the temperature of the hottest monitored components.

- Optimal Mode: Select this option for system fans to operate at predetermined speeds within each cooling zone, based upon the temperature of the hottest monitored components in each cooling zone.

Click the Save button to save any changes.

### *2.5.9 Network*

Use this feature to configure network settings for the available LAN channels. Click *Network* in the Configuration submenu to display the page below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

Network Settings

Manage network settings of the device.

| | |
|---|---|
| Network Bonding | ☑ Enable |
| Default Interfaces | Fail Over |
| LAN Interface | bond0 |
| LAN Settings | ☑ Enable |
| MAC Address | 00:25:90:0F:E7:8D |
| **IPv4 Configuration** | |
| Obtain an IP address automatically | ☑ Use DHCP |
| IPv4 Address | 172.31.8.255 |
| Subnet Mask | 255.255.0.0 |
| Default Gateway | 172.31.0.1 |
| **IPv6 Configuration** | |
| IPv6 Settings | □ Enable |
| Obtain an IP address automatically | □ Use DHCP |
| IPv6 Address | :: |
| Subnet Prefix length | 0 |
| Default Gateway | :: |
| **VLAN Configuration** | |
| VLAN Settings | □ Enable |
| VLAN ID | 0 |
| VLAN Priority | 0 |

The available network settings are described below:

- Network Bonding: Click the Enabled checkbox to activate network bonding and enable the associated configuration fields.

- Default Interfaces: Select between Fail Over (default), Dedicated LAN and Shared NCSI.

- LAN Interface: Select the desired LAN interface to configure.

- LAN Settings: Use this checkbox to enable or disable LAN support for the selected LAN interface.

- MAC Address: Displays the MAC address of the LAN interface (read only).

**IPv4 Configuration**

- Obtain an IP address automatically: Click the checkbox to configure the IPv4 address dynamically using DHCP (Dynamic Host Configuration Protocol).

- IPv4 Address, Subnet Mask, Default Gateway: If DHCP is not enabled above, use these fields to enter the static address information for the selected interface.

### IPv6 Configuration

- IPv6 Settings: Click this checkbox to enable IPv6 support.
- Obtain an IP address automatically: Click the checkbox to configure the IPv6 address dynamically using DHCP (Dynamic Host Configuration Protocol).
- IPv6 Address: If DHCP is not enabled above, enter the static IPv6 address.
- Subnet Prefix length: Enter the subnet prefix length for IPv6 settings. The range is from 0 to 128.
- Default Gateway: Enter the default gateway for the IPv6 settings.

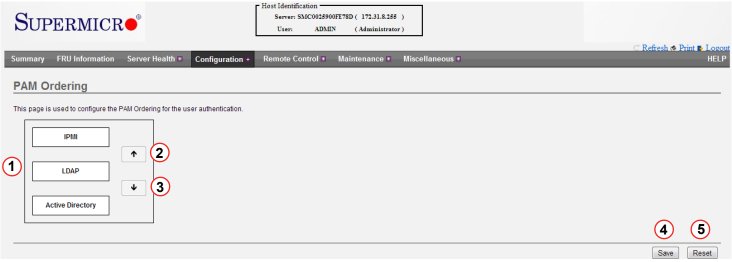
### VLAN Configuration

- VLAN Settings: Click this checkbox to enable VLAN support.
- VLAN ID: Enter the ID for VLAN configuration. The range is from 1 to 4095.
- VLAN Priority: Enter the priority for VLAN configuration. The value range is from 1 to 7, with 7 being the highest priority level.

Click the Save button to save any changes, or click the Reset button to reset all modified fields to their original values.

### *2.5.10 PAM Order*

Use this feature to configure the PAM order for user authentication. Click *PAM Order* in the Configuration submenu to display the page below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

PAM Ordering

This page is used to configure the PAM Ordering for the user authentication.

1. PAM Module: The available PAM supported in the BMC are listed here.

2. Move Up: Select a PAM module and click this arrow button to move the module up one level.

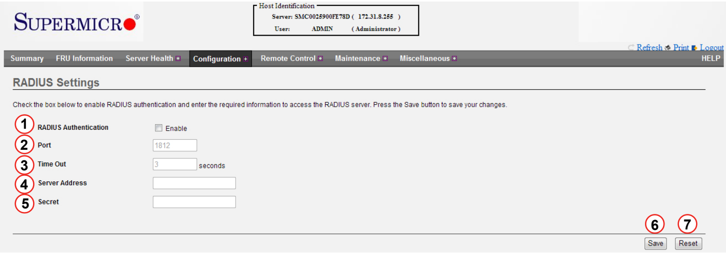
3. Move Down: Select a PAM module and click this arrow button to move the module down one level.

4. Save: Click this button to save changes.

5. Reset: Click this button to reset any changes to the original order.

### *2.5.11 RADIUS*

Use this feature to configure RADIUS settings for user authentication. Click *RADIUS* in the Configuration submenu to display the page below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

RADIUS Settings

Check the box below to enable RADIUS authentication and enter the required information to access the RADIUS server. Press the Save button to save your changes.

RADIUS Authentication □ Enable
Port 1812
Time Out 3 seconds
Server Address
Secret

1. RADIUS Authentication: Click the checkbox to enable authentication and activate the fields below.

2. Port: Enter the RADIUS port number. The default port is 1812.

3. Time Out: Enter the amount of time to elapse before time out occurs. The range is from 3 to 300 seconds.

4. Server Address: Enter the IP address of the RADIUS server.

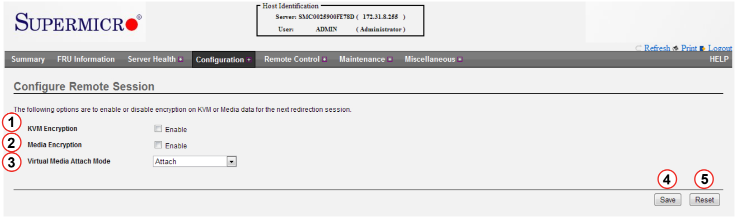
5. Secret: Enter the RADIUS server authentication secret. A maximum of 31 characters (and no white space) is allowed. The secret must be at least 4 characters long.

6. Save: Click this button to save any changes.

7. Reset: Click this button to reset any changes to the original values.

### 2.5.12 Remote Session

Use this feature to modify virtual media settings for redirection sessions. Click *Remote Session* in the Configuration submenu to display the page below.



Configure Remote Session

The following options are to enable or disable encryption on KVM or Media data for the next redirection session.

KVM Encryption □ Enable

Media Encryption □ Enable

Virtual Media Attach Mode Attach

1. KVM Encryption: Use this checkbox to enable or disable encryption on KVM data for the next redirection session.

2. Media Encryption: Use this checkbox to enable or disable encryption on Media data for the next redirection session.

3. Virtual Media Attach Mode: Click the pull-down menu to display virtual media attach modes.

- Attach: Select this mode to attach Virtual Media to the server immediately upon bootup. A virtual device will always be seen in the system BIOS even when it is not active.

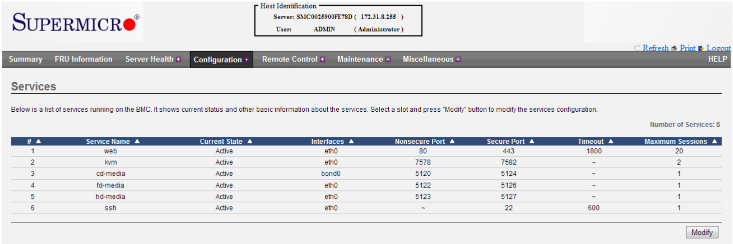
- Auto Attach: Select this mode to only attach Virtual Media to the server when a virtual media session is started. Virtual devices will only be shown in the operating systems and BIOS when a device or an ISO image is connected through the virtual media wizard.

4. Save: Click this button to save any changes made. If any remote sessions are currently active, clicking Save will automatically close the remote redirection session.

5. Reset: Click this button to reset any changes to the original settings.

### *2.5.13 Services*

Use this feature to view or modify basic services running in the BMC. Click *Services* in the Configuration submenu to display a list of available services and their settings, as shown in the image below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

Services

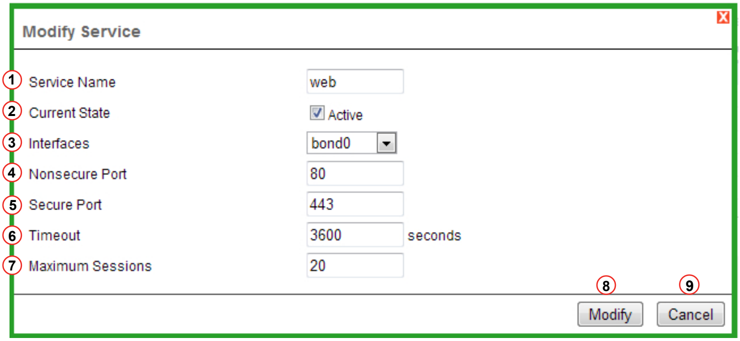
Below is a list of services running on the BMC. It shows current status and other basic information about the services. Select a slot and press "Modify" button to modify the services configuration.

Number of Services: 6

| # ▲ | Service Name ▲ | Current State ▲ | Interfaces ▲ | Nonsecure Port ▲ | Secure Port ▲ | Timeout ▲ | Maximum Sessions ▲ |
|---|---|---|---|---|---|---|---|
| 1 | web | Active | eth0 | 80 | 443 | 1800 | 20 |
| 2 | kvm | Active | eth0 | 7578 | 7582 | ~ | 2 |
| 3 | cd-media | Active | bond0 | 5120 | 5124 | ~ | 1 |
| 4 | fd-media | Active | eth0 | 5122 | 5126 | ~ | 1 |
| 5 | hd-media | Active | eth0 | 5123 | 5127 | ~ | 1 |
| 6 | ssh | Active | eth0 | ~ | 22 | 600 | 1 |

### *Modifying a Service*

To modify a service, select a slot from the list and click the Modify button (or double-click the slot) to open the configuration window shown below.



| | |
|---|---|
| 1 Service Name | web |
| 2 Current State | ☑ Active |
| 3 Interfaces | bond0 |
| 4 Nonsecure Port | 80 |
| 5 Secure Port | 443 |
| 6 Timeout | 3600 seconds |
| 7 Maximum Sessions | 20 |

1. Service Name: The service name of the selected slot is displayed. This field is read only.

2. Current State: Click this checkbox to change the state of the service to active or inactive. When checked, the service is active and the fields below are enabled.

3. Interfaces: Displays the interface in which the service is running. Select any of the other available interfaces from the drop-down list.

4. Nonsecure Port: Enter the non-secure port number for the service. The default non-secure port of each service is listed below:

   - Web: Port 80

   - KVM: Port 7578

- CD Media: Port 5120
- FD Media: Port 5122
- HD Media: Port 5123
- Telnet: Port 23

**Note:** SSH service does not support non-secure port.

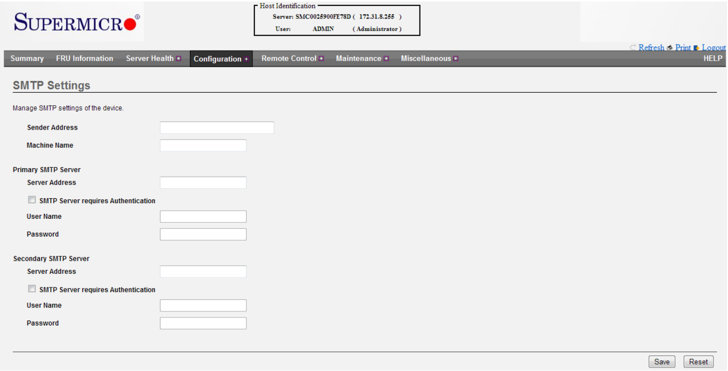
5. Secure Port: Enter the secure port number for the service. The default secure port of each service is listed below:
    - Web: Port 443
    - KVM: Port 7582
    - CD Media: Port 5124
    - FD Media: Port 5126
    - HD Media: Port 5127
    - SSH: Port 22

    **Note:** Telnet service does not support secure port.

6. Timeout: Displays the session timeout value. A timeout value can only be configured for Web, Telnet, and SSH services. The timeout value range is:
    - Web: 300 to 1800 seconds
    - SSH and Telnet: 30 to 1800 seconds (Telnet and SSH have a shared timeout value. If a value is configured for one, it is applied to the other.)
7. Maximum Sessions: A read-only field that displays the maximum amount of allowed sessions.
8. Modify: Click this button to save any changes and return to the Services list. If a session is already opened for a service, the service will be restarted.
9. Cancel: Click this button to abort any changes and return to the Services list.

### 2.5.14 SMTP

Use this feature to configure Simple Mail Transfer Protocol (SMTP) settings for email transmission. Click *SMTP* in the Configuration submenu to display the page below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

SMTP Settings

Manage SMTP settings of the device.

Sender Address

Machine Name

Primary SMTP Server

Server Address

□ SMTP Server requires Authentication

User Name

Password

Secondary SMTP Server

Server Address

□ SMTP Server requires Authentication

User Name

Password

The available SMTP settings are described below:

- Sender Address: Enter a valid sender address on the SMTP server.
- Machine Name: Enter the machine name of the SMTP server. Up to 15 alpha-numeric characters are allowed. Spaces and special characters are not allowed.

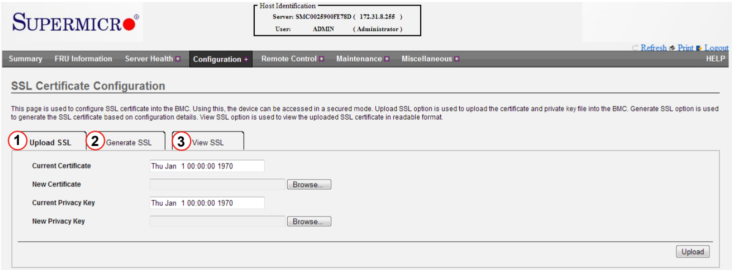
**Primary SMTP Server**

- Server Address: Enter the SMTP server IP address (field is mandatory). Both IPv4 and IPv6 address formats are supported.
- SMTP Server requires Authentication: Click this checkbox to enable SMTP authentication. Supported authentication types include CRAM-MD5, LOGIN, and PLAIN. If none of these authentication types are supported by the SMTP server, an error message will be generated.
- User Name: Enter the username that will access SMTP accounts. The value range is from 4 to 64 alpha-numeric characters. The username must start with a letter and cannot contain the following special characters: comma (,), colon (:), semicolon (;), space ( ), or backslash (\).
- Password: Enter the password that will be used for the SMTP user account. The value range is from 4 to 64 characters, with no white spaces allowed.
- Secondary SMTP Server: This optional field lists the secondary SMTP server. The secondary SMTP server will be used if the primary server is unavailable.

Click Save to save changes, or click Reset to reset fields to the original settings.

### 2.5.15 SSL

Use this feature to configure Secure Socket Layer (SSL) protocol settings for secure transactions. Click *SSL* in the Configuration submenu to display the page below.



SSL Certificate Configuration

This page is used to configure SSL certificate into the BMC. Using this, the device can be accessed in a secured mode. Upload SSL option is used to upload the certificate and private key file into the BMC. Generate SSL option is used to generate the SSL certificate based on configuration details. View SSL option is used to view the uploaded SSL certificate in readable format.

Current Certificate: Thu Jan 1 00:00:00 1970

New Certificate:

Current Privacy Key: Thu Jan 1 00:00:00 1970

New Privacy Key:

The SSL Certificate Configuration page is divided into the following three sections:

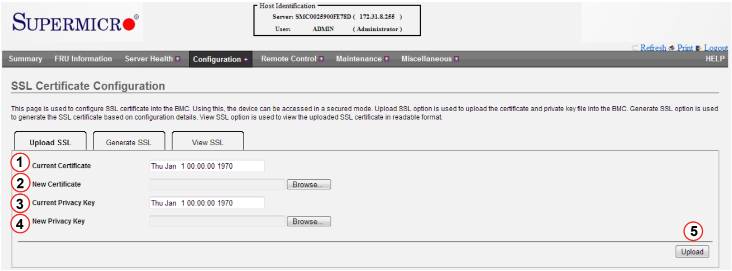
1. **Upload SSL:** Use this tab to upload a certificate and private key file into the BMC. See section 2.5.15.a

2. **Generate SSL:** Use this tab to generate the SSL certificate based on configuration details. See section 2.5.15.b

3. **View SSL:** Use this tab to view an uploaded SSL certificate. See section 2.5.15.c.

### *2.5.15.a SSL - Upload SSL*

Click the Upload SSL tab in the SSL Certificate Configuration page to display the configuration information shown below.



Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

SSL Certificate Configuration

This page is used to configure SSL certificate into the BMC. Using this, the device can be accessed in a secured mode. Upload SSL option is used to upload the certificate and private key file into the BMC. Generate SSL option is used to generate the SSL certificate based on configuration details. View SSL option is used to view the uploaded SSL certificate in readable format.

Current Certificate: Thu Jan 1 00:00:00 1970
New Certificate:
Current Privacy Key: Thu Jan 1 00:00:00 1970
New Privacy Key:

1. Current Certificate: Displays current certificate information (read-only).

2. New Certificate: Click the Browse button to the right of this field to select a certificate file (the file should have a .pem extension).

3. Current Privacy Key: Displays current privacy key information (read-only).

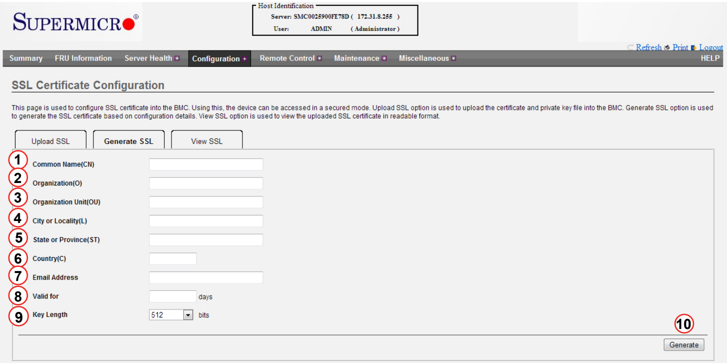
4. New Privacy Key: Click the Browse button to the right of this field to select a privacy key file (the file should have a .pem extension).

5. Upload: Click this button to upload any new certificate or privacy key files into the BMC.

**Note:** Once the files are successfully uploaded, HTTPs service will be restarted to use the new certificate.

### *2.5.15.b SSL - Generate SSL*

Click the Generate SSL tab in the SSL Certificate Configuration page to display the configuration information shown below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

SSL Certificate Configuration

This page is used to configure SSL certificate into the BMC. Using this, the device can be accessed in a secured mode. Upload SSL option is used to upload the certificate and private key file into the BMC. Generate SSL option is used to generate the SSL certificate based on configuration details. View SSL option is used to view the uploaded SSL certificate in readable format.

Key Length: 512 bits

1. Common Name(CN): Enter the common name (64 characters maximum) for the generated certificate. The '#' and '$' special characters are not allowed.

2. Organization(O): Enter the organization name (64 characters maximum) for the generated certificate. The '#' and '$' special characters are not allowed.

3. Organization Unit(OU): Enter the overall organization section unit name (64 characters maximum) for the generated certificate. The '#' and '$' special characters are not allowed.

4. City or Locality(L): Enter the city or locality of the organization (required). A maximum of 64 characters is allowed ('#' and '$' characters are not allowed).

5. State or Province(ST): Enter the state/province of the organization (required). 64 characters maximum is allowed ('#' and '$' characters are not allowed).

6. Country(C): Enter the two-character country code of the organization (required). Only two characters (no special characters) are allowed.

7. Email Address: Enter the email address of the organization (required).

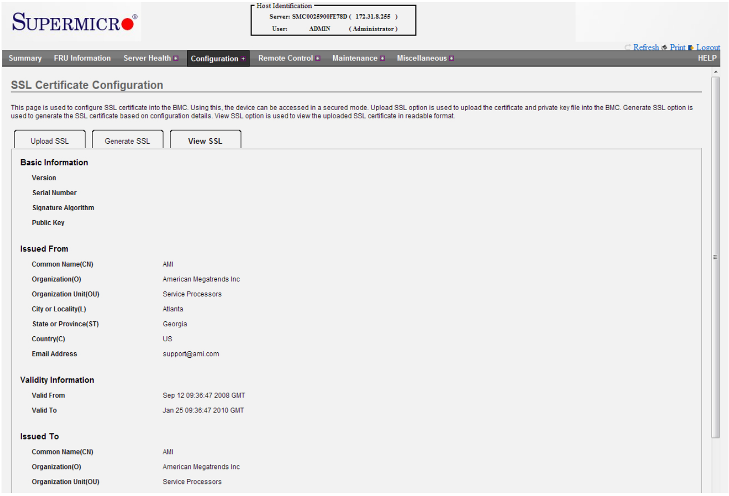
8. Valid for: Enter the number of days (from 1 to 3650) the certificate is valid.

9. Key Length: Use the drop-down list to select 512 bits or 1024 bits.

10. Generate: Click this button to generate the new certificate. Once it is successfully generated, HTTPs service will be restarted to use the new certificate. Your internet browser will now indicate **https://**<your system IP address>.

### *2.5.15.c SSL - View SSL*

Click the View SSL tab in the SSL Certificate Configuration page to view a list of SSL information similar to the image below.



SSL Certificate Configuration

This page is used to configure SSL certificate into the BMC. Using this, the device can be accessed in a secured mode. Upload SSL option is used to upload the certificate and private key file into the BMC. Generate SSL option is used to generate the SSL certificate based on configuration details. View SSL option is used to view the uploaded SSL certificate in readable format.

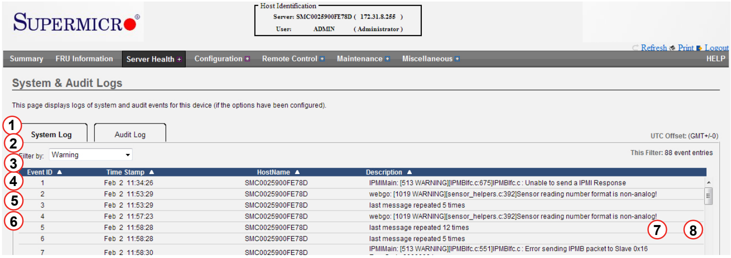
| | |
|---|---|
| **Basic Information** | |
| Version | |
| Serial Number | |
| Signature Algorithm | |
| Public Key | |
| **Issued From** | |
| Common Name(CN) | AMI |
| Organization(O) | American Megatrends Inc |
| Organization Unit(OU) | Service Processors |
| City or Locality(L) | Atlanta |
| State or Province(ST) | Georgia |
| Country(C) | US |
| Email Address | support@ami.com |
| **Validity Information** | |
| Valid From | Sep 12 09:36:47 2008 GMT |
| Valid To | Jan 25 09:36:47 2010 GMT |
| **Issued To** | |
| Common Name(CN) | AMI |
| Organization(O) | American Megatrends Inc |
| Organization Unit(OU) | Service Processors |

The SSL information is divided into the following four sections:

- Basic Information: This section lists basic information about the SSL certificate.
- Issued From: This section lists information about the certificate issuer.
- Validity Information: This section lists information about the certificate validity period.
- Issued To: This section lists information about the certificate owner.

### *2.5.16 System and Audit Log*

Use this feature to change settings for event and audit logs. Click *System and Audit Log* in the Configuration submenu to display the page below.



This page displays logs of system and audit events for this device (if the options have been configured).

| Event ID | Time Stamp | HostName | Description |
|---|---|---|---|
| 1 | Feb 2 11:34:26 | SMC0025900FE78D | IPMIMain: [513 WARNING][IPMBIfc.c:675]IPMBIfc.c : Unable to send a IPMI Response |
| 2 | Feb 2 11:53:29 | SMC0025900FE78D | webgo: [1019 WARNING][sensor_helpers.c:392]Sensor reading number format is non-analog! |
| 3 | Feb 2 11:53:29 | SMC0025900FE78D | last message repeated 5 times |
| 4 | Feb 2 11:57:23 | SMC0025900FE78D | webgo: [1019 WARNING][sensor_helpers.c:392]Sensor reading number format is non-analog! |
| 5 | Feb 2 11:58:28 | SMC0025900FE78D | last message repeated 12 times |
| 6 | Feb 2 11:58:28 | SMC0025900FE78D | last message repeated 5 times |
| 7 | Feb 2 11:58:30 | SMC0025900FE78D | IPMIMain: [513 WARNING][IPMBIfc.c:551]IPMBIfc.c : Error sending IPMB packet to Slave 0x16 |

The available system and audit settings are described below:

1. System Log: Click the Enable checkbox to allow system logs and to enable configuration for the following fields.

2. Log Type: Select between preserving system logs in a local or remote log. If Local Log is selected, the log file will be stored at /var/log/.

3. File Size: If Local Log is selected (above), enter the file size of the log file. The size range is from 3 to 65535 bytes.

4. Rotate Count: If log information exceeds the preset file size (above), old log information will automatically be transferred to a back-up files based on the rotate count number. Enter a rotate count number ranging from 0 to 255.

   **Note:** If the rotate count number is 0, old log information will be cleared permanently.

5. Server Address: If the Log Type is set to Remote Log, enter the remote server address where logs will be stored. Both IPv4 and FQDN (Fully Qualified Domain Name) address formats are supported.

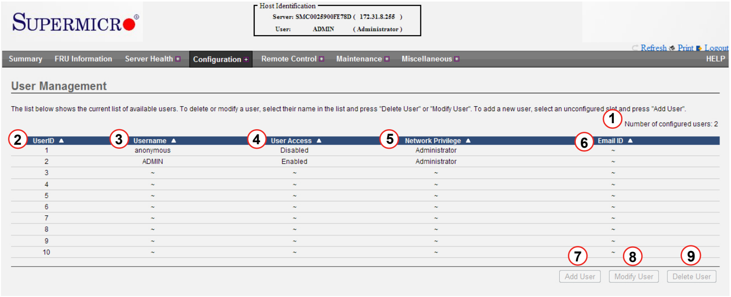
6. Audit Log: Click the Enable checkbox to enable audit logs.

7. Save: Click this button to save any changes

8. Reset: Click this button to reset any modifications to the original settings.

### 2.5.17 Users

Use this feature to add and modify user settings. Click *Users* in the Configuration submenu to display a list of the current available users, similar to the page below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

User Management

The list below shows the current list of available users. To delete or modify a user, select their name in the list and press "Delete User" or "Modify User". To add a new user, select an unconfigured slot and press "Add User".

Number of configured users: 2

| UserID ▲ | Username ▲ | User Access ▲ | Network Privilege ▲ | Email ID ▲ |
|---|---|---|---|---|
| 1 | anonymous | Disabled | Administrator | ~ |
| 2 | ADMIN | Enabled | Administrator | ~ |
| 3 | ~ | ~ | ~ | ~ |
| 4 | ~ | ~ | ~ | ~ |
| 5 | ~ | ~ | ~ | ~ |
| 6 | ~ | ~ | ~ | ~ |
| 7 | ~ | ~ | ~ | ~ |
| 8 | ~ | ~ | ~ | ~ |
| 9 | ~ | ~ | ~ | ~ |
| 10 | ~ | ~ | ~ | ~ |

The User Management page contains the following items:

1. Number of configured users: Displays the current number of the users that are set up for the network. A maximum of 10 user profiles can be created.

2. User ID: Displays the ID number of the user.

3. Username: Displays the name of the user.

4. User Access: Displays the user access privilege (enabled or disabled).

5. Network Privileges: Displays the network access privilege for the user.

   **Note:** You must have at least Operator privileges to view the User Management page. You must have Administrator privileges to modify or add a user.

6. Email ID: Displays the email address configured for the user.

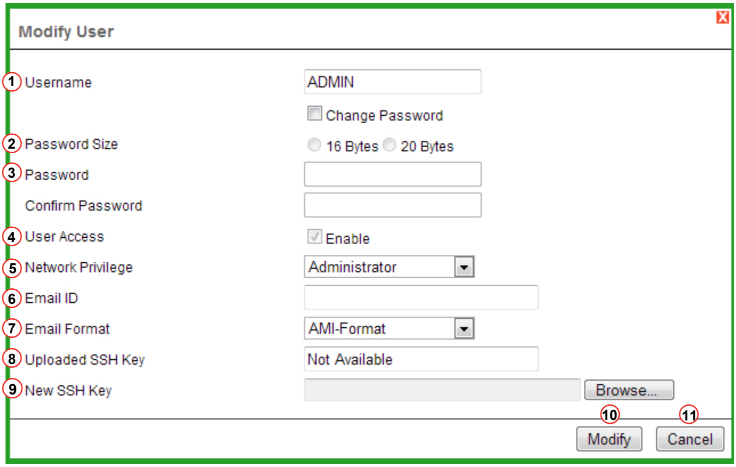
7. Add User: Click this button to add a new user to the network (see section 2.5.17.a).

8. Modify User: Click this button to modify the information or the status of a user (see section 2.5.17.a).

9. Delete User: Click this button to delete a user from the network.

### 2.5.17.a Users - Adding and Modifying Users

To add a user, select an empty slot and click the Add User button at the bottom of the User Management page. To modify a user, select a configured slot and click the Modify User button. Whether adding or modifying a user, virtually the same window is displayed, similar to the image below.



Modify User

| | |
|---|---|
| 1 Username | ADMIN |
| | □ Change Password |
| 2 Password Size | ○ 16 Bytes ○ 20 Bytes |
| 3 Password | |
| Confirm Password | |
| 4 User Access | ☑ Enable |
| 5 Network Privilege | Administrator |
| 6 Email ID | |
| 7 Email Format | AMI-Format |
| 8 Uploaded SSH Key | Not Available |
| 9 New SSH Key | |

A description for each of the fields is provided below:

1. Username: Enter the name of the user. The case-sensitive name must be from 4 to 16 characters and start with a letter character. The following special characters are not allowed: comma, period, colon, semicolon, space, slash, backslash, left parenthesis, right parenthesis.

2. Password Size: Select the desired maximum password size of 16 or 20 bytes.

3. Password, Confirm Password: Enter and confirm the password. No white space is allowed and the password must be at least eight (8) characters long, but not exceed 20 characters.

4. User Access: Click the checkbox to enable network access for the user.

5. Network privilege: Select the network privilege level for the user. The available levels are Administrator, Operator, User, OEM Proprietary, and No Access.

6. Email ID: Enter the email address for the user.

> **Note:** The SMTP server must be configured to send an email. See section 2.5.14.

7. Email Format: Select the type of email format to use. There are two types:

    - AMI-Format: Using this format, the email alert is automatically generated. The email subject will show as "Alert from (your Hostname)" and the mail content will display sensor information, such as sensor type and description.

    - Fixed-Subject Format: Using this format, you manually enter the subject and message for the email alert and the email message will display according to the user's setting.

8. Uploaded SSH Key: This read-only field displays only when modifying a user.

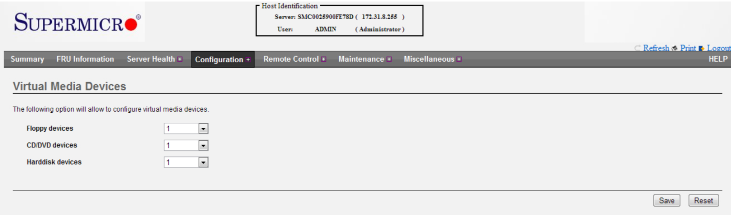
9. New SSH Key: Use the Browse button to locate and upload the SSH Key (the file should have a .pub extension).

10. Modify: Click this button to save changes and return to the Users list.

11. Cancel: Click this button to abort changes and return to the Users list.

### 2.5.18 Virtual Media

Use this feature to change settings for virtual media redirection. Click *Virtual Media* in the Configuration submenu to display the page below.



Virtual Media Devices

The following option will allow to configure virtual media devices.

Floppy devices 1

CD/DVD devices 1

Harddisk devices 1

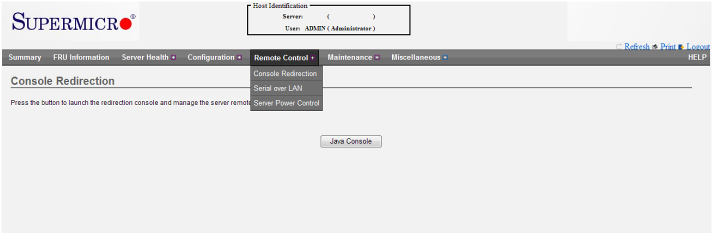
There are three fields that can be configured:

- Floppy Devices
- CD/DVD Devices
- Harddisk Devices

For each of these fields, select the number of devices that virtual media redirection will support. Click the Save button to save any changes, or click the Reset button to reset any changes back to the original settings.

## 2.6 Remote Control

This section allows the user to carry out activities and perform operations on a remote server via remote access. Click *Remote Control* in the main menu to display the submenu items, as shown below.



Console Redirection

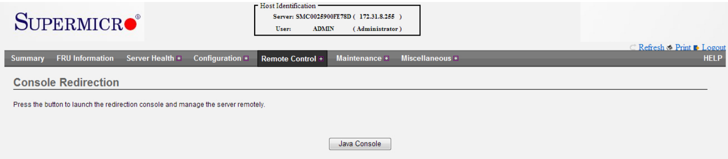
Press the button to launch the redirection console and manage the server remote

The Remote Control submenu allows you to perform the following remote actions:

- **Console Redirection:** Launches the redirection console for remote server management
- **Serial over LAN:** Launches the serial over LAN (SOL) for remote server management
- **Server Power Control:** Provides power control capabilities, such as power on, power off, and reset.

### 2.6.1 Remote Console

This feature allows you to perform various activities on the server remotely. Click *Remote Console* in the Remote Control submenu to display the page below.



Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

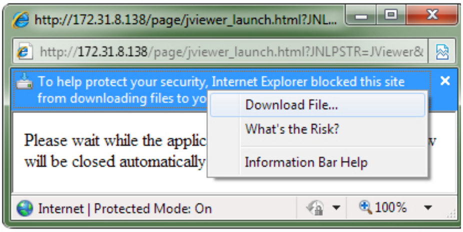
Console Redirection

Press the button to launch the redirection console and manage the server remotely.

Follow the instructions below to launch the remote console.

1. Launch Console: Click the button to launch the remote console via the Java script. Alternatively, you can click 'Summary' in the main menu bar, then click the launch button in the Remote Control section.

2. Security Message: Upon launching the remote console, a window will display with a security message. Click on the message and select Download File, as indicated below.



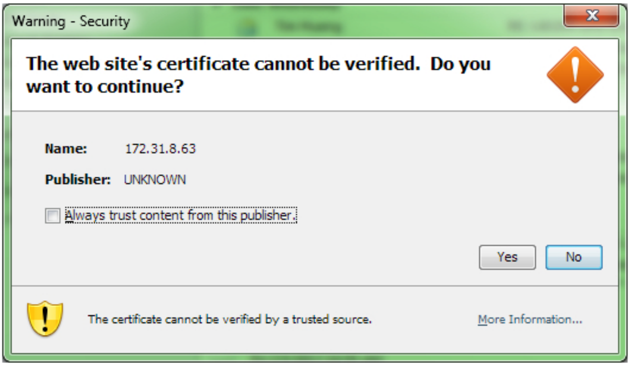
http://172.31.8.138/page/jviewer_launch.html?JNL...

http://172.31.8.138/page/jviewer_launch.html?JNLPSTR=JViewer&

To help protect your security, Internet Explorer blocked this site from downloading files to yo

Please wait while the applic will be closed automatically

3. Security Warning: A security warning will appear (as shown below), indicating that the web site's certificate cannot be verified. Click the checkbox "Always trust content from this publisher" to eliminate further security warnings, then click Yes to proceed.



The web site's certificate cannot be verified. Do you want to continue?

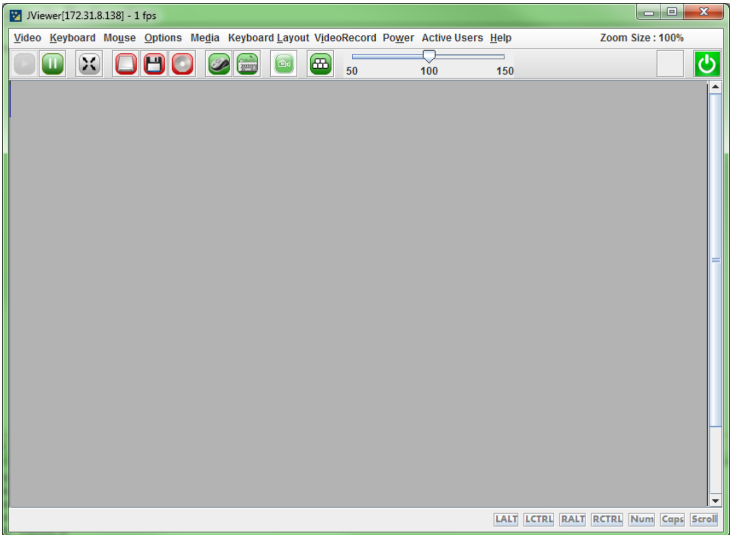
Name: 172.31.8.63

Publisher: UNKNOWN

□ Always trust content from this publisher.

The certificate cannot be verified by a trusted source.

4. The remote console will continue launching until the screen of the client system is displayed as shown below.

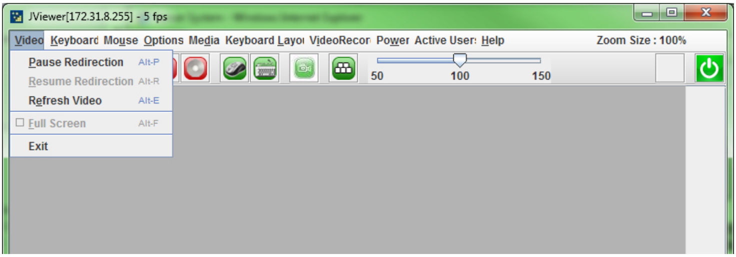


At the top of the remote console viewer (shown above) is a Menu bar with a row of quick button items beneath. The Menu bar items are described in sections 2.6.1.a through 2.6.1.i. The quick button functions are described in the table below.

| Quick Button | Description |
|---|---|
| ▶ | Plays Console redirection (when paused) |
| ⏸ | Pauses Console redirection |
| ⤢ | Scales Console redirection to full screen |
| 🖴 💾 💿 | Opens a virtual media for the device if connected |
| 🖱 | Shows or hides the mouse cursor on client system |
| ⌨ | Shows or hides the soft keyboard |
| 📹 | Records video (see section 2.6.1.g) |
| ⌨ | Lists the HotKeys |
| 50 100 150 | Zooms client screen in or out |
| ⏻ | Indicates server power status (red=off, green=on) and can be used to power the server on or off |

### 2.6.1.a Console Redirection - Video

Use this item to configure video settings for your remote console. Click *Video* in the Menu bar to display the video options as shown below.

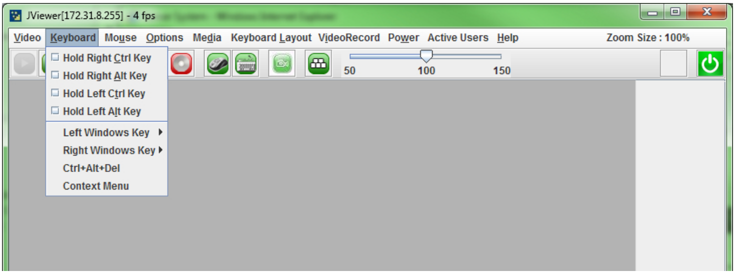


The options in the Video submenu are described below.

- Pause Redirection: Freezes the screen.
- Resume Redirection: Re-activates a frozen screen.
- Refresh Video: Refreshes the display.
- Full Screen: Expands the display to full screen mode.
- Exit: Closes the Remote Console window.

### *2.6.1.b Console Redirection - Keyboard*

Use this item to emulate keyboard strokes on the remote console. Click *Keyboard* in the Menu bar to display the remote console keyboard options as shown below.



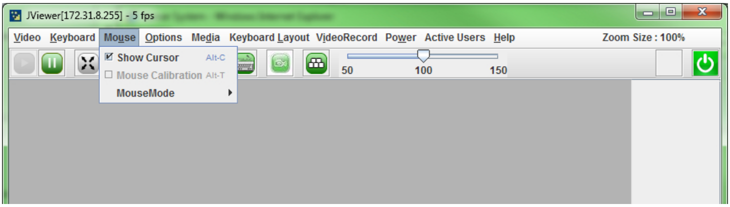
The options in the Keyboard submenu described below.

- Hold Right Ctrl Key: Check this to emulate the right Ctrl key when it is pressed.
- Hold Right Alt Key: Check this to emulate the right alt key when it is pressed.
- Hold Left Ctrl Key: Check this to emulate the left Ctrl key when it is pressed.
- Hold Left Alt Key: Check this to emulate the left alt key when it is pressed.
- Left Windows Key: Scroll over this to display the following submenu items:
    - Hold down: Check this to emulate the left window key when pressed.
    - Press and Release: Click this to press and release the left window key.
- Right Windows Key: Scroll over this item to display the following submenu items:
    - Hold down: Check this to emulate the right window key when pressed.
    - Press and Release: Click this to press and release the right window key.
- Ctrl+Alt+Del: Click this to emulate pressing Ctrl+Alt+Del simultaneously.
- Context Menu: Click this to emulate the context menu key.

**Note:** To activate the soft keyboard, click the keyboard icon in the quick button row beneath the Menu bar.

### *2.6.1.c Remote Console - Mouse*

Use this feature to configure the mouse settings for the remote console. Click *Mouse* in the Menu bar to display the options as shown below.



The options in the Mouse submenu are described below.

- Show Cursor: Click this item to display the cursor on the screen.
- Mouse Calibration: Check this box to calibrate the mouse threshold settings. The local mouse color will appear in RED and the remote cursor (in the remote console window) will appear in white. Both mouse cursors are initially synchronized. Use the (+) or the (-) keys to adjust the threshold settings until the cursors fall out of synch. Once the desired level of synchronization is achieved, press Alt+T simultaneously to lock the threshold value.

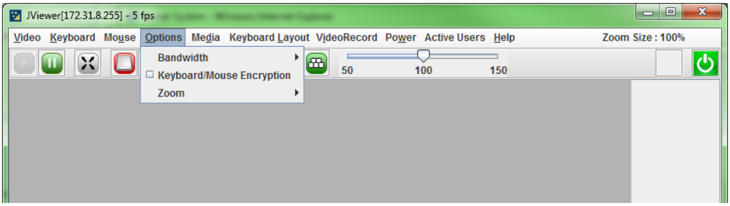
  **Note:** Mouse Calibration is enabled only when the mouse mode is set to Relative (see below).

- Mouse Mode: (Administrator only) Use this feature to configure how mouse emulation is handled from the local window to the remote screen. The two options are:
  - Absolute Mode: Check this radio button to use the Absolute mode for the Windows OS. This will send the absolute position of the local mouse to the server.
  - Relative Mode: Check this radio button to use the Relative mode for the Linux/Unix OS. This will send the relative calculated mouse position displacement to the server.

  **Note**: IPMI is an OS-independent platform, and KVM support is an added feature for IPMI. For your mouse to function properly, please configure the Mouse Mode settings (above) according to the remote server's OS type.

### 2.6.1.d Remote Console - Options

Use this feature to configure bandwidth, zoom, and keyboard options. Click *Options* in the Menu bar to display the items shown below.

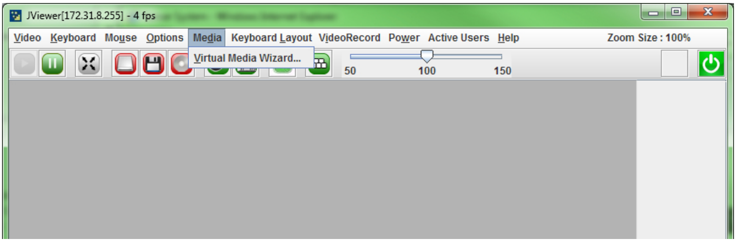


The available options are described below:

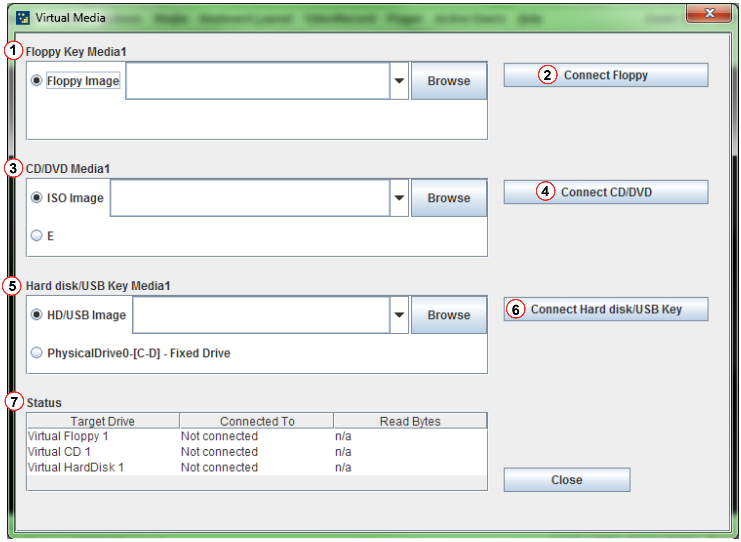
- Bandwidth: Provides keyboard bandwidth adjustment options. Select one of the following:
    - Auto Detect
    - 256 Kbps
    - 512 Kbps
    - 1Mbps
    - 10Mbps
- Keyboard/Mouse Encryption: Allows encryption of keyboard input and mouse movements sent between the local and remote system.
- Zoom: Select between Zoom In and Zoom Out to deviate from the default zoom of 100%.
    - Zoom In: Increases screen size up to 150% by 10% increments.
    - Zoom Out: Decreases screen size down to 50% by 10% increments.

### *2.6.1.e Remote Console - Media*

Use this feature to configure media virtualization for the remote console. Click *Media* in the Menu bar to display the Virtual Media option shown below.



Click *Virtual Media Wizard* to launch the window shown below to configure Virtual Media settings.



| Target Drive | Connected To | Read Bytes |
|---|---|---|
| Virtual Floppy 1 | Not connected | n/a |
| Virtual CD 1 | Not connected | n/a |
| Virtual HardDisk 1 | Not connected | n/a |

1. Floppy/USB Key Media: This section allows the user to start or stop the redirection of a floppy drive or floppy image (such as a .img file). Select one of the available options or click the Browse button to select the location of the floppy image.

2. Connect Floppy: After selecting the Floppy Media for your remote console, click the Connect Floppy button to connect to the remote console via the drive chosen.

3. CD/DVD Media: This section allows the user to start or stop the redirection of a CD/DVD drive or CD image (such as a .iso file). Select one of the available options or click the Browse button to select the location of the CD/DVD image.

4. Connect CD/DVD: After selecting the CD/DVD Media for your remote console, click the Connect CD/DVD button to connect to the remote console via the drive chosen.

5. Hard disk/USB Key Media: This section allows the user to start or stop the redirection of a Hard disk/USB Key drive or image (such as a .img file). Select one of the available options or click the Browse button to select the location of the Hard disk/USB Key image.

6. Connect Hard disk/USB Key: After selecting the Hard disk/USB Key Media for your remote console, click the Connect Hard disk/USB Key button to connect to the remote console via the drive chosen.

7. Status: This window displays the status of the target drive of the remote console.

**Notes:** For Windows client: If a logical drive (on the physical drive) is dismounted, the logical device will be redirected with Read permission only.

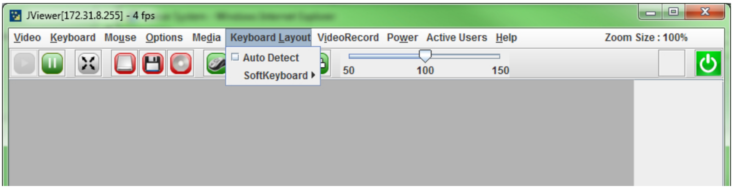
For MAC client: Only USB Hard disk redirection is supported.

For Linux client: Write mode is not supported for fixed hard drive redirection. Only Read mode is supported.

For USB key image: Supported formats are FAT16, FAT32, and NTFS.

### *2.6.1.f Remote Console - Keyboard Layout*

Use this feature to configure keyboard layout settings for the remote console. Click *Keyboard Layout* in the Menu bar to display the options as shown below.



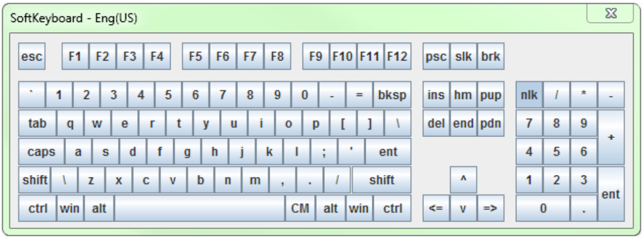
The options in the Keyboard Layout submenu are described below.

- Auto Detect: Check this to automatically detect the keyboard layout. The automatically supported languages are English (US), French (France), Spanish (Spain), German (Germany), and Japanese (Japan).

  **Note:** With the exception of English, if the client and host languages are the same, select the Auto Detect option to avoid keyboard (typing) errors.

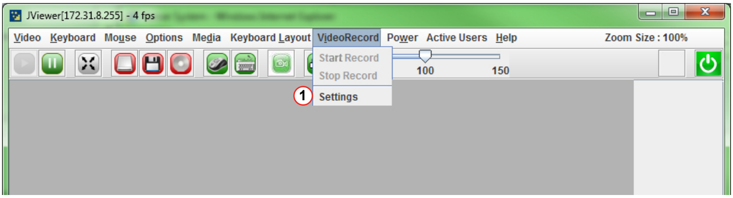
- SoftKeyboard: Scroll over this item to display a list of languages for the soft keyboard layout. Select a language from the list to display the soft keyboard, similar to the image below.

  **Note:** The soft keyboard option is available only for the JViewer application.


SoftKeyboard - Eng(US)
esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 psc slk brk
` 1 2 3 4 5 6 7 8 9 0 - = bksp ins hm pup nlk / * -
tab q w e r t y u i o p [ ] \ del end pdn 7 8 9 +
caps a s d f g h j k l ; ' ent 4 5 6
shift \ z x c v b n m , . / shift ^ 1 2 3 ent
ctrl win alt CM alt win ctrl <= v => 0 .

### 2.6.1.g Remote Console - VideoRecord

Use this feature to perform video recording actions for the remote console. Click *VideoRecord* in the Menu bar to display the options as shown below.


JViewer[172.31.8.255] - 4 fps
Video Keyboard Mouse Options Media Keyboard Layout VideoRecord Power Active Users Help
Zoom Size : 100%
Start Record
Stop Record
1 Settings
100
150

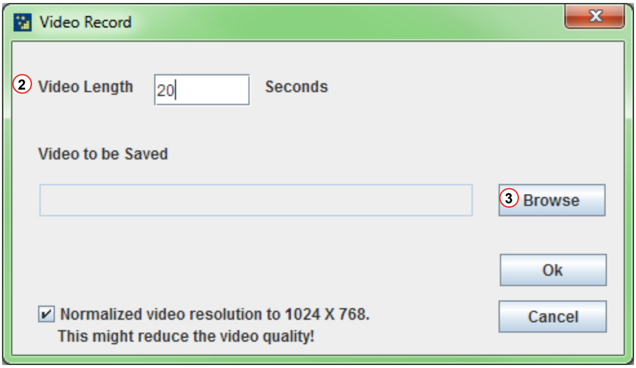
The options in the Keyboard Layout submenu are described below.

- Start Record: Click this to start recording the remote console display.
- Stop Record: Click this to stop recording.

> **Note:** Start Record and Stop Record are initially not selectable. To enable recording, the settings must first be configured (see below).

- Settings: Click this item to configure video settings. Follow the instructions below to enable video recording.

1. Click Settings (see above) to open the Video Record window.
2. In the Video Record window (below), enter the amount of time (in seconds) for the recording.
3. Click the Browse button to open a directory window and select a location for the video to be saved.

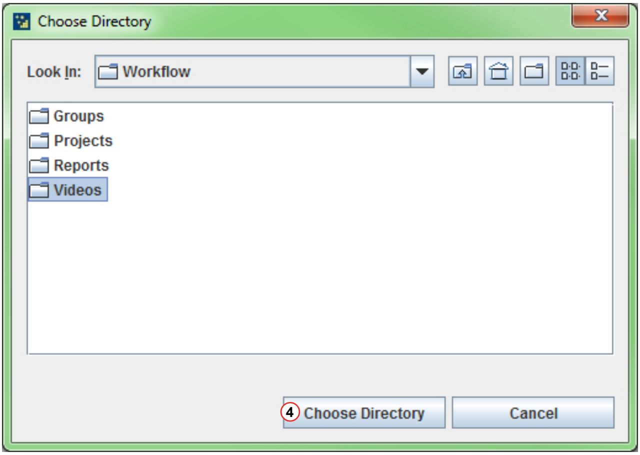


Video Length 20 Seconds

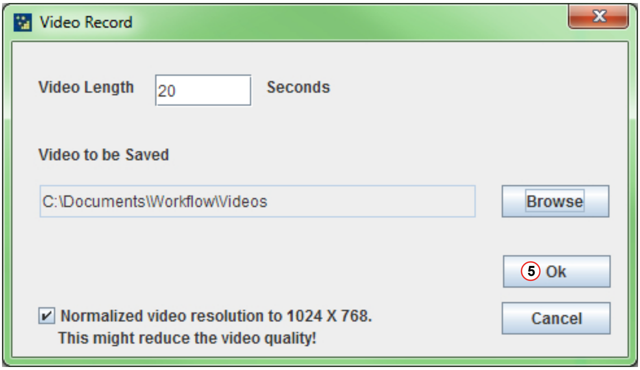
Video to be Saved

☑ Normalized video resolution to 1024 X 768.
This might reduce the video quality!

4. In the Directory window, select a location and click the Choose Directory button. This will return you to the Video Record window.



5. In the Video Record window, click OK to save the entries and return to the Console Redirection screen.


Video Record

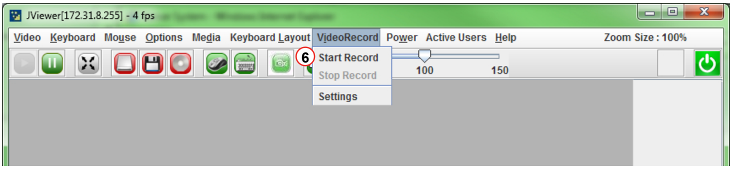
Video Length 20 Seconds

Video to be Saved

C:\Documents\Workflow\Videos

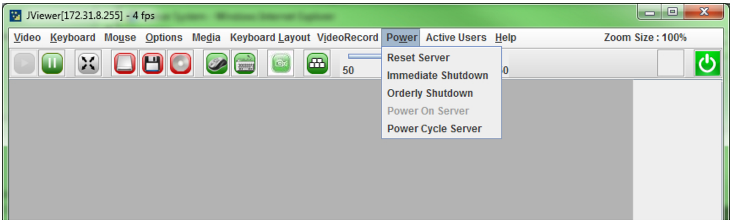
☑ Normalized video resolution to 1024 X 768. This might reduce the video quality!

6. Click VideoRecord in the redirection window. The Start Record option is now enabled.


JViewer[172.31.8.255] - 4 fps

### 2.6.1.h Remote Console - Power

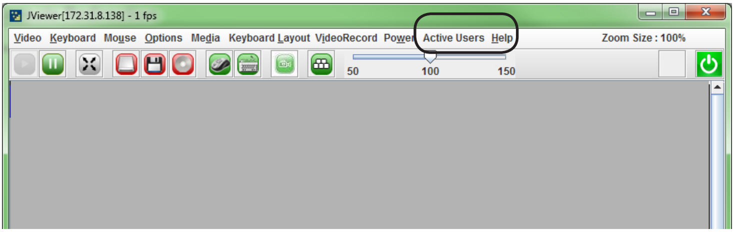
Use this feature to perform power functions using the remote console. Click *Power* in the Menu bar to display the options as shown below.



The options in the Power submenu are described below.

- Reset Server: Reboots the system without powering off.
- Immediate Shutdown: Immediately powers off the server.
- Orderly Shutdown: Powers off the server after OS shutdown functions have completed.
- Power On Server: Powers on the server.
- Power Cycle Server: Powers off the server, then reboots the system.

### *2.6.1.i Remote Console - Active Users and Help*



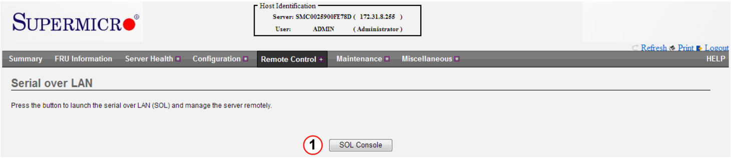
The Active Users and Help menu (indicated above) are described below.

- **Active Users**: Click this to display all active users (and their system IP address) that are connected to the host system.

- **Help**: Click this to display the JViewer version and copyright information.

### 2.6.2 Serial Over LAN

This feature allows you to launch the remote console by using Serial over LAN (SOL). Click *Serial over LAN* in the Remote Control submenu to display the page below.



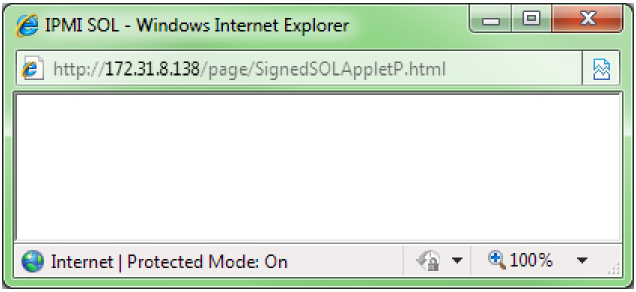
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

Serial over LAN

Press the button to launch the serial over LAN (SOL) and manage the server remotely.

Follow the instructions below to launch SOL.

1. Click the SOL Console button (shown above) to launch the remote console. The IPMI SOL window displays as shown below.

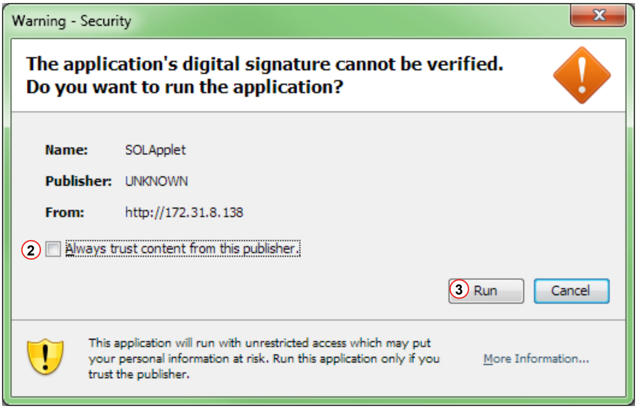


IPMI SOL - Windows Internet Explorer

http://172.31.8.138/page/SignedSOLAppletP.html

2. A security warning will appear (shown below), indicating that the application's digital signature cannot be verified. Mark the checkbox "Always trust content from this publisher" to eliminate further security warnings.

3. Click Run to continue launching SOL.



Warning - Security

**The application's digital signature cannot be verified.**
**Do you want to run the application?**

**Name:** SOLApplet

**Publisher:** UNKNOWN

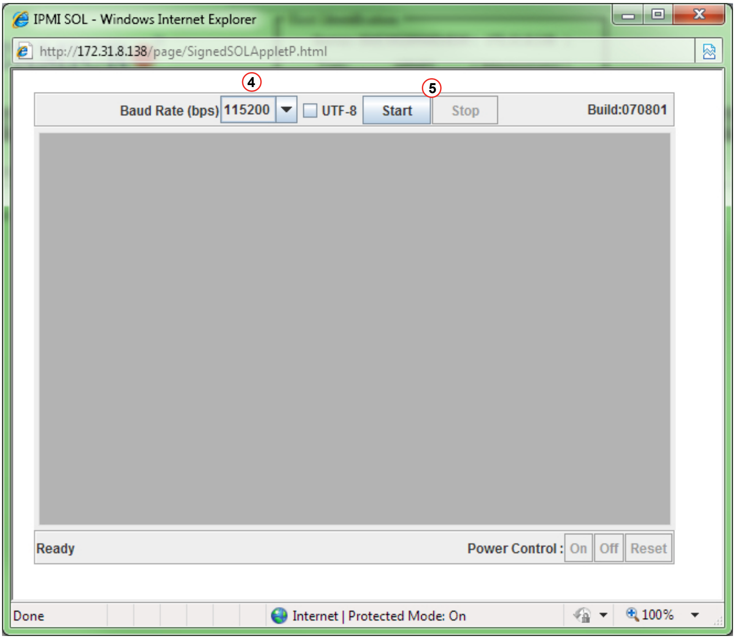
**From:** http://172.31.8.138

2 □ Always trust content from this publisher.

This application will run with unrestricted access which may put your personal information at risk. Run this application only if you trust the publisher.

4. The SOL console redirection will display as shown below. Select a Baud Rate from the drop-down list to configure the SOL transfer rate.

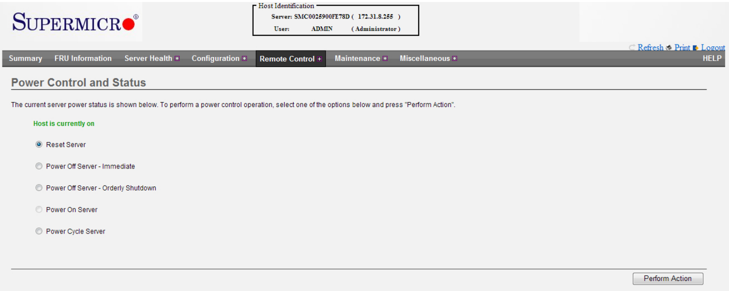
**Note:** Make sure that the baud rate selected matches the baud rate set in the BIOS.


IPMI SOL - Windows Internet Explorer
http://172.31.8.138/page/SignedSOLAppletP.html
4
5
Baud Rate (bps) 115200
□ UTF-8
Start
Stop
Build:070801
Ready
Power Control : On Off Reset
Done
Internet | Protected Mode: On
100%

5. Click the Start button to start the SOL session or click the Stop button to abort the session.

### 2.6.3 Server Power Control

Use this feature remotely perform power functions for the host server. Click *Server* Power Control to display the page below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

Power Control and Status

The current server power status is shown below. To perform a power control operation, select one of the options below and press "Perform Action".

Host is currently on

● Reset Server

○ Power Off Server - Immediate

○ Power Off Server - Orderly Shutdown

○ Power On Server

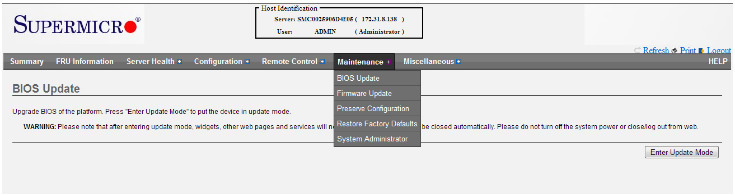
○ Power Cycle Server

Select a power control function then click Perform Action (lower right-side of page) to execute. The power control options are described below.

- Reset Server: Reboots the system without powering off.
- Power Off Server - Immediate: Immediately powers off the server.
- Power Off Server - Orderly Shutdown: Powers off the server after OS shutdown functions have completed.
- Power On Server: Powers on the server.
- Power Cycle Server: Powers off the server, then reboots the system.

## 2.7 Maintenance

This menu allows the user to manage various maintenance tasks on the device. Click *Maintenance* in the main menu to display the submenu contents, as shown below.



BIOS Update

Upgrade BIOS of the platform. Press "Enter Update Mode" to put the device in update mode.

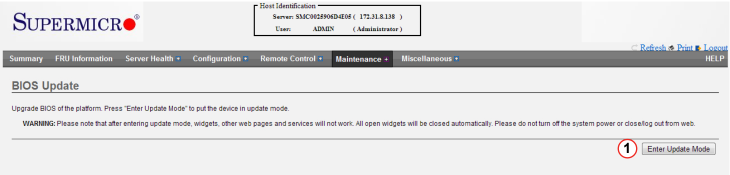
**WARNING:** Please note that after entering update mode, widgets, other web pages and services will n be closed automatically. Please do not turn off the system power or close/log out from web.

The Maintenance submenu contains the following items:

- BIOS Update
- Firmware Update
- Preserve Configuration
- Restore Factory Defaults
- System Administrator

### 2.7.1 BIOS Update

This feature allows the user to perform a BIOS update. Click *BIOS Upgrade* in the Maintenance submenu to display the page shown below.



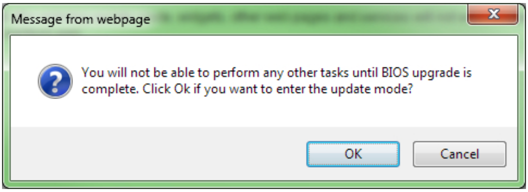
BIOS Update

Upgrade BIOS of the platform. Press "Enter Update Mode" to put the device in update mode.

**WARNING:** Please note that after entering update mode, widgets, other web pages and services will not work. All open widgets will be closed automatically. Please do not turn off the system power or close/log out from web.

1. To begin the BIOS update process, click the Enter Update Mode button (see above). A message will display.

2. A message displays (see below) indicating that you will not be able to perform any other tasks until the upgrade is complete. Click OK to continue. Otherwise, click Cancel to return to the BIOS Update page.



You will not be able to perform any other tasks until BIOS upgrade is complete. Click Ok if you want to enter the update mode?

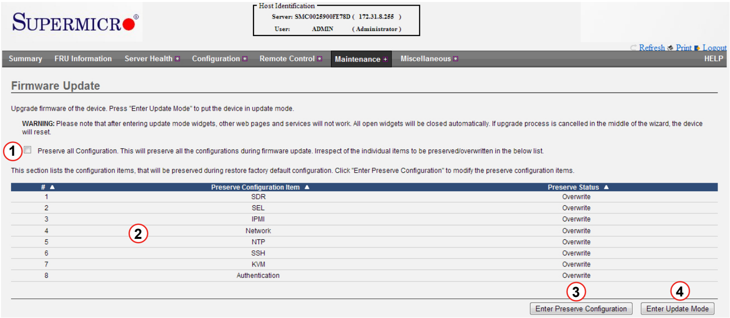
3. Follow the instructions that are subsequently presented on screen to complete the BIOS update.

**Note:** Once you have entered Update Mode, the device will be reset even if you cancel.

**Warning**: Take precautionary measures to prevent power interruption from happening during firmware updates to avoid possible device failure. Do not cancel the BIOS Upload process after clicking the *Upload* button.

### 2.7.2 Maintenance - Firmware Update

This feature allows the user to perform a firmware update. Click *Firmware Update* in the Maintenance submenu to display the page shown below.



Firmware Update

Upgrade firmware of the device. Press "Enter Update Mode" to put the device in update mode.

**WARNING:** Please note that after entering update mode widgets, other web pages and services will not work. All open widgets will be closed automatically. If upgrade process is cancelled in the middle of the wizard, the device will reset.

□ Preserve all Configuration. This will preserve all the configurations during firmware update. Irrespect of the individual items to be preserved/overwritten in the below list.

This section lists the configuration items, that will be preserved during restore factory default configuration. Click "Enter Preserve Configuration" to modify the preserve configuration items.

| # ▲ | Preserve Configuration Item ▲ | Preserve Status ▲ |
|---|---|---|
| 1 | SDR | Overwrite |
| 2 | SEL | Overwrite |
| 3 | IPMI | Overwrite |
| 4 | Network | Overwrite |
| 5 | NTP | Overwrite |
| 6 | SSH | Overwrite |
| 7 | KVM | Overwrite |
| 8 | Authentication | Overwrite |

1. Click the checkbox to preserve all configuration items listed on the page.

   **Note:** If this box is left unchecked, all configuration items listed that are not set to "Preserve" will be overwritten with factory default settings during firmware upgrade.

2. A list of configuration items is displayed here. These items can be preserved or overwritten during the firmware upgrade process. To preserve individual items, click the Enter Preserve Configuration button and follow the instructions in section 2.7.3 (next page). To preserve all items, regardless of the Preserve Configuration settings, click the checkbox shown at #1 above.

3. Click the Enter Preserve Configuration button to select individual items to preserve during the firmware update. See section 2.7.2.a.

4. Click the *Enter Update Mode* button to proceed. Follow the instructions that are subsequently presented on screen to complete the firmware update.

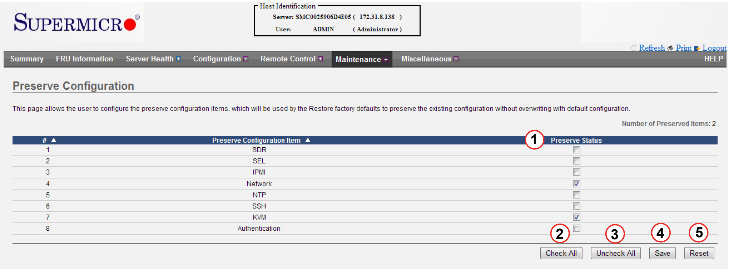
   **Note:** Once you have entered Update Mode, the device will be reset even if you cancel.

   **Warning**: Take precautionary measures to prevent power interruption from happening during firmware updates to avoid possible device failure. Do not cancel the Firmware Upload process after clicking the *Upload* button.

### *2.7.3 Preserve Configuration*

Use this feature to preserve individual configuration items from being overwritten when performing a firmware update or when restoring factory defaults. Click *Preserve Configuration* from the Maintenance submenu to display a page similar to the image below.

For information on changing the preserve configuration settings, see section 2.7.4.



Host Identification
Server: SMC0025906D4E05 ( 172.31.8.138 )
User: ADMIN ( Administrator )

Preserve Configuration

This page allows the user to configure the preserve configuration items, which will be used by the Restore factory defaults to preserve the existing configuration without overwriting with default configuration.

Number of Preserved Items: 2

| # ▲ | Preserve Configuration Item ▲ | Preserve Status |
|---|---|---|
| 1 | SDR | □ |
| 2 | SEL | □ |
| 3 | IPMI | □ |
| 4 | Network | ☑ |
| 5 | NTP | □ |
| 6 | SSH | □ |
| 7 | KVM | ☑ |
| 8 | Authentication | □ |

1. Click the checkbox under Preserve Status to preserve an individual configuration item.

   **Note 1:** If you are using the Static IP mode, it is recommended to preserve the Network configuration, otherwise the update process will reset the network settings to DHCP (Dynamic Host Configuration Protocol) mode.

   **Note 2:** Any configuration item left unchecked will be overwritten with factory default settings during firmware update.

2. Check All: Click this button to preserve all configuration items in the list.

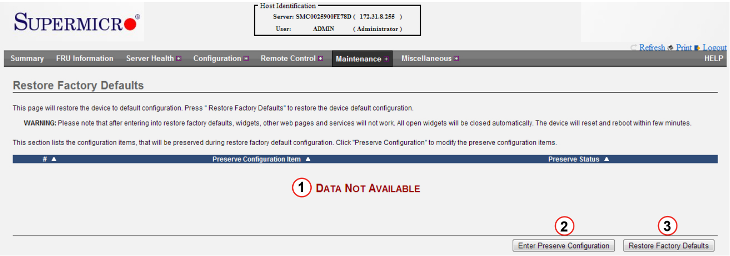
3. Uncheck All: Click this button to overwrite all configuration items in the list.

4. Save: Click this button to save the settings and return to the Firmware Update page.

5. Reset: Click this button to undo any changes that were made since entering the Preserve Configuration page.

### 2.7.4 Restore Factory Defaults

Use this feature to restore all settings of the device to the default configuration. Click *Restore Factory Defaults* from the Maintenance submenu to display the page below.



Restore Factory Defaults

This page will restore the device to default configuration. Press " Restore Factory Defaults" to restore the device default configuration.

**WARNING:** Please note that after entering into restore factory defaults, widgets, other web pages and services will not work. All open widgets will be closed automatically. The device will reset and reboot within few minutes.

This section lists the configuration items, that will be preserved during restore factory default configuration. Click "Preserve Configuration" to modify the preserve configuration items.

| # ▲ | Preserve Configuration Item ▲ | Preserve Status ▲ |
|---|---|---|

1. Preserve Configuration Item list: If any configuration items are marked as "Preserve," those items will be listed in this area. If no configuration items are marked as "Preserve," this area will indicate "Data Not Available."

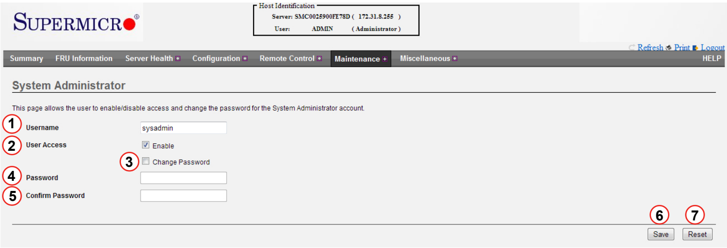
2. Enter Preserve Configuration: Click this button to select configuration items to preserve. See section 2.7.3 (previous page).

3. Restore Factory Defaults: Click this button to restore defaults to the factory settings.

**Note:** During the factory restore process, the device will take a few minutes to automatically reset and reboot.

### *2.7.5 Restore System Administrator*

Use this feature to modify system administrator settings. Click *System Administrator* from the Maintenance submenu to display the page below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

System Administrator

This page allows the user to enable/disable access and change the password for the System Administrator account.

Username: sysadmin

User Access: ☑ Enable

□ Change Password

Password:

Confirm Password:

Below is a description of all the available system administrator settings.

1. Username: The username of the administrator is displayed (read-only).

2. User Access: Mark this checkbox to enable user access for the administrator.

3. Change Password: Mark this checkbox to change the administrator password.

4. Password, Confirm Password: If the Change Password checkbox is marked, enter the new password into these fields.

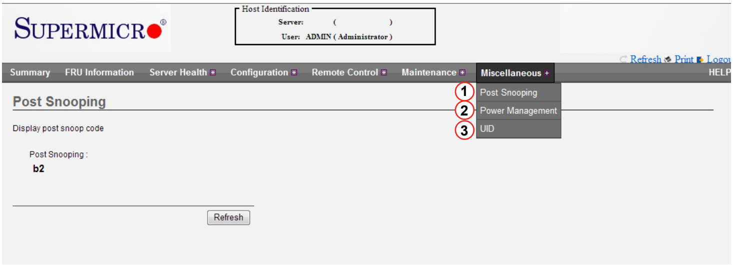
**Note:** The new password must be from 8 to 16 characters long, with no white space.

5. Save: Click this button to save any changes.

6. Reset: Click this button to reset any changes to the original settings.

## 2.8 Miscellaneous

This feature allows the user to perform the miscellaneous activities displayed below.



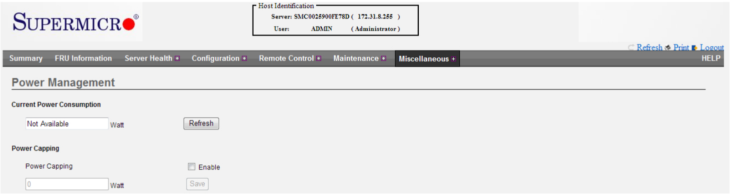
Post Snooping

Display post snoop code

Post Snooping :
b2

1. **Post Snooping:** Click this item to display the above image and query the POST (Power On Self-Test) Snooping code. Click the Refresh button to get the current post snooping code.

2. **Power Management:** Click this item to display the below image.



Power Management

Current Power Consumption

Not Available Watt

Power Capping

Power Capping □ Enable

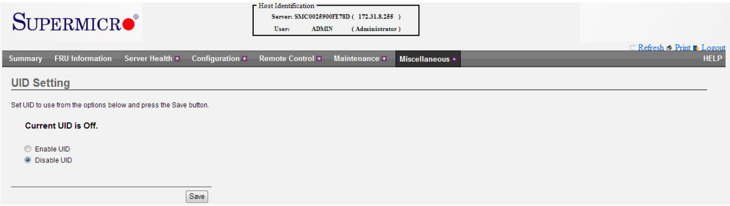
0 Watt

- Current Power Consumption: Displays (read-only) the current total power consumption for the server. Click the Refresh button to display updated data.

  **Note:** If the power supply does not support this feature, the data in this field will show as Not Available.

- Power Capping: Click the checkbox to enable power capping, then enter the maximum number of watts the system will be allowed to consume. Click Save to save changes.

3. **UID:** Click this item to enable or disable UID (Unit Identification) support, as shown in the image below.



Host Identification
Server: SMC0025900FE78D ( 172.31.8.255 )
User: ADMIN ( Administrator )

UID Setting

Set UID to use from the options below and press the Save button.

**Current UID is Off.**

○ Enable UID
● Disable UID

Click one of the options to enable or disable UID, then click the Save button. A message will display asking if you're sure you want to change the settings. Select OK to continue, otherwise select cancel to return to the UID setting page.

# Notes

# Appendix A

# Flash Tools

## A-1 Overview

This section provides instructions on how to use the Flash Tools. The Flash Tools allow the user to use Command_Line (CL) utility programs to upgrade or update firmware via different channels such as KCS, USB and LAN connections. This section will focus on the following tools:

- RWinFlsh (Windows Flash)
- RLinFlsh (Linux Flash)
- RKCSFlsh (Keyboard Controller Style Flash)

RWinFlsh and RLinFlsh allow the user to flash the BMC in a Windows (RWinFlsh) or a Linux (RLinFlsh) environment via network or USB connections. You can choose to use network connections or USB connections to flash the BMC based on how you use the flash tools.

RKCSFlsh is used to flash the firmware in the DOS environment via the KCS (Keyboard Controller Style) interface.

## A-2 Flashing the BMC Firmware in the DOS Environment

RKCSFlsh is the tool used to flash the BMC firmware in DOS through the KCS interface. To flash the BMC, follow the instructions below:

⚠ **Warning**: Avoid any interruption during the firmware update process. Any interruption may result in device failure.

1. Copy RKCSFlsh.exe into a bootable USB.

2. Run the RKCSFlsh utility.

3. Use the settings as listed below.

- Format:

RKCSFlsh [OPTION] [FW_IMAGE_FILE]

[OPTIONS]

| Options Commands | |
|---|---|
| -info | This option displays information regarding existing and current firmware. |
| -force-boot | Select this option to force the boot loader to be upgraded during full upgrade. The boot loader is "preserved" by default. |
| -preserve-config | This option preserves configuration modules during full upgrade. |
| -i | This option allows for interactive upgrade (only the required modules are upgraded). |

[FW_IMAGE_FILE]

The firmware-image file name is [rom.ima].

## Examples

- **Example 1**

*/RKCSFlsh rom.ima*

Description: This command starts flashing the new rom.ima to the firmware.

- **Example 2**

*/RKCSFlsh -info rom.ima*

Description: This command displays the details of both existing and new firmware.

- **Example 3**

*/RKCSFlsh -force-boot rom.ima*

Description: This command starts flashing the new rom.ima to the firmware using "FORCE BootLoader upgrade."

## A-3 Flashing the BMC Firmware in the Windows Environment

RWinFlsh is used to flash the BMC firmware in Windows through USB or Network connections. To flash the BMC in Windows, follow the instructions below.

⚠ **Warning**: Avoid any interruption during the firmware update process. Any interruption may result in device failure.

1. Open Command Prompt. Go to RWinFlsh\Windows\path.

2. The following two files will be displayed:

- RWinFlsh.exe

- LIBIPMI.dll

3. Run "RWinFlsh.exe" in the command prompt.

4. Use the settings as listed below.

- Format:

RWinFlsh [OPTION] [MEDIUM] [FW_IMAGE_FILE]

[OPTIONS]

| Options Commands | |
|---|---|
| -info | This option displays information regarding existing and new firmware. |
| -force-boot | Select this option to force the boot loader to be upgraded during full upgrade. The boot loader is "preserved" by default. |
| -preserve-config | This option preserves configuration modules during full upgrade. |
| -i | This option allows for interactive upgrade (only the required modules are upgraded). |

[MEDIUM]

| Medium Options | |
|---|---|
| -cd | Select this option to use USB connections. |
| -nw & ip | Select this option to use network with -ip (followed by the IP address). |

[FW_IMAGE_FILE]

The firmware-image file name is [rom.ima].

## Examples

### *Using Network as a Medium*

- **Example 1**

*RWinFlsh -nw -ip 155.166.132.12 -info rom.ima*

Description: This command displays the details of both existing and new firmware using the network connection with the ip address of 155.166.132.12.

- **Example 2**

*RWinFlsh -nw -ip 155.166.132.12 rom.ima*

Description: This command starts flashing the new rom.ima to the firmware using the network connection with the IP address of 155.166.132.12.

- **Example 3**

*RWinFlsh -nw -ip 155.166.132.12 -force-boot rom.ima*

Description: This command starts flashing the new rom.ima to the firmware with FORCE BootLoader Upgrade via the network connection using the IP address of 155.166.132.12.

### *Using USB as a Medium*

To use USB as a medium, you must first mount USB as a virtual media (see Chapter 2, section 2.6.1.e, #5 and #6). Also, ensure that the Virtual Media Attach Mode is set to "Attach" (see Chapter 2, section 2.5.12, #3).

- **Example 1**

*RWinFlsh -cd -info rom.ima*

Description: This command displays the details of both existing and new firmware using a USB connection.

- **Example 2**

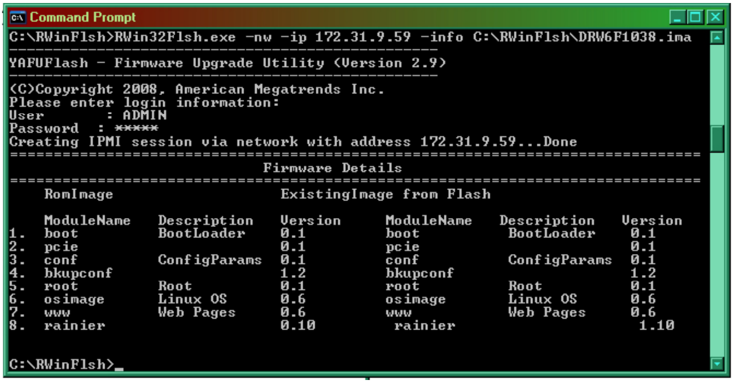
*RWinFlsh -cd rom.ima*

Description: This command starts flashing the new rom.ima to the firmware using a USB connection.

- **Example 3**

*RWinFlsh -cd -force-boot rom.ima*

Description: This command starts flashing the new rom.ima to the firmware with FORCE BootLoader Upgrade using a USB connection.



```
C:\RWinFlsh>RWin32Flsh.exe -nw -ip 172.31.9.59 -info C:\RWinFlsh\DRW6F1038.ima
-------------------------------------------------
YAFUFlash - Firmware Upgrade Utility (Version 2.9)
-------------------------------------------------
(C)Copyright 2008, American Megatrends Inc.
Please enter login information:
User       : ADMIN
Password  : *****
Creating IPMI session via network with address 172.31.9.59...Done
================================================================================
                             Firmware Details
================================================================================
    RomImage                   ExistingImage from Flash

    ModuleName   Description   Version     ModuleName   Description   Version
1.  boot         BootLoader    0.1         boot          BootLoader    0.1
2.  pcie                       0.1         pcie                        0.1
3.  conf         ConfigParams  0.1         conf          ConfigParams  0.1
4.  bkupconf                   1.2         bkupconf                    1.2
5.  root         Root          0.1         root          Root          0.1
6.  osimage      Linux OS      0.6         osimage       Linux OS      0.6
7.  www          Web Pages     0.6         www           Web Pages     0.6
8.  rainier                    0.10         rainier                     1.10


C:\RWinFlsh>_
```

## A-4 Flashing the BMC Firmware in the Linux Environment

RLinFlsh is used to flash the BMC firmware in the Linux environment using network or USB connections. To flash the BMC in Linux, follow the instructions below.

**Warning**: Avoid any interruption during the firmware update process. Any interruption may result in device failure.

1. Open the Terminal. Go to RLinFlsh/Linux path.

2. The file libipmi.so.1 should be accessible to a Linux system. Usually when running an application, Linux will search for a file in dependent libraries in default locations, such as usr/lib/lib folders.

3. Copy libipmi.so.1 to /lib or /usr/local/lib. Run "ldconfig"

   or

   Copy libipmi.so.1 to a folder and issue the following command:

   *#LD_LIBRARY_PATH=<location_of_libipmi_so>/RLinFlsh*

   **Note**: You may have to create a link to libipmi.so.1.0 (ln-sf libipmi.so.1.0 libipmi.so.1).

4. Use the settings as listed below.

- Format:

/RLinFlsh [OPTION] [MEDIUM] [FW_IMAGE_FILE]

[OPTIONS

| Options Commands | |
|---|---|
| -info | This option displays information regarding existing and new firmware. |
| -force-boot | Select this option to force the boot loader to be upgraded during full upgrade. The boot loader is "preserved" by default. |
| -preserve-config | This option preserves configuration modules during full upgrade. |
| -i | This option allows for interactive upgrade (only the required modules are upgraded). |

[MEDIUM]

| Medium Options | |
|---|---|
| -cd | Select this option to use USB connections. |
| -nw & ip | Select this option to use network with -ip (followed by the IP address). |

[FW_IMAGE_FILE]

The firmware-image file name is [rom.ima].

## Examples

### *Using Network as a Medium*

- **Example 1**

  */RLinFlsh -nw -ip 155.166.132.12 -info rom.ima*

  Description: This command displays the details of both existing and new firmware using the network connection with the IP address of 155.166.132.12.

- **Example 2**

  */RLinFlsh -nw -ip 155.166.132.12 rom.ima*

  Description: This command starts flashing the new rom.ima to the firmware using the network connection with the IP address of 155.166.132.12.

- **Example 3**

  */RLinFlsh -nw -ip 155.166.132.12 -force-boot rom.ima*

  Description: This command starts flashing the new rom.ima to the firmware with FORCE BootLoader Upgrade via the network connection using the IP address of 155.166.132.12.

### *Using USB as a Medium*

To use USB as a medium, you must first mount USB as a virtual media (see Chapter 2, section 2.6.1.e, #5 and #6). Also, ensure that the Virtual Media Attach Mode is set to "Attach" (see Chapter 2, section 2.5.12, #3).

- **Example 1**

  */RLinFlsh -cd -info rom.ima*

  Description: This command displays the details of both existing and new firmware using a USB connection.

- **Example 2**

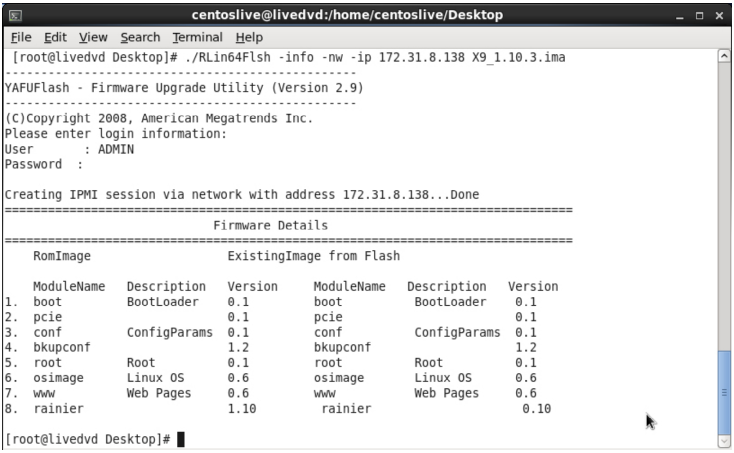
  */RLinFlsh -cd rom.ima*

  Description: This command starts flashing the new rom.ima to the firmware using a USB connection.

- **Example 3**

*/RLinFlsh -cd -force-boot rom.ima*

Description: This command starts flashing the new rom.ima to the firmware with FORCE BootLoader Upgrade using a USB connection.



centoslive@livedvd:/home/centoslive/Desktop
File Edit View Search Terminal Help

```
 [root@livedvd Desktop]# ./RLin64Flsh -info -nw -ip 172.31.8.138 X9_1.10.3.ima
-------------------------------------------------
YAFUFlash - Firmware Upgrade Utility (Version 2.9)
-------------------------------------------------
(C)Copyright 2008, American Megatrends Inc.
Please enter login information:
User       : ADMIN
Password   :

Creating IPMI session via network with address 172.31.8.138...Done
================================================================================
                             Firmware Details
================================================================================
    RomImage                    ExistingImage from Flash

    ModuleName   Description   Version     ModuleName   Description   Version
1.  boot         BootLoader    0.1         boot          BootLoader    0.1
2.  pcie                       0.1         pcie                        0.1
3.  conf         ConfigParams  0.1         conf          ConfigParams  0.1
4.  bkupconf                   1.2         bkupconf                    1.2
5.  root         Root          0.1         root          Root          0.1
6.  osimage      Linux OS      0.6         osimage       Linux OS      0.6
7.  www          Web Pages     0.6         www           Web Pages     0.6
8.  rainier                    1.10         rainier                     0.10

[root@livedvd Desktop]# █
```

(Disclaimer Continued)

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