BMC IPMI

Intelligent Platform Management Interface

User's Guide

Revision 1.1b

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Manual Revision 1.1b

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Preface

About this User's Guide

This user's guide is written for system integrators, IT professionals, and knowledgeable end users who intend to configure the IPMI settings supported by the ASPEED AST2400/AST2500 Baseboard Management Controller embedded in Supermicro motherboards. It provides detailed information on how to configure the IPMI settings supported by the AST2400/AST2500 controller.

User's Guide Organization

Chapter 1 provides an overview of the ASPEED AST2400/AST2500 controller. It also introduces the features and the functionalities of IPMI.

Chapter 2 provides detailed instructions on how to configure the IPMI settings supported by the AST2400/AST2500 controller.

Chapter 3 provides the answers to frequently asked questions.

An Important Note to the User

For documents concerning utility support such as Redfish, SMCIPMITool, SUM, SSM, IPMICFG, SPM, SuperDoctor, BIOS, RSD/SCC, TAS, and IPMIView, please refer to our website at https://www.supermicro.com/products/nfo/IPMI.cfm for details.

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.

Conventions Used in This User's Guide

Pay special attention to the following symbols for proper IPMI configuration.

Warning: Important information given to avoid IPMI configuration errors.

Note: Additional information is given to ensure the correct IPMI configuration setup.

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Chapter 1

Introduction

1-1 Introduction to the IPMI Platform

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

IPMI operates independently from the operating system. When used with an IPMI Management utility installed on the motherboard, the ASPEED AST2400/AST2500 BMC Controller will connect the PCH to other onboard components, providing remote network interface via serial links. With the AST2400/AST2500 controller and the BMC IPMI firmware built-in, the Supermicro motherboard allows the user to access, monitor, diagnose, and manage a remote server via Console Redirection. It also provides remote access to multiple users from different locations for system maintenance and management.

1-2 Overview of the ASPEED AST2400/2500 BMC Controller

The ASPEED AST2400 Baseboard Management Controller (BMC) is designed to interface with the host system via PCI-Express connections to communicate with the graphics core for the X10 series motherboards. Designed for the X11 series, the AST2500 connects with the host system via PCI-Express Gen2 x1 bus to communicate with the graphics core. Both AST2400 and 2500 support a 64-bit 2D Graphics Accelerator with 32-bit memory and 16-bit I/O space.

The AST2400 provides a 2.5GHz PCI-Express interface. The AST2500 supports PCI-Express 2.0, which is compliant with PCI-Express Base Spec. Revision 2.0. The PCI-E bus controller connects to the VGA Controller that allows for direct communication with the 2D Graphics Engine, SPI Host Controller, and P2A Bridge.

The ASPEED AST2400 and 2500 support USB 1.1 and 2.0 for remote KVM emulation and provide LPC interface support to control Super IO functions. Both ASPEED AST2400 and 2500 include Keyboard/Video/Mouse Redirection (KVMR). The BMC is connected to the network via an external Ethernet PHY module or a shared NCSI connection.

A. AST2400 DDR2/DDR3 Memory Interface

The AST2400 controller supports DDR2/DDR3 SDRAM memory with a speed of up to 400MHz and 128 MB of memory. It includes an external 16-bit DDR2/DDR3 SDRAM data bus width and an internal 64-bit DRAM data bus width. The following DDR2 DRAM types are supported: 32MBx16, 64MBx16, 128MBx16, and 256MBx16. The AST2400 controller also supports Error-Correction Check (ECC) with no extra external memory cost when ECC is enabled.

B. AST2500 DDR3L/DDR4 Memory Interface

The AST2500 controller supports DDR3L/DDR4 SDRAM memory with a speed of up to 800MHz and 512 MB of memory. It includes an external 16-bit DDR3L/DDR4 SDRAM data bus width and an internal 128-bit DRAM data bus width. Types of DDR3L DRAM supported by the controller include: 64MBx16, 128MBx16, 256MBx16, and 512MBx16 (stack die). The DDR4 DRAM types supported are: 128MBx16, 256MBx16, and 512MBx16. The AST2500 controller also supports Error-Correction Check (ECC) with no extra external memory cost when ECC is enabled.

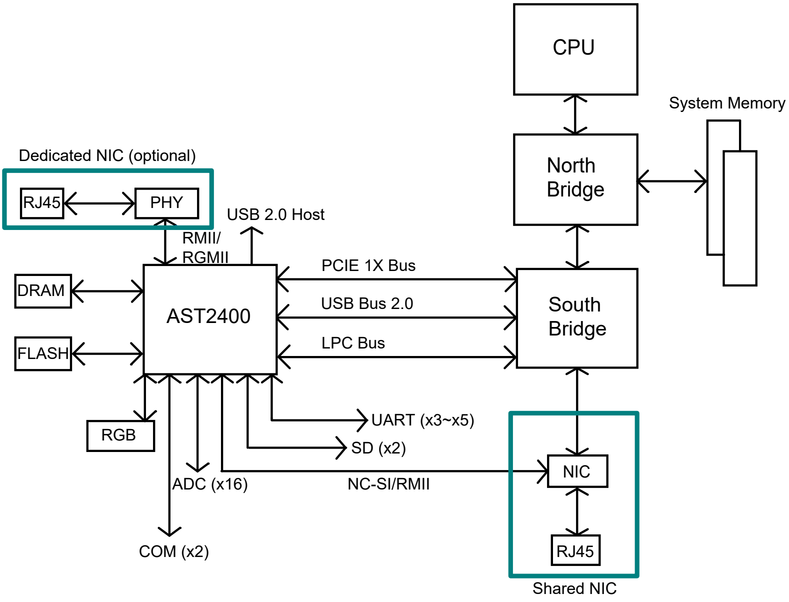
1-3 Supermicro BMC IPMI Features

1. Remote KVM (graphics) console
2. Virtual Media and ISO images
3. Remote server power control
4. Remote Serial over LAN (text console)
5. Event Log support
6. Automatic Notification and Alerts (SNMP and email)
7. Hardware Monitoring
8. Overall health display on the main page
9. Out of band management through shared or dedicated LAN
10. Option to change LAN connection interface at Runtime
11. VLAN
12. RMCP & RMCP+ protocols supported
13. SMASH/CLP
14. Secure command line interface (SSH) and Telnet

15. RADIUS authentication support
16. Secure browser interface (Secure socket layer - SSL support)
17. Lightweight Directory Access Protocol (LDAP) supported
18. DCMI 1.0 support
19. Backup and restore the configuration file
20. Factory defaults from web support
21. Video quality settings
22. Record video and play
23. Server data/information
24. Preview of the remote screen on the main page
25. Update Firmware through browser and OS
26. OS-independent

AST2400 Block Diagram

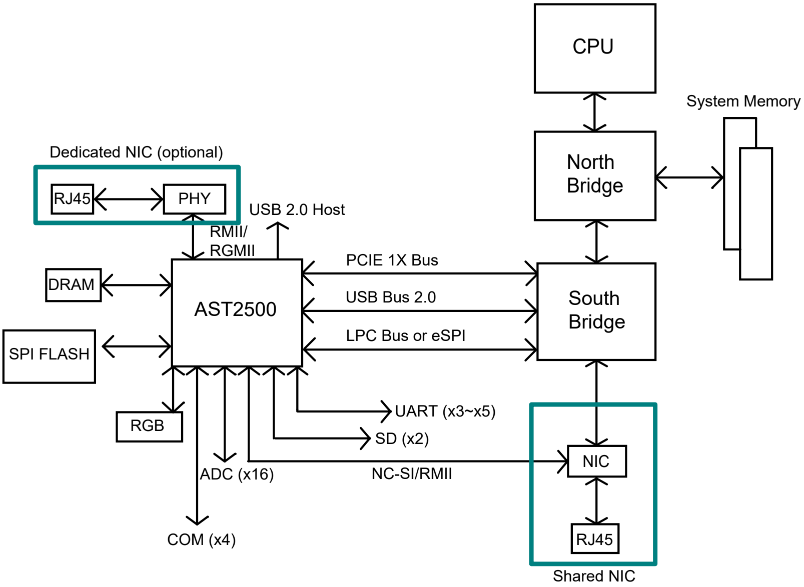
The following diagram represents a typical system setup for the AST2400 controller.



Note: This block diagram is for the X10 series motherboards.

AST2500 Block Diagram

The following diagram represents a typical system setup for the AST2500 controller.



Note: This block diagram is for the X11 series motherboards.

1-4 Software Licenses Available

Software license is required for respective features using different interfaces such as Web/CLI/Redfish API.

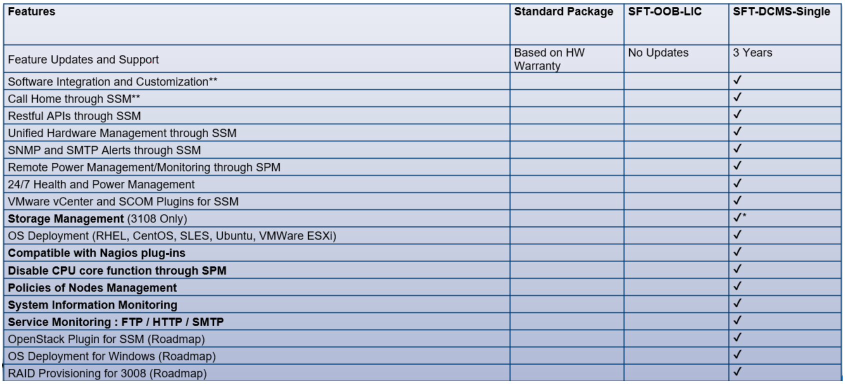
Warning: Changing MAC addresses will wipe out Software License Keys.

- SFT-OOB-LIC: Basic Out of Band Management
  It covers features such as UEFI BIOS/BMC firmware update and configuration, mounting ISO images, asset info, and many more.
- SFT-SPM-LIC: Advanced Power Management
  It can be used for SPM (Supermicro Power Manager) tool.
- SFT-DCMS-Single: System Management Suite
  It covers the above two license SKU as well as all enterprise features, such as Raid Management, Advanced Redfish APIs, NIC FW management, and many more.
- SFT-DCMS-SVC-KEY: Call-Home Support

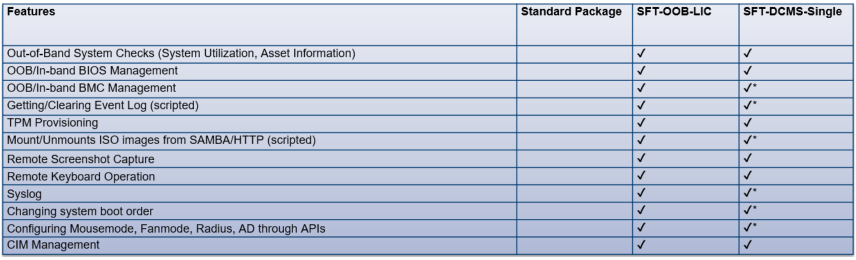
Please refer following comparison chart for more info:

(*) Available through Redfish APIs.

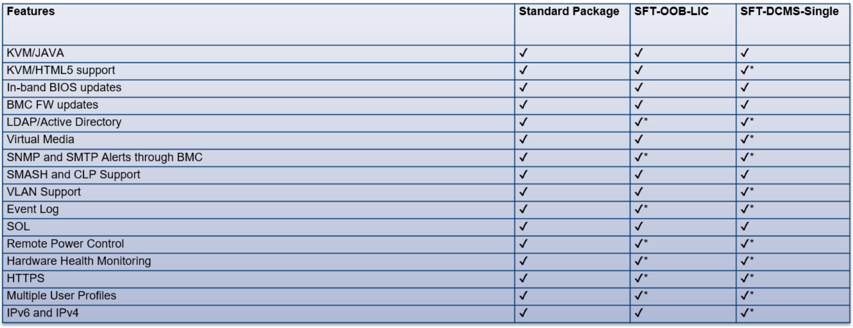
(**) Additional SKU is required.



Features	**Standard Package**	**SFT-OOB-LIC**	**SFT-DCMS-Single**
Feature Updates and Support	Based on HW Warranty	No Updates	3 Years
Software Integration and Customization**			✓
Call Home through SSM**			✓
Restful APIs through SSM			✓
Unified Hardware Management through SSM			✓
SNMP and SMTP Alerts through SSM			✓
Remote Power Management/Monitoring through SPM			✓
24/7 Health and Power Management			✓
VMware vCenter and SCOM Plugins for SSM			✓
Storage Management (3108 Only)			✓*
OS Deployment (RHEL, CentOS, SLES, Ubuntu, VMWare ESXi)			✓
Compatible with Nagios plug-ins			✓
Disable CPU core function through SPM			✓
Policies of Nodes Management			✓
System Information Monitoring			✓
Service Monitoring : FTP / HTTP / SMTP			✓
OpenStack Plugin for SSM (Roadmap)			✓
OS Deployment for Windows (Roadmap)			✓
RAID Provisioning for 3008 (Roadmap)			✓



Features	Standard Package	SFT-OOB-LIC	SFT-DCMS-Single
Out-of-Band System Checks (System Utilization, Asset Information)		✓	✓
OOB/In-band BIOS Management		✓	✓
OOB/In-band BMC Management		✓	✓*
Getting/Clearing Event Log (scripted)		✓	✓*
TPM Provisioning		✓	✓
Mount/Unmounts ISO images from SAMBA/HTTP (scripted)		✓	✓*
Remote Screenshot Capture		✓	✓
Remote Keyboard Operation		✓	✓
Syslog		✓	✓*
Changing system boot order		✓	✓*
Configuring Mousemode, Fanmode, Radius, AD through APIs		✓	✓*
CIM Management		✓	✓



Features	Standard Package	SFT-OOB-LIC	SFT-DCMS-Single
KVM/JAVA	✓	✓	✓
KVM/HTML5 support	✓	✓	✓*
In-band BIOS updates	✓	✓	✓
BMC FW updates	✓	✓	✓
LDAP/Active Directory	✓	✓*	✓*
Virtual Media	✓	✓	✓*
SNMP and SMTP Alerts through BMC	✓	✓*	✓*
SMASH and CLP Support	✓	✓	✓
VLAN Support	✓	✓	✓*
Event Log	✓	✓*	✓*
SOL	✓	✓	✓
Remote Power Control	✓	✓*	✓*
Hardware Health Monitoring	✓	✓*	✓*
HTTPS	✓	✓*	✓*
Multiple User Profiles	✓	✓*	✓*
IPv6 and IPv4	✓	✓	✓*

1-5 Special Notes for Motherboard and Firmware Support

For documents concerning utility support such as Redfish, SMCIPMITool, SUM, SSM, IPMICFG, SPM, SuperDoctor, UEFI BIOS, TAS, and IPMIView, please refer to our website at https://www.supermicro.com/products/nfo/IPMI.cfm for details.

Please refer to the motherboard product page at www.supermicro.com to see if your motherboard supports BMC IPMI.

Chapter 2

Configuring the BMC IPMI Settings

With the ASPEED AST2400/ASPEED AST2500 BMC Controller and the BMC IPMI firmware built-in, Supermicro motherboards allow the user to access, monitor, manage and interface with multiple systems from different remote locations. The necessary firmware for accessing and configuring the BMC IPMI settings is available on Supermicro website at http://www.supermicro.com/products/nfo/ipmi.cfm. This section provides detailed information on how to configure BMC IPMI settings.

Note: Some features might not be available if you are using an X10 motherboard as a few newer features are not supported by this generation.

2-1 Configuring UEFI BIOS

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

A. Entering and Using the UEFI BIOS

1. During the system bootup, press the <Del> key to enter the UEFI BIOS.

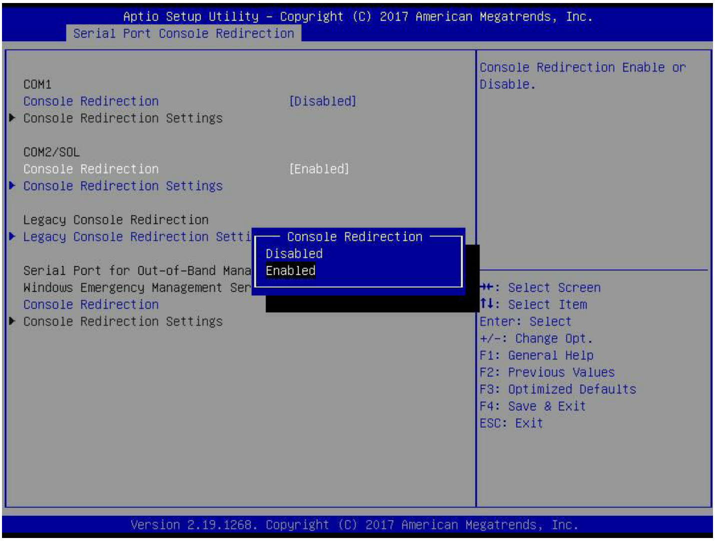
2. To navigate in the UEFI BIOS, use your arrow keys and press <Enter>. To go back to previous screens, press <Esc>.

B. Enabling the COM port for SOL (BMC IPMI)

1. Select the *Advanced* tab from the UEFI BIOS Setup menu display.

2. Select *Serial Port Console Redirection* and press <Enter>.

3. Highlight *Console Redirection* under *COM2/SOL,* press *<Enter>,* and select [Enabled].



```
          Aptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.
         Serial Port Console Redirection

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

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

  Legacy Console Redirection
► Legacy Console Redirection Setti ┌─ Console Redirection ─┐
                                   │ Disabled              │
  Serial Port for Out-of-Band Mana │ Enabled               │
  Windows Emergency Management Ser └───────────────────────┘  →←: Select Screen
  Console Redirection                                         ↑↓: Select Item
► Console Redirection Settings                                Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit

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```

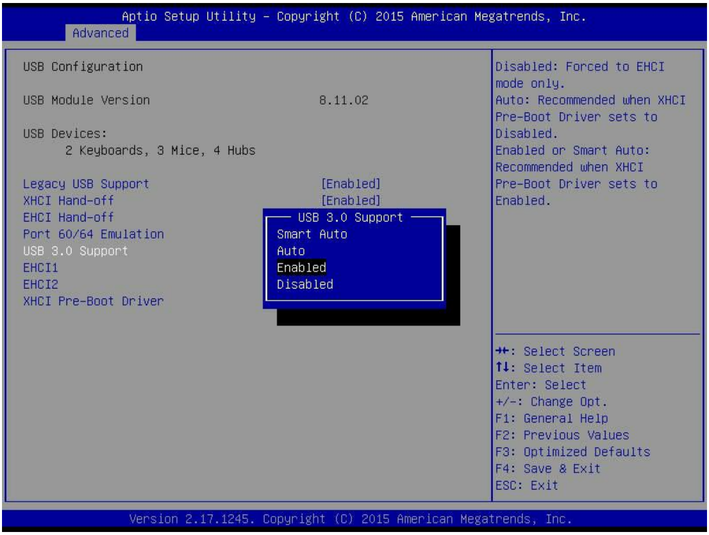
C. Enabling All Onboard USB Ports

1. Select the *Advanced* tab.

2. Select *Chipset Configuration* and press <Enter>*.*

3. Select *South Bridge* and press <Enter>.

4. Highlight *USB 3.0 Support,* press <Enter> and select [Enabled].



```
          Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.
    Advanced

 USB Configuration                                      Disabled: Forced to EHCI
                                                        mode only.
 USB Module Version                   8.11.02           Auto: Recommended when XHCI
                                                        Pre-Boot Driver sets to
 USB Devices:                                           Disabled.
       2 Keyboards, 3 Mice, 4 Hubs                      Enabled or Smart Auto:
                                                        Recommended when XHCI
 Legacy USB Support                   [Enabled]         Pre-Boot Driver sets to
 XHCI Hand-off                        [Enabled]         Enabled.
 EHCI Hand-off                  ── USB 3.0 Support ──
 Port 60/64 Emulation             Smart Auto
 USB 3.0 Support                  Auto
 EHCI1                            Enabled
 EHCI2                            Disabled
 XHCI Pre-Boot Driver

                                                        →←: 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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```
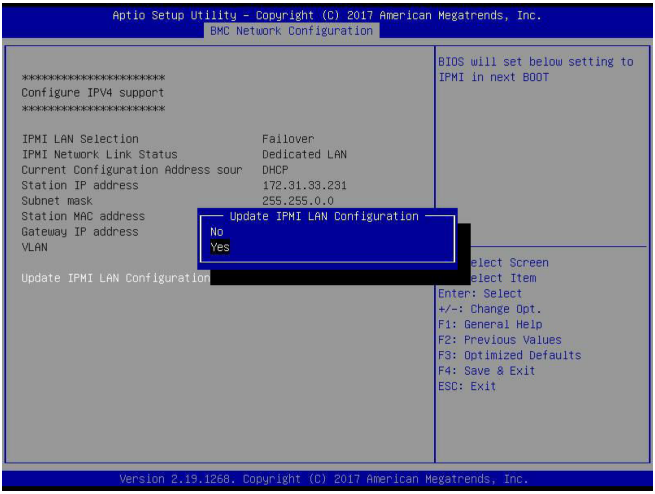

D. Configuring IP Address Using the UEFI BIOS

1. Select the *IPMI* tab.

2. Select *BMC Network Configuration and* press <Enter>*.*

3. Highlight *Update IPMI LAN Configuration,* press <*Enter*> and select [Yes].



```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
                   BMC Network Configuration

**********************                         BIOS will set below setting to
Configure IPV4 support                         IPMI in next BOOT
**********************

IPMI LAN Selection                 Failover
IPMI Network Link Status           Dedicated LAN
Current Configuration Address sour DHCP
Station IP address                 172.31.33.231
Subnet mask                        255.255.0.0
Station MAC address       ┌ Update IPMI LAN Configuration ┐
Gateway IP address        │ No                            │
VLAN                      │ Yes                           │
                          └───────────────────────────────┘elect Screen
Update IPMI LAN Configuration                                elect Item
                                               Enter: Select
                                               +/-: Change Opt.
                                               F1: General Help
                                               F2: Previous Values
                                               F3: Optimized Defaults
                                               F4: Save & Exit
                                               ESC: Exit

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```
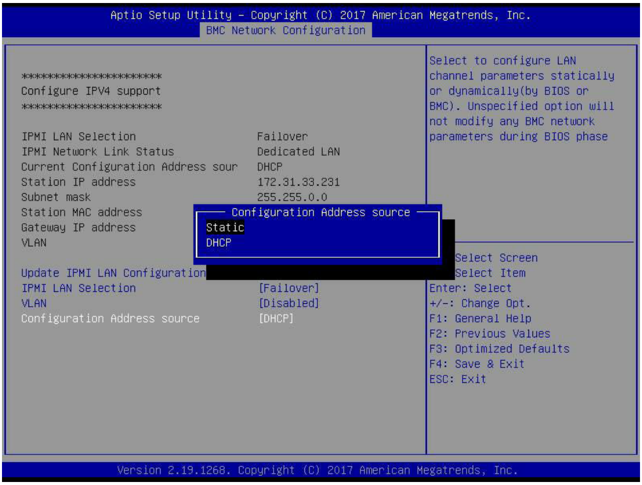

4. Highlight *Configuration Address Source* and select [Static].



```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
                   BMC Network Configuration

                                               Select to configure LAN
**********************                         channel parameters statically
Configure IPV4 support                         or dynamically(by BIOS or
**********************                         BMC). Unspecified option will
                                               not modify any BMC network
IPMI LAN Selection                 Failover    parameters during BIOS phase
IPMI Network Link Status           Dedicated LAN
Current Configuration Address sour DHCP
Station IP address                 172.31.33.231
Subnet mask                        255.255.0.0
Station MAC address       ┌ Configuration Address source ┐
Gateway IP address        │ Static                       │
VLAN                      │ DHCP                         │
                          └──────────────────────────────┘Select Screen
Update IPMI LAN Configuration                             Select Item
IPMI LAN Selection                 [Failover]  Enter: Select
VLAN                               [Disabled]  +/-: Change Opt.
Configuration Address source       [DHCP]      F1: General Help
                                               F2: Previous Values
                                               F3: Optimized Defaults
                                               F4: Save & Exit
                                               ESC: Exit

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```
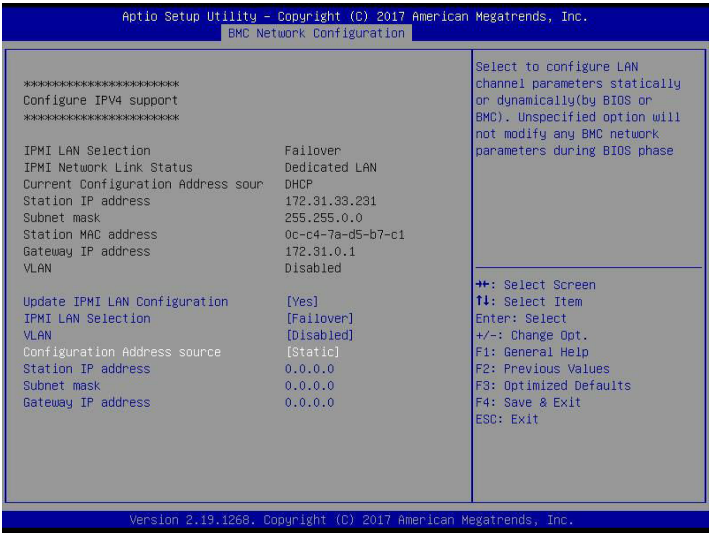

5. Once the *Configuration Address Source* is set to [Static], the *Station IP Address, Subnet Mask,* and *Gateway IP Address* fields will display *0.0.0.0,* which indicates that these fields are ready for you to change to new values. Select each of the three items and enter the values. Press <Enter> when finished.



```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
BMC Network Configuration

**********************                                   Select to configure LAN
Configure IPV4 support                                   channel parameters statically
**********************                                   or dynamically(by BIOS or
                                                         BMC). Unspecified option will
IPMI LAN Selection                  Failover             not modify any BMC network
IPMI Network Link Status            Dedicated LAN        parameters during BIOS phase
Current Configuration Address sour  DHCP
Station IP address                  172.31.33.231
Subnet mask                         255.255.0.0
Station MAC address                 0c-c4-7a-d5-b7-c1
Gateway IP address                  172.31.0.1
VLAN                                Disabled
                                                         →←: Select Screen
Update IPMI LAN Configuration       [Yes]                ↑↓: Select Item
IPMI LAN Selection                  [Failover]           Enter: Select
VLAN                                [Disabled]           +/-: Change Opt.
Configuration Address source        [Static]             F1: General Help
Station IP address                  0.0.0.0              F2: Previous Values
Subnet mask                         0.0.0.0              F3: Optimized Defaults
Gateway IP address                  0.0.0.0              F4: Save & Exit
                                                         ESC: Exit

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```

E. Connecting to IPMI Using the UEFI BIOS

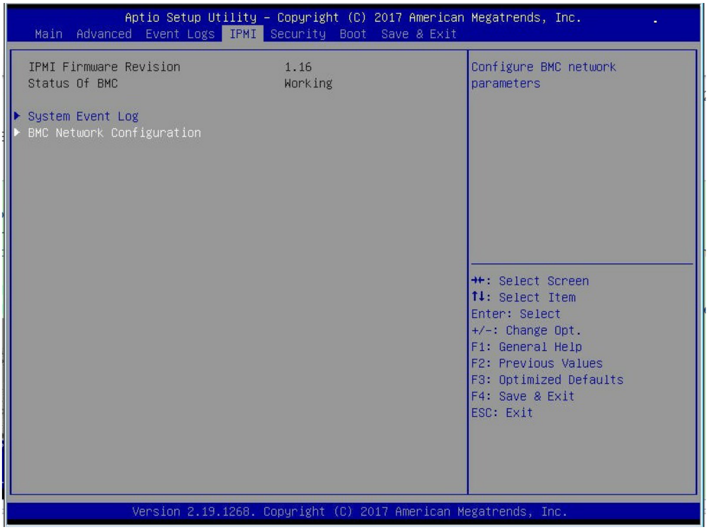
1. Plug Cat 5 cable into Linux Laptop.

2. Plug the other end of the cable into IPMI / SHARED port.

3. In Linux Laptop, configure Network settings for Static IP, and assign IP, such as 192.168.0.3, and subnet, such as 255.255.0.0. (Gateway IP does not matter since there's no router/switch in between.)

4. Launch Superserver ending and press DEL key to enter into UEFI BIOS setup.

5. Use the arrow key to navigate to <IPMI>, and select <BMC Network Configuration>.



```
             Aptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.
   Main  Advanced  Event Logs  IPMI  Security  Boot  Save & Exit

   IPMI Firmware Revision                  1.16            Configure BMC network
   Status Of BMC                           Working         parameters

 ▶ System Event Log
 ▶ BMC Network Configuration

                                                           →←: 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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```
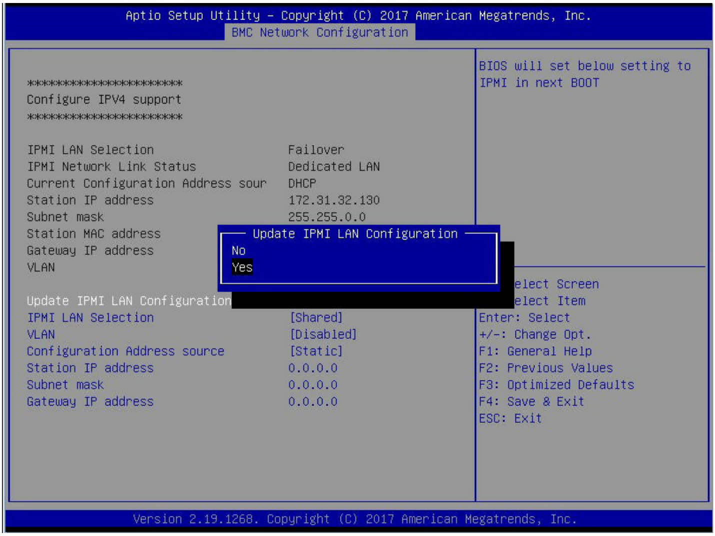

6. Highlight <Update IPMI LAN Configuration> and select <Yes>.



```
          Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
                               BMC Network Configuration

                                                         BIOS will set below setting to
  **********************                                 IPMI in next BOOT
  Configure IPV4 support
  **********************

  IPMI LAN Selection                    Failover
  IPMI Network Link Status              Dedicated LAN
  Current Configuration Address sour    DHCP
  Station IP address                    172.31.32.130
  Subnet mask                           255.255.0.0
  Station MAC address         ┌─ Update IPMI LAN Configuration ─┐
  Gateway IP address          │ No                              │
  VLAN                        │ Yes                             │
                              └─────────────────────────────────┘
  Update IPMI LAN Configuration                                       elect Screen
                                                                      elect Item
  IPMI LAN Selection                    [Shared]                 Enter: Select
  VLAN                                  [Disabled]               +/-: Change Opt.
  Configuration Address source          [Static]                 F1: General Help
  Station IP address                    0.0.0.0                  F2: Previous Values
  Subnet mask                           0.0.0.0                  F3: Optimized Defaults
  Gateway IP address                    0.0.0.0                  F4: Save & Exit
                                                                 ESC: Exit

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```
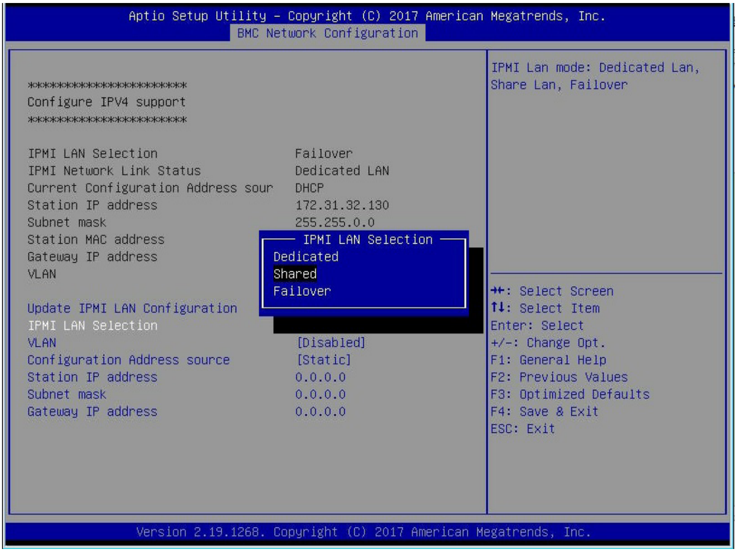
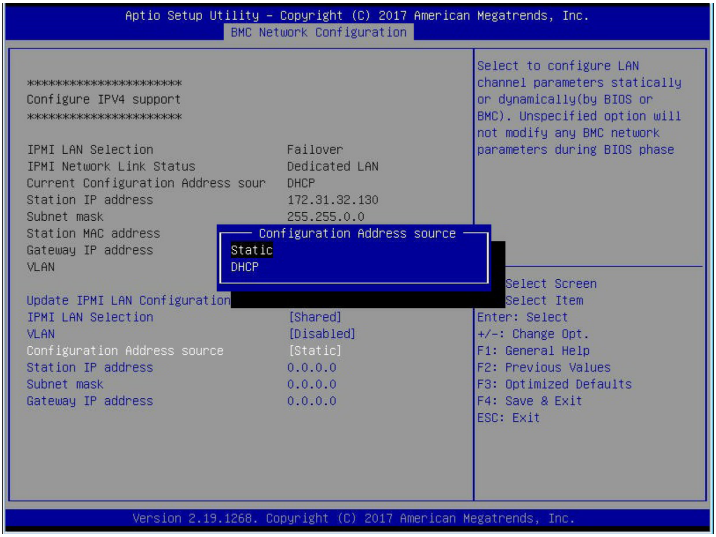

7. Navigate to <IPMI LAN Selection>, and you will see three options as shown below. Select <Shared>.



```
          Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.
                          BMC Network Configuration

 **********************                                 IPMI Lan mode: Dedicated Lan,
 Configure IPV4 support                                 Share Lan, Failover
 **********************

 IPMI LAN Selection                     Failover
 IPMI Network Link Status               Dedicated LAN
 Current Configuration Address sour     DHCP
 Station IP address                     172.31.32.130
 Subnet mask                            255.255.0.0
 Station MAC address              ┌─ IPMI LAN Selection ─┐
 Gateway IP address               │ Dedicated            │
 VLAN                             │ Shared               │
                                  │ Failover             │  ++: Select Screen
 Update IPMI LAN Configuration    └──────────────────────┘  ↑↓: Select Item
 IPMI LAN Selection                                         Enter: Select
 VLAN                                   [Disabled]          +/-: Change Opt.
 Configuration Address source           [Static]            F1: General Help
 Station IP address                     0.0.0.0             F2: Previous Values
 Subnet mask                            0.0.0.0             F3: Optimized Defaults
 Gateway IP address                     0.0.0.0             F4: Save & Exit
                                                            ESC: Exit

          Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.
```

8. Highlight <Configuration Address source> and select <Static>. Then you can assign an IP such as 192.168.0.3, and subnet 255.255.0.0.



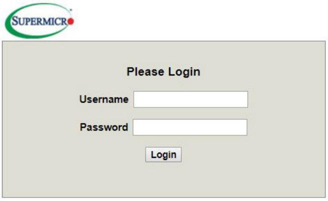
```
          Aptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.
                             BMC Network Configuration

                                                     Select to configure LAN
 **********************                              channel parameters statically
 Configure IPV4 support                              or dynamically(by BIOS or
 **********************                              BMC). Unspecified option will
                                                     not modify any BMC network
 IPMI LAN Selection                 Failover         parameters during BIOS phase
 IPMI Network Link Status           Dedicated LAN
 Current Configuration Address sour DHCP
 Station IP address                 172.31.32.130
 Subnet mask                        255.255.0.0
 Station MAC address      ── Configuration Address source ──
 Gateway IP address        Static
 VLAN                      DHCP

 Update IPMI LAN Configuration                          Select Screen
 IPMI LAN Selection                 [Shared]            Select Item
 VLAN                               [Disabled]       Enter: Select
 Configuration Address source       [Static]         +/-: Change Opt.
 Station IP address                 0.0.0.0          F1: General Help
 Subnet mask                        0.0.0.0          F2: Previous Values
 Gateway IP address                 0.0.0.0          F3: Optimized Defaults
                                                     F4: Save & Exit
                                                     ESC: Exit

          Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.
```

Now you have both Laptop and the IPMI on the same subnet. With the static IP connected, they should be able to communicate. To establish the connection, please follow the steps below:

1. Keep the terminal of the Linux laptop. Ping the IPMI IP, 192.168.0.4, and make sure that it is pingable.

2. If it is pingable, open a web browser on the laptop. Enter the IP in the URL bar and you will see a login screen.

3. Enter the username, ADMIN, and the password, ADMIN.

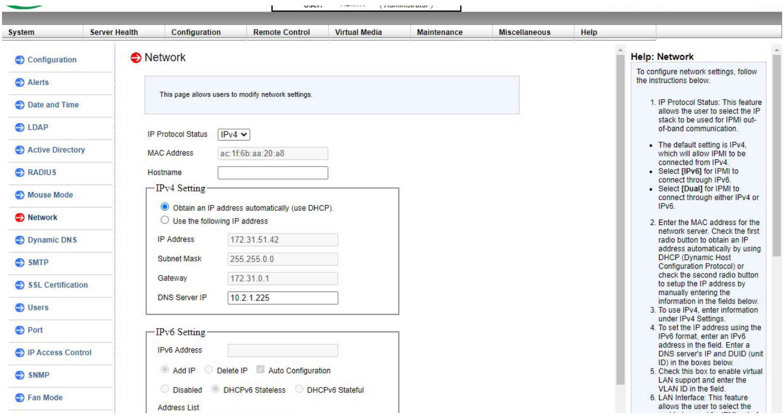


Please Login

Username

Password

4. After logging in, go over to <Network> under <Configuration> and then you can see all the IPV6 info to configure.



Network

This page allows users to modify network settings.

IP Protocol Status: IPv4

MAC Address: ac:1f:6b:aa:20:a8

Hostname:

IPv4 Setting

● Obtain an IP address automatically (use DHCP).

○ Use the following IP address

IP Address: 172.31.51.42

Subnet Mask: 255.255.0.0

Gateway: 172.31.0.1

DNS Server IP: 10.2.1.225

IPv6 Setting

IPv6 Address:

● Add IP ○ Delete IP ☑ Auto Configuration

○ Disabled ● DHCPv6 Stateless ○ DHCPv6 Stateful

Address List

Help: Network

To configure network settings, follow the instructions below.

1. IP Protocol Status: This feature allows the user to select the IP stack to be used for IPMI out-of-band communication.

- The default setting is IPv4, which will allow IPMI to be connected from IPv4.
- Select **[IPv6]** for IPMI to connect through IPv6.
- Select **[Dual]** for IPMI to connect through either IPv4 or IPv6.

2. Enter the MAC address for the network server. Check the first radio button to obtain an IP address automatically by using DHCP (Dynamic Host Configuration Protocol) or check the second radio button to setup the IP address by manually entering the information in the fields below.
3. To use IPv4, enter information under IPv4 Settings.
4. To set the IP address using the IPv6 format, enter an IPv6 address in the field. Enter a DNS server's IP and DUID (unit ID) in the boxes below.
5. Check this box to enable virtual LAN support and enter the VLAN ID in the field.
6. LAN Interface: This feature allows the user to select the

2-2 Configuring the IP/MAC Addresses for Remote Servers

Note: The DHCP (Dynamic Host Configuration Protocol) is on by default. To change the manufacturer default setting, please use the ipmicfg utility or the UEFI BIOS Setup utility.

Using the IPMICFG Utility to Set the IP Addresses for Remote Servers

1. Run the ipmicfg utility. You can get this from the Supermicro website at www.supermicro.com.

2. Follow the instructions given in the readme.txt file to configure Gateway IP/Netmask IP addresses, enable/disable DHCP, and configure other BMC IPMI settings.

IPMICFG Version 1.20.3 © 2014 Super Micro Computer, Inc.

Usage: IPMICFG Parameters

-m	Show IP and MAC
-m IP	Set IP (format: ###.###.###.###)
-a MAC	Set MAC (format: ##:##:##:##:##:##)
-k	Show Subnet Mask
-k Mask	Set Subnet Mask (format: ###.###.###.###)
-dhcp	Get the DHCP status
-dhcp on	Enable the DHCP
-dhcp off	Disable the DHCP
-g	Show Gateway IP
-g IP	Set Gateway IP (format: ###.###.###.###)
-garp on	Enable the Gratuitous ARP
-garp off	Disable the Gratuitous ARP
-fd	Reset to the factory default
-fdl	Reset BMC IPMI to the factory default (CLEAN LAN)
-fde	Reset to the factory default (clear FRU and LAN)
-ver	Get Firmware revision
-vlan	Get VLAN status
-vlan on [VLANtag]	Enable the VLAN and set the VLAN tag. If VLANtag is not given it uses previously saved value.
-vlan off	Disable the VLAN

-raw	Send a RAW BMC IPMI request and print response.
-fan	Get fan mode
-fan <mode>	Set fan mode
-nm nmsdr	Display NM SDR
-nm seltime	Get SEL time
-nm deviceid	Get the ID for an ME device
-nm reset	Reboot ME
-nm reset2default	Force Me to reset to default
-nm updatemode	Force ME to update the BMC IPMI mode
-nm selftest	Get self-test results
-nm listimagesinfo	List ME image information
-nm oemgetpower	OEN power command for ME
-nm oemgettemp	OEM temp. commance for ME
-nm pstate	Get max. allowed CPU P-state
-nm tstate	Get max. allowed CPU T-state
-nmcpumemtemp	Get CPU/memory temperature
-nm hostcpudata	Get host CPU data
-pminfo	Power-supply PMBus health
-psfruinfo	Power-supply FRU health
-psbbpinfo	Battery backup power status
-autodischarge <module><day>	Set auto discharge by days
-discharge <module>	Manually discharge battery
-user list	List user privilege information
-user help	Show user privilege code
-user add <user id> <username> <password> <privilege>	Add user
-user del <user id>	Delete user
-user level <user id> <privilege>	Update user privilege
-user setpwd <user id> <password>	Update user password
-conf upload <file> <option>	Upload BMC IPMI configuration from binary file
-conf download <file>	Download BMC IPMI configuration to binary file

-conf tupload <file> <option>	Upload BMC IPMI configuration from text file
-conf tdownload <file>	Download BMC IPMI configuration to text file
-sdr	Show SDR records and reading
-sdr del <SDR ID>	Delete SDR record
-sdr ver [<V1> <V2>]	Get/Set SDR version (V1 V2 are BCD format)
-sel info	Show SEL info
-sel list	Show SEL records
-sel raw	Show SEL raw data
-sel del	Delete all SEL records
-fru info	Show FRU inventory area Info
-fru list	Show all FRU values
-fru help	Show help of FRU Write
-fru cthelp	Show chassis type code
-fru <Field>	Show FRU field value
-fru <Field> <Value>	Write FRU
-fru 1m	Update FRU product manufacturer from DMITable
-fru 1p	Update FRU product name from DMITable
-fru 1s	Update FRU product S/N from DMITable
-fru 2m	Update FRU board manufacturer from DMITable
-fru 2p	Update FRU board product name from DMITable
-fru 2s	Update FRU board S/N from DMITable(sdc.exe needed)
-fru 3s	Update FRU chassis S/N from DMITable
-fru backup <file>	Backup FRU to bin file
-fru restore <file>	Restore FRU from bin file
-fru tbackup <file>	Backup FRU to text file
-fru trestore <file>	Restore FRU from text file
-fru ver <V1> <V2>	Get/Set FRU version (V1, V2 are BCD format)
-fru dmi <$1> <$2> <$3> <$4> <$5> <$6> <$7> <$8> <$9> <$10> <$11> <$12> <$13> <$14>	$1 Product manufacturer name $2 Product name $3 Product part number $4 Product version $5 Product serial number $6 Product asset tag $7 Board manufacturing date/time $8 Board manufacturer name $9 Board product name $10 Board part number $11 Board serial number $12 Chassis type $13 Chassis part number $14 Chassis serial number

2-3 Connecting to the Remote Server

Using the Browser to Connect to the Remote Server

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

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

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

4. Once the connection is made, the Login screen as shown on the next page will display.

Using IPMIView to Connect to the Remote Server

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

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

3. Go to File>New>System. Enter the System Name, IP Address of LAN1 (or the dedicated LAN) and the Description in the appropriate fields, and press <Enter>.

4. Select the system from the BMC IPMI Domain. Enter the Login ID and Password in the appropriate fields to log in to the IPMIView with utility.

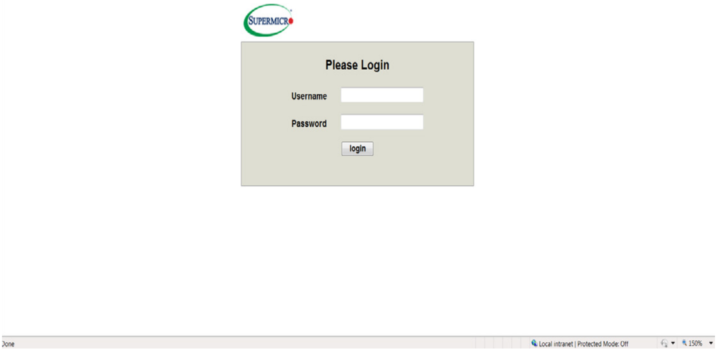
Note 1: The default network setting is "Failover", which will allow the BMC IPMI to connect to the network through a shared LAN port (onboard LAN Port 1 or 0) or through the IPMI Dedicated LAN Port. If the BMC IPMI must be connected through a specific port, please change the LAN configuration setting under the Network Settings.

Note 2: For the BMC IPMI to work properly, please enable all onboard USB ports and the COM port designated for SOL (BMC IPMI) on the motherboard. All USB ports and the COM port for BMC IPMI (marked with "*") are **enabled** in the system UEFI BIOS by default. It is usually listed as COM2 or COM3 in the UEFI BIOS. Refer to Section 2-1 Configuring UEFI BIOS for more information.

2-4 Accessing the Remote Server Using the Browser

To Log In to the Remote Console

Once you are connected to the remote server via browser, the following BMC IPMI Login screen will display.



1. Enter your username in the *Username* box.

Note: The manufacturer's default username and password are ADMIN/ADMIN. Once you have logged into the BMC using the manufacturer’s default password, be sure to change your password for security purposes.

2. Enter your password in the *Password* box and click on <Login>.

3. The home page will display as shown on the next page.

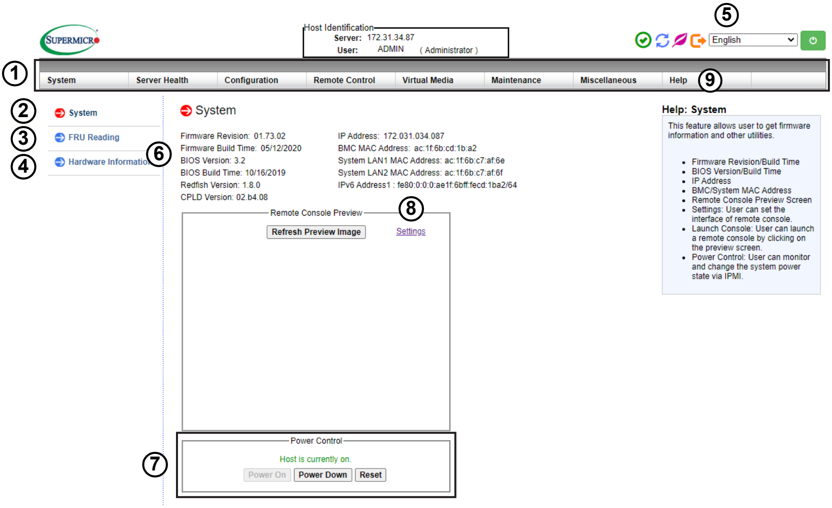
Note 1: To use the IPMIView utility for Console Redirection, please refer to the IPMIView User's Guide for instructions.

Note 2: The *Administrator* account cannot be deleted.

2-5 IPMI Main Screen

For X10 or Newer Versions of Motherboards

The BMC IPMI Main screen displays the following information.



Host Identification
Server: 172.31.34.87
User: ADMIN (Administrator)

System

Firmware Revision: 01.73.02
Firmware Build Time: 05/12/2020
BIOS Version: 3.2
BIOS Build Time: 10/16/2019
Redfish Version: 1.8.0
CPLD Version: 02.b4.08

IP Address: 172.031.034.087
BMC MAC Address: ac:1f:6b:cd:1b:a2
System LAN1 MAC Address: ac:1f:6b:c7:af:6e
System LAN2 MAC Address: ac:1f:6b:c7:af:6f
IPv6 Address1 : fe80:0:0:0:ae1f:6bff:fecd:1ba2/64

Host is currently on.

Help: System

This feature allows user to get firmware information and other utilities.

- Firmware Revision/Build Time
- BIOS Version/Build Time
- IP Address
- BMC/System MAC Address
- Remote Console Preview Screen
- Settings: User can set the interface of remote console.
- Launch Console: User can launch a remote console by clicking on the preview screen.
- Power Control: User can monitor and change the system power state via IPMI.

Note: The following WebGUIs indicate different purposes:

✓ : System Normal

⟳ : Refresh Page

🪶 : Feature Support (Redfish)

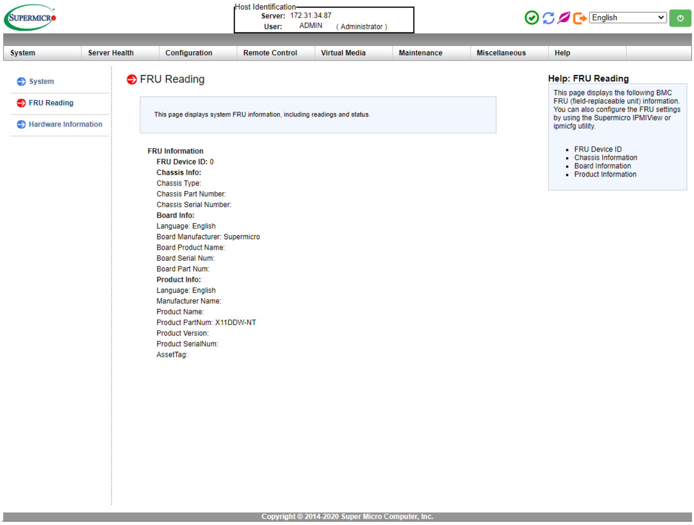
⇨ : Logout

The BMC IPMI Main screen displays system information, including the following:

1. The Menu bar: The menu bar on the top displays System Information, Server Health, Configuration, Remote Control, Virtual Media, Maintenance, Miscellaneous, and Help. Click an item on the menu bar to access an BMC IPMI feature and configure its settings.

2. The System window: This window displays the System submenu items. Click an item in this window to configure the following settings.

3. FRU Reading: This page details the FRU (Field Replaceable Unit) information. Click on "FRU Reading" to display this information.



Host Identification
Server: 172.31.34.87
User: ADMIN (Administrator)

FRU Reading

This page displays system FRU information, including readings and status.

FRU Information
FRU Device ID: 0
Chassis Info:
Chassis Type:
Chassis Part Number:
Chassis Serial Number:
Board Info:
Language: English
Board Manufacturer: Supermicro
Board Product Name:
Board Serial Num:
Board Part Num:
Product Info:
Language: English
Manufacturer Name:
Product Name:
Product PartNum: X11DDW-NT
Product Version:
Product SerialNum:
AssetTag:

Help: FRU Reading

This page displays the following BMC FRU (field-replaceable unit) information. You can also configure the FRU settings by using the Supermicro IPMIView or ipmicfg utility.

- FRU Device ID
- Chassis Information
- Board Information
- Product Information

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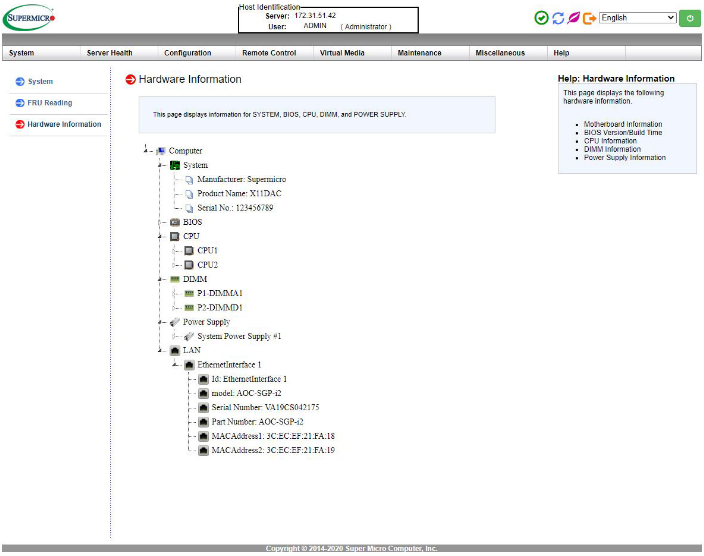
4. Hardware Information: Click on "Hardware Information" to see the listing of all detected hardware architecture. If LAN is installed and detected, it will appear as shown in the following image.



Host Identification
Server: 172.31.51.42
User: ADMIN (Administrator)

Hardware Information

This page displays information for SYSTEM, BIOS, CPU, DIMM, and POWER SUPPLY.

```
Computer
  System
    Manufacturer: Supermicro
    Product Name: X11DAC
    Serial No.: 123456789
  BIOS
  CPU
    CPU1
    CPU2
  DIMM
    P1-DIMMA1
    P2-DIMMD1
  Power Supply
    System Power Supply #1
  LAN
    EthernetInterface 1
      Id: EthernetInterface 1
      model: AOC-SGP-i2
      Serial Number: VA19CS042175
      Part Number: AOC-SGP-i2
      MACAddress1: 3C:EC:EF:21:FA:18
      MACAddress2: 3C:EC:EF:21:FA:19
```

Help: Hardware Information

This page displays the following hardware information.

- Motherboard Information
- BIOS Version/Build Time
- CPU Information
- DIMM Information
- Power Supply Information

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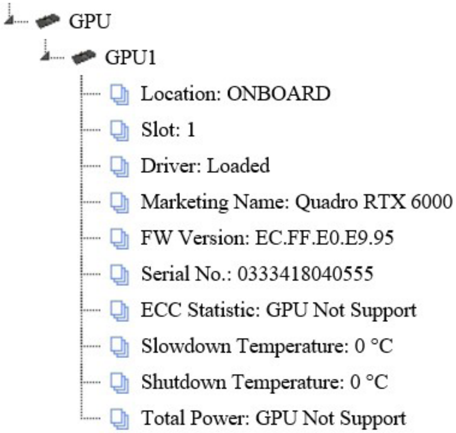
If GPU is installed and detected, it will appear as shown in the following image:



GPU
GPU1
Location: ONBOARD
Slot: 1
Driver: Loaded
Marketing Name: Quadro RTX 6000
FW Version: EC.FF.E0.E9.95
Serial No.: 0333418040555
ECC Statistic: GPU Not Support
Slowdown Temperature: 0 °C
Shutdown Temperature: 0 °C
Total Power: GPU Not Support

Note: The system will be able to detect some GPUs, but not every GPU will be detected and shown on the Hardware Information page. To find which GPUs are supported, please refer to our website at https://www.supermicro.com/en/support/resources/gpu.

Items users will see may include:

- System
  - Manufacturer
  - Product Name
  - Serial No.
- BIOS
- CPU
  - CPU1
  - CPU2
- DIMM
  - Shows the slots that are occupied by DIMM modules

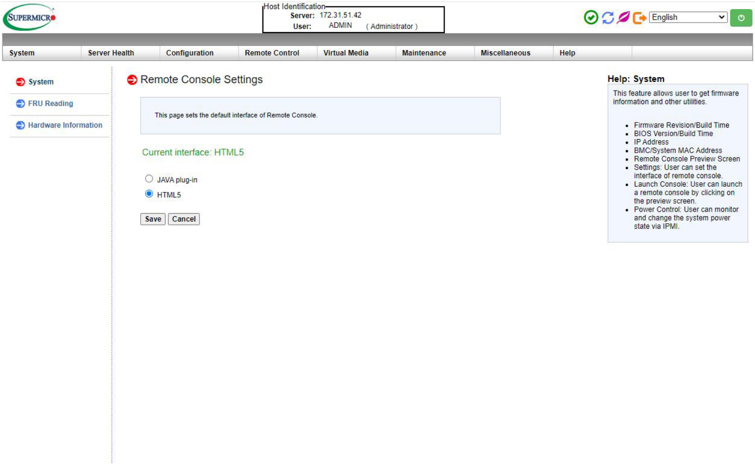
  (e.g. P1-DIMMA1, P2-DIMMD1)
- Power Supply
  - System Power Supply #1
- LAN
  - EthernetInterface 1
    - ID
    - Model
    - Serial Number
    - Part Number
    - MACAddress1
    - MACAddress2

5. Language Select: From the pull-down menu, select a language.
   - English
   - Japanese
   - Simplified Chinese

6. Summary: This field provides the following information:
   - Firmware Revision
   - Firmware Build Time
   - UEFI BIOS Version
   - UEFI BIOS Build Time
   - Redfish Version
   - CPLD Version
   - IP Address
   - BMC MAC Address
   - System LAN 1 MAC Address
   - System LAN 2 MAC Address
   - Remote Console Preview - a display of the remote system (the host machine) running at the specified IP address

7. Power Control via BMC IPMI: This field provides options for powering on and off the host system.
   - Power On: Click this button to power on the host system.
   - Power Down: Click this button to power off the host system.
   - Reset: Click this button to reset the host system.

8. Remote Console Settings: Click [Settings] to set the default interface of the Remote Console. Options include Java plug-in and HTML5.



Host Identification
Server: 172.31.51.42
User: ADMIN (Administrator)

Remote Console Settings

This page sets the default interface of Remote Console.

Current interface: HTML5

○ JAVA plug-in
● HTML5

Help: System

This feature allows user to get firmware information and other utilities.

- Firmware Revision/Build Time
- BIOS Version/Build Time
- IP Address
- BMC/System MAC Address
- Remote Console Preview Screen
- Settings: User can set the interface of remote console.
- Launch Console: User can launch a remote console by clicking on the preview screen.
- Power Control: User can monitor and change the system power state via IPMI.

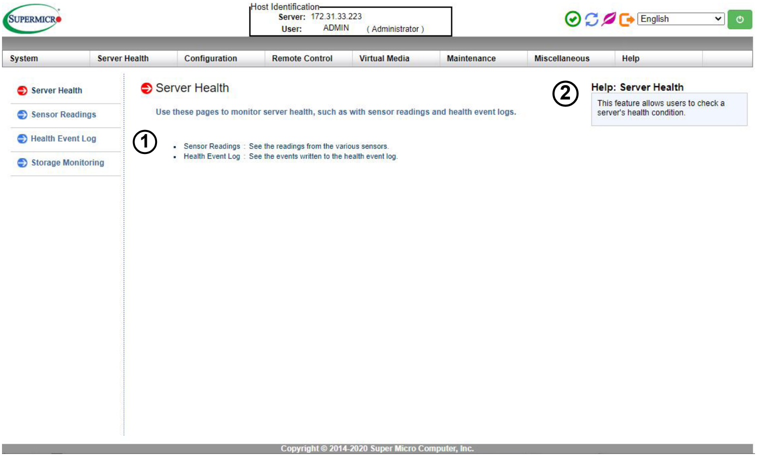
9. Click on the <Help> tab to display the Help menu. The menu displays the following information:

- Firmware Revision/Build Time
- UEFI BIOS Version/Build Time
- IP Address
- BMC/System MAC Address
- Remote Console Preview Screen
- Launch Console: This feature allows the user to launch a remote console by clicking on the preview screen
- Power Control: This feature allows the user to monitor and change the system power state via BMC IPMI.

2-6 Server Health

For X10 or Newer Versions of Motherboards

This feature allows the user to set the *Server Health* settings. When you click on *Server Health* in the Options window, the following screen will display:



Host Identification
Server: 172.31.33.223
User: ADMIN (Administrator)

Server Health

Use these pages to monitor server health, such as with sensor readings and health event logs.

- Sensor Readings : See the readings from the various sensors.
- Health Event Log : See the events written to the health event log.

Help: Server Health

This feature allows users to check a server's health condition.

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1. This section shows data related to the server's health, such as sensor readings and the event logs.

    - Displays sensor readings from the various sensors
    - Displays events to be written onto the event log
    - Displays power consumption.
    - Power Source: This page displays power source information.

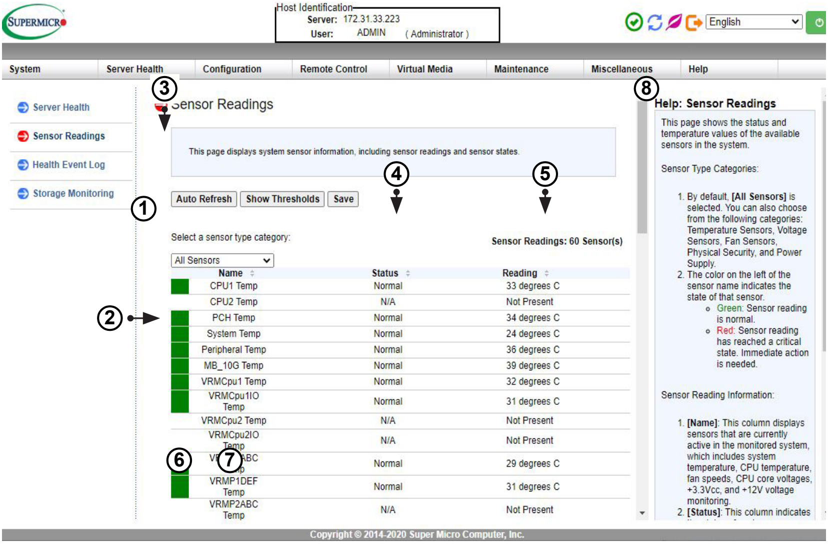
2. Click on the <Help> tab to display the Help menu. The menu displays information relating to the server's health.

2-6-1 Sensor Readings

For X10 or Newer Versions of Motherboards

This feature allows the user to set *Server Health* settings. When you click on *Server Health* in the Options window, the following screen will display:

1. Click <Sensor Readings> to access information on sensor readings as shown on the next page.



Host Identification
Server: 172.31.33.223
User: ADMIN (Administrator)

Sensor Readings

This page displays system sensor information, including sensor readings and sensor states.

Select a sensor type category: All Sensors

Sensor Readings: 60 Sensor(s)

	Name	Status	Reading
🟩	CPU1 Temp	Normal	33 degrees C
	CPU2 Temp	N/A	Not Present
🟩	PCH Temp	Normal	34 degrees C
🟩	System Temp	Normal	24 degrees C
🟩	Peripheral Temp	Normal	36 degrees C
🟩	MB_10G Temp	Normal	39 degrees C
🟩	VRMCpu1 Temp	Normal	32 degrees C
🟩	VRMCpu1IO Temp	Normal	31 degrees C
	VRMCpu2 Temp	N/A	Not Present
	VRMCpu2IO Temp	N/A	Not Present
🟩	VRMP1ABC Temp	Normal	29 degrees C
🟩	VRMP1DEF Temp	Normal	31 degrees C
	VRMP2ABC Temp	N/A	Not Present

Help: Sensor Readings

This page shows the status and temperature values of the available sensors in the system.

Sensor Type Categories:

1. By default, **[All Sensors]** is selected. You can also choose from the following categories: Temperature Sensors, Voltage Sensors, Fan Sensors, Physical Security, and Power Supply.
2. The color on the left of the sensor name indicates the state of that sensor.
   - Green: Sensor reading is normal.
   - Red: Sensor reading has reached a critical state. Immediate action is needed.

Sensor Reading Information:

1. **[Name]**: This column displays sensors that are currently active in the monitored system, which includes system temperature, CPU temperature, fan speeds, CPU core voltages, +3.3Vcc, and +12V voltage monitoring.
2. **[Status]**: This column indicates

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Note: The system will be able to detect some GPUs, but not every GPU will be detected and shown in the Sensor Readings. To find which GPUs are supported, please refer to our website at https://www.supermicro.com/en/support/resources/gpu.

This page displays system sensor readings for the remote console. When you click on *Sensor Readings* in the Options window, the following screen will display:

1. From the pull-down menu, select a sensor type (category). The options include the following:

- All Sensors
- Temperature Sensors
- Voltage Sensors

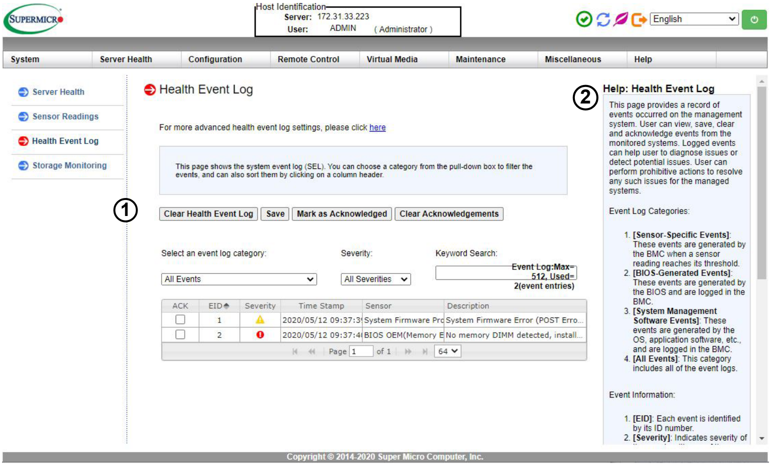
- Fan Sensors
- Physical Security
- Power Supply
- Battery

2. The color on the left of the sensor name indicates the status of that sensor.
    - Green: It indicates that the sensor reading is normal. The system functions normally.
    - Red: One or more sensors have reached a critical state. Immediate action is needed to resolve the problem.
    - No Color: There is no sensor reading.
3. Name: This column displays the names of the sensors that are currently active in system monitoring, including system temperature, CPU temperature, fan speeds, CPU core voltages, +3.3Vcc, and +12V voltage monitoring.
4. Status: This column indicates the status of each sensor reading.
5. Reading: This column indicates the reading of each sensor.
6. Refresh: Click this item to refresh the page.
7. Show Thresholds: Click this item to display sensor thresholds.
8. Click on the <Help> tab to display the Help menu. The menu displays the following information:
    - An explanation of the green and red sensors.
    - An explanation of each column on the page.
    - The functions of each button on the page.

2-6-2 Health Event Log

For X10 or Newer Versions of Motherboards

This page displays a record of critical system monitoring events. The event log indicates the time when a critical condition had occurred and when this condition was resolved. You can choose a specific event category from the pull-down menu to display events included in this category. When you click on *Health Event Log* in the Options window, the following screen will display:



Server: 172.31.33.223
User: ADMIN (Administrator)

Health Event Log

For more advanced health event log settings, please click here

This page shows the system event log (SEL). You can choose a category from the pull-down box to filter the events, and can also sort them by clicking on a column header.

Select an event log category: All Events

Severity: All Severities

Keyword Search:

Event Log:Max=512, Used=2(event entries)

ACK	EID	Severity	Time Stamp	Sensor	Description
□	1	⚠	2020/05/12 09:37:3	System Firmware Pro	System Firmware Error (POST Erro...
□	2	❗	2020/05/12 09:37:4	BIOS OEM(Memory E	No memory DIMM detected, install...

Help: Health Event Log

This page provides a record of events occurred on the management system. User can view, save, clear and acknowledge events from the monitored systems. Logged events can help user to diagnose issues or detect potential issues. User can perform prohibitive actions to resolve any such issues for the managed systems.

Event Log Categories:

1. **[Sensor-Specific Events]**: These events are generated by the BMC when a sensor reading reaches its threshold.
2. **[BIOS-Generated Events]**: These events are generated by the BIOS and are logged in the BMC.
3. **[System Management Software Events]**: These events are generated by the OS, application software, etc., and are logged in the BMC.
4. **[All Events]**: This category includes all of the event logs.

Event Information:

1. **[EID]**: Each event is identified by its ID number.
2. **[Severity]**: Indicates severity of

1. Health Event Log Category: From the pull-down menu, select an event category to display.

   - Sensor-Specific Events: These event logs are generated by the BMC if the sensor's reading reaches the threshold.

   - UEFI BIOS-Generated Events: These event logs are generated by the UEFI BIOS and logged to the BMC.

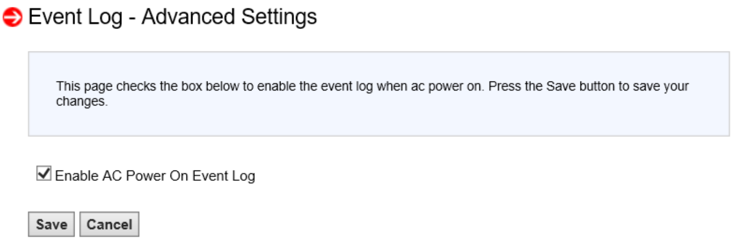
   - System Management Software Events: These events logs are generated by the OS, application software, etc., and logged to the BMC.

   - All Events: This category includes all the above event logs.

2. Click on the <Help> tab to display the Help menu.

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)

In addition to the events listed on the previous page, 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



Event Log - Advanced Settings

This page checks the box below to enable the event log when ac power on. Press the Save button to save your changes.

☑ Enable AC Power On Event Log

3. Click on <here> to see more special event log settings. You will see an option to enable AC Power On Event Log. Check the box to enable the option and click on <Save>.

4. Click on the <Help> tab to display the Help menu. The menu displays information for the following features:

   - [Sensor-Specific Events]
   - [UEFI BIOS-Generated Events]
   - [System Management Software Events]
   - [All Events]

2-6-3 Storage Monitoring

For X10 or Newer Versions of Motherboards

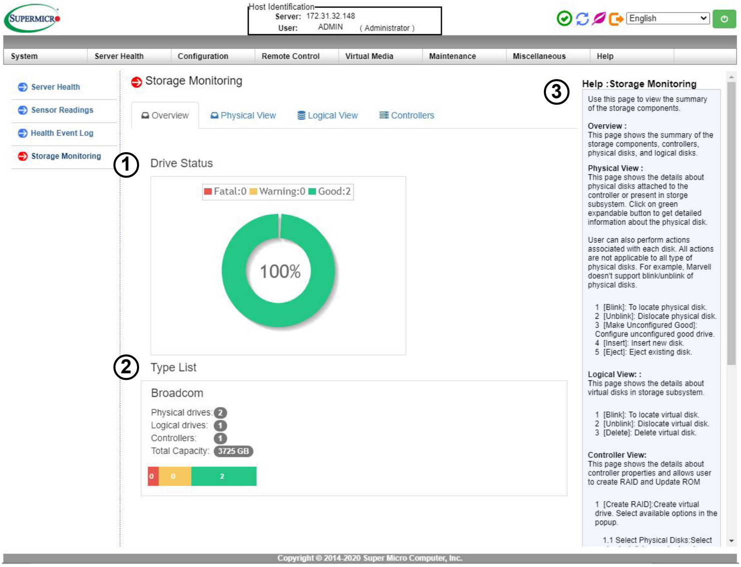
This page displays the storage information and status. When you click on *Storage Monitoring* in the Options window, the following screen will display:

Note 1: The Storage Monitoring feature is not available on all systems. A license key is required to activate RAID management features, but not to view Storage Monitoring.

Note 2: If BMC MAC address is changed, prior license keys will be lost.

Note 3: The Storage Monitoring feature is only available for Supermicro's Broadcom 3108 or Supermicro's Marvell® SE9230 controller, not the onboard Intel controllers. Please also note that the Marvell® SE9230 controller is only supported for X11 versions of motherboards.

Note 4: System needs to pass BIOS Boot for the Storage Monitoring option to appear.



Host Identification
Server: 172.31.32.148
User: ADMIN (Administrator)

Broadcom
Physical drives: 2
Logical drives: 1
Controllers: 1
Total Capacity: 3725 GB

Help :Storage Monitoring

Use this page to view the summary of the storage components.

Overview :
This page shows the summary of the storage components, controllers, physical disks, and logical disks.

Physical View :
This page shows the details about physical disks attached to the controller or present in storge subsystem. Click on green expandable button to get detailed information about the physical disk.

User can also perform actions associated with each disk. All actions are not applicable to all type of physical disks. For example, Marvell doesn't support blink/unblink of physical disks.

1 [Blink]: To locate physical disk.
2 [Unblink]: Dislocate physical disk.
3 [Make Unconfigured Good]: Configure unconfigured good drive.
4 [Insert]: Insert new disk.
5 [Eject]: Eject existing disk.

Logical View: :
This page shows the details about virtual disks in storage subsystem.

1 [Blink]: To locate virtual disk.
2 [Unblink]: Dislocate virtual disk.
3 [Delete]: Delete virtual disk.

Controller View:
This page shows the details about controller properties and allows user to create RAID and Update ROM

1 [Create RAID]:Create virtual drive. Select available options in the popup.

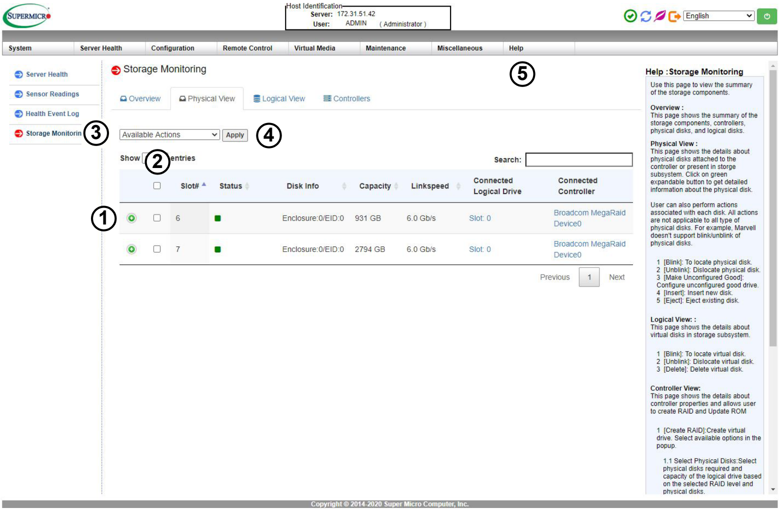
1.1 Select Physical Disks:Select

The initial page is the overview, which shows the summary of the storage components, physical and logical disks, and controllers.

Features on this page include:

1. Graph: Representing the driver status of all detected disks and controllers.
    - Red: Fatal
    - Yellow: Warning
    - Green: Good
2. Type List
    - Number of Physical Drives
    - Number of Logical Drives
    - Number of Controllers
    - Total Capacity
3. Click on the <Help> tab to display the Help menu.

This page shows the details about the physical drives attached to the controller or that are present in the storage subsystem. Users can also perform actions associated with each disk. Not all actions are applicable to all types of physical disks (e.g. Marvell® does not support blink/unblink feature of physical disks). When you click on the <Physical View> tab, the following screen will display:



	□	Slot#	Status	Disk Info	Capacity	Linkspeed	Connected Logical Drive	Connected Controller
⊕	□	6	🟩	Enclosure:0/EID:0	931 GB	6.0 Gb/s	Slot: 0	Broadcom MegaRaid Device0
⊕	□	7	🟩	Enclosure:0/EID:0	2794 GB	6.0 Gb/s	Slot: 0	Broadcom MegaRaid Device0

Help :Storage Monitoring

Use this page to view the summary of the storage components.

Overview :
This page shows the summary of the storage components, controllers, physical disks, and logical disks.

Physical View :
This page shows the details about physical disks attached to the controller or present in storge subsystem. Click on green expandable button to get detailed information about the physical disk.

User can also perform actions associated with each disk. All actions are not applicable to all type of physical disks. For example, Marvell doesn't support blink/unblink of physical disks.

1 [Blink]: To locate physical disk.
2 [Unblink]: Dislocate physical disk.
3 [Make Unconfigured Good]: Configure unconfigured good drive.
4 [Insert]: Insert new disk.
5 [Eject]: Eject existing disk.

Logical View: :
This page shows the details about virtual disks in storage subsystem.

1 [Blink]: To locate virtual disk.
2 [Unblink]: Dislocate virtual disk.
3 [Delete]: Delete virtual disk.

Controller View:
This page shows the details about controller properties and allows user to create RAID and Update ROM

1 [Create RAID]:Create virtual drive. Select available options in the popup.

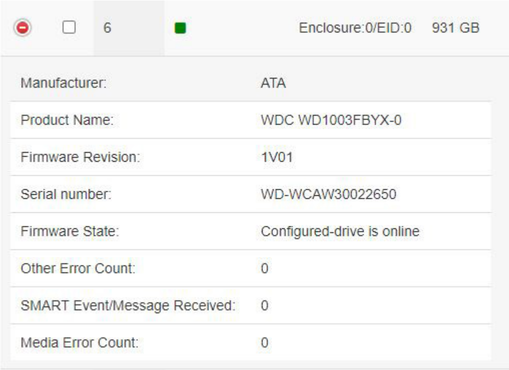
1.1 Select Physical Disks:Select physical disks required and capacity of the logical drive based on the selected RAID level and physical disks.

1. Click on the green <+> icon for additional details about the corresponding physical disk. It will include details such as:

   - Manufacturer
   - Product Name
   - Firmware Revision
   - Serial Number
   - Serial Number
   - Firmware State

2. To perform an action on a physical disk, check the box located next to the green <+> to select one or more disk or slot.

3. Select an action from the pull-down menu in the upper left-hand corner marked <Available Actions> by default select action. Options include:



⊖ □ 6 🟩 Enclosure:0/EID:0 931 GB

Manufacturer:	ATA
Product Name:	WDC WD1003FBYX-0
Firmware Revision:	1V01
Serial number:	WD-WCAW30022650
Firmware State:	Configured-drive is online
Other Error Count:	0
SMART Event/Message Received:	0
Media Error Count:	0

- Blink: To cause the physical disk to blink in order to locate it. A red, blinking dot will appear next to the selected slot's Disk Info to indicate that it is active.

- Unblink: To stop blink action.

- Make Unconfigured Good: Configure unconfigured good drive.

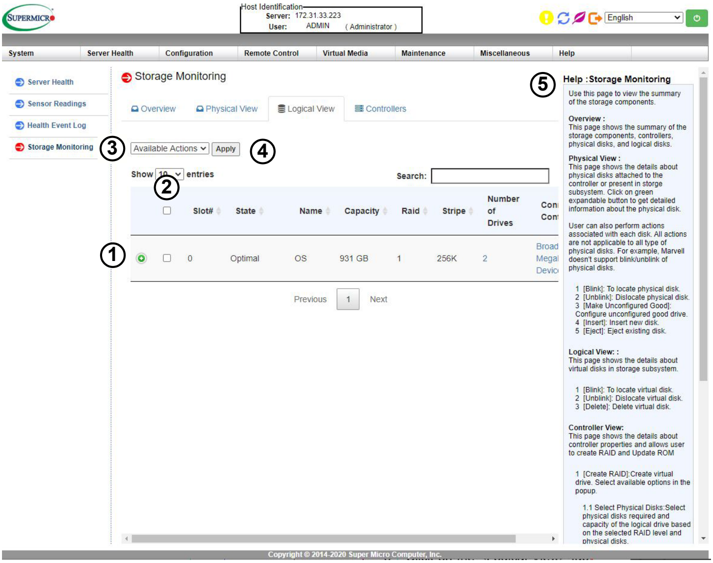
4. Click <Apply>.

5. Click on the <Help> tab to display the Help menu.

This page shows the details about the virtual drives in the storage subsystem. Users can also perform actions associated with each disk. When you click on the <Logical View> tab, the following screen will display:

Note 1: The SFT-OOB-LIC license is required for users to perform storage card firmware update.

Note 2: If using tools or other interfaces, such as API, the SFT-DCMS-Single license is required to perform storage card firmware update.



		Slot#	State	Name	Capacity	Raid	Stripe	Number of Drives	Con Con
⊕	□	0	Optimal	OS	931 GB	1	256K	2	Broad Megal Devic

Help :Storage Monitoring

Use this page to view the summary of the storage components.

Overview :
This page shows the summary of the storage components, controllers, physical disks, and logical disks.

Physical View :
This page shows the details about physical disks attached to the controller or present in storge subsystem. Click on green expandable button to get detailed information about the physical disk.

User can also perform actions associated with each disk. All actions are not applicable to all type of physical disks. For example, Marvell doesn't support blink/unblink of physical disks.

1 [Blink]: To locate physical disk.
2 [Unblink]: Dislocate physical disk.
3 [Make Unconfigured Good]: Configure unconfigured good drive.
4 [Insert]: Insert new disk.
5 [Eject]: Eject existing disk.

Logical View: :
This page shows the details about virtual disks in storage subsystem.

1 [Blink]: To locate virtual disk.
2 [Unblink]: Dislocate virtual disk.
3 [Delete]: Delete virtual disk.

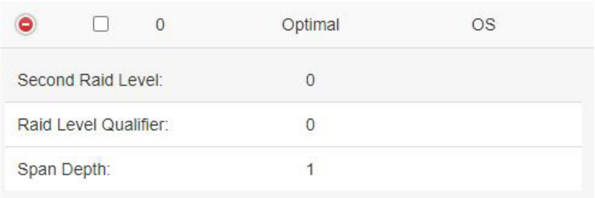
Controller View:
This page shows the details about controller properties and allows user to create RAID and Update ROM

1 [Create RAID]:Create virtual drive. Select available options in the popup.

1.1 Select Physical Disks:Select physical disks required and capacity of the logical drive based on the selected RAID level and physical disks.

1. Click on the green <+> icon for additional details about the corresponding virtual disk. It will include details such as:

- Second Raid Level
- Raid Level Qualifier
- Span Depth



⊖	□	0	Optimal	OS
Second Raid Level:		0		
Raid Level Qualifier:		0		
Span Depth:		1		

2. To perform an action on a physical disk, check the box located next to the green <+> to select one or more disk or slot.

3. Select an action from the pull-down menu in the upper left-hand corner marked <Available Actions> by default select action. Options include:

    - Blink: To cause the physical disk to blink in order to locate it. A red, blinking dot will appear next to the selected slot's Name to indicate that it is active.

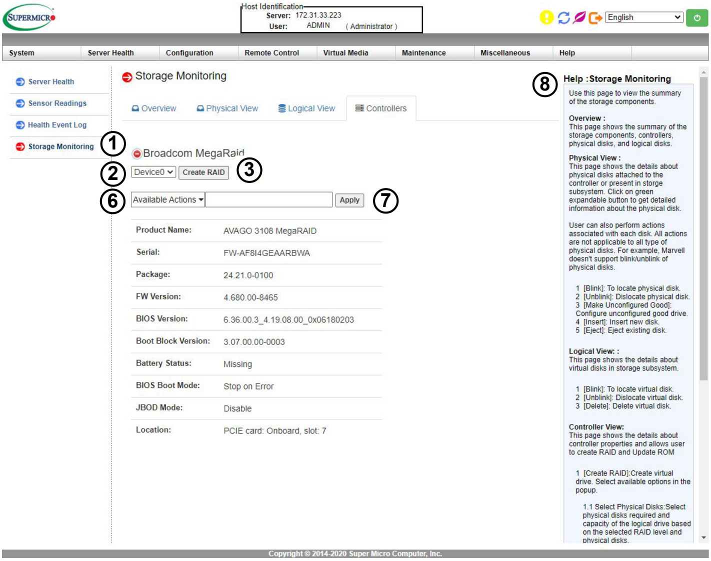
    - Unblink: To stop blink action.

    - Deleted: Delete virtual disk.

4. Click <Apply>.

5. Click on the <Help> tab to display the Help menu.

This page shows the details about controller properties and also allows the user to create RAID and update ROM. When you click on the <Controllers> tab, the following screen will display:



Host Identification
Server: 172.31.33.223
User: ADMIN (Administrator)

Product Name:	AVAGO 3108 MegaRAID
Serial:	FW-AF8I4GEAARBWA
Package:	24.21.0-0100
FW Version:	4.680.00-8465
BIOS Version:	6.36.00.3_4.19.08.00_0x06180203
Boot Block Version:	3.07.00.00-0003
Battery Status:	Missing
BIOS Boot Mode:	Stop on Error
JBOD Mode:	Disable
Location:	PCIE card: Onboard, slot: 7

Help :Storage Monitoring

Use this page to view the summary of the storage components.

Overview :
This page shows the summary of the storage components, controllers, physical disks, and logical disks.

Physical View :
This page shows the details about physical disks attached to the controller or present in storge subsystem. Click on green expandable button to get detailed information about the physical disk.

User can also perform actions associated with each disk. All actions are not applicable to all type of physical disks. For example, Marvell doesn't support blink/unblink of physical disks.

1 [Blink]: To locate physical disk.
2 [Unblink]: Dislocate physical disk.
3 [Make Unconfigured Good]: Configure unconfigured good drive.
4 [Insert]: Insert new disk.
5 [Eject]: Eject existing disk.

Logical View: :
This page shows the details about virtual disks in storage subsystem.

1 [Blink]: To locate virtual disk.
2 [Unblink]: Dislocate virtual disk.
3 [Delete]: Delete virtual disk.

Controller View:
This page shows the details about controller properties and allows user to create RAID and Update ROM

1 [Create RAID]:Create virtual drive. Select available options in the popup.

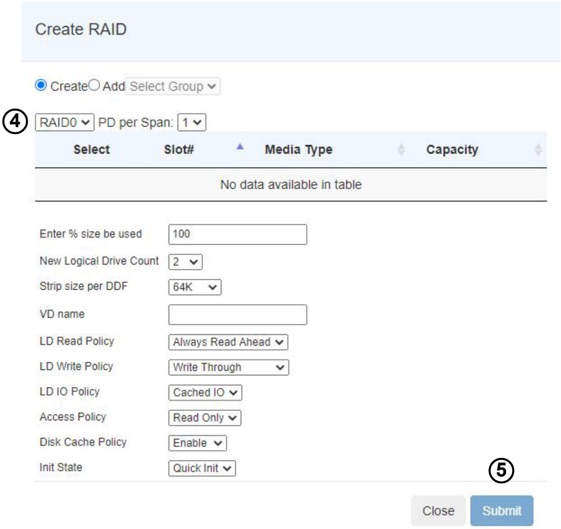
1.1 Select Physical Disks:Select physical disks required and capacity of the logical drive based on the selected RAID level and physical disks.

1. Click on the green <+> icon next to <Broadcom MegaRaid> for additional details. It will include details such as:

    - Product Name
    - Serial
    - Package
    - FW Version
    - BIOS Version
    - Boot Black Version
    - Battery Status
    - BIOS Boot Mode
    - JBOD Mode
    - Location

2. To create a virtual drive, first select a device from the top drop-down menu.

3. After the option has selected, click [Create RAID]. The following pop up will appear:



Create RAID

● Create ○ Add Select Group

RAID0 PD per Span: 1

Select	Slot#	Media Type	Capacity
No data available in table			

Enter % size be used: 100

New Logical Drive Count: 2

Strip size per DDF: 64K

VD name:

LD Read Policy: Always Read Ahead

LD Write Policy: Write Through

LD IO Policy: Cached IO

Access Policy: Read Only

Disk Cache Policy: Enable

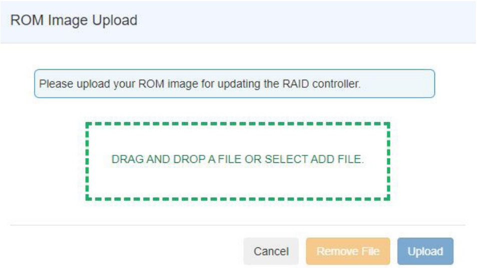
Init State: Quick Init

4. Select required physical disks and logical drive capacity based on the selected RAID level and physical disks. (E.g. If RAID1 is chosen, the maximum and required minimum number of physical disks is 2.)

5. Click [Submit].

6. To apply actions, select option from <Available Actions> drop-down menu. Options include:

- ROM Update: To update ROM. When the user applies this option, the following screen will appear:



ROM Image Upload

Please upload your ROM image for updating the RAID controller.

DRAG AND DROP A FILE OR SELECT ADD FILE.

    - Drag or drop the desired ROM image file into pop up.
    - Click [Upload] button.
    - Click [Start Upgrade] to initiate the process.
  - Import Foreign Configurations: To import RAID configurations.
  - Clear Foreign Configurations: To clear RAID configurations.
  - BIOS Boot Mode: Configure BIOS Boot mode options. Options include Stop on Error, Pause on Error, Ignore Error, and Safe Mode on Error.
  - JBOD Mode: To enable or disable the JBOD mode. Options include Enable and Disable.

7. Click [Apply].
8. Click on the <Help> tab to display the Help menu.

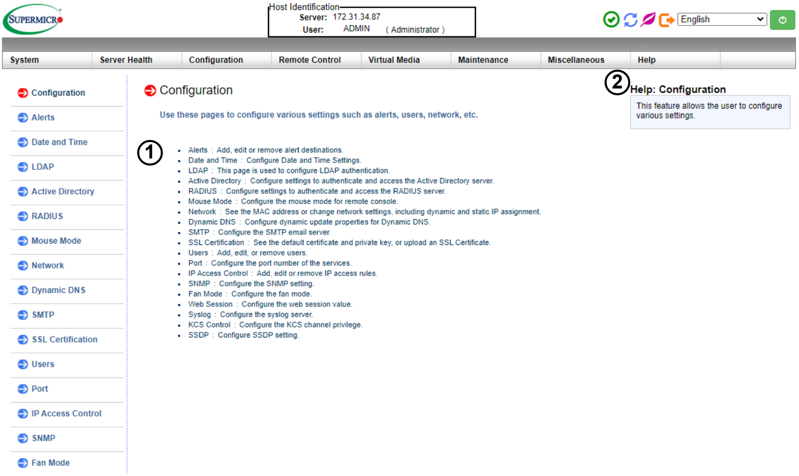
Note: Storage card firmware update is only supported for the Supermicro 3108 controller.

2-7 Configuration

For X10 or Newer Versions of Motherboards

This feature allows the user to configure various network settings. When you click on *Configuration* in the menu bar, the following screen will display:

Note: Configuration settings will vary by system.



Host Identification
Server: 172.31.34.87
User: ADMIN (Administrator)

Configuration

Use these pages to configure various settings such as alerts, users, network, etc.

- Alerts : Add, edit or remove alert destinations.
- Date and Time : Configure Date and Time Settings.
- LDAP : This page is used to configure LDAP authentication.
- Active Directory : Configure settings to authenticate and access the Active Directory server.
- RADIUS : Configure settings to authenticate and access the RADIUS server.
- Mouse Mode : Configure the mouse mode for remote console.
- Network : See the MAC address or change network settings, including dynamic and static IP assignment.
- Dynamic DNS : Configure dynamic update properties for Dynamic DNS.
- SMTP : Configure the SMTP email server.
- SSL Certification : See the default certificate and private key, or upload an SSL Certificate.
- Users : Add, edit, or remove users.
- Port : Configure the port number of the services.
- IP Access Control : Add, edit or remove IP access rules.
- SNMP : Configure the SNMP setting.
- Fan Mode : Configure the fan mode.
- Web Session : Configure the web session value.
- Syslog : Configure the syslog server.
- KCS Control : Configure the KCS channel privilege.
- SSDP : Configure SSDP setting.

Help: Configuration

This feature allows the user to configure various settings.

1. This section allows the user to configure the following settings.

    - Alerts: Use this item to configure alert destination settings.
    - Date & Time
    - LDAP: Use this item to configure LDAP (Lightweight Directory Access Protocol) settings for authentication and access to the LDAP server.
    - Active Directory: Use this item to configure the settings for authentication and access to the Active Directory server.
    - Radius: Use this item to configure the settings for authentication and access to the Radius server.
    - Mouse Mode
    - Network

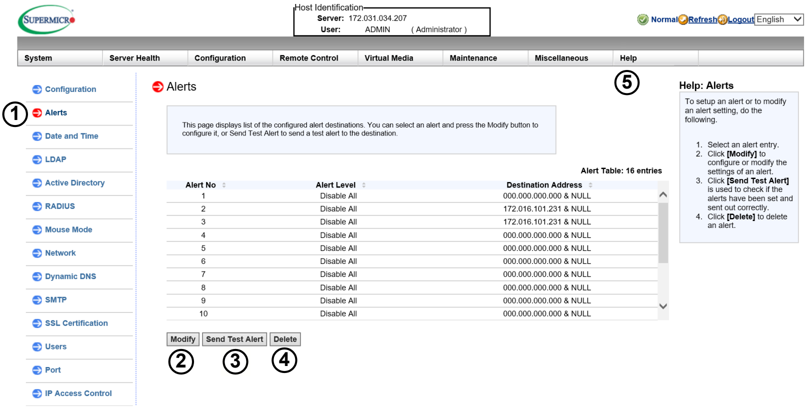
- Dynamic DNS
- SMTP
- SSL Certification
- Users
- Port
- IP Access Control
- SNMP
- Fan Mode
- Web Session
- Syslog
- KCS Control

2. Click on the <Help> tab to display the Help menu for the *Configuration* screen.

2-7-1 Alerts

For X10 or Newer Versions of Motherboards

This feature allows the user to configure *Alert* settings. When you click on *Alerts* in the menu bar, the following screen will display:



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

Alerts

This page displays list of the configured alert destinations. You can select an alert and press the Modify button to configure it, or Send Test Alert to send a test alert to the destination.

Alert Table: 16 entries

Alert No	Alert Level	Destination Address
1	Disable All	000.000.000.000 & NULL
2	Disable All	172.016.101.231 & NULL
3	Disable All	172.016.101.231 & NULL
4	Disable All	000.000.000.000 & NULL
5	Disable All	000.000.000.000 & NULL
6	Disable All	000.000.000.000 & NULL
7	Disable All	000.000.000.000 & NULL
8	Disable All	000.000.000.000 & NULL
9	Disable All	000.000.000.000 & NULL
10	Disable All	000.000.000.000 & NULL

Help: Alerts

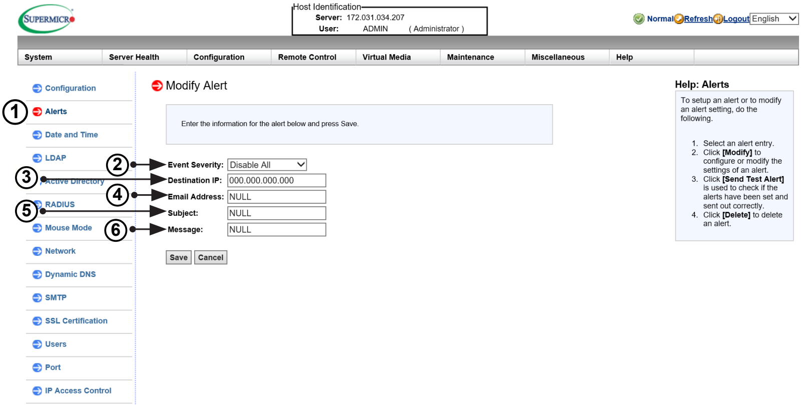
To setup an alert or to modify an alert setting, do the following.

1. Select an alert entry.
2. Click **[Modify]** to configure or modify the settings of an alert.
3. Click **[Send Test Alert]** is used to check if the alerts have been set and sent out correctly.
4. Click **[Delete]** to delete an alert.

To set up an alert or to modify an alert setting, do the following.

1. Click on <Alerts> to activate the alert submenu.
2. Click on <Modify> to configure or modify the settings of an alert.
3. *Send Test Alert* is used to check if the alerts have been set and sent out correctly.
4. Click on <Delete> to delete an alert.
5. Click on the <Help> tab to display the Help menu. This menu shows you how to set up or modify an alert.

To Set Up an Alert



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

Modify Alert

Enter the information for the alert below and press Save.

Event Severity: Disable All
Destination IP: 000.000.000.000
Email Address: NULL
Subject: NULL
Message: NULL

Help: Alerts

To setup an alert or to modify an alert setting, do the following.

1. Select an alert entry.
2. Click **[Modify]** to configure or modify the settings of an alert.
3. Click **[Send Test Alert]** is used to check if the alerts have been set and sent out correctly.
4. Click **[Delete]** to delete an alert.

Follow the steps below to set up an alert:

1. Select *Alerts* from the window on the left. Highlight the alert and select *Modify*.

2. Select *Event Severity*.

3. Enter the destination IP address to use SNMP. For further guidance on typical inquiries relating to SNMP, see the table on the next page.

Item	***Answer***
SNMP version number	SNMP version 2 and 3.
MIB community name	A community name is not required since SNMP version 1 only uses traps.
MIB file location	Go to http://www.supermicro.com/products/nfo/IPMI.cfm and click on "IPMI MIB" (right-hand side of the page).
The BMC IPMI item you need to configure so that the SNMP manager can receive the SNMP trap	The alert LAN destination address (see #4 under 2.4.1) must be set to the same IP in as the SNMP manager.
Can I query for detailed information on the MIB "Event" trap items?	Users can use SNMP tools to query information from BMC.
A list of trap items generated for my platform	No standard list of event traps exist because the PEF (Platform Event Filter) table is OEM customizable.

4. Enter the email address you wish the send the alert to, then configure the SMTP settings (see section 2.8.10).

5. Enter the subject line of the alert.

6. Enter a message for the alert.

7. After completing the steps above, Click on <Save> to save the settings.

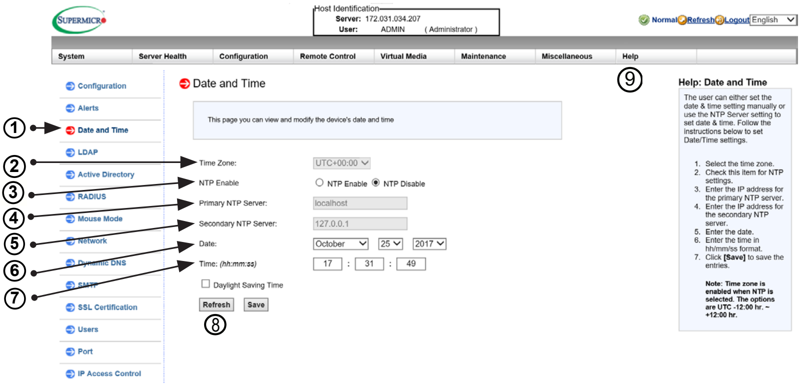
2-7-2 Date and Time

For X10 or Newer Versions of Motherboards

This feature allows the user to configure the time and date settings for the host server and the client computer. When you click on *Time and Date* in the Options window, the following screen will display:

The user can either set the date & time settings manually or use the *NTP Server* setting to set date & time. Follow the instructions below to set Date/Time settings.

Note: Time zone is enabled when *NTP* is selected. The options are UTC -12:00 hr. ~ +12:00 hr.



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

Date and Time

This page you can view and modify the device's date and time

Time Zone: UTC+00:00
NTP Enable ○ NTP Enable ● NTP Disable
Primary NTP Server: localhost
Secondary NTP Server: 127.0.0.1
Date: October 25 2017
Time: *(hh:mm:ss)* 17 : 31 : 49
□ Daylight Saving Time

Help: Date and Time

The user can either set the date & time setting manually or use the NTP Server setting to set date & time. Follow the instructions below to set Date/Time settings.

1. Select the time zone.
2. Check this item for NTP settings.
3. Enter the IP address for the primary NTP server.
4. Enter the IP address for the secondary NTP server.
5. Enter the date.
6. Enter the time in hh/mm/ss format.
7. Click **[Save]** to save the entries.

Note: Time zone is enabled when NTP is selected. The options are UTC -12:00 hr. ~ +12:00 hr.

1. Click on *Date/Time* on the left to set the date/time settings.

2. Select the time zone.

3. Check this item for NTP settings.

4. Enter the IP address for the primary NTP server.

5. Enter the IP address for the secondary NTP server.

6. Enter the date.

7. Enter the time in hh/mm/ss format.

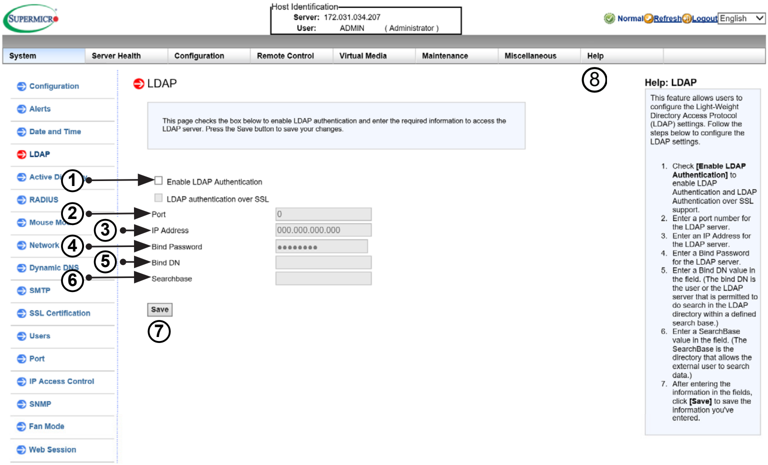
8. Click on <Refresh> to change the date/time settings. Click on <Save> to save the settings.

9. Click on the <Help> tab to display the Help menu. This menu includes instructions on how to modify the date and time.

2-7-3 LDAP

For X10 or Newer Versions of Motherboards

This feature allows the user to configure the *Light-Weight Directory Access Protocol* (LDAP) settings. When you click on *LDAP* in the Options window, the following screen will display:



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

LDAP

This page checks the box below to enable LDAP authentication and enter the required information to access the LDAP server. Press the Save button to save your changes.

☐ Enable LDAP Authentication

☐ LDAP authentication over SSL

Port	0
IP Address	000.000.000.000
Bind Password	••••••••
Bind DN	
Searchbase	

Help: LDAP

This feature allows users to configure the Light-Weight Directory Access Protocol (LDAP) settings. Follow the steps below to configure the LDAP settings.

1. Check **[Enable LDAP Authentication]** to enable LDAP Authentication and LDAP Authentication over SSL support.
2. Enter a port number for the LDAP server.
3. Enter an IP Address for the LDAP server.
4. Enter a Bind Password for the LDAP server.
5. Enter a Bind DN value in the field. (The bind DN is the user or the LDAP server that is permitted to do search in the LDAP directory within a defined search base.)
6. Enter a SearchBase value in the field. (The SearchBase is the directory that allows the external user to search data.)
7. After entering the information in the fields, click **[Save]** to save the information you've entered.

Follow the steps below to configure the LDAP settings.

1. Check the enable box to enable *LDAP Authentication and LDAP Authentication over SSL* support.

2. Enter a port number for the LDAP server.

3. Enter an IP Address for the LDAP server.

4. Enter a Bind Password for the LDAP server.

5. Enter a Bind DN value in the field. (The bind DN is the user or the LDAP server that is permitted to do a search in the LDAP directory within a defined search base.)

6. Enter a SearchBase value in the field. (The SearchBase is the directory that allows the external user to search data.)

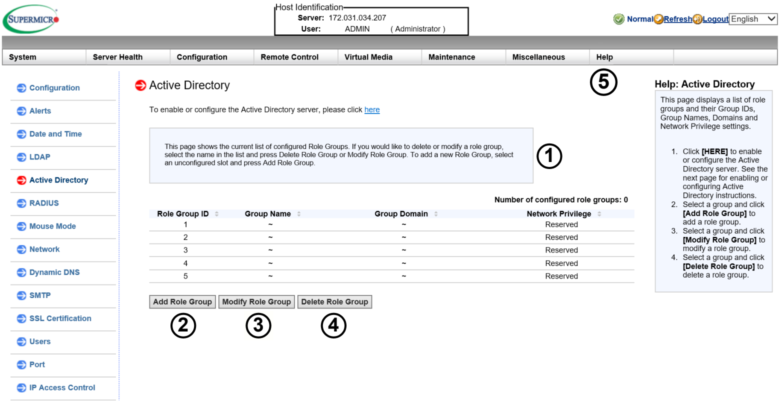
7. Click on <Save> to save the settings.

8. Click on the <Help> tab to display the Help menu. This menu provides an explanation of all the options displayed on the page.

2-7-4 Active Directory

For X10 or Newer Versions of Motherboards

This page displays a list of role groups and their Group IDs, Group Names, Domains, and Network Privilege settings. When you click on *Active Directory* in the Options window, the following screen will display:



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

Active Directory

To enable or configure the Active Directory server, please click here

This page 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	Network Privilege
1	~	~	Reserved
2	~	~	Reserved
3	~	~	Reserved
4	~	~	Reserved
5	~	~	Reserved

Help: Active Directory

This page displays a list of role groups and their Group IDs, Group Names, Domains and Network Privilege settings.

1. Click **[HERE]** to enable or configure the Active Directory server. See the next page for enabling or configuring Active Directory instructions.
2. Select a group and click **[Add Role Group]** to add a role group.
3. Select a group and click **[Modify Role Group]** to modify a role group.
4. Select a group and click **[Delete Role Group]** to delete a role group.

1. Click on <here> to enable or configure the Active Directory server. See the next page for enabling or configuring Active Directory instructions.

2. Select a group and click on <Add Role Group> to add a role group.

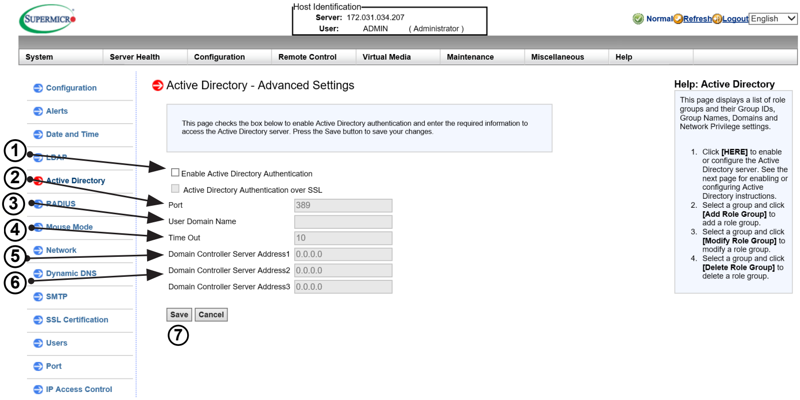
3. Select a group and click on <Modify Role Group> to modify a role group.

4. Select a group and click on <Delete Role Group> to delete a role group.

5. Click on the <Help> tab to display the Help menu. This menu provides instructions on how to add, modify, and delete a role group.

Configuring the Active Directory Settings

This feature allows the user to configure the *Advanced Active Directory* settings. When you click *Here* on the screen shown on the previous page, the following screen will display:



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

Active Directory - Advanced Settings

This page checks the box below to enable Active Directory authentication and enter the required information to access the Active Directory server. Press the Save button to save your changes.

☐ Enable Active Directory Authentication

☐ Active Directory Authentication over SSL

Port	389
User Domain Name	
Time Out	10
Domain Controller Server Address1	0.0.0.0
Domain Controller Server Address2	0.0.0.0
Domain Controller Server Address3	0.0.0.0

Help: Active Directory

This page displays a list of role groups and their Group IDs, Group Names, Domains and Network Privilege settings.

1. Click **[HERE]** to enable or configure the Active Directory server. See the next page for enabling or configuring Active Directory instructions.
2. Select a group and click **[Add Role Group]** to add a role group.
3. Select a group and click **[Modify Role Group]** to modify a role group.
4. Select a group and click **[Delete Role Group]** to delete a role group.

1. Check the <Enable> box to enable *Active Directory* authentication support. Then, Enter the values in the fields below.

2. Enter <User Domain Name>.

3. Enter Time Out value in the field to set the time limit for a user to stay logging-in.

4. Enter <Controller Server Address1>.

5. Enter <Controller Server Address2>.

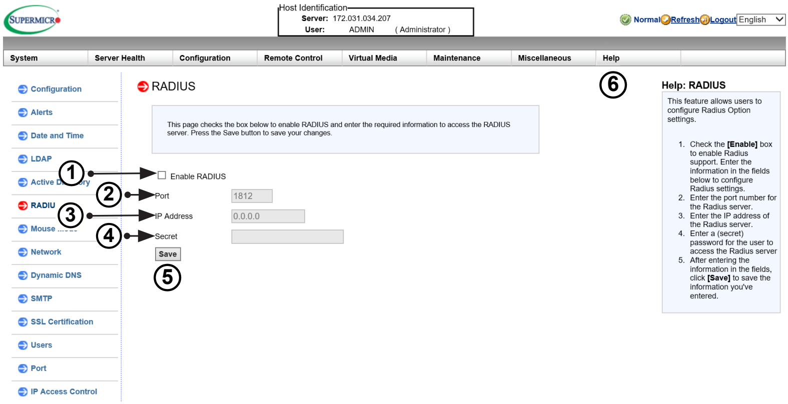
6. Enter <Controller Server Address3>.

7. Click on <Save> to save the settings.

2-7-5 RADIUS

For X10 or Newer Versions of Motherboards

This feature allows the user to configure *Radius Option* settings. When you click on *Radius* in the Options Window, the following screen will display:



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

RADIUS

This page checks the box below to enable RADIUS and enter the required information to access the RADIUS server. Press the Save button to save your changes.

☐ Enable RADIUS

Port: 1812

IP Address: 0.0.0.0

Secret:

Save

Help: RADIUS

This feature allows users to configure Radius Option settings.

1. Check the **[Enable]** box to enable Radius support. Enter the information in the fields below to configure Radius settings.
2. Enter the port number for the Radius server.
3. Enter the IP address of the Radius server.
4. Enter a (secret) password for the user to access the Radius server
5. After entering the information in the fields, click **[Save]** to save the information you've entered.

1. Check the <Enable> box to enable *Radius* support. Enter the information in the fields below to configure *Radius* settings.

2. Enter the port number for the Radius server.

3. Enter the IP address of the Radius server.

4. Enter a secret (password) for the user to access the Radius server.

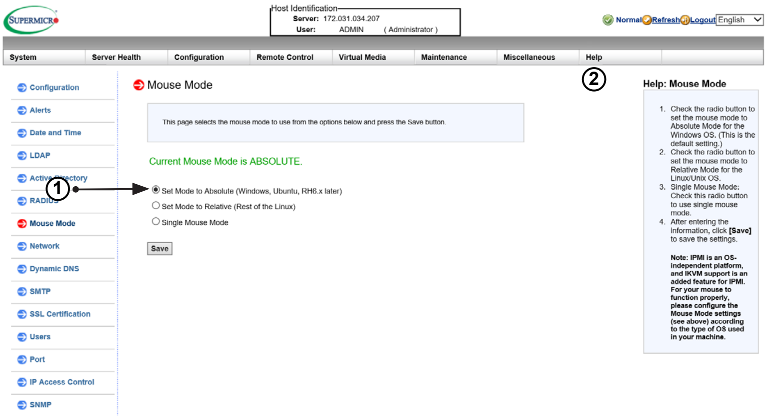
5. Click on <Save> to save the settings.

6. Click on the <Help> tab to display the Help menu. The menu includes instructions on how to configure the RADIUS settings.

2-7-6 Mouse Mode

For X10 or Newer Versions of Motherboards

This feature allows the user to configure the *Mouse Mode* settings. When you click on *Mouse Mode* in the Options Window, the following screen will display.



Mouse Mode

This page selects the mouse mode to use from the options below and press the Save button.

Current Mouse Mode is ABSOLUTE.

● Set Mode to Absolute (Windows, Ubuntu, RH6.x later)
○ Set Mode to Relative (Rest of the Linux)
○ Single Mouse Mode

Help: Mouse Mode

1. Check the radio button to set the mouse mode to Absolute Mode for the Windows OS. (This is the default setting.)
2. Check the radio button to set the mouse mode to Relative Mode for the Linux/Unix OS.
3. Single Mouse Mode: Check this radio button to use single mouse mode.
4. After entering the information, click **[Save]** to save the settings.

Note: IPMI is an OS-independent platform, and IKVM support is an added feature for IPMI. For your mouse to function properly, please configure the Mouse Mode settings (see above) according to the type of OS used in your machine.

1. This item displays the current Mouse Mode setting. To select a Mouse Mode setting, click on a mode shown below.

   - Set Mode to Absolute (Windows, Ubuntu, RH6.x later). This is the default setting.

   - Set Mode to Relative (other brands of Linux).

   - Single Mouse Mode: Check this to use a single mouse mode.

   - Click on <Save> to save the settings.

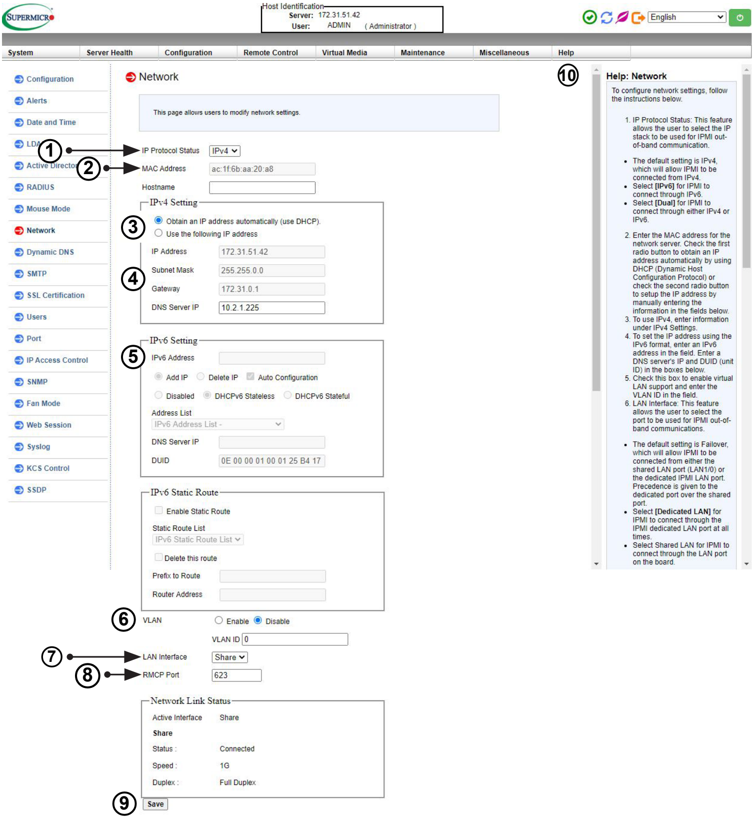
   Note: BMC IPMI is an OS-independent platform. IKVM support is an added feature for BMC IPMI. For your mouse to function properly, please configure the Mouse Mode settings (see above) according to the type of OS used in your machine.

2. Click on the <Help> tab to display the Help menu. The menu provides an explanation of the mouse modes.

2-7-7 Network

For X10 or Newer Versions of Motherboards

This feature allows you to configure the network settings. When you click on *Network* in the Options Window, the following screen will display.



Host Identification
Server: 172.31.51.42
User: ADMIN (Administrator)

Network

This page allows users to modify network settings.

IP Protocol Status: IPv4
MAC Address: ac:1f:6b:aa:20:a8
Hostname:

IPv4 Setting
● Obtain an IP address automatically (use DHCP).
○ Use the following IP address
IP Address: 172.31.51.42
Subnet Mask: 255.255.0.0
Gateway: 172.31.0.1
DNS Server IP: 10.2.1.225

IPv6 Setting
IPv6 Address:
● Add IP ○ Delete IP ☑ Auto Configuration
○ Disabled ● DHCPv6 Stateless ○ DHCPv6 Stateful
Address List: - IPv6 Address List -
DNS Server IP:
DUID: 0E 00 00 01 00 01 25 B4 17

IPv6 Static Route
□ Enable Static Route
Static Route List: IPv6 Static Route List
□ Delete this route
Prefix to Route:
Router Address:

VLAN: ○ Enable ● Disable
VLAN ID: 0
LAN Interface: Share
RMCP Port: 623

Network Link Status
Active Interface: Share
Share
Status : Connected
Speed : 1G
Duplex : Full Duplex

Help: Network

To configure network settings, follow the instructions below.

1. IP Protocol Status: This feature allows the user to select the IP stack to be used for IPMI out-of-band communication.

- The default setting is IPv4, which will allow IPMI to be connected from IPv4.
- Select **[IPv6]** for IPMI to connect through IPv6.
- Select **[Dual]** for IPMI to connect through either IPv4 or IPv6.

2. Enter the MAC address for the network server. Check the first radio button to obtain an IP address automatically by using DHCP (Dynamic Host Configuration Protocol) or check the second radio button to setup the IP address by manually entering the information in the fields below.
3. To use IPv4, enter information under IPv4 Settings.
4. To set the IP address using the IPv6 format, enter an IPv6 address in the field. Enter a DNS server's IP and DUID (unit ID) in the boxes below.
5. Check this box to enable virtual LAN support and enter the VLAN ID in the field.
6. LAN Interface: This feature allows the user to select the port to be used for IPMI out-of-band communications.

- The default setting is Failover, which will allow IPMI to be connected from either the shared LAN port (LAN1/0) or the dedicated IPMI LAN port. Precedence is given to the dedicated port over the shared port.
- Select **[Dedicated LAN]** for IPMI to connect through the IPMI dedicated LAN port at all times.
- Select Shared LAN for IPMI to connect through the LAN port on the board.

1. IP Protocol Status: This feature allows the user to select the IP stack to be used for IPMI out-of-band communication. Users can later change the default if needed. Settings include:

   - IPv4: Select [IPv4] allow IPMI to be connected from IPv4. This is the default setting.
   - IPv6: Select [IPv6] for IPMI to connect through IPv6.
   - Dual: Select [Dual] for IPMI to connect through either IPv4 or IPv6.

2. MAC Address: Enter the MAC address for the network server. Check the first radio button to obtain an IP address automatically by using DHCP (Dynamic Host Configuration Protocol) or manually enter the information in the fields below to check the second radio button to set up the IP address.

To configure *Network* settings, follow the instructions below.

3. Select *Obtain an IP automatically* (use DHCP) or *Use the following IP address* to manually configure one.

4. If you select *Use the following IP address,* enter information into the following IPv4 Setting fields:

   - IP address

   - Subnet Mask

   - Gateway

   - DNS Server IP

5. To set the IP address using the IPv6 format, enter an address in the field. Enter a DNS Server IP and DUID (unit ID) in the boxes.

6. Check this box to enable Virtual LAN support and enter the VLAN ID in the field.

7. LAN Interface: This feature allows the user to select the port to be used for BMC IPMI out-of-band communication.

   - The default setting is Failover, which will allow BMC IPMI to be connected from either the shared LAN port (LAN1/0) or the dedicated BMC IPMI LAN port. Precedence is given to the Dedicated LAN port over the shared LAN port.

   - Select <Dedicate> for BMC IPMI to connect through the BMC IPMI Dedicated LAN port at all times.

   - Select <*Share*> for BMC IPMI to connect through the LAN port on the board.

8. RMCP Port: This feature allows the user to select the desired RMCP (Remote Management Control Protocol) port. The default port is 623.

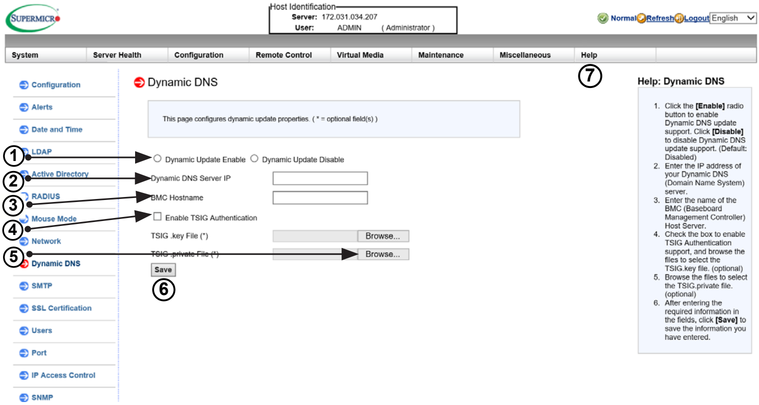
9. Click <Save> to save the settings.

10. Click the <Help> tab to display the Help menu. The menu includes instructions on how to configure the Network settings.

2-7-8 Dynamic DNS

For X10 or Newer Versions of Motherboards

This feature allows you to configure DNS (Dynamic Name System) settings. When you click *Dynamic DNS* in the Options Window, the following screen will display.



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

Dynamic DNS

This page configures dynamic update properties. (* = optional field(s))

○ Dynamic Update Enable ○ Dynamic Update Disable

Dynamic DNS Server IP

BMC Hostname

□ Enable TSIG Authentication

TSIG .key File (*)

TSIG .private File (*)

Help: Dynamic DNS

1. Click the **[Enable]** radio button to enable Dynamic DNS update support. Click **[Disable]** to disable Dynamic DNS update support. (Default: Disabled)
2. Enter the IP address of your Dynamic DNS (Domain Name System) server.
3. Enter the name of the BMC (Baseboard Management Controller) Host Server.
4. Check the box to enable TSIG Authentication support, and browse the files to select the TSIG.key file. (optional)
5. Browse the files to select the TSIG.private file. (optional)
6. After entering the required information in the fields, click **[Save]** to save the information you have entered.

1. Click <Dynamic Update Enable> to enable DNS support. Click <Dynamic Update Disable> to disable Dynamic DNS update support. (**Default**: Disable)

2. Enter the IP address of your Dynamic DNS (Domain Name System) server.

3. Enter the name of the BMC (Baseboard Management Controller) Host Server.

4. Check the box to enable TSIG Authentication support, and browse the files to select the *TSIG.key* file. (This item is optional.)

5. Click <Browse> to locate the *TSIG.private* file. (This item is optional.)

6. Click <Save> to save the information you have entered.

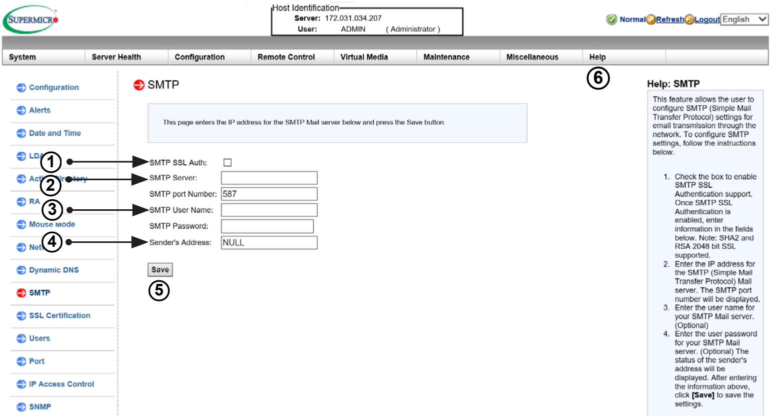
7. Click the <Help> tab to display the Help menu. The menu includes instructions on how to configure the Dynamic DNS settings.

2-7-9 SMTP

For X10 or Newer Versions of Motherboards

This feature allows the user to configure SMTP (Simple Mail Transfer Protocol) settings for email transmission through the network. When you click on *SMTP* in the Options window, the following screen will display.

To configure SMTP settings, follow the instructions below.



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

SMTP

This page enters the IP address for the SMTP Mail server below and press the Save button.

SMTP SSL Auth: □
SMTP Server:
SMTP port Number: 587
SMTP User Name:
SMTP Password:
Sender's Address: NULL

Help: SMTP

This feature allows the user to configure SMTP (Simple Mail Transfer Protocol) settings for email transmission through the network. To configure SMTP settings, follow the instructions below.

1. Check the box to enable SMTP SSL Authentication support. Once SMTP SSL Authentication is enabled, enter information in the fields below. Note: SHA2 and RSA 2048 bit SSL supported.
2. Enter the IP address for the SMTP (Simple Mail Transfer Protocol) Mail server. The SMTP port number will be displayed.
3. Enter the user name for your SMTP Mail server. (Optional)
4. Enter the user password for your SMTP Mail server. (Optional) The status of the sender's address will be displayed. After entering the information above, click **[Save]** to save the settings.

1. Check the box to enable SMTP SSL Authentication support. Once SMTP SSL Authentication is enabled, enter information in the fields below.

   Note: SHA2 and RSA 2048 bit SSL supported.

2. Enter the IP address for the SMTP (Simple Mail Transfer Protocol) Mail server. The SMTP port number will be displayed.

3. Enter the user name for your SMTP Mail server. (Optional)

4. Enter the user password for your SMTP Mail server. The status of the sender's address will be displayed. (Optional)

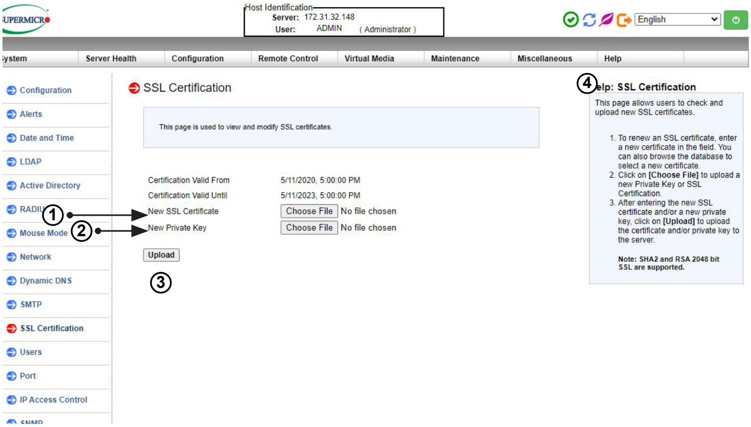
5. Click <Save> to save the settings.

6. Click the <Help> tab to display the Help menu. The menu includes instructions on how to configure the SMTP settings.

2-7-10 SSL Certification

For X10 or Newer Versions of Motherboards

This feature displays the default certificate and private keys. It also allows the user to upload a new SSL (Secure Sockets Layer) certificate. When you click on *SSL* in the Options window, the following screen will display:



SSL Certification

This page is used to view and modify SSL certificates.

Certification Valid From	5/11/2020, 5:00:00 PM
Certification Valid Until	5/11/2023, 5:00:00 PM
New SSL Certificate	Choose File No file chosen
New Private Key	Choose File No file chosen

Upload

Help: SSL Certification

This page allows users to check and upload new SSL certificates.

1. To renew an SSL certificate, enter a new certificate in the field. You can also browse the database to select a new certificate.
2. Click on **[Choose File]** to upload a new Private Key or SSL Certification.
3. After entering the new SSL certificate and/or a new private key, click on **[Upload]** to upload the certificate and/or private key to the server.

Note: SHA2 and RSA 2048 bit SSL are supported.

1. To enter a new SSL Certificate, enter a new certificate in the field. You can also browse the database to select a new certificate.

   Note: SHA2 and RSA 2048 bit SSL supported.

2. Enter a new Private Key in the field, if desired. You can also browse the database to select a new key.

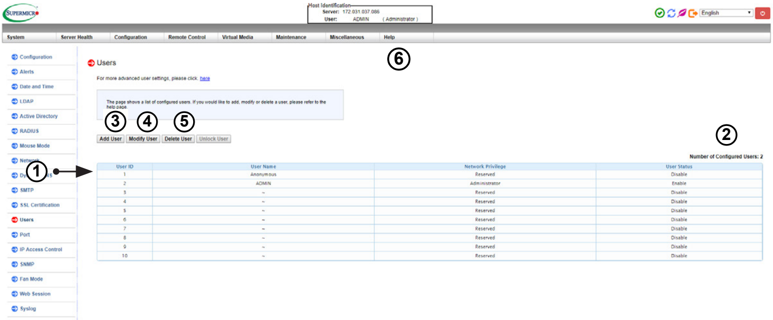
3. After entering the new SSL certificate and/or new private key, click <Upload> to upload the certificate and/or private key to the server.

4. Click the <Help> tab to display the Help menu. The menu includes instructions on how to set up a new SSL certificate and private key.

2-7-11 Users

For X10 or Newer Versions of Motherboards

This page displays information on the current users. It also allows you to add, delete, or modify user information. When you click on *Users* in the Options window, the following screen will display:



Users

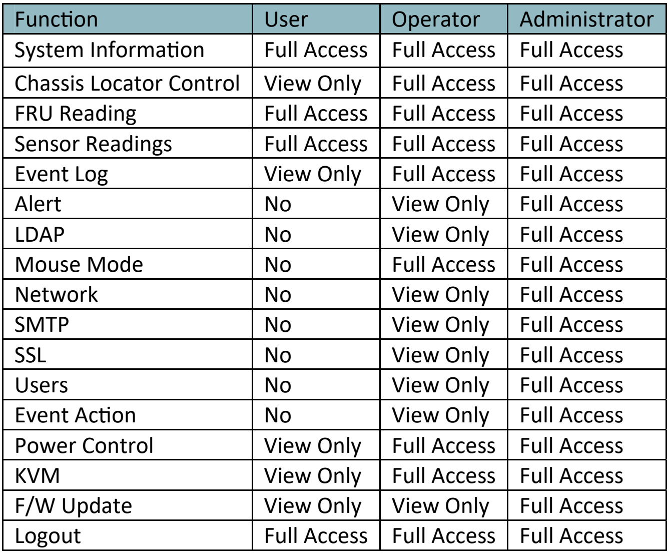
For more advanced user settings, please click: here

The page shows a list of configured users. If you would like to add, modify or delete a user, please refer to the help page.

Number of Configured Users: 2

User ID	User Name	Network Privilege	User Status
1	Anonymous	Reserved	Disable
2	ADMIN	Administrator	Enable
3	~	Reserved	Disable
4	~	Reserved	Disable
5	~	Reserved	Disable
6	~	Reserved	Disable
7	~	Reserved	Disable
8	~	Reserved	Disable
9	~	Reserved	Disable
10	~	Reserved	Disable

1. This item lists the current user's information. This includes User ID, User name, and Network Privilege settings (shown below).



Function	User	Operator	Administrator
System Information	Full Access	Full Access	Full Access
Chassis Locator Control	View Only	Full Access	Full Access
FRU Reading	Full Access	Full Access	Full Access
Sensor Readings	Full Access	Full Access	Full Access
Event Log	View Only	Full Access	Full Access
Alert	No	View Only	Full Access
LDAP	No	View Only	Full Access
Mouse Mode	No	Full Access	Full Access
Network	No	View Only	Full Access
SMTP	No	View Only	Full Access
SSL	No	View Only	Full Access
Users	No	View Only	Full Access
Event Action	No	View Only	Full Access
Power Control	View Only	Full Access	Full Access
KVM	View Only	Full Access	Full Access
F/W Update	View Only	View Only	Full Access
Logout	Full Access	Full Access	Full Access

2. This item displays the number of users that are set up for the network. The maximum number of profiles that can be made is ten.

3. To add a new user to the network, click on <Add User>. When prompted, select an empty slot from the users list to add a user.

4. To modify the information or the status of a user, click on <Modify User>. When prompted, select a user from the users list to modify the user information.

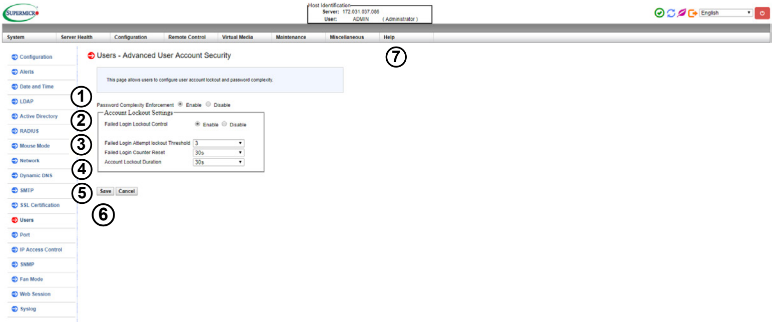
5. To delete a user from the network, click on <Delete User>. When prompted, select a user from the users list to delete it from the list.

6. Click on the <Help> tab to display the Help menu. The menu displays an explanation of the columns displayed on the page and how to add, modify, and delete a user.

Account Security

This feature is used to configure user account security. System Administrator can configure security settings using Web GUI or Redfish.

Note: Account security is only applicable to X11 versions of motherboards.



Host Identification
Server: 172.031.037.086
User: ADMIN (Administrator)

Users - Advanced User Account Security

This page allows users to configure user account lockout and password complexity.

Password Complexity Enforcement ● Enable ○ Disable

Account Lockout Settings

Failed Login Lockout Control ● Enable ○ Disable

Failed Login Attempt lockout Threshold: 3

Failed Login Counter Reset: 30s

Account Lockout Duration: 30s

Unlock User: If the user is locked out after failed login attempts, the administrator may use this feature to unlock the user.

1. Password Complexity Enforcement: The default is <Enable>, which enforces the password complexity requirements while the user is creating a password. Each password must adhere to the requirements listed below.
   - Must be 8 to 20 characters
   - Cannot be reverse of username
   - Must include characters from at least three of the listed character classes
     - A - Z
     - a - z
     - 0 - 9
     - Special characters
2. Failed Login Lockout Control: The default is <Enable> and allows failed login settings adjustment. Click <Disable> to disallow.

Authentication Failure Lockout Controls: The default is <Enable> to lock the account after excessive failed login attempts. Configure fields below to control authentication failure lockout.

3. Failed Login Attempt Lockout Threshold: This item allows the user to adjust the number of times a password may be attempted before the user is locked out. The options range from 1 to 5. The default is 3.

4. Failed Login Counter Reset: Use this option to adjust the amount of time before the user may attempt to input a password after failing.

5. Account Lockout Duration: Use this item to adjust how long the user is locked out after reaching the failed login attempt lockout threshold.

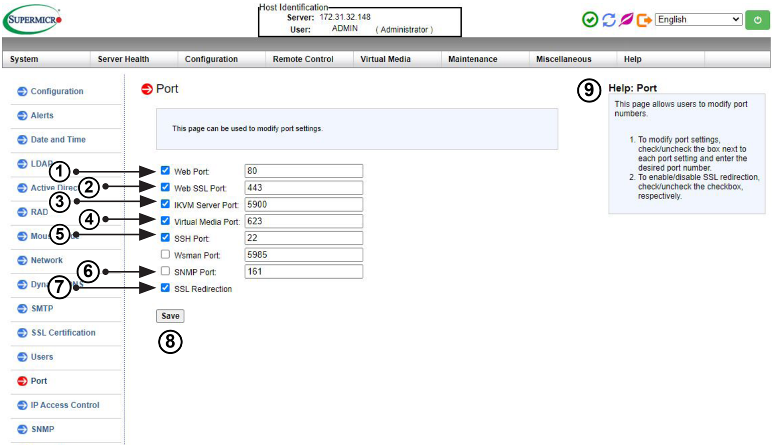
6. After the required information is entered, click <Save> to save the information you've entered or click <Cancel> to cancel it.

7. Click on the <Help> tab to display the Help menu. The menu displays an explanation of the items displayed on the page.

2-7-12 Port

For X10 or Newer Versions of Motherboards

This page allows you to configure port settings. When you click on *Port* in the Options window, the following screen will display.



Host Identification
Server: 172.31.32.148
User: ADMIN (Administrator)

English

Port

This page can be used to modify port settings.

☑ Web Port: 80
☑ Web SSL Port: 443
☑ IKVM Server Port: 5900
☑ Virtual Media Port: 623
☑ SSH Port: 22
□ Wsman Port: 5985
□ SNMP Port: 161
☑ SSL Redirection

Save

Help: Port

This page allows users to modify port numbers.

1. To modify port settings, check/uncheck the box next to each port setting and enter the desired port number.
2. To enable/disable SSL redirection, check/uncheck the checkbox, respectively.

Check the box next to the port to configure the settings. Uncheck the box to disable the port.

1. Web port: Enter the web port number.

2. Web SSL port: Enter the Web SSL port number.

3. IKVM server port: Enter the IKVM port number.

4. Virtual media port: Enter the virtual media port number.

5. SSH port: Enter the SSH (Secure Shell) port number

6. SNMP port: Enter the Simple Network Management Protocol port number.

7. SSL Redirection: Check the box to allow the BMC IPMI WebUI to redirect http to https automatically.

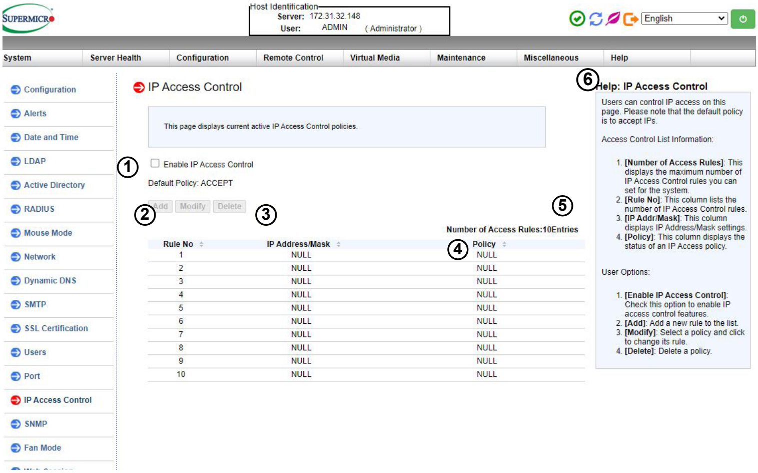
8. Click <Save> to save the settings.

9. Click the <Help> tab to display the Help menu. The menu includes port setting information.

2-7-13 IP Access Control

For X10 or Newer Versions of Motherboards

This page displays an IP Access Control table with the IP Address/Mask setting and the IP Access Policy. Enabling the IP Access Control will allow you to add, modify, and delete an IP Access rule.



Host Identification
Server: 172.31.32.148
User: ADMIN (Administrator)

IP Access Control

This page displays current active IP Access Control policies.

□ Enable IP Access Control

Default Policy: ACCEPT

Number of Access Rules:10Entries

Rule No	IP Address/Mask	Policy
1	NULL	NULL
2	NULL	NULL
3	NULL	NULL
4	NULL	NULL
5	NULL	NULL
6	NULL	NULL
7	NULL	NULL
8	NULL	NULL
9	NULL	NULL
10	NULL	NULL

Help: IP Access Control

Users can control IP access on this page. Please note that the default policy is to accept IPs.

Access Control List Information:

1. **[Number of Access Rules]**: This displays the maximum number of IP Access Control rules you can set for the system.
2. **[Rule No]**: This column lists the number of IP Access Control rules.
3. **[IP Addr/Mask]**: This column displays IP Address/Mask settings.
4. **[Policy]**: This column displays the status of an IP Access policy.

User Options:

1. **[Enable IP Access Control]**: Check this option to enable IP access control features.
2. **[Add]**: Add a new rule to the list.
3. **[Modify]**: Select a policy and click to change its rule.
4. **[Delete]**: Delete a policy.

1. Check this box to configure IP Access Control settings. When prompted, "Do you want to enable IP access control," click <OK>.

2. Rule Number: This column lists the number of IP Access Control rules.

3. IP Address/Mask: This column displays the IP Address/Mask settings.

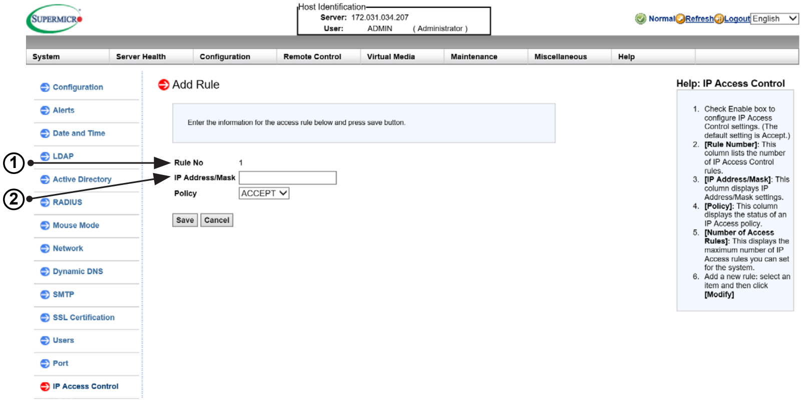
4. Policy: This column displays the status of an IP Access policy.

5. Number of Access Rules: This displays the maximum number of IP Access rules you can set for the system.

6. Click on the <Help> tab to display the Help menu. The menu includes an explanation of all the columns displayed on the page.

Modifying IP Access Rules

When you select an item and click on *Modify*, the Add Rule submenu will display as shown below.



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

Add Rule

Enter the information for the access rule below and press save button.

Rule No 1
IP Address/Mask
Policy ACCEPT

Help: IP Access Control

1. Check Enable box to configure IP Access Control settings. (The default setting is Accept.)
2. **[Rule Number]**: This column lists the number of IP Access Control rules.
3. **[IP Address/Mask]**: This column displays IP Address/Mask settings.
4. **[Policy]**: This column displays the status of an IP Access policy.
5. **[Number of Access Rules]**: This displays the maximum number of IP Access rules you can set for the system.
6. Add a new rule: select an item and then click **[Modify]**

To modify a rule, enter the information needed for the following items:

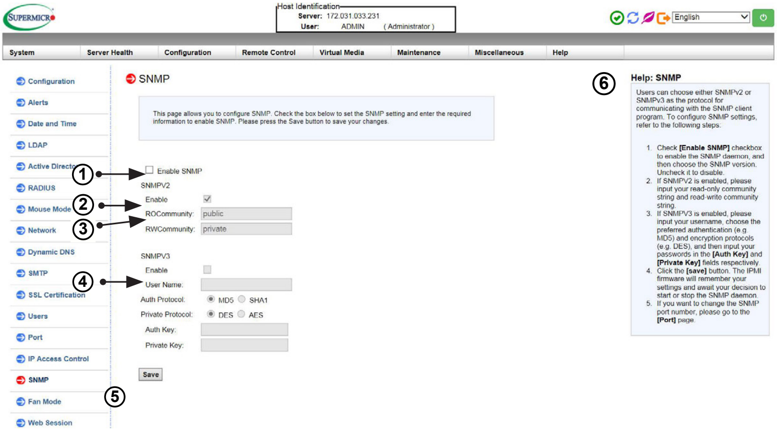
1. IP Address/Mask: This item allows you to grant access to a specific IP address or a range of IP addresses. For example, if you wanted to specify a range of IP addresses from 192.168.0.1 to 192.168.0.126, you would enter 192.168.0.1/25.

2. Policy: Select <Accept> to allow access for the IP address(es) entered above. Select Drop to deny access.

2-7-14 SNMP

For X11 Versions of Motherboards Only

This feature allows the user to configure the SNMP (Simple Network Management Protocol). When you click on *SNMP* in the Options window, the following screen will display:



Host Identification
Server: 172.031.033.231
User: ADMIN (Administrator)

SNMP

This page allows you to configure SNMP. Check the box below to set the SNMP setting and enter the required information to enable SNMP. Please press the Save button to save your changes.

□ Enable SNMP

SNMPV2

Enable ☑

ROCommunity: public

RWCommunity: private

SNMPV3

Enable □

User Name:

Auth Protocol: ● MD5 ○ SHA1

Private Protocol: ● DES ○ AES

Auth Key:

Private Key:

Help: SNMP

Users can choose either SNMPv2 or SNMPv3 as the protocol for communicating with the SNMP client program. To configure SNMP settings, refer to the following steps:

1. Check **[Enable SNMP]** checkbox to enable the SNMP daemon, and then choose the SNMP version. Uncheck it to disable.
2. If SNMPV2 is enabled, please input your read-only community string and read-write community string.
3. If SNMPV3 is enabled, please input your username, choose the preferred authentication (e.g. MD5) and encryption protocols (e.g. DES), and then input your passwords in the **[Auth Key]** and **[Private Key]** fields respectively.
4. Click the **[save]** button. The IPMI firmware will remember your settings and await your decision to start or stop the SNMP daemon.
5. If you want to change the SNMP port number, please go to the **[Port]** page.

1. Check the box to enable the SNMP. Once it is enabled, enter information in the fields below.

2. SNMP Version: Select SNMPV2 or SNMPV3.

3. SNMPV2: If this option is selected, enter a password for ROCommunity and RWCommunity.

4. SNMPV3: If this option is selected, enter information in the fields below:

    - Enter a username

    - Select the Authentication Protocol

    - Select the Private Protocol

- Enter the Authentication Key
- Enter the Private key

5. Click <Save> to save the settings.

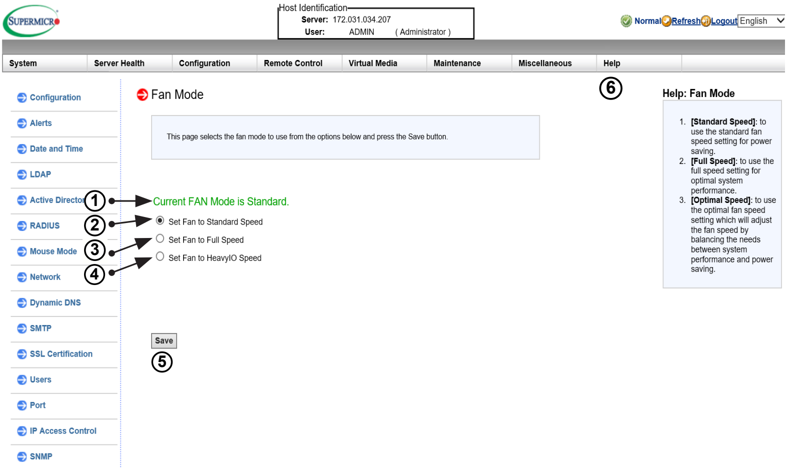
6. Click the <Help> tab to display the Help menu. The menu includes an explanation of all the options on this page.

2-7-15 Fan Mode

For X10 or Newer Versions of Motherboards

This page allows you to configure fan mode settings. When you click on *Fan Mode* in the Options window, the following screen will display:

Note: Fan mode settings will vary by system.



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

Fan Mode

This page selects the fan mode to use from the options below and press the Save button.

Current FAN Mode is Standard.

● Set Fan to Standard Speed
○ Set Fan to Full Speed
○ Set Fan to HeavyIO Speed

Help: Fan Mode

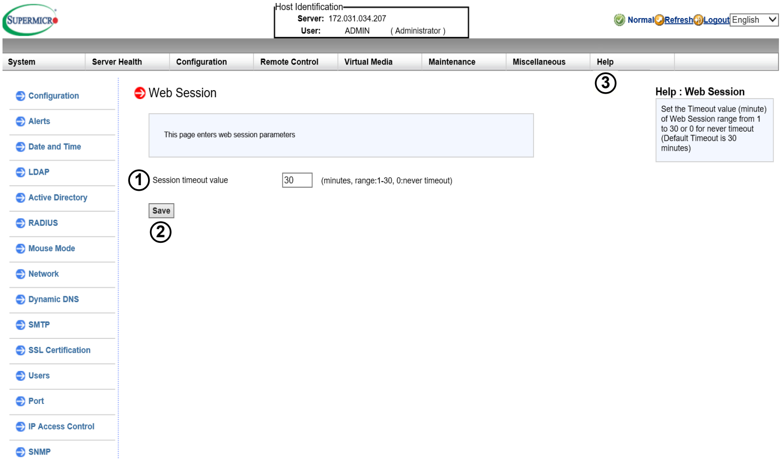
1. **[Standard Speed]:** to use the standard fan speed setting for power saving.
2. **[Full Speed]:** to use the full speed setting for optimal system performance.
3. **[Optimal Speed]:** to use the optimal fan speed setting which will adjust the fan speed by balancing the needs between system performance and power saving.

1. This item displays the current fan mode setting.
2. Select this option for the standard fan speed setting.
3. Select this option for the full speed setting.
4. Select this option for the Heavy IO speed.
5. Click <Save> to save the settings.
6. Click the <Help> tab to display the Help menu. The menu includes an explanation of the fan modes.

2-7-16 Web Session

For X10 or Newer Versions of Motherboards

This page allows you to configure web session parameters. When you click on *Web Session* in the Options window, the following screen will display:



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

Web Session

This page enters web session parameters

Session timeout value 30 (minutes, range:1-30, 0:never timeout)

Help : Web Session

Set the Timeout value (minute) of Web Session range from 1 to 30 or 0 for never timeout (Default Timeout is 30 minutes)

1. Enter the session timeout value. Values are in minutes and range from 0-30. The default timeout value is 30 minutes. 0 is unlimited.

2. Click <Save> to save the settings.

3. Click the <Help> tab to display the Help menu. The menu defines the web session parameters.

4. Click the <Help> tab to display the Help menu.

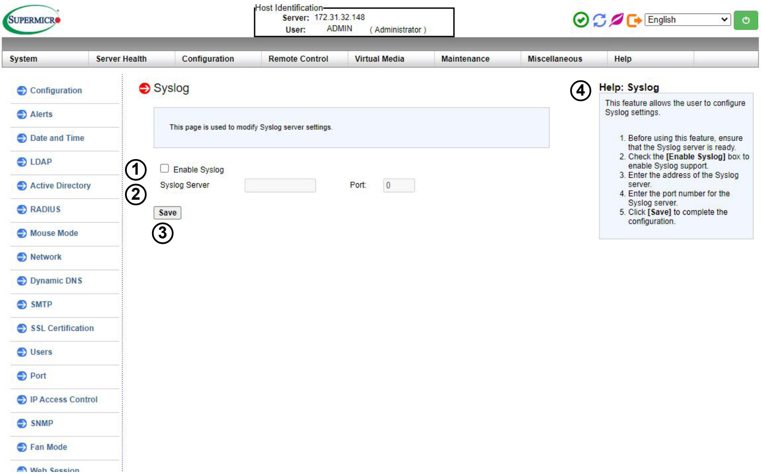
2-7-17 Syslog

For X10 or Newer Versions of Motherboards

This page allows you to configure Syslog setting. When you click on *Syslog* in the Options window, the following screen will display:

Note 1: The SFT-OOB-LIC license is required for the feature.

Note 2: All Health Event Log and Maintenance Event Log information is available to the syslog server for X11 or newer versions of motherboards.



Host Identification
Server: 172.31.32.148
User: ADMIN (Administrator)

Syslog

This page is used to modify Syslog server settings.

□ Enable Syslog

Syslog Server   Port: 0

Help: Syslog

This feature allows the user to configure Syslog settings.

1. Before using this feature, ensure that the Syslog server is ready.
2. Check the **[Enable Syslog]** box to enable Syslog support.
3. Enter the address of the Syslog server.
4. Enter the port number for the Syslog server.
5. Click **[Save]** to complete the configuration.

1. Check the box to enable Syslog. Once it is enabled, enter the information in the fields below.

2. Enter the IP address number of Syslog Server 1 and the port number in the field.

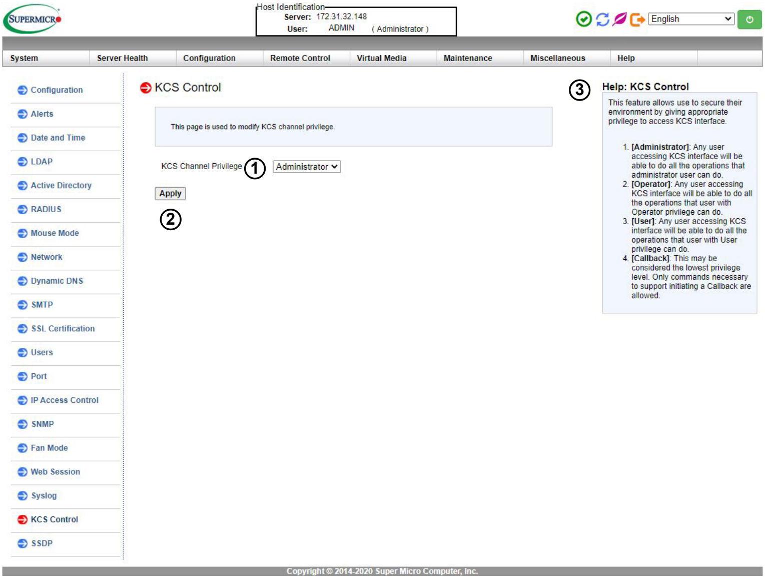
3. Click <Save> to save the settings.

4. Click the <Help> tab to display the Help menu.

2-7-18 KCS Control

For X11 Versions of Motherboards Only

This page allows users to secure their environment by giving the appropriate privilege to access KCS interface. When you click on *KCS Control* in the Options window, the following screen will display:



Host Identification
Server: 172.31.32.148
User: ADMIN (Administrator)

This page is used to modify KCS channel privilege.

KCS Channel Privilege: Administrator

Help: KCS Control

This feature allows use to secure their environment by giving appropriate privilege to access KCS interface.

1. **[Administrator]**: Any user accessing KCS interface will be able to do all the operations that administrator user can do.
2. **[Operator]**: Any user accessing KCS interface will be able to do all the operations that user with Operator privilege can do.
3. **[User]**: Any user accessing KCS interface will be able to do all the operations that user with User privilege can do.
4. **[Callback]**: This may be considered the lowest privilege level. Only commands necessary to support initiating a Callback are allowed.

1. Select the privilege from the drop-down menu. Options include:

   - Administrator: User will be able to do all the operations Administrator privilege entails.

   - Operator: User will be able to do all the operations Operator privilege entails.

   - User: User will be able to do all the operations User privilege entails.

   - Callback: This may be considered the lowest privilege level. Users will only be allowed to use commands necessary to support initiating a Callback.

2. Click <Apply> to apply privilege.

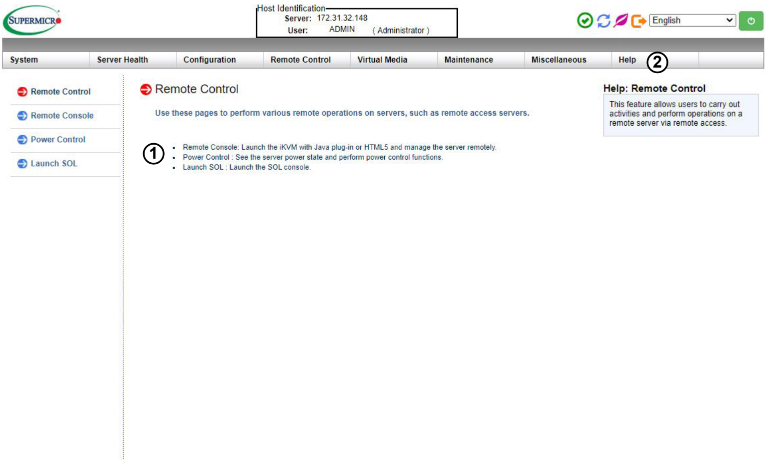
3. Click the <Help> tab to display the Help menu.

2-8 Remote Control

For X10 or Newer Versions of Motherboards

This section allows the user to carry out activities and perform operations on a remote server via remote access. When you click *Remote Control* in the Options window, the following screen will display:

Note: Settings will vary by system.



Remote Control

Use these pages to perform various remote operations on servers, such as remote access servers.

- Remote Console: Launch the iKVM with Java plug-in or HTML5 and manage the server remotely.
- Power Control : See the server power state and perform power control functions.
- Launch SOL : Launch the SOL console.

Help: Remote Control

This feature allows users to carry out activities and perform operations on a remote server via remote access.

1. This section allows the user to configure the following settings.

   - Remote Console: To launch the iKVM with Java plug-in or HTML5 and manage the server remotely.

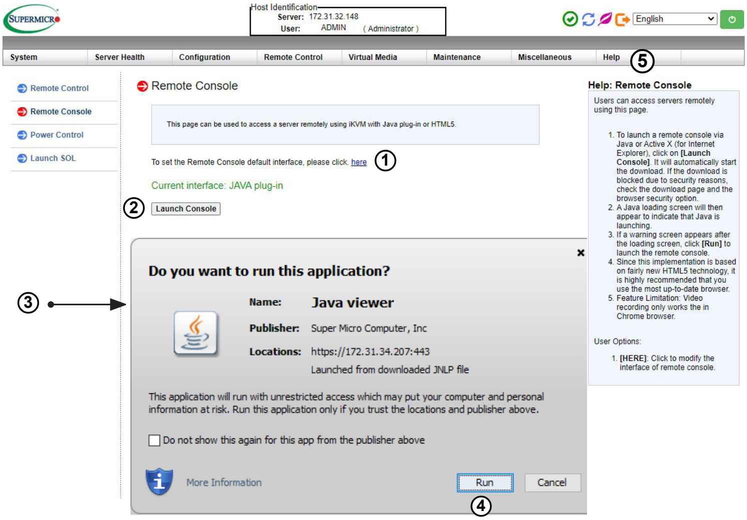
   - Power Control: To see the server power state and perform power control functions.

   - Launch SOL: To launch the SOL console.

2. Click <Help> to display the Help menu for the *Remote Control* page.

2-8-1 Launch Console Redirection

This feature allows you to launch Console Redirection via IKVM (keyboard, video/monitor, mouse) support. When you click *Console Redirection* in the Options window, the following screen will display:



Host Identification
Server: 172.31.32.148
User: ADMIN (Administrator)

Remote Console

This page can be used to access a server remotely using iKVM with Java plug-in or HTML5.

To set the Remote Console default interface, please click. here

Current interface: JAVA plug-in

Do you want to run this application?

Name: Java viewer
Publisher: Super Micro Computer, Inc
Locations: https://172.31.34.207:443
Launched from downloaded JNLP file

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

□ Do not show this again for this app from the publisher above

Help: Remote Console

Users can access servers remotely using this page.

1. To launch a remote console via Java or Active X (for Internet Explorer), click on **[Launch Console]**. It will automatically start the download. If the download is blocked due to security reasons, check the download page and the browser security option.
2. A Java loading screen will then appear to indicate that Java is launching.
3. If a warning screen appears after the loading screen, click **[Run]** to launch the remote console.
4. Since this implementation is based on fairly new HTML5 technology, it is highly recommended that you use the most up-to-date browser.
5. Feature Limitation: Video recording only works the in Chrome browser.

User Options:

1. **[HERE]**: Click to modify the interface of remote console.

1. Click [here] to set the default interface of the Remote Console. Options include the default Java plug-in and HTML5. User will be taken to the Remote Console Settings page.

2. To use the Java interface, select Java plug-in.

3. Click <Save> to confirm chosen interface option. User will be brought back to Remote Console page.

4. Click <Launch Console> on the Console Redirection screen to launch the remote console via Java. You need to have Java installed in your system to launch the console. A dialog box will display to indicate that Java is launching

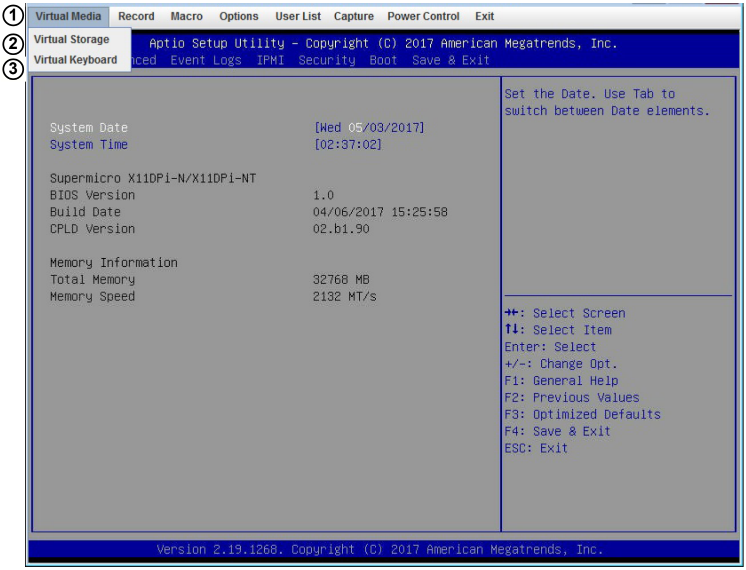
5. Click <Run> to launch the remote console. The main screen like the one below will appear. Note that your screen may not look exactly like the one below.

6. Click <Help> to display the Help menu for the *Remote Console* page.

2-8-1a Console Redirection - Virtual Device

For X10 or Newer Versions of Motherboards

This feature allows you to configure virtual device settings for your console redirection.



```
          Aptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.
        nced  Event Logs  IPMI  Security  Boot  Save & Exit

                                                       Set the Date. Use Tab to
                                                       switch between Date elements.
  System Date                   [Wed 05/03/2017]
  System Time                   [02:37:02]

  Supermicro X11DPi-N/X11DPi-NT
  BIOS Version                  1.0
  Build Date                    04/06/2017 15:25:58
  CPLD Version                  02.b1.90

  Memory Information
  Total Memory                  32768 MB
  Memory Speed                  2132 MT/s
                                                       →←: Select Screen
                                                       ↑↓: Select Item
                                                       Enter: Select
                                                       +/-: Change Opt.
                                                       F1: General Help
                                                       F2: Previous Values
                                                       F3: Optimized Defaults
                                                       F4: Save & Exit
                                                       ESC: Exit

          Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.
```

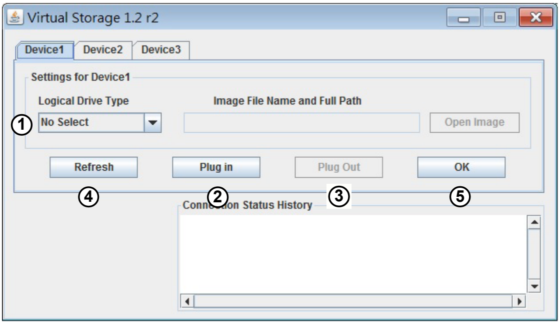
1. Click *Virtual Media* to configure virtual device settings of a server at a remote site via Console Redirection.

2. Click *Virtual Storage* to select a device you want to connect to the remote server as a virtual device.

3. Click *Virtual Keyboard* to launch the virtual keyboard.

Virtual Storage

When you click on *Virtual Storage* as described on the previous page, the following screen will appear. You are able to use up to three devices for virtual storage.



1. Select the logical drive type from the dropdown menu. The options are as follows:

    - *ISO File*: Select this feature to browse for an ISO file and upload it to the system.

    - HD image: Use this feature to select a virtual HD image and install it into the system.

    - *C: SATA HD*: Use this feature to select a SATA HD from the local computer you are using to access the BMC IPMI.

    - D: *SATA HD:* Use this feature to select a SATA HD from the local computer you are using to access the BMC IPMI.

2. Click on <Plug in> to mount the selected drive.

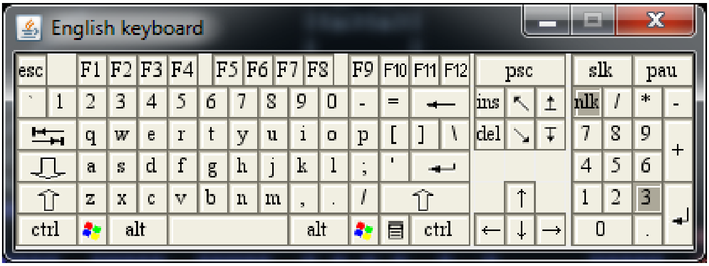
3. Click on <Plug out> to unmount the selected drive.

4. Click on <Refresh> to refresh the connection status.

5. Click on <OK> to save the changes and exit the window.

Virtual Keyboard

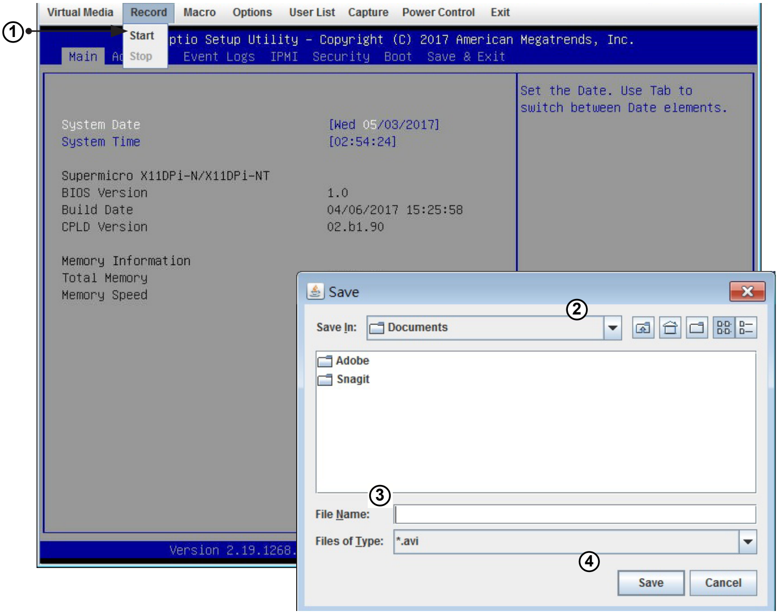
When you click on *Virtual Keyboard* in the Virtual Media menu, the virtual keyboard will appear.


English keyboard
esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 psc slk pau
` 1 2 3 4 5 6 7 8 9 0 - = ins nlk / * -
q w e r t y u i o p [ ] \ del 7 8 9 +
a s d f g h j k l ; ' 4 5 6
z x c v b n m , . / 1 2 3
ctrl alt alt ctrl 0 .

2-8-1b Console Redirection - Record

For X10 or Newer Versions of Motherboards

This feature allows you to record media displayed for your console redirection.



```
ptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.

System Date                          [Wed 05/03/2017]      Set the Date. Use Tab to
System Time                          [02:54:24]            switch between Date elements.

Supermicro X11DPi-N/X11DPi-NT
BIOS Version                         1.0
Build Date                           04/06/2017 15:25:58
CPLD Version                         02.b1.90

Memory Information
Total Memory
Memory Speed

Version 2.19.1268.
```

File Name:

Files of Type: *.avi

1. Click on *Start* from the Record menu to start recording. The window shown above will appear.

2. Then select the location to save the recording.

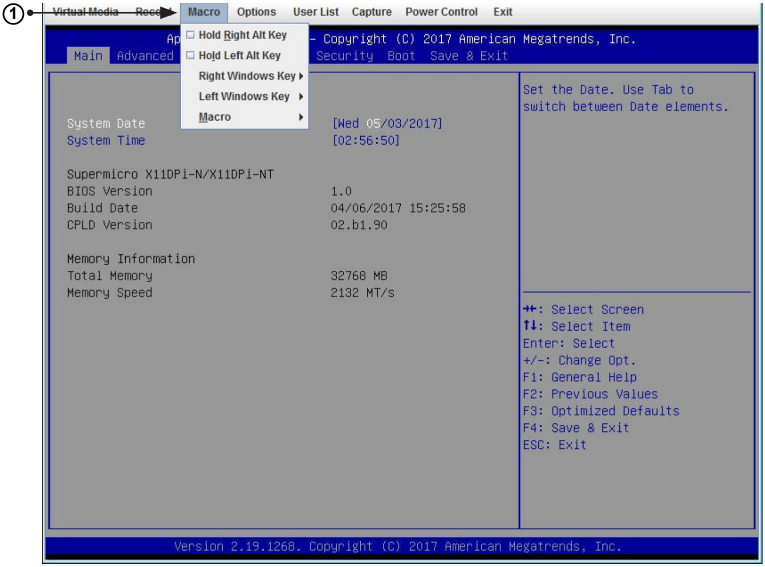
3. Enter a file name.

4. Click <Save> to save the settings and begin recording. If you want to exit the window without recording, click <Cancel>. The recording process will continue until you click on *Stop* under the Record menu.

2-8-1c Console Redirection - Macro

For X10 or Newer Versions of Motherboards

This feature allows you to configure Macro settings for your console redirection.



```
Ap                      - Copyright (C) 2017 American Megatrends, Inc.
 Main  Advanced          Security  Boot  Save & Exit

                                                  Set the Date. Use Tab to
                                                  switch between Date elements.
 System Date                    [Wed 05/03/2017]
 System Time                    [02:56:50]

 Supermicro X11DPi-N/X11DPi-NT
 BIOS Version                   1.0
 Build Date                     04/06/2017 15:25:58
 CPLD Version                   02.b1.90

 Memory Information
 Total Memory                   32768 MB
 Memory Speed                   2132 MT/s
                                                  ++: Select Screen
                                                  ↑↓: Select Item
                                                  Enter: Select
                                                  +/-: Change Opt.
                                                  F1: General Help
                                                  F2: Previous Values
                                                  F3: Optimized Defaults
                                                  F4: Save & Exit
                                                  ESC: Exit

        Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.
```

1. Click *Macro* to configure the Macro settings for your remote server. The features include the following:

   - *Hold Right Alt Key:* This item performs the same function as holding down the right <Alt> key.

   - *Hold Left Alt Key*: This item performs the same function as holding down the left <Alt> key.

   - *Right Windows Key*: This item performs the same function as you pressing the right <Windows> key. Select *Hold Down* or *Press and Release*.

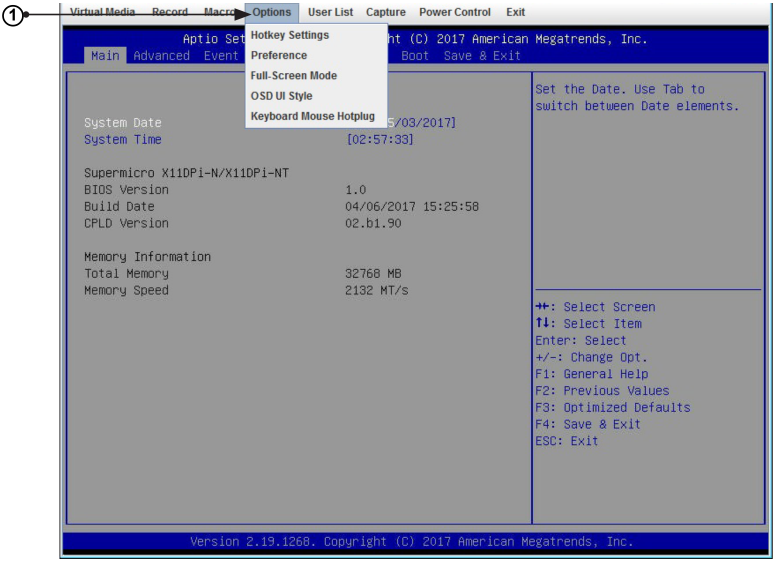
   - *Left Windows Key:* This item performs the same function as pressing the left <Windows> key. Select *Hold Down* or *Press and Release*.

- *Macro*: Click this item to activate a pull-down submenu. The *Macro* submenu includes the following items:
    - Ctrl+Alt+Del
    - Alt+Tab
    - Alt+Esc
    - Ctrl+Esc
    - Alt+Space
    - Alt+Enter
    - Alt+Hyphen
    - Alt+F4
    - Alt+PrntScrn
    - PrntScrn
    - F1
    - Alt+F1
    - Pause

2-8-1d Console Redirection - Options

For X10 or Newer Versions of Motherboards

This feature allows you to configure Options settings for your console redirection.



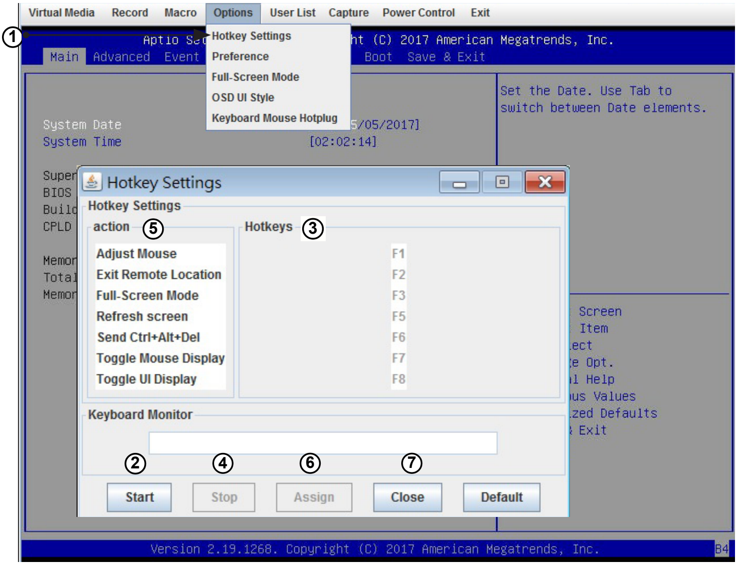
```
Aptio Set                    ht (C) 2017 American Megatrends, Inc.

System Date                  5/03/2017]                Set the Date. Use Tab to
System Time                 [02:57:33]                 switch between Date elements.

Supermicro X11DPi-N/X11DPi-NT
BIOS Version                 1.0
Build Date                   04/06/2017 15:25:58
CPLD Version                 02.b1.90

Memory Information
Total Memory                 32768 MB
Memory Speed                 2132 MT/s
                                                       →←: Select Screen
                                                       ↑↓: Select Item
                                                       Enter: Select
                                                       +/-: Change Opt.
                                                       F1: General Help
                                                       F2: Previous Values
                                                       F3: Optimized Defaults
                                                       F4: Save & Exit
                                                       ESC: Exit

        Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.
```

1. Click on *Options* to activate the pull-down menu to configure options settings. The options menu allows you to configure the following settings:

- HotKey
- Preference
- Full-Screen Mode
- OSD UI Style
- Keyboard Mouse Hotplug

Options - Hotkey Settings

This feature allows you to configure the hotkey settings for your console redirection.



Hotkey Settings

action	Hotkeys
Adjust Mouse	F1
Exit Remote Location	F2
Full-Screen Mode	F3
Refresh screen	F5
Send Ctrl+Alt+Del	F6
Toggle Mouse Display	F7
Toggle UI Display	F8

1. To assign a hotkey for an action, click *Hotkey Settings* under the Options menu. A Hotkey Settings window will appear.

2. Click <Start>

3. Enter the hotkey of your choice. It can be a single word or a combination.

4. Click <Stop>

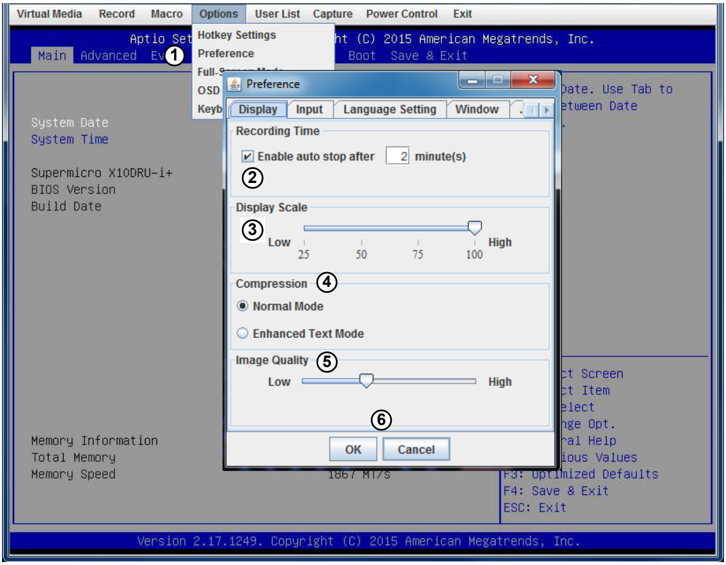
5. Select an item from the action list.

6. Click <Assign>

7. Click <Close> to exit the window.

Options - Preference (Display)

This feature allows you to configure video recording settings for your remote console.



System Date
System Time

Supermicro X10DRU-i+
BIOS Version
Build Date

Memory Information
Total Memory
Memory Speed 1867 MT/s

Recording Time

☑ Enable auto stop after 2 minute(s)

Display Scale

Compression

● Normal Mode

○ Enhanced Text Mode

Image Quality

1. Click *Preference* under the Options menu. The *Preference* settings box will display. The first tab is *Display*.

2. The *Recording Time* section refers to video recording. If you want to automatically stop recording after a preset time, check the box, then input the number of minutes that should pass before the recording should automatically stop.

3. Use the slider on the Display Scale to set the appropriate scale setting for your display from Low (25) to High (100).

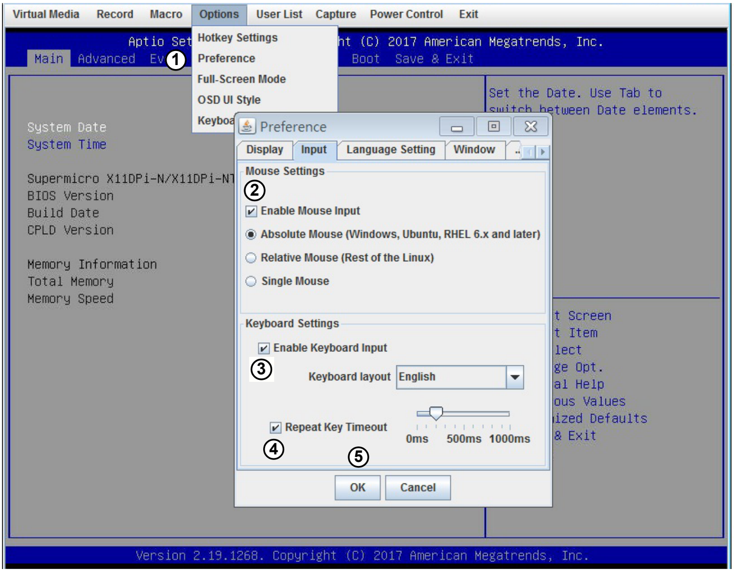
4. You can change the compression options under the *Compression* section.

5. You can adjust the image quality settings in accordance with varying degrees of network traffic. To ensure the best image quality, select *High* for heavier network traffic connections and select *Low* for lighter network traffic.

6. Click on <OK> to save the new settings. To exit the Preference window without saving, click <Cancel>.

Options - Preference (Input)

This feature allows you to configure input settings for your remote console.



Mouse Settings

☑ Enable Mouse Input

● Absolute Mouse (Windows, Ubuntu, RHEL 6.x and later)

○ Relative Mouse (Rest of the Linux)

○ Single Mouse

Keyboard Settings

☑ Enable Keyboard Input

Keyboard layout: English

☑ Repeat Key Timeout

1. When you click Preference under the Options menu, the Preference settings box will display. The second tab is *Input*.

2. Check the *Enable Mouse Input* box to enable mouse support so that you can use the mouse as an input device. Once mouse support is enabled, you need to set a proper mouse mode for your remote console. Check the corresponding radio button from the list below.

   - Select Absolute Mode if you have Windows, Ubuntu, and RHEL 6.x.

   - Select Relative Mouse for the Linux OS.

   - Single Mouse

3. Check the *Enable Keyboard Input* box to enable keyboard support so that you can use a soft keyboard as an input device. From the *Keyboard Layout* pull-down menu, select the right language setting for your soft keyboard. The language options are the following:

   - English

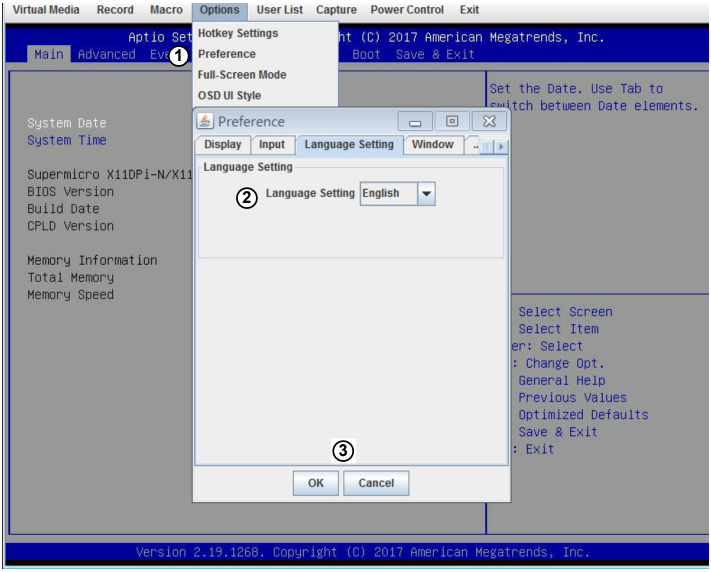
- Chinese (traditional)
- Japanese
- Germany
- French
- Spanish
- Korean
- Italian
- United Kingdom
- Swiss

4. To timeout repeated keystrokes, check the *Repeat Key Timeout* box, and use the slider on the scale to select the appropriate timeout settings for repeat keystrokes from 0ms to 1000ms (microseconds).

5. Click <OK> to save the new settings or click on <Cancel> to exit the *Preference* window without saving.

Options - Preference (Language Setting)

This feature allows you to configure language settings for your remote console.



Set the Date. Use Tab to switch between Date elements.

Language Setting: English

1. When you click *Preference* under the Options menu, the *Preference* settings box will display. The third tab is *Language Setting*.

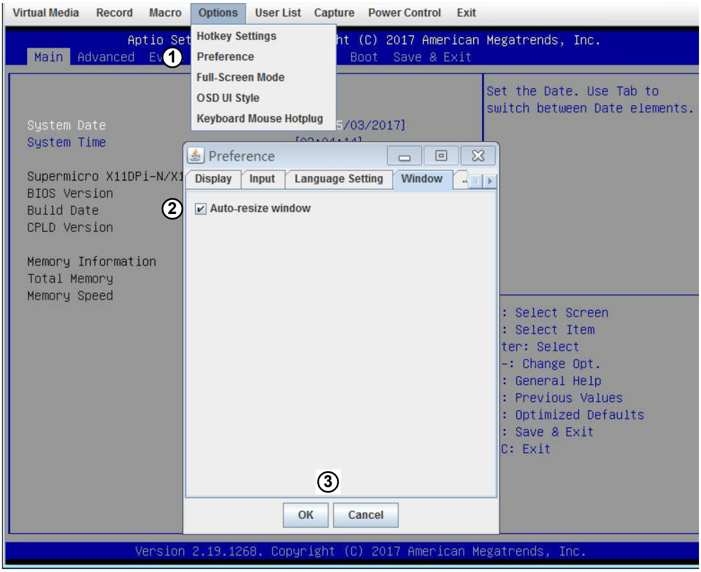
2. From the pull-down menu, select the language you want to use for your remote console. The language options are the following:

   - English
   - Japanese
   - German
   - French
   - Spanish
   - Korean
   - Italian

3. Click on <OK> to save the changes and exit the window. To exit without saving, click <Cancel>.

Options - Preference (Window)

This feature allows you to configure language settings for your remote console.



☑ Auto-resize window

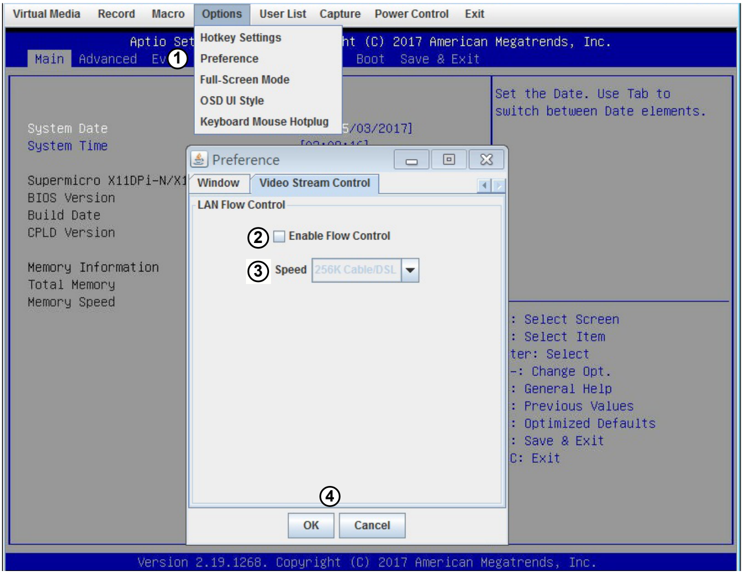
1. When you click *Preference* under the Options menu, the *Preference* settings box will display. The fourth tab is *Window*.

2. Check *Auto-resize window* to reset the size of your display window.

3. Click <OK> to save the change and exit the window. To exit without saving, click <Cancel>.

Options - Preference (Video Stream Control)

This feature allows you to configure window settings for your remote console.



□ Enable Flow Control

Speed 256K Cable/DSL

1. When you click *Preference* under the Options menu, the *Preference* settings box will display. The last tab is *Video Stream Control*.

2. Check the *Enable Flow Control* box to enable support for video stream control.

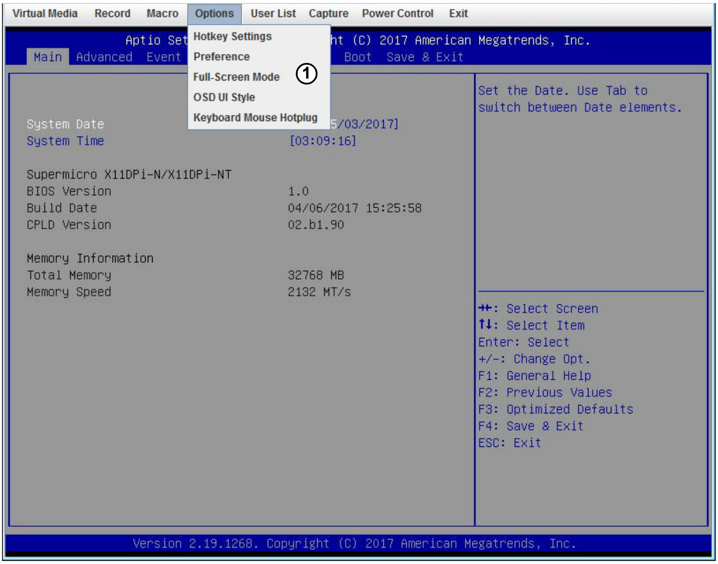
3. Select the speed from the pull-down menu. The options are as follows:

   - 256K Cable/DSL
   - T1
   - T2

4. Click <OK> to save the change and exit the window. To exit without saving, click <Cancel>.

Options - Full Screen Mode

This feature allows you to configure window settings for your remote console.



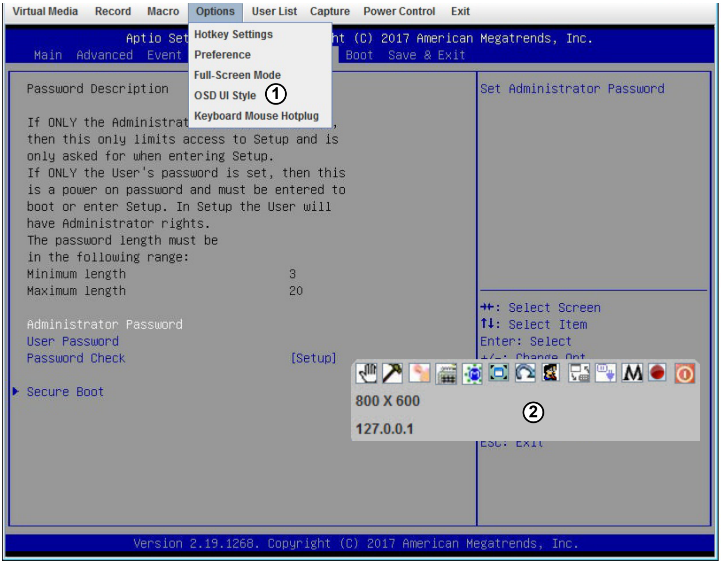
```
Aptio Set                  ht (C) 2017 American Megatrends, Inc.
 Main  Advanced  Event                 Boot  Save & Exit

                                                  Set the Date. Use Tab to
                                                  switch between Date elements.
System Date                           5/03/2017]
System Time                          [03:09:16]

Supermicro X11DPi-N/X11DPi-NT
BIOS Version                          1.0
Build Date                            04/06/2017 15:25:58
CPLD Version                          02.b1.90

Memory Information
Total Memory                          32768 MB
Memory Speed                          2132 MT/s
                                                  →←: Select Screen
                                                  ↑↓: Select Item
                                                  Enter: Select
                                                  +/-: Change Opt.
                                                  F1: General Help
                                                  F2: Previous Values
                                                  F3: Optimized Defaults
                                                  F4: Save & Exit
                                                  ESC: Exit

        Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.
```

1. Click *Full Screen Mode* under the Options menu.

2. To leave the full-screen display, click *Leave Full-Screen Mode* under the Options menu.

Options - OSD UI Style

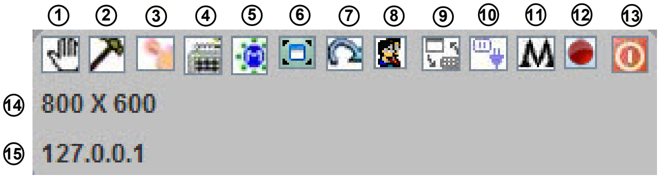
This feature allows you to configure OSD (On-Screen Display) UI (User Interface) style settings for your remote console.



```
Aptio Set                     ht (C) 2017 American Megatrends, Inc.
  Main  Advanced  Event                 Boot  Save & Exit

 Password Description                                  Set Administrator Password

 If ONLY the Administrat                        ,
 then this only limits access to Setup and is
 only asked for when entering Setup.
 If ONLY the User's password is set, then this
 is a power on password and must be entered to
 boot or enter Setup. In Setup the User will
 have Administrator rights.
 The password length must be
 in the following range:
 Minimum length                        3
 Maximum length                        20               ⇆: Select Screen
                                                        ↑↓: Select Item
 Administrator Password                                 Enter: Select
 User Password                                          +/-: Change Opt
 Password Check                        [Setup]

▶ Secure Boot

                                                        ESC: Exit

      Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.
```

1. Click on *OSD UI Style* under the Options menu.

2. A gray box with shortcut icons will appear. They are shortcuts to the main features provided by the firmware for your console redirection. Click on an icon to activate its function. See the next page for the list of icons and their functions.



1. **Move OSD:** Click and drag this icon to move the OSD UI pop-up screen to a new location on the display

2. **Hotkey Settings:** Click this icon to access the Hotkeys submenu and configure the settings.

3. **Virtual Storage:** Click this item to access the Virtual Media submenu and configure the settings.

4. **Virtual Keyboard:** Click this item to access the Virtual Keyboard submenu and use your virtual (soft) keyboard.

5. **Preference:** Click this item to access the Preferences window.

6. **Full-Screen Mode:** Click this item to change the size of your display window to the full-screen mode.

7. **Exit:** Click this item to exit from the remote console.

8. **Show User List:** Click this item to display the user list.

9. **Menubar UI Style:** Click this item to change the toolbar display format.

10. **Keyboard Mouse Hotplug:** Click this item to hotplug keyboard and mouse.

11. **Macro:** Click this item to enable Macro support and use Macro features.

12. **Record:** Click this item to access the Video Recording submenu and to use video recording.

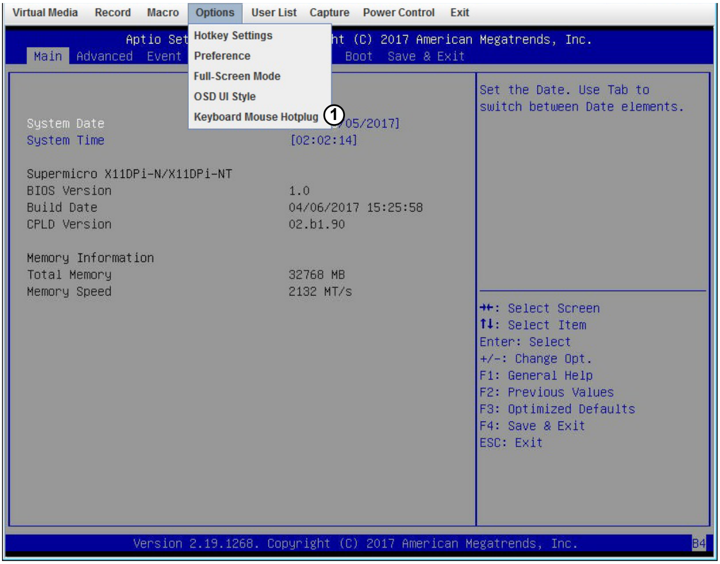
13. **Set power on-off:** Click this item to turn the system off.

14. **Resolution:** This item displays the remote console resolution in pixels.

15. **IP Address:** This item displays the IP address of the BMC IPMI.

Options - Keyboard Mouse Hotplug

This feature allows you to enable keyboard/mouse hotplug support for your remote console.



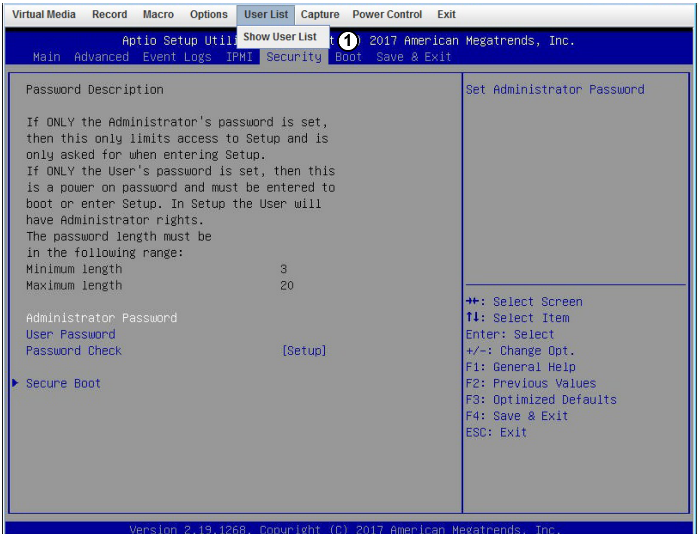
```
            Aptio Set                    ht (C) 2017 American Megatrends, Inc.
  Main  Advanced  Event                    Boot   Save & Exit

                                                   Set the Date. Use Tab to
                                                   switch between Date elements.
  System Date                               /05/2017]
  System Time                             [02:02:14]

  Supermicro X11DPi-N/X11DPi-NT
  BIOS Version                            1.0
  Build Date                              04/06/2017 15:25:58
  CPLD Version                            02.b1.90

  Memory Information
  Total Memory                            32768 MB
  Memory Speed                            2132 MT/s
                                                   ++: Select Screen
                                                   ↑↓: Select Item
                                                   Enter: Select
                                                   +/-: Change Opt.
                                                   F1: General Help
                                                   F2: Previous Values
                                                   F3: Optimized Defaults
                                                   F4: Save & Exit
                                                   ESC: Exit

          Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.       B4
```

1. Click *Keyboard Mouse Hotplug* under the *Options* menu.

2-8-1e Console Redirection - User List

For X10 or Newer Versions of Motherboards

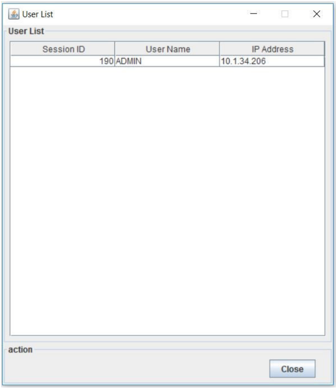
This feature allows you to access the user list.



```
Aptio Setup Utili… …) 2017 American Megatrends, Inc.

Password Description                              Set Administrator Password

If ONLY the Administrator's password is set,
then this only limits access to Setup and is
only asked for when entering Setup.
If ONLY the User's password is set, then this
is a power on password and must be entered to
boot or enter Setup. In Setup the User will
have Administrator rights.
The password length must be
in the following range:
Minimum length                      3
Maximum length                      20           →←: Select Screen
                                                 ↑↓: Select Item
Administrator Password                           Enter: Select
User Password                                    +/-: Change Opt.
Password Check                      [Setup]      F1: General Help
                                                 F2: Previous Values
▶ Secure Boot                                    F3: Optimized Defaults
                                                 F4: Save & Exit
                                                 ESC: Exit

Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.
```

1. Click on *Show User List* under the Options to show the user list. A pop-up window will appear and show the following information:

- *Session ID:* This item displays the current session ID number.
- *User Name:* This item displays the name of each user.
- *IP Address:* This item displays the IP address of the client-server.

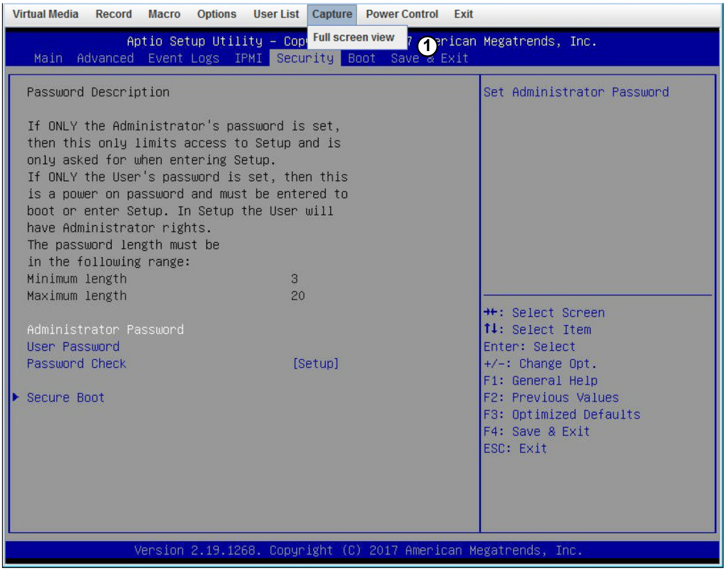


Session ID	User Name	IP Address
190	ADMIN	10.1.34.206

2-8-1f Console Redirection - Capture

For X10 or Newer Versions of Motherboards

This feature allows you to capture the screen displayed on your remote console.



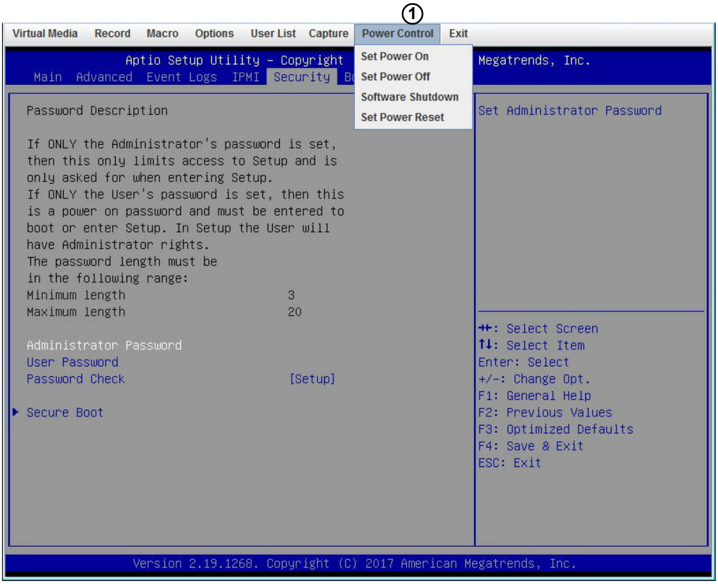
```
Aptio Setup Utility - Cop                    erican Megatrends, Inc.

Password Description                                       Set Administrator Password

If ONLY the Administrator's password is set,
then this only limits access to Setup and is
only asked for when entering Setup.
If ONLY the User's password is set, then this
is a power on password and must be entered to
boot or enter Setup. In Setup the User will
have Administrator rights.
The password length must be
in the following range:
Minimum length                     3
Maximum length                     20
                                                           →←: Select Screen
Administrator Password                                     ↑↓: Select Item
User Password                                              Enter: Select
Password Check                     [Setup]                 +/-: Change Opt.
                                                           F1: General Help
▶ Secure Boot                                              F2: Previous Values
                                                           F3: Optimized Defaults
                                                           F4: Save & Exit
                                                           ESC: Exit

Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.
```

1. Click *Full screen view* under the *Capture* menu.

2-8-1g Console Redirection - Power Control

For X10 or Newer Versions of Motherboards

Under the Power Control menu, you can manage the power state of the system.



```
        Aptio Setup Utility - Copyright                  Megatrends, Inc.
   Main  Advanced  Event Logs  IPMI  Security  Bo

 Password Description                                    Set Administrator Password

 If ONLY the Administrator's password is set,
 then this only limits access to Setup and is
 only asked for when entering Setup.
 If ONLY the User's password is set, then this
 is a power on password and must be entered to
 boot or enter Setup. In Setup the User will
 have Administrator rights.
 The password length must be
 in the following range:
 Minimum length                        3
 Maximum length                        20
                                                         →←: Select Screen
 Administrator Password                                  ↑↓: Select Item
 User Password                                           Enter: Select
 Password Check                        [Setup]           +/-: Change Opt.
                                                         F1: General Help
▶ Secure Boot                                            F2: Previous Values
                                                         F3: Optimized Defaults
                                                         F4: Save & Exit
                                                         ESC: Exit

          Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.
```

1. The power control features are the following:

   - *Set Power On:* This feature allows you to turn the system on.

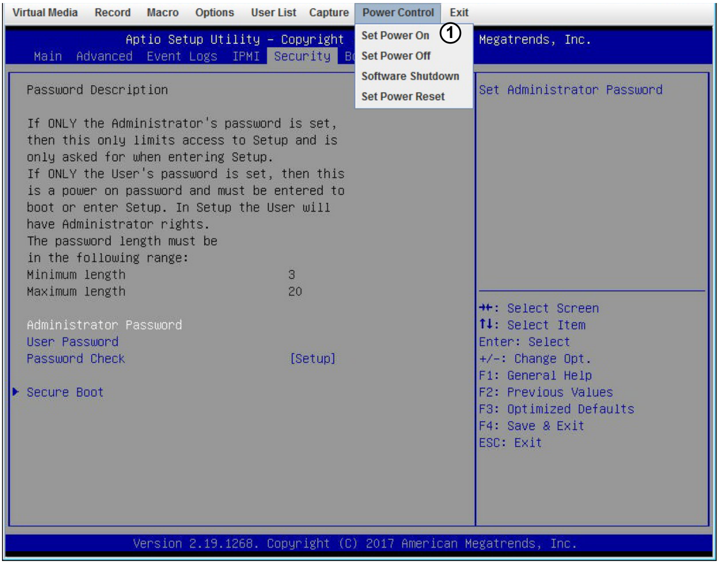
   - *Set Power Off:* This feature allows you to turn the system off.

   - *Software Shutdown:* This feature allows you to perform a graceful shutdown of the system.

   - *Set Power Reset*: This feature allows you to reset the system.

Power Control - Set Power On

The *Set Power On* option allows you to power on the system if the system is off.

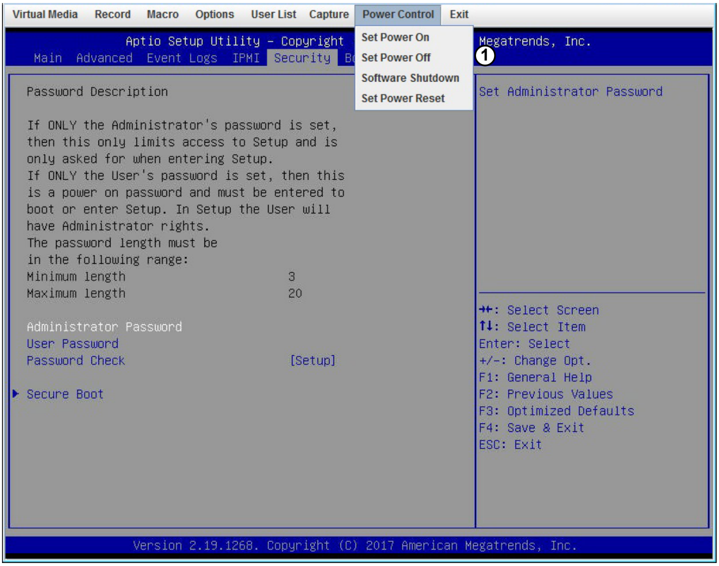


```
Aptio Setup Utility – Copyright                    Megatrends, Inc.
  Main  Advanced  Event Logs  IPMI  Security  Bo

  Password Description                              Set Administrator Password

  If ONLY the Administrator's password is set,
  then this only limits access to Setup and is
  only asked for when entering Setup.
  If ONLY the User's password is set, then this
  is a power on password and must be entered to
  boot or enter Setup. In Setup the User will
  have Administrator rights.
  The password length must be
  in the following range:
  Minimum length                     3
  Maximum length                     20
                                                    ↔: Select Screen
  Administrator Password                            ↑↓: Select Item
  User Password                                     Enter: Select
  Password Check                     [Setup]        +/-: Change Opt.
                                                    F1: General Help
▶ Secure Boot                                       F2: Previous Values
                                                    F3: Optimized Defaults
                                                    F4: Save & Exit
                                                    ESC: Exit

         Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.
```

1. Click the *Set Power On* option under the *Power Control* menu.

Power Control - Set Power Off

The *Set Power On* option allows you to power off the system if the system is on.

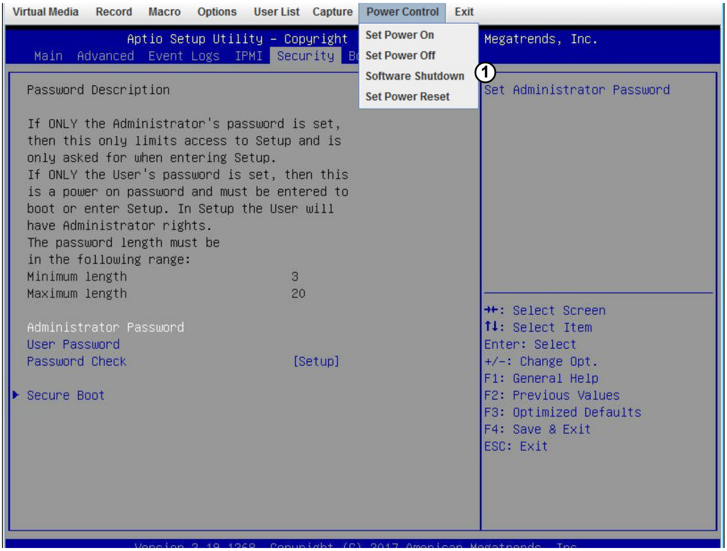


```
              Aptio Setup Utility – Copyright                Megatrends, Inc.
   Main  Advanced  Event Logs  IPMI  Security  Bo

 Password Description                                      Set Administrator Password

 If ONLY the Administrator's password is set,
 then this only limits access to Setup and is
 only asked for when entering Setup.
 If ONLY the User's password is set, then this
 is a power on password and must be entered to
 boot or enter Setup. In Setup the User will
 have Administrator rights.
 The password length must be
 in the following range:
 Minimum length                       3
 Maximum length                       20
                                                           →←: Select Screen
 Administrator Password                                    ↑↓: Select Item
 User Password                                             Enter: Select
 Password Check                       [Setup]              +/-: Change Opt.
                                                           F1: General Help
▶ Secure Boot                                              F2: Previous Values
                                                           F3: Optimized Defaults
                                                           F4: Save & Exit
                                                           ESC: Exit

          Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.
```

1. Click the *Set Power Off* option under the *Power Control* menu*.*

Power Control - Software Shutdown

The *Software Shutdown* option allows you to perform a graceful shutdown of the operating system.

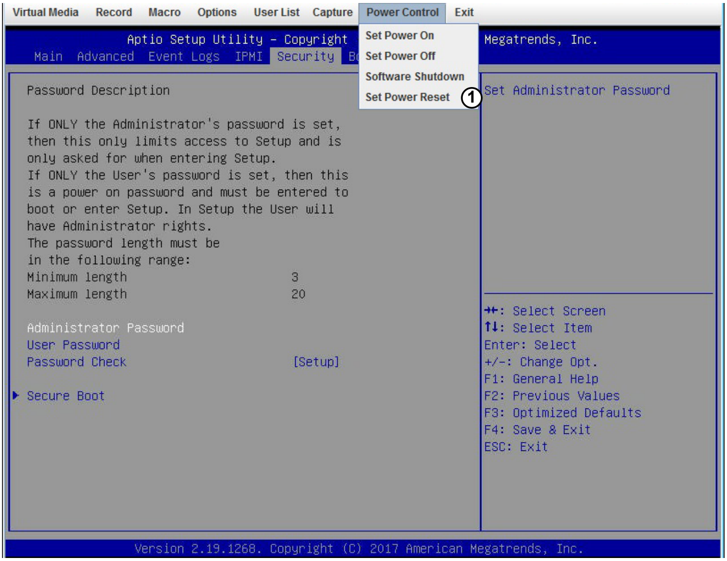


```
              Aptio Setup Utility – Copyright                 Megatrends, Inc.
  Main  Advanced  Event Logs  IPMI  Security  Bo

 Password Description                                          Set Administrator Password

 If ONLY the Administrator's password is set,
 then this only limits access to Setup and is
 only asked for when entering Setup.
 If ONLY the User's password is set, then this
 is a power on password and must be entered to
 boot or enter Setup. In Setup the User will
 have Administrator rights.
 The password length must be
 in the following range:
 Minimum length                        3
 Maximum length                        20
                                                               →←: Select Screen
 Administrator Password                                        ↑↓: Select Item
 User Password                                                 Enter: Select
 Password Check                        [Setup]                 +/-: Change Opt.
                                                               F1: General Help
▶ Secure Boot                                                  F2: Previous Values
                                                               F3: Optimized Defaults
                                                               F4: Save & Exit
                                                               ESC: Exit

              Version 2.18.1268. Copyright (C) 2017 American Megatrends, Inc.
```

1. Click the *Software Shutdown* option under the *Power Control* menu.

Power Control - Set Power Reset

The *Set Power On* option allows you to reset the system.



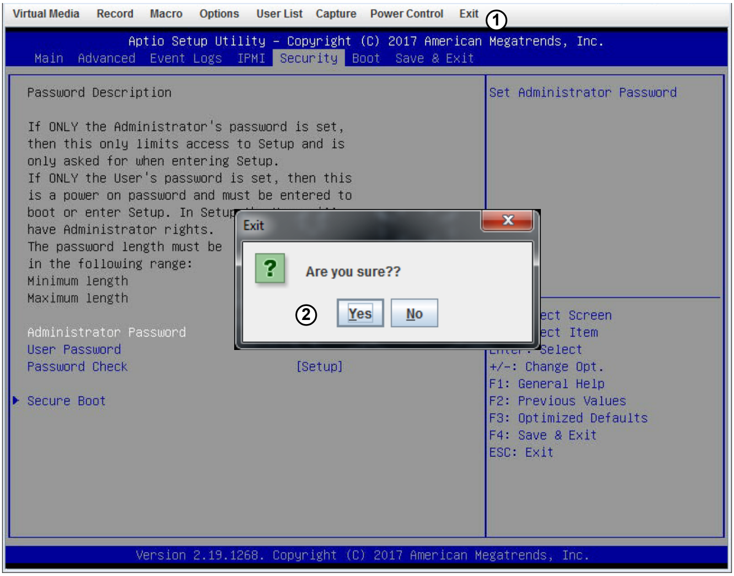
```
Aptio Setup Utility - Copyright                Megatrends, Inc.
  Main  Advanced  Event Logs  IPMI  Security  Bo

  Password Description                          Set Administrator Password

  If ONLY the Administrator's password is set,
  then this only limits access to Setup and is
  only asked for when entering Setup.
  If ONLY the User's password is set, then this
  is a power on password and must be entered to
  boot or enter Setup. In Setup the User will
  have Administrator rights.
  The password length must be
  in the following range:
  Minimum length                      3
  Maximum length                      20        →←: Select Screen
                                                ↑↓: Select Item
  Administrator Password                        Enter: Select
  User Password                                 +/-: Change Opt.
  Password Check                      [Setup]   F1: General Help
                                                F2: Previous Values
► Secure Boot                                   F3: Optimized Defaults
                                                F4: Save & Exit
                                                ESC: Exit

        Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.
```

1. Click the *Set Power Reset* option under the *Power Control* menu.

2-8-1h Console Redirection - Exit

For X10 or Newer Versions of Motherboards

The last tab allows you to exit the remote console.



```
Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc.

Password Description                                  Set Administrator Password

If ONLY the Administrator's password is set,
then this only limits access to Setup and is
only asked for when entering Setup.
If ONLY the User's password is set, then this
is a power on password and must be entered to
boot or enter Setup. In Setup
have Administrator rights.
The password length must be
in the following range:
Minimum length
Maximum length
                                                        ect Screen
Administrator Password                                  ect Item
User Password                                           Select
Password Check                        [Setup]         +/-: Change Opt.
                                                      F1: General Help
▶ Secure Boot                                         F2: Previous Values
                                                      F3: Optimized Defaults
                                                      F4: Save & Exit
                                                      ESC: Exit

Version 2.19.1268. Copyright (C) 2017 American Megatrends, Inc.
```

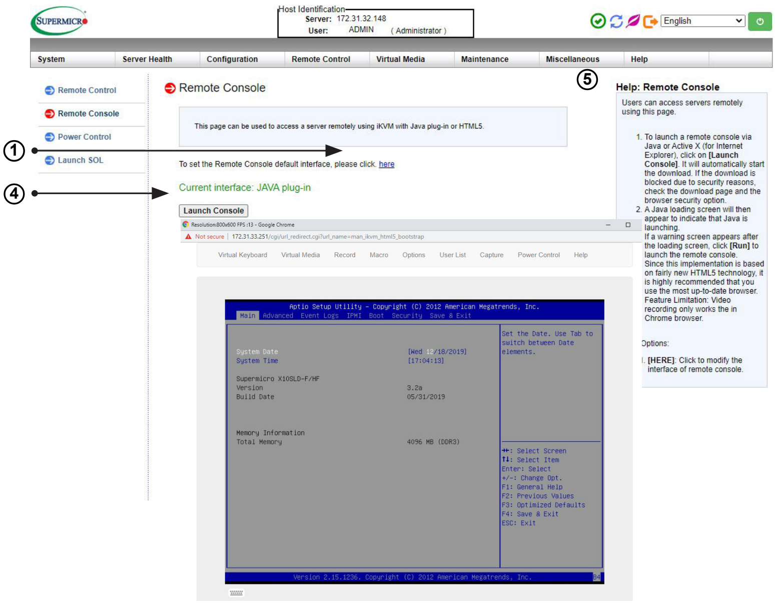
Are you sure??

1. To exit the Console Redirection, click on *Exit* under the *Exit* menu.

2. Click on <Yes> in the Exit dialog box to exit.

2-8-2 iKVM/HTML5

This feature allows you to launch iKVM/HTML5 via IKVM (keyboard, video/monitor, mouse) support. When you click *Remote Console* in the Options window, the following screen will display:



Host Identification
Server: 172.31.32.148
User: ADMIN (Administrator)

Remote Console

This page can be used to access a server remotely using iKVM with Java plug-in or HTML5.

To set the Remote Console default interface, please click. here

Current interface: JAVA plug-in

Resolution:800x600 FPS :13 - Google Chrome

Not secure | 172.31.33.251/cgi/url_redirect.cgi?url_name=man_ikvm_html5_bootstrap

```
Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
  Main  Advanced  Event Logs  IPMI  Boot  Security  Save & Exit

  System Date                         [Wed 12/18/2019]   Set the Date. Use Tab to
  System Time                         [17:04:13]         switch between Date
                                                         elements.
  Supermicro X10SLD-F/HF
  Version                             3.2a
  Build Date                          05/31/2019

  Memory Information
  Total Memory                        4096 MB (DDR3)
                                                         ++: Select Screen
                                                         ↑↓: Select Item
                                                         Enter: Select
                                                         +/-: Change Opt.
                                                         F1: General Help
                                                         F2: Previous Values
                                                         F3: Optimized Defaults
                                                         F4: Save & Exit
                                                         ESC: Exit
       Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.
```

Help: Remote Console

Users can access servers remotely using this page.

1. To launch a remote console via Java or Active X (for Internet Explorer), click on **[Launch Console]**. It will automatically start the download. If the download is blocked due to security reasons, check the download page and the browser security option.
2. A Java loading screen will then appear to indicate that Java is launching. If a warning screen appears after the loading screen, click **[Run]** to launch the remote console. Since this implementation is based on fairly new HTML5 technology, it is highly recommended that you use the most up-to-date browser. Feature Limitation: Video recording only works the in Chrome browser.

Options:

1. **[HERE]**: Click to modify the interface of remote console.

1. Click [here] to set the default interface of the Remote Console. Options include Java plug-in and HTML5. User will be taken to the Remote Console Settings page.

2. To use the HTML5 interface, select HTML5.

3. Click <Save> to confirm chosen interface option. User will be brought back to Remote Console page.

4. Click <Launch Console> on the Console Redirection screen to launch the remote console via HTML5. The main screen like the one above will appear.

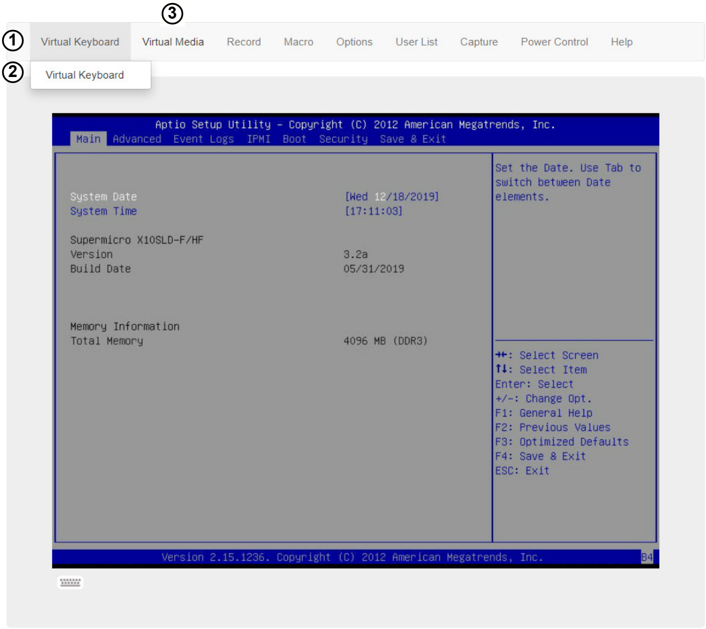
5. Click <Help> to display the Help menu for the *Remote Console* page.

2-8-2a iKVM/HTML5 - Virtual Device

For X10 or Newer Versions of Motherboards

This feature allows you to configure virtual device settings.

Note: Virtual Media features require SFT-DCMS-Single license to operate.



```
          Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
   Main  Advanced  Event Logs  IPMI  Boot  Security  Save & Exit

                                                         Set the Date. Use Tab to
                                                         switch between Date
   System Date                        [Wed 12/18/2019]   elements.
   System Time                        [17:11:03]

   Supermicro X10SLD-F/HF
   Version                            3.2a
   Build Date                         05/31/2019


   Memory Information
   Total Memory                       4096 MB (DDR3)
                                                         →←: Select Screen
                                                         ↑↓: Select Item
                                                         Enter: Select
                                                         +/-: Change Opt.
                                                         F1: General Help
                                                         F2: Previous Values
                                                         F3: Optimized Defaults
                                                         F4: Save & Exit
                                                         ESC: Exit

          Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.     B4
```

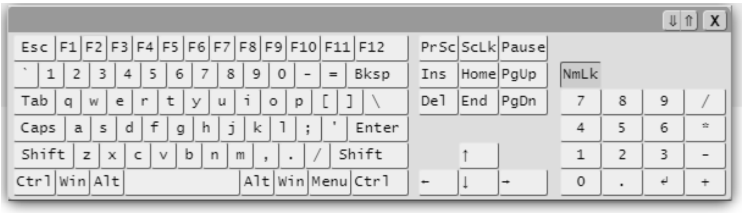
1. Click *Virtual Keyboard* to select virtual keyboard.

2. Click *Virtual Keyboard* to launch the virtual keyboard.

3. Click *Virtual Media* to configure virtual device settings of a server at a remote site via Console Redirection.

Virtual Keyboard

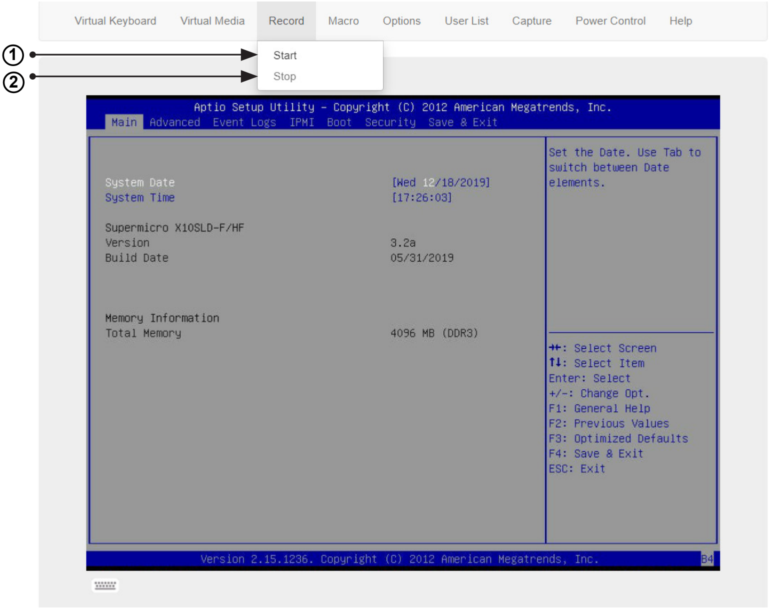
When you click on *Virtual Keyboard* in the Virtual Media menu, the virtual keyboard will appear.


⇓ ⇑ X
Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 PrSc ScLk Pause
` 1 2 3 4 5 6 7 8 9 0 - = Bksp Ins Home PgUp NmLk
Tab q w e r t y u i o p [ ] \ Del End PgDn 7 8 9 /
Caps a s d f g h j k l ; ' Enter 4 5 6 *
Shift z x c v b n m , . / Shift ↑ 1 2 3 -
Ctrl Win Alt Alt Win Menu Ctrl ← ↓ → 0 . ↵ +

2-8-2b iKVM/HTML5 - Record

For X10 or Newer Versions of Motherboards

This feature allows you to record the media displayed.



```
                Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
  Main  Advanced  Event Logs  IPMI  Boot  Security  Save & Exit

                                                            Set the Date. Use Tab to
                                                            switch between Date
                                                            elements.
  System Date                            [Wed 12/18/2019]
  System Time                            [17:26:03]

  Supermicro X10SLD-F/HF
  Version                                3.2a
  Build Date                             05/31/2019


  Memory Information
  Total Memory                           4096 MB (DDR3)
                                                            →←: Select Screen
                                                            ↑↓: Select Item
                                                            Enter: Select
                                                            +/-: Change Opt.
                                                            F1: General Help
                                                            F2: Previous Values
                                                            F3: Optimized Defaults
                                                            F4: Save & Exit
                                                            ESC: Exit

              Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.      B4
```

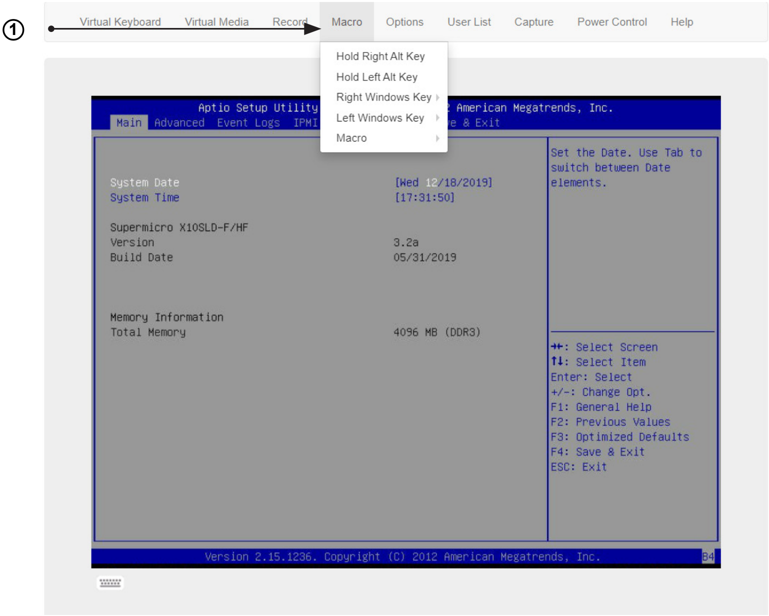
1. Click on *Start* from the Record menu to start recording.

2. The recording process will continue until you click on *Stop* under the Record menu.

2-8-2c iKVM/HTML5 - Macro

For X10 or Newer Versions of Motherboards

This feature allows you to configure Macro settings.



```
          Aptio Setup Utility                 2 American Megatrends, Inc.
  Main  Advanced  Event Logs  IPMI             ve & Exit

  System Date                              [Wed 12/18/2019]     Set the Date. Use Tab to
  System Time                              [17:31:50]           switch between Date
                                                                elements.
  Supermicro X10SLD-F/HF
  Version                                  3.2a
  Build Date                               05/31/2019


  Memory Information
  Total Memory                             4096 MB (DDR3)
                                                                →←: Select Screen
                                                                ↑↓: Select Item
                                                                Enter: Select
                                                                +/-: Change Opt.
                                                                F1: General Help
                                                                F2: Previous Values
                                                                F3: Optimized Defaults
                                                                F4: Save & Exit
                                                                ESC: Exit

          Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.      B4
```

1. Click *Macro* to configure the Macro settings for your remote server. The features include the following:

- *Hold Right Alt Key:* This item performs the same function as holding down the right <Alt> key.

- *Hold Left Alt Key*: This item performs the same function as holding down the left <Alt> key.

- *Right Windows Key*: This item performs the same function as you pressing the right <Windows> key. Select *Hold Down* or *Press and Release*.

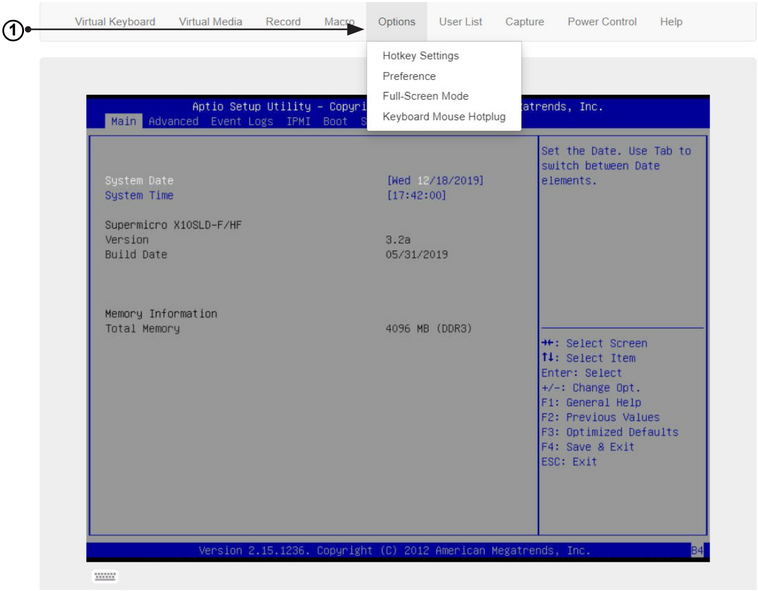
- *Left Windows Key:* This item performs the same function as pressing the left <Windows> key. Select *Hold Down* or *Press and Release.*

- *Macro*: Click this item to activate a pull-down submenu. The *Macro* submenu includes the following items:
    - Ctrl+Alt+Del
    - Alt+Tab
    - Alt+Esc
    - Ctrl+Tab
    - Alt+Space
    - Alt+Enter
    - Alt+Hyphen
    - Alt+F4
    - Alt+PrntScrn
    - PrntScrn
    - F1
    - Alt+F1
    - Pause

2-8-2d iKVM/HTML5 - Options

For X10 or Newer Versions of Motherboards

This feature allows you to configure Options settings.



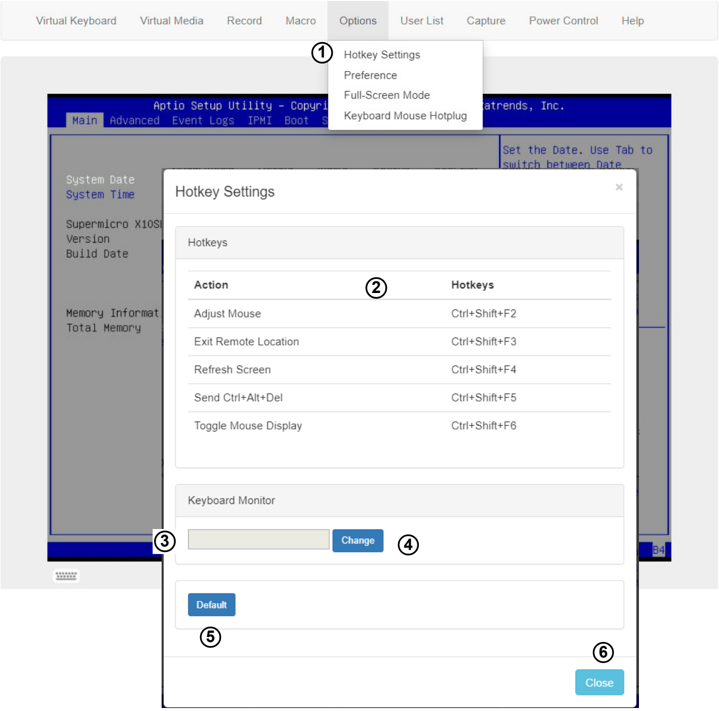
```
        Aptio Setup Utility - Copyri                    atrends, Inc.
 Main  Advanced  Event Logs  IPMI  Boot  S

                                                        Set the Date. Use Tab to
                                                        switch between Date
 System Date                       [Wed 12/18/2019]     elements.
 System Time                       [17:42:00]

 Supermicro X10SLD-F/HF
 Version                           3.2a
 Build Date                        05/31/2019


 Memory Information
 Total Memory                      4096 MB (DDR3)
                                                        →←: Select Screen
                                                        ↑↓: Select Item
                                                        Enter: Select
                                                        +/-: Change Opt.
                                                        F1: General Help
                                                        F2: Previous Values
                                                        F3: Optimized Defaults
                                                        F4: Save & Exit
                                                        ESC: Exit

        Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.      B4
```

1. Click on *Options* to activate the pull-down menu to configure options settings. The options menu allows you to configure the following settings:

- HotKey
- Preference
- Full-Screen Mode
- Keyboard Mouse Hotplug

Options - Hotkey Settings

This feature allows you to configure the hotkey settings.



Action	Hotkeys
Adjust Mouse	Ctrl+Shift+F2
Exit Remote Location	Ctrl+Shift+F3
Refresh Screen	Ctrl+Shift+F4
Send Ctrl+Alt+Del	Ctrl+Shift+F5
Toggle Mouse Display	Ctrl+Shift+F6

1. To change the hotkey value for an action, click *Hotkey Settings* under the Options menu. A Hotkey Settings window will display the hotkeys with its corresponding actions.

2. To change the hotkeys, click on the line with the hotkey you want to change. The value of the line you chose should automatically appear in the keyboard monitor section below.

3. Enter the hotkey of your choice. It can be a single word or a combination.

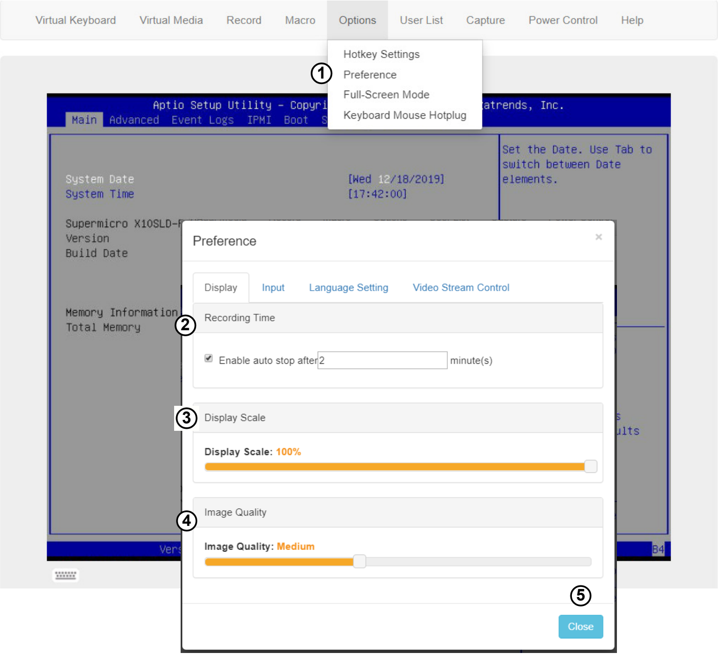
4. Click change <Change> to confirm the changed value.

5. Click <Default> to restore the hotkeys to the default values.

6. Click <Close> to exit the window.

Options - Preference (Display)

This feature allows you to configure video recording settings.



[Wed 12/18/2019]
[17:42:00]

☑ Enable auto stop after 2 minute(s)

Display Scale: 100%

Image Quality: Medium

1. Click *Preference* under the Options menu. The *Preference* settings box will display. The first tab is *Display*.

2. The *Recording Time* section refers to video recording. If you want to automatically stop recording after a preset time, check the box, then input the number of minutes that should pass before the recording should automatically stop.

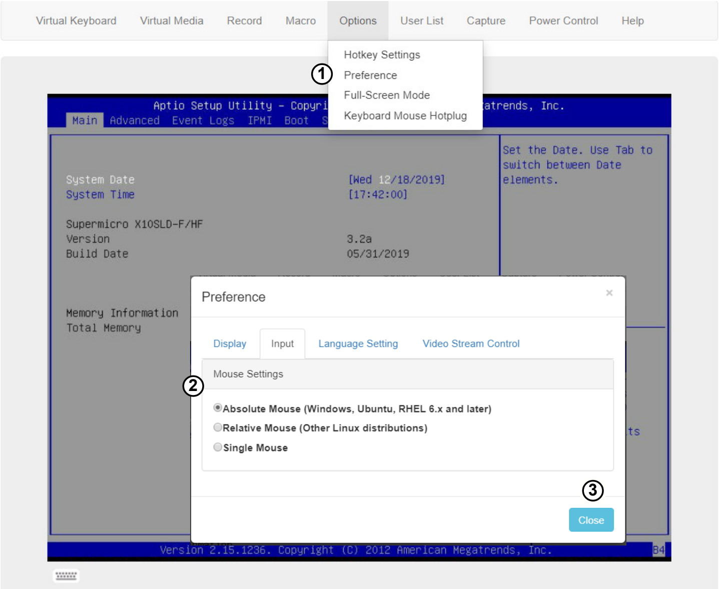
3. Use the slider on the Display Scale to set the appropriate scale setting for your display from Low (10) to High (100).

4. You can adjust the image quality settings in accordance with varying degrees of network traffic. To ensure the best image quality, select *High* for heavier network traffic connections and select *Low* for lighter network traffic. The default setting for Image Quality is Medium.

5. To exit the Preference window without saving, click <Cancel>.

Options - Preference (Input)

This feature allows you to configure input settings.



Aptio Setup Utility - Copyri… …atrends, Inc.

System Date [Wed 12/18/2019]
System Time [17:42:00]

Supermicro X10SLD-F/HF
Version 3.2a
Build Date 05/31/2019

Memory Information
Total Memory

Set the Date. Use Tab to switch between Date elements.

Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

Preference

Mouse Settings

● Absolute Mouse (Windows, Ubuntu, RHEL 6.x and later)

○ Relative Mouse (Other Linux distributions)

○ Single Mouse

1. When you click Preference under the Options menu, the Preference settings box will display. The second tab is *Input*.

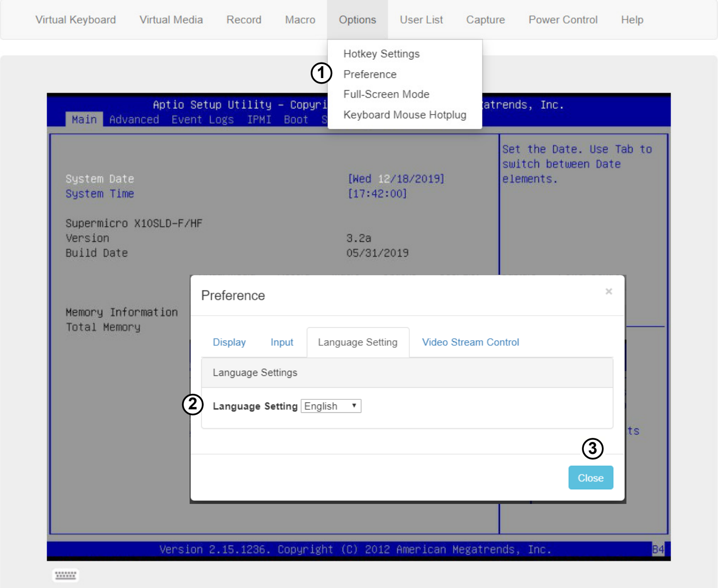
2. To set a proper mouse mode for your remote console, check the corresponding radio button from the list below.

   - Select Absolute Mode if you have Windows, Ubuntu, RHEL 6.x and later.
   - Select Relative Mouse for the Linux OS.
   - Single Mouse

3. Click <Cancel> to exit the *Preference* window.

Options - Preference (Language Setting)

This feature allows you to configure language settings.



System Date [Wed 12/18/2019]
System Time [17:42:00]

Supermicro X10SLD-F/HF
Version 3.2a
Build Date 05/31/2019

Memory Information
Total Memory

Set the Date. Use Tab to switch between Date elements.

Language Setting English

Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

1. When you click *Preference* under the Options menu, the *Preference* settings box will display. The third tab is *Language Setting*.

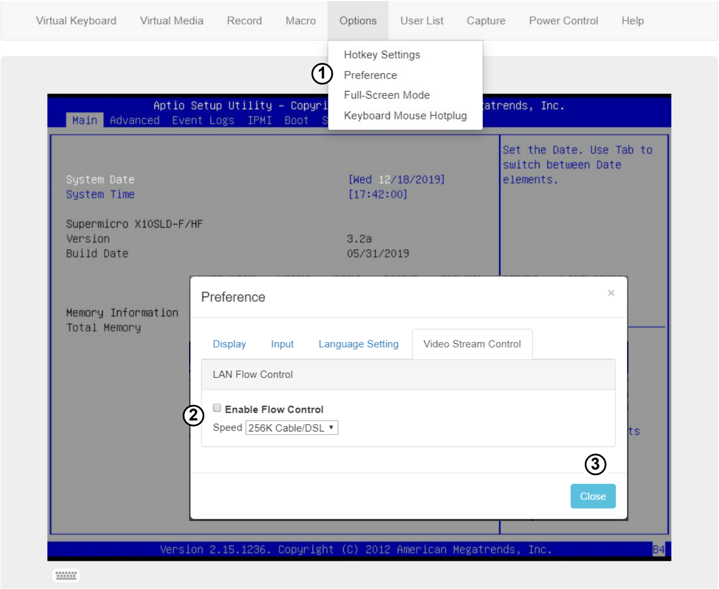
2. From the pull-down menu, select the language you want to use for your remote console. The language options are the following:

   - English
   - Japanese
   - Deutsch
   - French
   - Spanish
   - Italiano

3. Click <Cancel> to exit the *Preference* window.

Options - Preference (Video Stream Control)

This feature allows you to configure window settings.



```
Aptio Setup Utility - Copyri                    atrends, Inc.
Main  Advanced  Event Logs  IPMI  Boot  S

                                                   Set the Date. Use Tab to
                                                   switch between Date
System Date                        [Wed 12/18/2019] elements.
System Time                        [17:42:00]

Supermicro X10SLD-F/HF
Version                            3.2a
Build Date                         05/31/2019


Memory Information
Total Memory

       Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.
```

LAN Flow Control

□ Enable Flow Control

Speed 256K Cable/DSL ▾

1. When you click *Preference* under the Options menu, the *Preference* settings box will display. The last tab is *Video Stream Control*.

2. Check the *Enable Flow Control* box to enable support for video stream control.

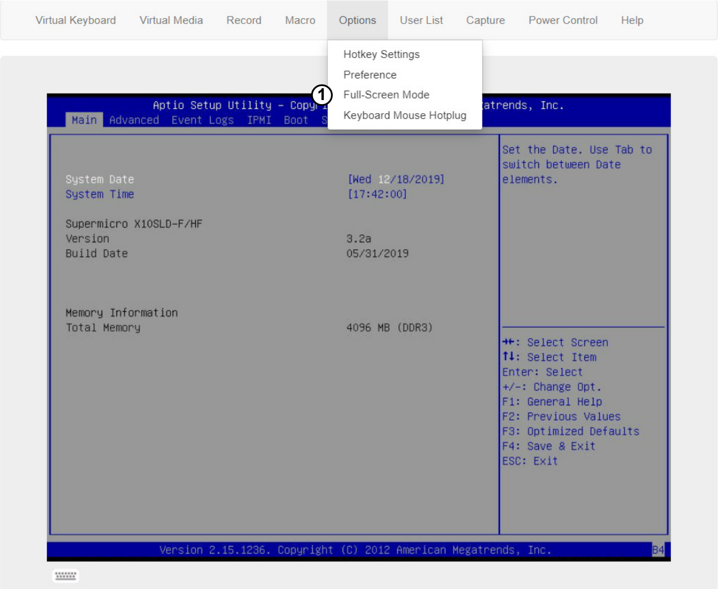
3. Select the speed from the pull-down menu. The options are as follows:

   - 256K Cable/DSL
   - T1
   - T2

4. Click <Cancel> to exit the *Preference* window.

Options - Full Screen Mode

This feature allows you to configure window settings for your remote console.



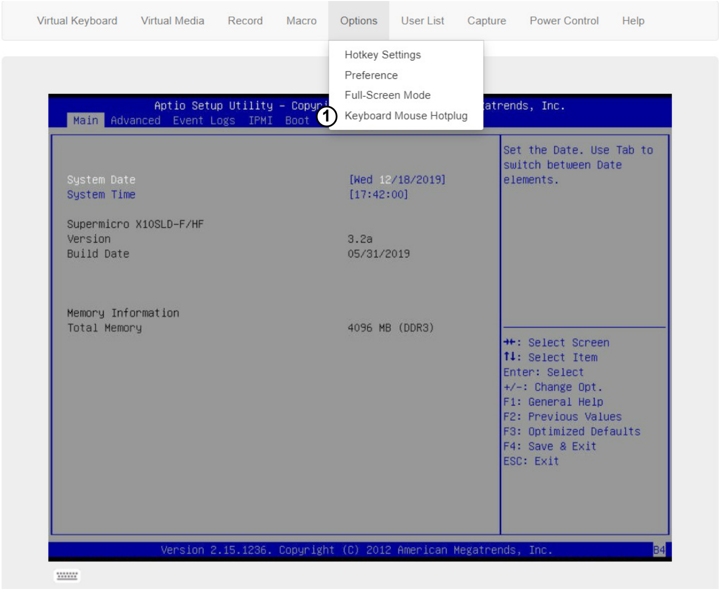
```
        Aptio Setup Utility - Copyr...                    ...atrends, Inc.

 System Date                           [Wed 12/18/2019]    Set the Date. Use Tab to
 System Time                           [17:42:00]          switch between Date
                                                           elements.
 Supermicro X10SLD-F/HF
 Version                               3.2a
 Build Date                            05/31/2019


 Memory Information
 Total Memory                          4096 MB (DDR3)      →←: Select Screen
                                                           ↑↓: Select Item
                                                           Enter: Select
                                                           +/-: Change Opt.
                                                           F1: General Help
                                                           F2: Previous Values
                                                           F3: Optimized Defaults
                                                           F4: Save & Exit
                                                           ESC: Exit

        Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.        B4
```

1. Click *Full Screen Mode* under the Options menu.

2. To leave the full-screen display, click *Full-Screen Mode* under the Options menu.

Options - Keyboard Mouse Hotplug

This feature allows you to enable keyboard/mouse hotplug support for your remote console.



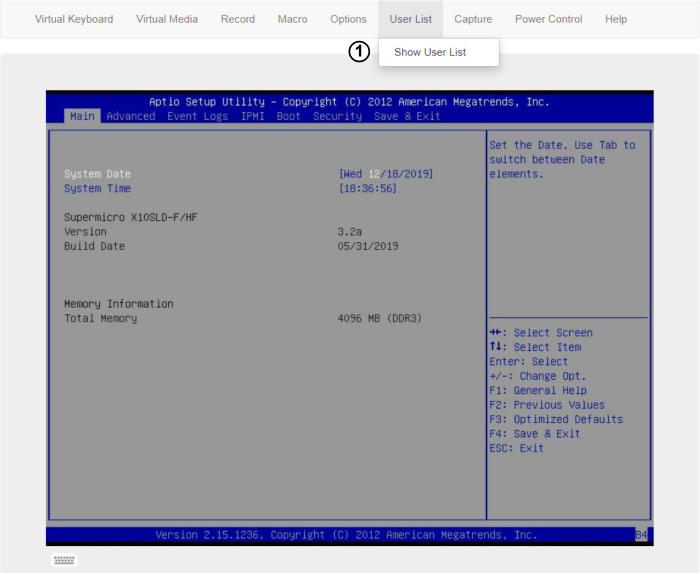
```
             Aptio Setup Utility – Copyri                      atrends, Inc.
 Main  Advanced  Event Logs  IPMI  Boot

                                                            Set the Date. Use Tab to
 System Date                          [Wed 12/18/2019]      switch between Date
 System Time                          [17:42:00]            elements.

 Supermicro X10SLD-F/HF
 Version                              3.2a
 Build Date                           05/31/2019


 Memory Information
 Total Memory                         4096 MB (DDR3)
                                                            →←: Select Screen
                                                            ↑↓: Select Item
                                                            Enter: Select
                                                            +/-: Change Opt.
                                                            F1: General Help
                                                            F2: Previous Values
                                                            F3: Optimized Defaults
                                                            F4: Save & Exit
                                                            ESC: Exit

          Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.      B4
```

1. Click *Keyboard Mouse Hotplug* under the *Options* menu.

2-8-2e iKVM/HTML5 - User List

For X10 or Newer Versions of Motherboards

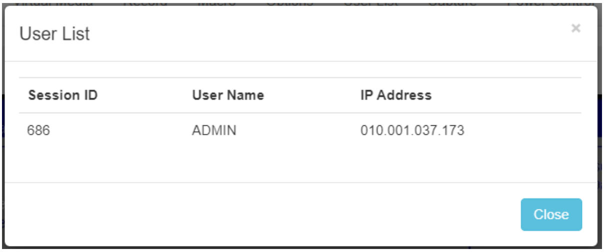
This feature allows you to access the user list.



```
          Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Main  Advanced  Event Logs  IPMI  Boot  Security  Save & Exit

                                                              Set the Date. Use Tab to
                                                              switch between Date
  System Date                              [Wed 12/18/2019]   elements.
  System Time                              [18:36:56]

  Supermicro X10SLD-F/HF
  Version                                  3.2a
  Build Date                               05/31/2019


  Memory Information
  Total Memory                             4096 MB (DDR3)
                                                              ++: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit

          Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.      B4
```

1. Click on *Show User List* under the Options to show the user list. A pop-up window will appear and show the following information:

- *Session ID:* This item displays the current session ID number.
- *User Name:* This item displays the name of each user.
- *IP Address:* This item displays the IP address of the client-server.

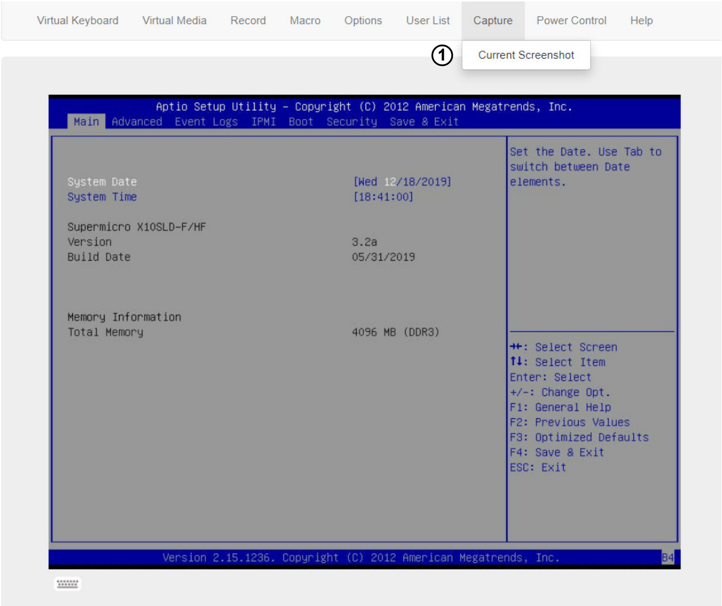


Session ID	User Name	IP Address
686	ADMIN	010.001.037.173

2-8-2f iKVM/HTML5 - Capture

For X10 or Newer Versions of Motherboards

This feature allows you to capture the screen displayed on your remote console.



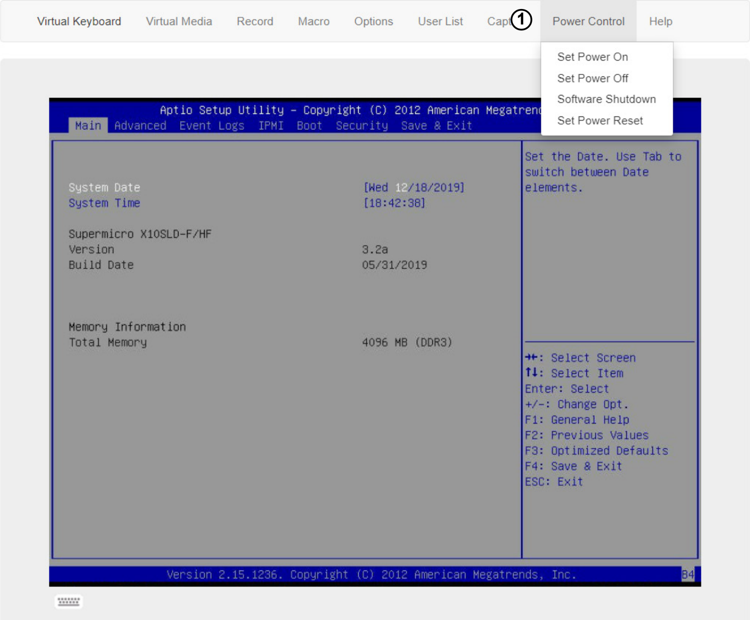
```
            Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Main  Advanced  Event Logs  IPMI  Boot  Security  Save & Exit

                                                      Set the Date. Use Tab to
                                                      switch between Date
  System Date                     [Wed 12/18/2019]    elements.
  System Time                     [18:41:00]

  Supermicro X10SLD-F/HF
  Version                         3.2a
  Build Date                      05/31/2019


  Memory Information
  Total Memory                    4096 MB (DDR3)
                                                      ++: Select Screen
                                                      ↑↓: Select Item
                                                      Enter: Select
                                                      +/-: Change Opt.
                                                      F1: General Help
                                                      F2: Previous Values
                                                      F3: Optimized Defaults
                                                      F4: Save & Exit
                                                      ESC: Exit

          Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.   B4
```

1. Click *Current Screenshot* under the *Capture* menu.

2-8-2g iKVM/HTML5 - Power Control

For X10 or Newer Versions of Motherboards

Under the Power Control menu, you can manage the power state of the system.



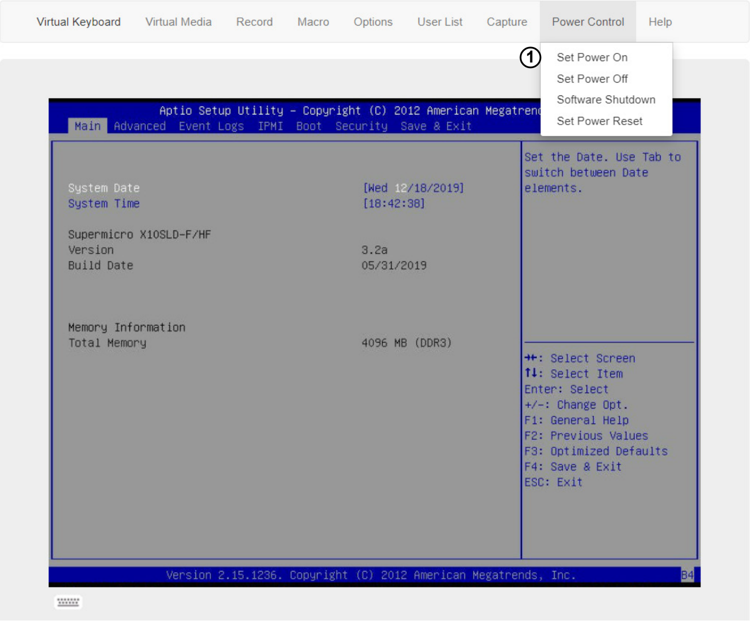
```
Aptio Setup Utility – Copyright (C) 2012 American Megatrend
 Main  Advanced  Event Logs  IPMI  Boot  Security  Save & Exit

 System Date                                  [Wed 12/18/2019]    Set the Date. Use Tab to
 System Time                                  [18:42:38]          switch between Date
                                                                  elements.
 Supermicro X10SLD-F/HF
 Version                                      3.2a
 Build Date                                   05/31/2019

 Memory Information
 Total Memory                                 4096 MB (DDR3)
                                                                  →←: Select Screen
                                                                  ↑↓: Select Item
                                                                  Enter: Select
                                                                  +/-: Change Opt.
                                                                  F1: General Help
                                                                  F2: Previous Values
                                                                  F3: Optimized Defaults
                                                                  F4: Save & Exit
                                                                  ESC: Exit

          Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.          B4
```

1. The power control features are the following:

   - *Set Power On:* This feature allows you to turn the system on.
   - *Set Power Off:* This feature allows you to turn the system off.
   - *Software Shutdown:* This feature allows you to perform a graceful shutdown of the system.
   - *Set Power Reset*: This feature allows you to reset the system.

Power Control - Set Power On

The *Set Power On* option allows you to power on the system if the system is off.

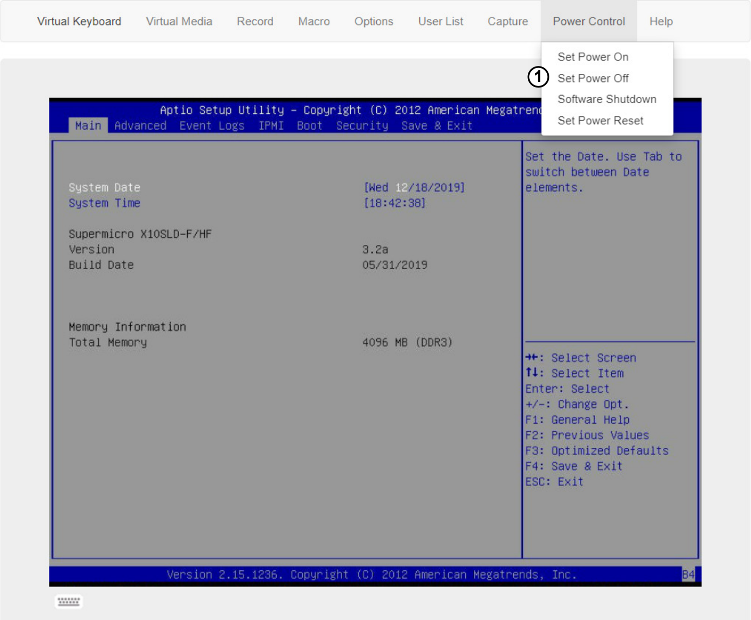


```
        Aptio Setup Utility - Copyright (C) 2012 American Megatrend
 Main  Advanced  Event Logs  IPMI  Boot  Security  Save & Exit

                                                        Set the Date. Use Tab to
                                                        switch between Date
 System Date                      [Wed 12/18/2019]      elements.
 System Time                      [18:42:38]

 Supermicro X10SLD-F/HF
 Version                          3.2a
 Build Date                       05/31/2019


 Memory Information
 Total Memory                     4096 MB (DDR3)
                                                        →←: Select Screen
                                                        ↑↓: Select Item
                                                        Enter: Select
                                                        +/-: Change Opt.
                                                        F1: General Help
                                                        F2: Previous Values
                                                        F3: Optimized Defaults
                                                        F4: Save & Exit
                                                        ESC: Exit

        Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.     B4
```

1. Click the *Set Power On* option under the *Power Control* menu.

Power Control - Set Power Off

The *Set Power On* option allows you to power off the system if the system is on.

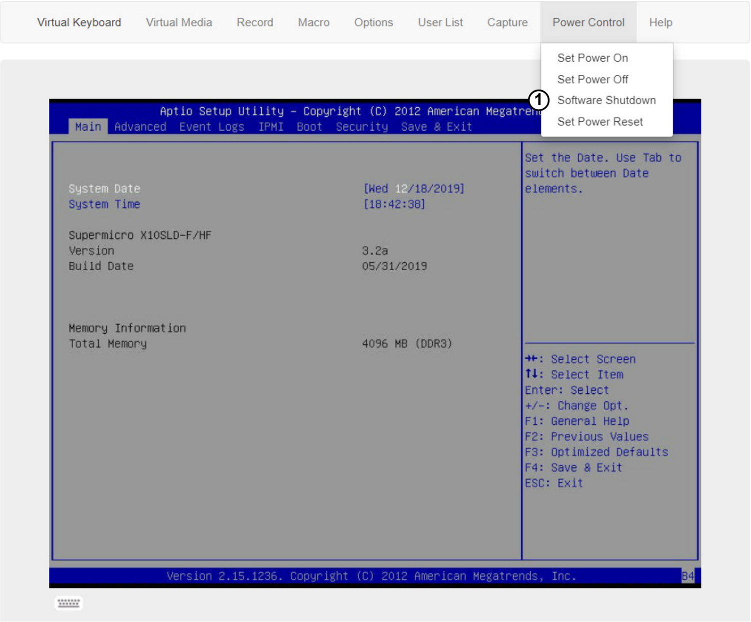


```
                Aptio Setup Utility - Copyright (C) 2012 American Megatrend
 Main  Advanced  Event Logs  IPMI  Boot  Security  Save & Exit

                                                     Set the Date. Use Tab to
                                                     switch between Date
 System Date                  [Wed 12/18/2019]       elements.
 System Time                  [18:42:38]

 Supermicro X10SLD-F/HF
 Version                      3.2a
 Build Date                   05/31/2019


 Memory Information
 Total Memory                 4096 MB (DDR3)
                                                     →←: Select Screen
                                                     ↑↓: Select Item
                                                     Enter: Select
                                                     +/-: Change Opt.
                                                     F1: General Help
                                                     F2: Previous Values
                                                     F3: Optimized Defaults
                                                     F4: Save & Exit
                                                     ESC: Exit

              Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.         B4
```

1. Click the *Set Power Off* option under the *Power Control* menu.

Power Control - Software Shutdown

The *Software Shutdown* option allows you to perform a graceful shutdown of the operating system.

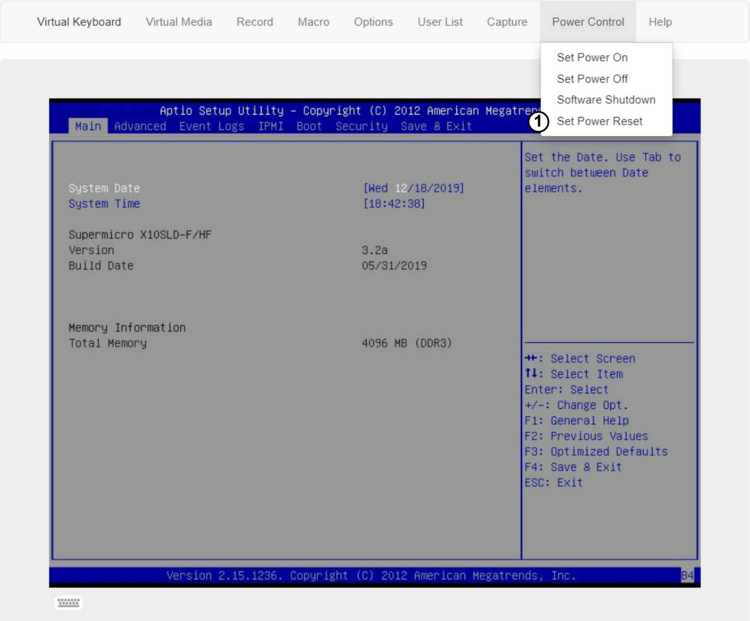


```
              Aptio Setup Utility – Copyright (C) 2012 American Megatren
   Main  Advanced  Event Logs  IPMI  Boot  Security  Save & Exit

                                                         Set the Date. Use Tab to
                                                         switch between Date
   System Date                          [Wed 12/18/2019]   elements.
   System Time                          [18:42:38]

   Supermicro X10SLD-F/HF
   Version                              3.2a
   Build Date                           05/31/2019


   Memory Information
   Total Memory                         4096 MB (DDR3)
                                                         →←: Select Screen
                                                         ↑↓: Select Item
                                                         Enter: Select
                                                         +/-: Change Opt.
                                                         F1: General Help
                                                         F2: Previous Values
                                                         F3: Optimized Defaults
                                                         F4: Save & Exit
                                                         ESC: Exit

              Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.    B4
```

1. Click the *Software Shutdown* option under the *Power Control* menu.

Power Control - Set Power Reset

The *Set Power On* option allows you to reset the system.



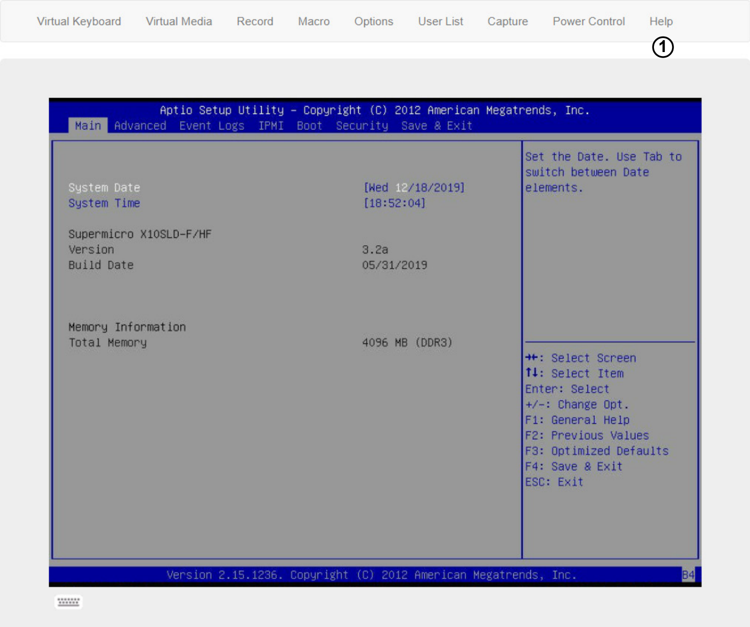
```
Aptio Setup Utility - Copyright (C) 2012 American Megatren
Main  Advanced  Event Logs  IPMI  Boot  Security  Save & Exit

System Date                                 [Wed 12/18/2019]     Set the Date. Use Tab to
System Time                                 [18:42:38]           switch between Date
                                                                 elements.
Supermicro X10SLD-F/HF
Version                                     3.2a
Build Date                                  05/31/2019


Memory Information
Total Memory                                4096 MB (DDR3)
                                                                 →←: Select Screen
                                                                 ↑↓: Select Item
                                                                 Enter: Select
                                                                 +/-: Change Opt.
                                                                 F1: General Help
                                                                 F2: Previous Values
                                                                 F3: Optimized Defaults
                                                                 F4: Save & Exit
                                                                 ESC: Exit

        Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.          B4
```

1. Click the *Set Power Reset* option under the *Power Control* menu.

2-8-2h iKVM/HTML5 - Help

For X10 or Newer Versions of Motherboards

The last tab allows you to exit the remote console.



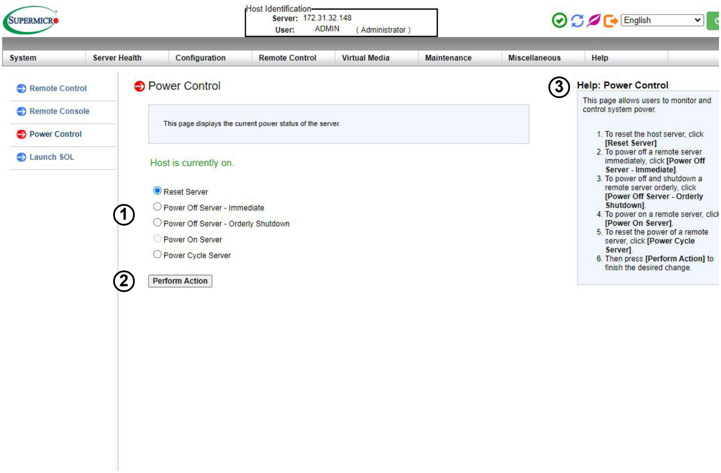
```
           Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Main  Advanced  Event Logs  IPMI  Boot  Security  Save & Exit

                                                          Set the Date. Use Tab to
                                                          switch between Date
  System Date                          [Wed 12/18/2019]   elements.
  System Time                          [18:52:04]

  Supermicro X10SLD-F/HF
  Version                              3.2a
  Build Date                           05/31/2019


  Memory Information
  Total Memory                         4096 MB (DDR3)     ++: Select Screen
                                                          ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F2: Previous Values
                                                          F3: Optimized Defaults
                                                          F4: Save & Exit
                                                          ESC: Exit

           Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.        B4
```

1. Click the <Help> tab to open Help webpage.

2-8-3 Power Control

For X10 or Newer Versions of Motherboards

This feature allows the user to check the power state and manage the system. When you click on *Power Control* in the Options window, the following screen will display.



Host Identification
Server: 172.31.32.148
User: ADMIN (Administrator)

Power Control

This page displays the current power status of the server.

Host is currently on.

● Reset Server
○ Power Off Server - Immediate
○ Power Off Server - Orderly Shutdown
○ Power On Server
○ Power Cycle Server

Help: Power Control

This page allows users to monitor and control system power.

1. To reset the host server, click **[Reset Server]**
2. To power off a remote server immediately, click **[Power Off Server - Immediate]**.
3. To power off and shutdown a remote server orderly, click **[Power Off Server - Orderly Shutdown]**.
4. To power on a remote server, click **[Power On Server]**.
5. To reset the power of a remote server, click **[Power Cycle Server]**.
6. Then press **[Perform Action]** to finish the desired change.

1. To enter the screen shown above, click the "Power Control" item in the Remote Control sidebar. The following options are listed:

   - Click on *Reset Server* to reset the host server.
   - Click on *Power Off Server - Immediate* to power off the remote server immediately.
   - Click on *Power Off Server - Orderly Shutdown* to power off and shut down the remote server in an orderly fashion.
   - Click *Power On Server* to power on the remote server.
   - Click *Power Cycle Server* to power cycle the remote server.

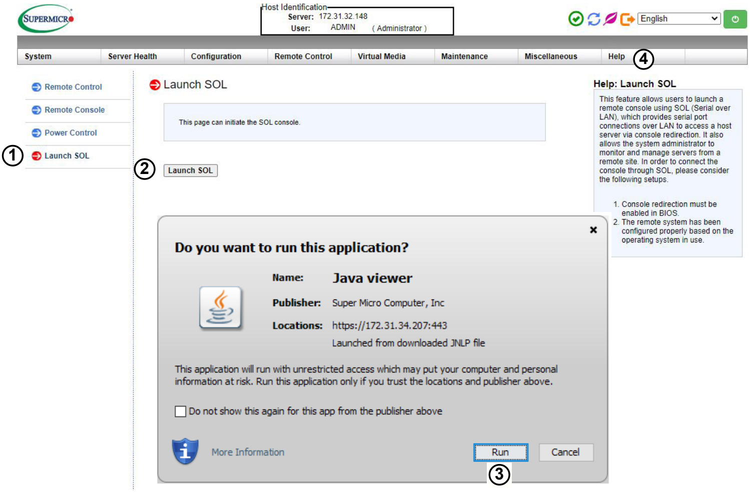
2. Click <Perform Action> after choosing an option to commence

3. Click the <Help> tab to display the Help menu. The menu includes an explanation of all the power modes.

2-8-4 Launch SOL

For X10 or Newer Versions of Motherboards

This feature allows you to launch the remote console by using SOL (Serial over LAN). This feature provides serial port connections over LAN to allow the user to access a host server via console redirection. It also allows a system administrator to monitor and manage a server from a remote site.



This page can initiate the SOL console.

Help: Launch SOL

This feature allows users to launch a remote console using SOL (Serial over LAN), which provides serial port connections over LAN to access a host server via console redirection. It also allows the system administrator to monitor and manage servers from a remote site. In order to connect the console through SOL, please consider the following setups.

1. Console redirection must be enabled in BIOS.
2. The remote system has been configured properly based on the operating system in use.

Do you want to run this application?

Name: Java viewer
Publisher: Super Micro Computer, Inc
Locations: https://172.31.34.207:443
Launched from downloaded JNLP file

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

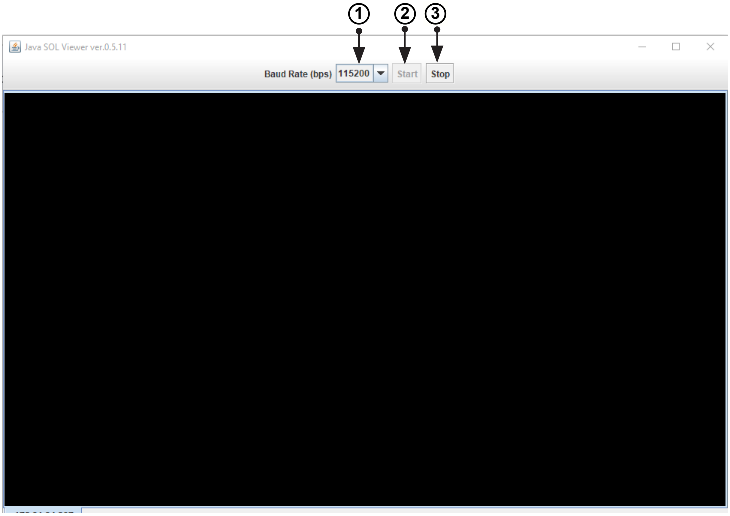
□ Do not show this again for this app from the publisher above

1. To enter the screen shown above, click *Launch SOL* in the left column.

2. Click the <Launch SOL> button to launch SOL.

3. In the dialog box that asks "Do you want to run this application?" click <Run>. The SOL Viewer screen will appear as shown on the next page.

4. Click the <Help> tab to display the Help menu. The menu includes an explanation of the SOL Console.



1. You can select a baud rate (bps) from the pull-down menu as your SOL transfer rate. The options are listed below. Make sure that the baud rate selected here matches the baud rate set in the UEFI BIOS.

   - 9600 bps (bits per second)
   - 19200 bps
   - 38400 bps
   - 57600 bps
   - 115200 bps

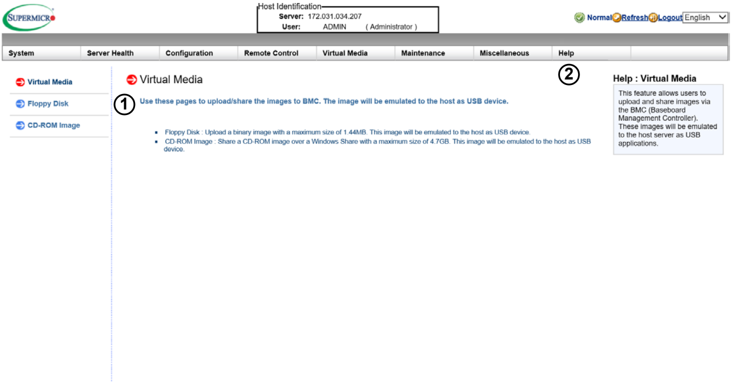
2. Once you have selected the baud rate, click <Start> to start the session. Once you have started the session, you can input SOL commands through the command-line interface.

3. Click <Stop> to stop the SOL connection.

2-9 Virtual Media

For X10 or Newer Versions of Motherboards

This feature allows you to upload and share images via the BMC (Baseboard Management Controller). These images will be emulated to the host server as USB applications. When you click *Virtual Media* in the Options window, the following screen will display:



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

Virtual Media

Use these pages to upload/share the images to BMC. The image will be emulated to the host as USB device.

- Floppy Disk : Upload a binary image with a maximum size of 1.44MB. This image will be emulated to the host as USB device.
- CD-ROM Image : Share a CD-ROM image over a Windows Share with a maximum size of 4.7GB. This image will be emulated to the host as USB device.

Help : Virtual Media

This feature allows users to upload and share images via the BMC (Baseboard Management Controller). These images will be emulated to the host server as USB applications.

1. This section shows information related to virtual media, such as the Floppy Disk and the CD-ROM Image.

    - Floppy Disk: Upload a binary image with a maximum size of 1.44MB. This image will be emulated to the host as a USB device.

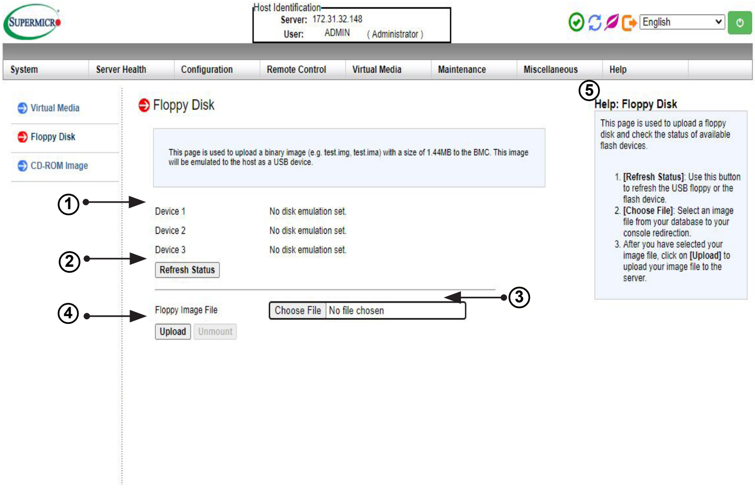
    - CD-ROM Image: Share a CD-ROM image over Windows Share with a maximum size of 4.7GB. This image will be emulated to the host as a USB device.

2. Click the <Help> tab to display the Help menu for the *Virtual Media* page.

2-9-1 Floppy Disk

For X10 or Newer Versions of Motherboards

This feature allows you to configure the Floppy Disk image files for sharing. When you click *Floppy Disk* in the Options window, the following screen will display:



Host Identification
Server: 172.31.32.148
User: ADMIN (Administrator)

Floppy Disk

This page is used to upload a binary image (e.g. test.img, test.ima) with a size of 1.44MB to the BMC. This image will be emulated to the host as a USB device.

Device 1 No disk emulation set.
Device 2 No disk emulation set.
Device 3 No disk emulation set.

Floppy Image File: No file chosen

Help: Floppy Disk

This page is used to upload a floppy disk and check the status of available flash devices.

1. **[Refresh Status]**: Use this button to refresh the USB floppy or the flash device.
2. **[Choose File]**: Select an image file from your database to your console redirection.
3. After you have selected your image file, click on **[Upload]** to upload your image file to the server.

1. Displays a list of devices and their status (e.g. Device 1, Device 2, Device 3).

2. Click <Refresh Status> to refresh the Floppy Disk.

3. Click <Browse> to select an image file from a specified location for your console redirection.

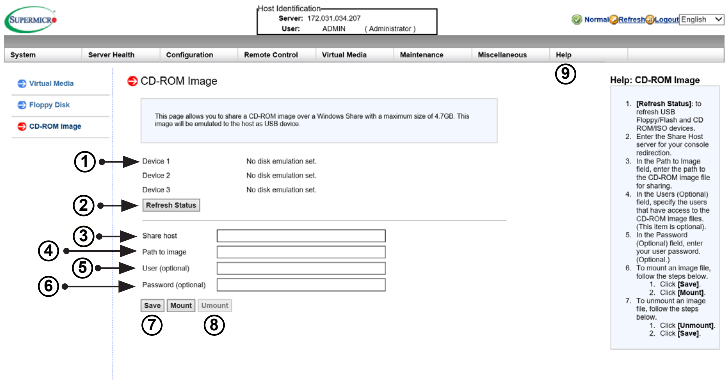
4. After you have selected your image file, click <Upload> to upload your image file to the server.

5. Click the <Help> tab to display the Help menu. The menu explains the function of each button on the page.

2-9-2 CD-ROM Image

For X10 or Newer Versions of Motherboards

This feature allows you to configure CD-ROM image files for sharing. When you click *CD-ROM Image* in the Options window, the following screen will display:



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

CD-ROM Image

This page allows you to share a CD-ROM image over a Windows Share with a maximum size of 4.7GB. This image will be emulated to the host as USB device.

Device 1 No disk emulation set.
Device 2 No disk emulation set.
Device 3 No disk emulation set.

Share host
Path to image
User (optional)
Password (optional)

Help: CD-ROM Image

1. **[Refresh Status]**: to refresh USB Floppy/Flash and CD ROM/ISO devices.
2. Enter the Share Host server for your console redirection.
3. In the Path to Image field, enter the path to the CD-ROM image file for sharing.
4. In the Users (Optional) field, specify the users that have access to the CD-ROM image files. (This item is optional).
5. In the Password (Optional) field, enter your user password. (Optional.)
6. To mount an image file, follow the steps below.
   1. Click **[Save]**.
   2. Click **[Mount]**.
7. To unmount an image file, follow the steps below.
   1. Click **[Unmount]**.
   2. Click **[Save]**.

1. Displays a list of devices and their status (e.g. Device 1, Device 2, Device 3).

2. Click <Refresh Status> to refresh *USB Floppy/Flash* and *CD ROM/ISO* devices.

3. Enter the *Share Host* server for your console redirection.

4. In the *Path to Image* field, enter the path to the CD-ROM image file for sharing.

5. In the *Users (Optional)* field, specify the users that have access to the CD-ROM image files. (This item is optional).

6. In the *Password (Optional)* field, enter your user password. (Optional)

7. To *mount* an image file, click <Save> and then <Mount>.

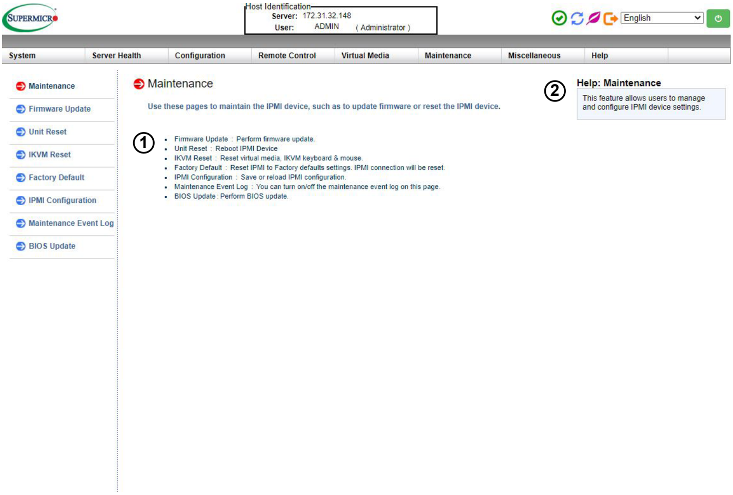
8. To *unmount* an image file, click <Unmount> and then <Save>.

9. Click the <Help> tab to display the Help menu. The menu includes instructions on how to share a CD-ROM image.

2-10 Maintenance

For X10 or Newer Versions of Motherboards

Use this feature to manage and configure BMC IPMI device settings. When you click *Maintenance* in the Options window, the following screen will display:



Host Identification
Server: 172.31.32.148
User: ADMIN (Administrator)

Maintenance

Use these pages to maintain the IPMI device, such as to update firmware or reset the IPMI device.

- Firmware Update : Perform firmware update.
- Unit Reset : Reboot IPMI Device
- IKVM Reset : Reset virtual media, IKVM keyboard & mouse.
- Factory Default : Reset IPMI to Factory defaults settings. IPMI connection will be reset.
- IPMI Configuration : Save or reload IPMI configuration.
- Maintenance Event Log : You can turn on/off the maintenance event log on this page.
- BIOS Update : Perform BIOS update.

Help: Maintenance

This feature allows users to manage and configure IPMI device settings.

1. This screen displays the following items:

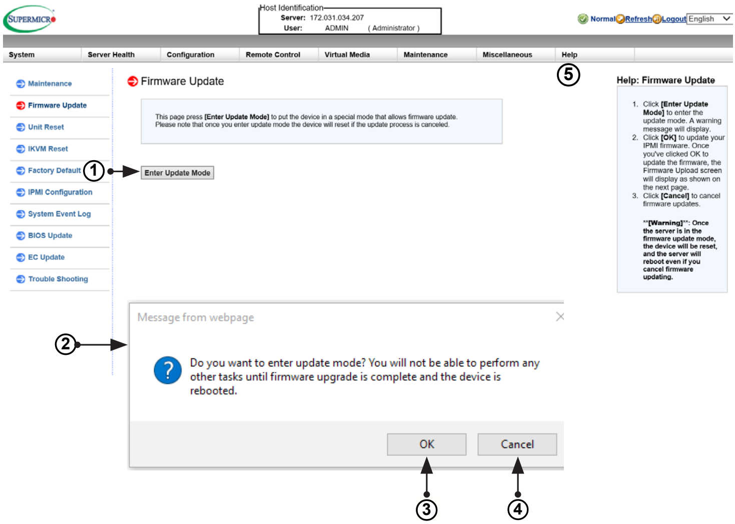
    - Firmware Update: Click this item to update the remote server's BMC firmware. The Firmware Update screen is shown in the next section.
    - Unit Reset: Click this item to reboot the BMC IPMI controller.
    - IKVM Reset: Click this item to reset the IKVM setting.
    - Factory Default: Click this item to restore BMC IPMI to the factory default settings.
    - IPMI Configuration: Click this item to save BMC IPMI configuration settings to a file or to load BMC IPMI configuration settings from a file.
    - System Event Log: Click this item to turn on or off the system event log.
    - UEFI BIOS Update: Click this item to update the UEFI BIOS.

2. Click the <Help> tab to display the Help menu for the *Maintenance* page.

2-10-1 Firmware Update

For X10 or Newer Versions of Motherboards

Use this feature to update the BMC IPMI firmware. When you click *Firmware Update* in the Options window, the following screen will display:



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

Firmware Update

This page press **[Enter Update Mode]** to put the device in a special mode that allows firmware update.
Please note that once you enter update mode the device will reset if the update process is canceled.

Help: Firmware Update

1. Click **[Enter Update Mode]** to enter the update mode. A warning message will display.
2. Click **[OK]** to update your IPMI firmware. Once you've clicked OK to update the firmware, the Firmware Upload screen will display as shown on the next page.
3. Click **[Cancel]** to cancel firmware updates.

****[Warning]**: Once the server is in the firmware update mode, the device will be reset, and the server will reboot even if you cancel firmware updating.**

Message from webpage

Do you want to enter update mode? You will not be able to perform any other tasks until firmware upgrade is complete and the device is rebooted.

To update BMC IPMI Firmware, follow the instructions below.

1. Click <Enter Update Mode>.

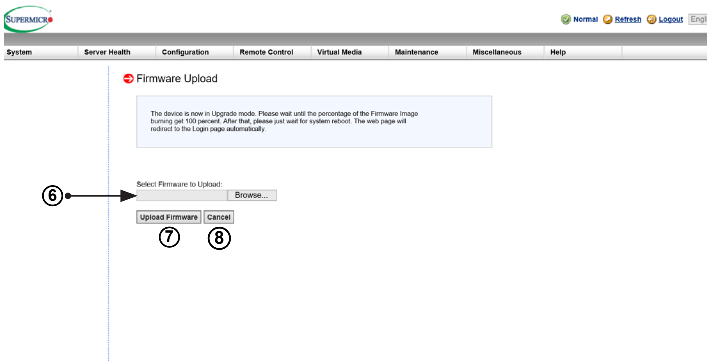
2. A dialog box will appear. It will ask: "Do you want to enter update mode?" Click <OK> to proceed with the update.

3. Click <OK> to update your BMC IPMI firmware. After you click <OK> to update the firmware, the *Firmware Upload* screen will display as shown on the next page.

4. Click <Cancel> to cancel firmware updates.

5. Click the <Help> tab to display the Help menu. The menu includes instructions on how to update the firmware.

After you click <OK> to update the BMC IPMI Firmware, the following Firmware Upload screen will display as shown below.



The device is now in Upgrade mode. Please wait until the percentage of the Firmware Image burning get 100 percent. After that, please just wait for system reboot. The web page will redirect to the Login page automatically.

6. Enter the name of the firmware you wish to upload. You can also select a firmware specified location by clicking <Choose File>.

7. Click <Upload Firmware> to upload the selected firmware to the host server.

Warning: To properly update your firmware, do not interrupt the process. The system will reboot after the firmware update is complete.

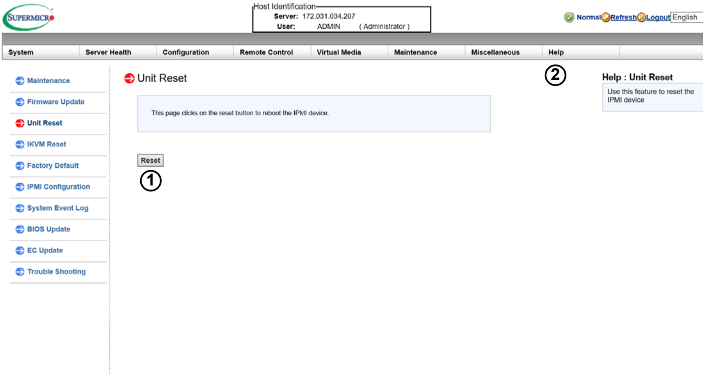
8. Click <Cancel> to abort firmware uploading.

Note: For documents concerning utility support such as Redfish, SMCIPMITool, SUM, SSM, IPMICFG, SPM, SuperDoctor, UEFI BIOS, RSD/SCC, TAS, and IPMIView, please refer to our website at https://www.supermicro.com/products/nfo/IPMI.cfm for details.

2-10-2 Unit Reset

For X10 or Newer Versions of Motherboards

Use this feature to reset the IPMI device. When you click *Unit Reset* in the Options window, the following screen will display:



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

Unit Reset

This page clicks on the reset button to reboot the IPMI device.

Help : Unit Reset

Use this feature to reset the IPMI device

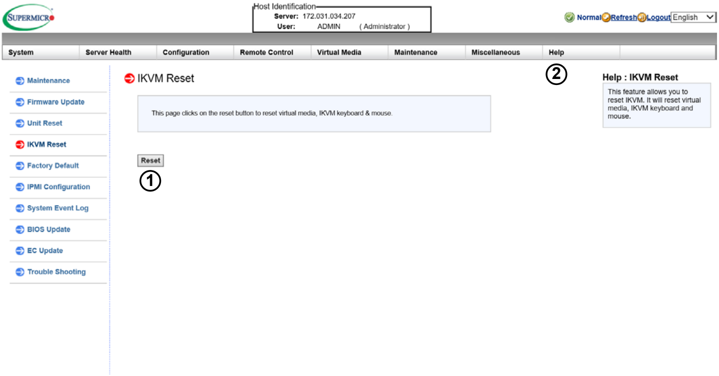
1. Click <Reset> to reset the IPMI device.

2. Click the <Help> tab to display the Help menu for the *Unit Reset* page.

2-10-3 IKVM Reset

For X10 or Newer Versions of Motherboards

This feature allows you to reset IKVM. It will reset virtual media as well as the IKVM keyboard and mouse. When you click *IKVM Reset* in the Options window, the following screen will display:



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

IKVM Reset

This page clicks on the reset button to reset virtual media, IKVM keyboard & mouse.

Help : IKVM Reset

This feature allows you to reset IKVM. It will reset virtual media, IKVM keyboard and mouse.

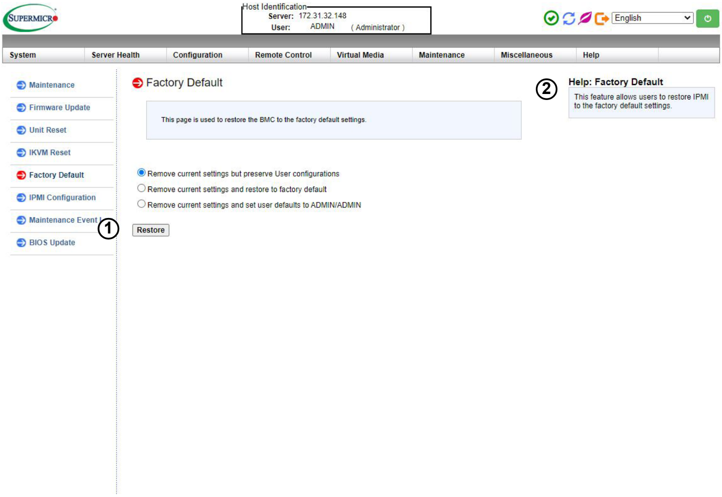
1. Click <Reset> to reset virtual media as well as the IKVM keyboard and mouse.

2. Click the <Help> tab to display the Help menu for the *IKVM Reset* page.

2-10-4 Factory Default

For X10 or Newer Versions of Motherboards

This feature allows the user to restore IPMI to factory default settings. When you click *Factory Default* in the Options window, the following screen will display:



Host Identification
Server: 172.31.32.148
User: ADMIN (Administrator)

Factory Default

This page is used to restore the BMC to the factory default settings.

● Remove current settings but preserve User configurations
○ Remove current settings and restore to factory default
○ Remove current settings and set user defaults to ADMIN/ADMIN

Help: Factory Default

This feature allows users to restore IPMI to the factory default settings.

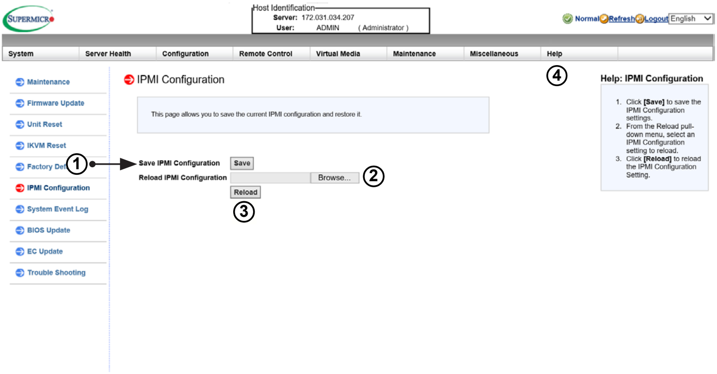
1. Click <Restore> to reset the IPMI to factory default settings. The IPMI connection will reset.

2. Click the <Help> tab to display the Help menu for the *Factory Default* page.

2-10-5 IPMI Configuration

For X10 or Newer Versions of Motherboards

This feature allows the user to save and restore IPMI configuration settings. When you click *IPMI Configuration* in the Options window, the following screen will display:



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

IPMI Configuration

This page allows you to save the current IPMI configuration and restore it.

Save IPMI Configuration

Reload IPMI Configuration

Help: IPMI Configuration

1. Click **[Save]** to save the IPMI Configuration settings.
2. From the Reload pull-down menu, select an IPMI Configuration setting to reload.
3. Click **[Reload]** to reload the IPMI Configuration Setting.

1. Click <Save> to save the current IPMI configuration.

2. Click <Choose file> to select a configuration from a specified location to reload.

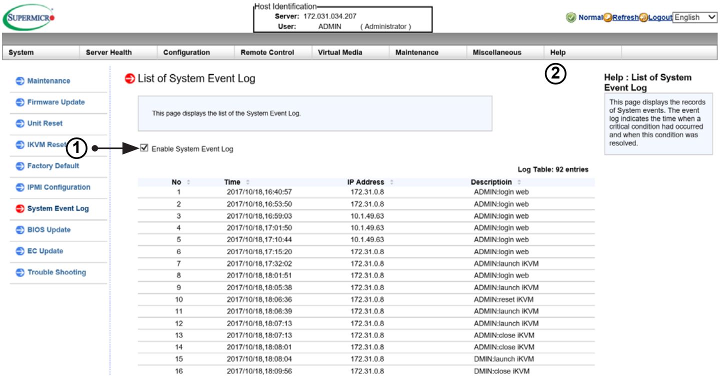
3. Click <Reload> to save the IPMI Configuration settings.

4. Click the <Help> tab to display the Help menu. The menu includes instructions on how to configure the IPMI configuration.

2-10-6 Maintenance Event Log

For X10 or Newer Versions of Motherboards

This feature displays the firmware event log. When you click *Maintenance Event Log* in the Options window, the following screen will display:



Host Identification
Server: 172.031.034.207
User: ADMIN (Administrator)

List of System Event Log

This page displays the list of the System Event Log.

☑ Enable System Event Log

Log Table: 92 entries

No	Time	IP Address	Descriptioin
1	2017/10/18,16:40:57	172.31.0.8	ADMIN:login web
2	2017/10/18,16:53:50	172.31.0.8	ADMIN:login web
3	2017/10/18,16:59:03	10.1.49.63	ADMIN:login web
4	2017/10/18,17:01:50	10.1.49.63	ADMIN:login web
5	2017/10/18,17:10:44	10.1.49.63	ADMIN:login web
6	2017/10/18,17:15:20	172.31.0.8	ADMIN:login web
7	2017/10/18,17:32:02	172.31.0.8	ADMIN:launch iKVM
8	2017/10/18,18:01:51	172.31.0.8	ADMIN:login web
9	2017/10/18,18:05:38	172.31.0.8	ADMIN:launch iKVM
10	2017/10/18,18:06:36	172.31.0.8	ADMIN:reset iKVM
11	2017/10/18,18:06:39	172.31.0.8	ADMIN:launch iKVM
12	2017/10/18,18:07:13	172.31.0.8	ADMIN:launch iKVM
13	2017/10/18,18:07:13	172.31.0.8	ADMIN:close iKVM
14	2017/10/18,18:08:01	172.31.0.8	ADMIN:close iKVM
15	2017/10/18,18:08:04	172.31.0.8	DMIN:launch iKVM
16	2017/10/18,18:09:56	172.31.0.8	DMIN:close iKVM

Help : List of System Event Log

This page displays the records of System events. The event log indicates the time when a critical condition had occurred and when this condition was resolved.

1. Check the <Enable Maintenace Event Log> box to display the records of system events.

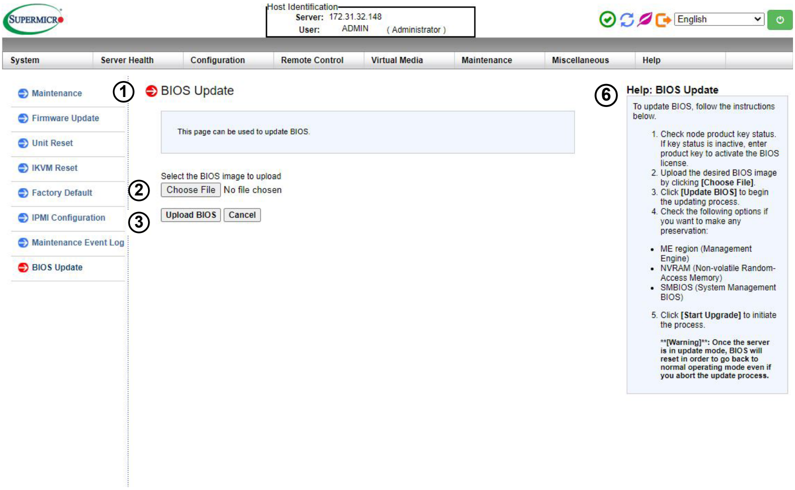
2. Click the <Help> tab to display the Help menu for the *Maintenance Event Log* page.

2-10-7 BIOS Update

This feature allows the user to update the BIOS. When you click *BIOS Update* in the Options window, the following screen will display:

Note 1: For the BIOS update to take effect, please reboot the system.

Note 2: Once the server is in update mode, BIOS will revert back to normal operating mode even if you abort the update process.



BIOS Update

This page can be used to update BIOS.

Select the BIOS image to upload

Choose File No file chosen

Help: BIOS Update

To update BIOS, follow the instructions below.

1. Check node product key status. If key status is inactive, enter product key to activate the BIOS license.
2. Upload the desired BIOS image by clicking **[Choose File]**.
3. Click **[Update BIOS]** to begin the updating process.
4. Check the following options if you want to make any preservation:

- ME region (Management Engine)
- NVRAM (Non-volatile Random-Access Memory)
- SMBIOS (System Management BIOS)

5. Click **[Start Upgrade]** to initiate the process.

****[Warning]**: Once the server is in update mode, BIOS will reset in order to go back to normal operating mode even if you abort the update process.**

1. Check the status of the node product key. If key status is inactive, enter the product key to activate the SFT-OOB-LIC license.

2. Click <Choose File> to select a BIOS image to upload.

3. Click <Upload BIOS> to begin updating.

4. Check the following options if you want to make any preservation:

   - ME region (Management)

   - NVRAM (Non-volatile Random-Access Memory)

   - SMBIOS (System Management BIOS)

5. Click <Start Upgrade> to initiate the process.

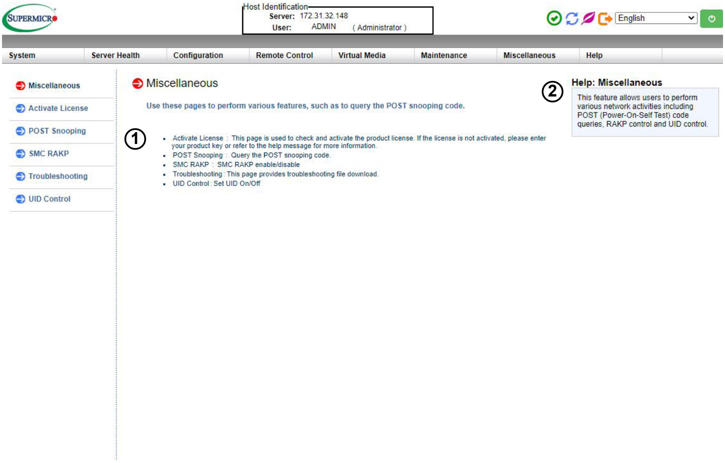
6. Click the <Help> tab to display the Help menu for the *BIOS Update* page.

Note: X9 UP (Uni-processor) motherboards do not support this feature. This feature is only available on the X9DP (dual-processor) motherboards.

UEFI BIOS Fea-	Support
OOB Flash UEFI	N
OOB Update Setting	N
OOB Change SMUEFI	N
InBand Flash UEFI	N
InBand Update Setting	N
InBand Change SMUEFI	N
InBand SMI E7h support	N

2-11 Miscellaneous

This screen displays various features that the user can perform. When you click *Miscellaneous* in the Options window, the following screen will display:



Host Identification
Server: 172.31.32.148
User: ADMIN (Administrator)

Miscellaneous

Use these pages to perform various features, such as to query the POST snooping code.

- Activate License : This page is used to check and activate the product license. If the license is not activated, please enter your product key or refer to the help message for more information.
- POST Snooping : Query the POST snooping code.
- SMC RAKP : SMC RAKP enable/disable
- Troubleshooting : This page provides troubleshooting file download.
- UID Control : Set UID On/Off

Help: Miscellaneous

This feature allows users to perform various network activities including POST (Power-On-Self Test) code queries, RAKP control and UID control.

1. This screen displays the following information:

   - Activate License: Input the license key to enable advanced features such as UEFI BIOS update and RAID management.

   - Post Snooping: Query the post snooping code.

   - SMC RAKP: Use this feature to enable or disable RAKP (Remote Authenticated Key-Exchange Protocol). If this feature is enabled, it will use SMC RAKP and standard RAKP protocol will be disabled.

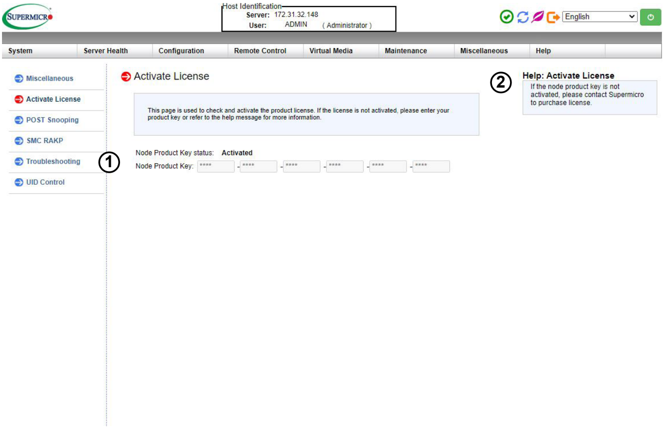
   - UID Control: Turn on or off the UID on this page.

2. Click the <Help> tab to display the Help menu for the Miscellaneous page.

2-11-1 Activate License

For X10 or Newer Versions of Motherboards

This page displays the Node Product Key. Enter the license key to enable features such as OOB (Out of Band) UEFI BIOS update and RAID management. The optional license key is a paid feature. The part number for the license key is SFT-OOB-LIC and can be purchased from the Supermicro Sales department or a reseller. One license key can be only used for one motherboard.



Activate License

This page is used to check and activate the product license. If the license is not activated, please enter your product key or refer to the help message for more information.

Node Product Key status: Activated

Node Product Key: **** - **** - **** - **** - **** - ****

Help: Activate License

If the node product key is not activated, please contact Supermicro to purchase license.

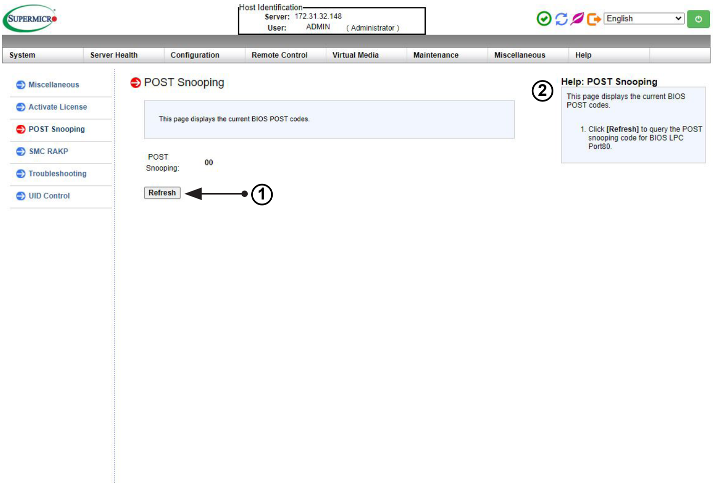
1. This feature displays the Node Product Key.

2. Click the <Help> tab to display the Help menu for the Activate License page.

2-11-2 Post Snooping

For X10 or Newer Versions of Motherboards

This page displays the current UEFI BIOS code. When you click *Post Snooping* in the Options window, the following screen will display:



This page displays the current BIOS POST codes.

POST Snooping: 00

This page displays the current BIOS POST codes.

1. Click **[Refresh]** to query the POST snooping code for BIOS LPC Port80.

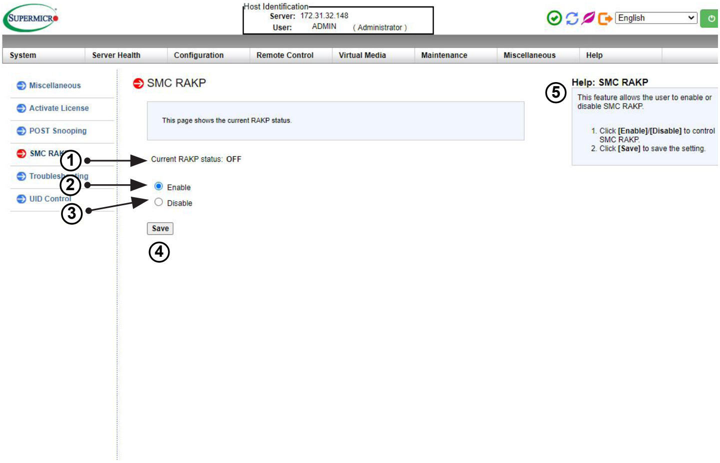
1. Displays the current UEFI BIOS code.

2. Click the <Help> tab to display the Help menu for the Post Snooping page.

2-11-3 SMC RAKP

For X10 or Newer Versions of Motherboards

This feature allows the user to enable or disable the SMC RAKP (Remote Authenticated Key-Exchange Protocol). The OEM version of SMC RAKP has stronger encryption and SMCIPMITOOL can be used to execute the commands. If this feature is enabled, it will use SMC RAKP and standard RAKP protocol will be disabled. This means that users will no longer be able to use ipmitool with the standard RAKP method. When you click SMC RAKP in the Options window, the following screen will display:



Host Identification
Server: 172.31.32.148
User: ADMIN (Administrator)

SMC RAKP

This page shows the current RAKP status.

Current RAKP status: OFF

● Enable
○ Disable

Help: SMC RAKP

This feature allows the user to enable or disable SMC RAKP.

1. Click **[Enable]**/**[Disable]** to control SMC RAKP.
2. Click **[Save]** to save the setting.

1. This feature displays the current SMC RAKP status.

2. Click <Enable> to enable SMC RAKP.

3. Click <Disable> to disable SMC RAKP.

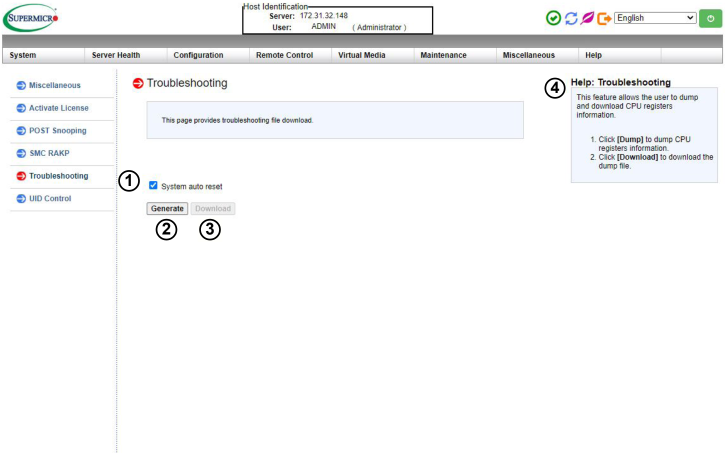
4. Click <Save> to save the changes.

5. Click the <Help> tab to display the Help menu. The menu includes instructions on how to enable or disable SMC RAKP.

2-11-4 Troubleshooting

For X10 or Newer Versions of Motherboards

This feature allows the user to troubleshoot file downloads after the system has crashed. The downloaded file can then be sent to Supermicro for review. When you click *Troubleshooting* in the Options window, the following screen will display:



This page provides troubleshooting file download.

This feature allows the user to dump and download CPU registers information.

1. Click **[Dump]** to dump CPU registers information.
2. Click **[Download]** to download the dump file.

1. Check the box to enable System auto-reset.

2. Click <Generate> to generate files after a system crash. If your system has not crashed, nothing will generate.

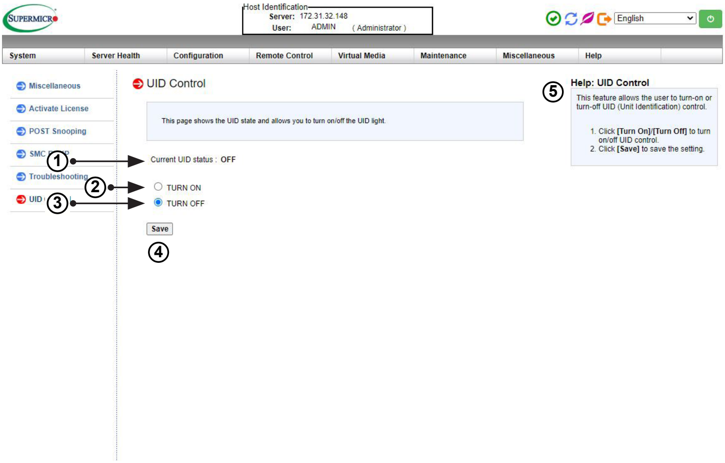
3. Click <Download> to download the file after a system crash. If your system has not crashed, <Download> will remain grayed out.

4. Click the <Help> tab to display the Help menu.

2-11-5 UID Control

For X10 or Newer Versions of Motherboards

This feature allows the user to turn on or off the UID (Unit Identification). When you click *UID Control* in the Options window, the following screen will display:



Server: 172.31.32.148
User: ADMIN (Administrator)

This page shows the UID state and allows you to turn on/off the UID light.

Current UID status : OFF

○ TURN ON
● TURN OFF

Help: UID Control

This feature allows the user to turn-on or turn-off UID (Unit Identification) control.

1. Click **[Turn On]/[Turn Off]** to turn on/off UID control.
2. Click **[Save]** to save the setting.

1. This feature displays the current UID status.

2. Click <TURN ON> to support the UID feature.

3. Click <TURN OFF> to turn off UID support.

4. Click <Save> to save the settings.

5. Click the <Help> tab to display the Help menu. The menu includes instructions on how to turn on or off the UID.

Chapter 3

Frequently Asked Questions

3-1 Frequently Asked Questions

Question: How do I flash the BMC IPMI firmware?

Answer:

1. Click the <Maintenance> button. Browse the files available and select the correct file to flash the firmware.

2. Click the <Update Firmware> button to proceed with firmware flashing.

Question: If I am using a firewall for my network connections, which ports should I open so that I can access my BMC IPMI connection?

Answer: In order to access your BMC IPMI connection behind a firewall, please open the following ports:

HTTP: 80 (TCP)

HTTPS: 443 (TCP)

BMC IPMI: 623 (UDP)

Remote console: 5900 (TCP)

Virtual media: 623 (TCP)

SMASH: 22 (TCP)

WS-MAN: 8889 (TCP)

Question: When I update the BMC IPMI firmware through the web, why do I get a file download pop-up even though the firmware was not updated?

Answer: This may be caused by your anti-virus software. Disable your anti-virus software temporarily and update your firmware.

Question: My system seems to function properly. Why does the BMC IPMI event log indicate that my voltage and temperatures are beyond the limits?

Answer: It is not a normal condition. Make sure that there is no other device accessing the I^{2}C bus. If another device accesses the I^{2}C bus frequently, it might cause a collision with the BMC when this device accesses the I^{2}C bus. When you see this error, please uninstall lm_sensors in the Linux.

Appendix A

Flash Tools

A-1 Overview

This chapter provides instructions on how to use ATEN Flash Tools, which supports firmware updates and firmware dumping.

Firmware Updates

The ATEN Flash Tools utility provides a complete solution for firmware updates. The users can flash the firmware using DOS, Windows, or Linux. In addition, Windows and Linux allow the user to update the firmware via LAN or KCS.

Firmware Dumping

Firmware dumping is supported by DOS, Windows, and Linux. In addition to firmware updating, ATEN Flash Tools also supports firmware dumping from the BMC (Baseboard Management Controller). You can use this feature to back up the firmware by *dumping* the current version of the firmware to an archive folder before updating to a new version. It will also allow you to flash other BMCs in the factory for mass production.

Note: For documents concerning utility support such as Redfish, SMCIPMI-Tool, SUM, SSM, IPMICFG, SPM, SuperDoctor, UEFI UEFI BIOS, RSD/SCC, TAS, and IPMIView, please refer to our website at https://www.supermicro.com/products/nfo/IPMI.cfm for details.

A-2 Reference

ATEN Flash Tools Utility was built in reference to the IPMI - Intelligent Platform Management Interface Specification Second Generation v2.0, Document Revision 1.0, February 12, 2004, by Intel, Hewlett-Packard, NEC, and Dell.

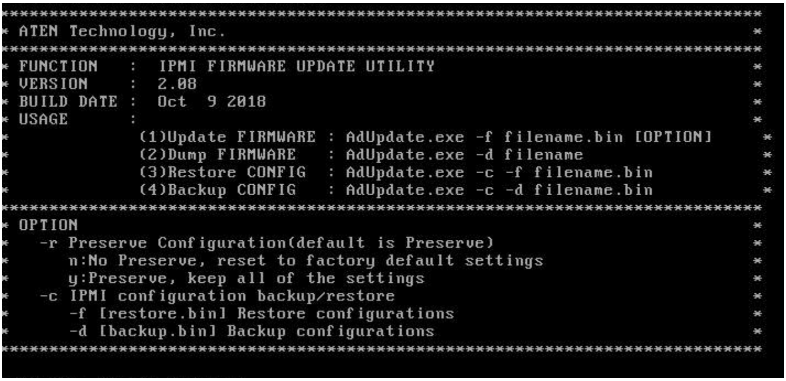
A-3 Using ATEN Flash Tools in the DOS Environment

To use the ATEN Flash Tools in DOS, follow the steps below:

1. At the command line prompt, type “cd /specify location” to change to the directory where the flash tool is located. Example: “cd /temp”

2. At the command line prompt, type "AdUpdate.exe" and press <Enter>.

3. The information about the utility will be displayed. Follow the instructions given on the screen to configure the settings as shown in Figure 1.



```
*****************************************************************************
* ATEN Technology, Inc.                                                     *
*****************************************************************************
* FUNCTION   :  IPMI FIRMWARE UPDATE UTILITY                                *
* VERSION    :  2.08                                                        *
* BUILD DATE :  Oct  9 2018                                                 *
* USAGE      :                                                              *
*             (1)Update FIRMWARE : AdUpdate.exe -f filename.bin [OPTION]     *
*             (2)Dump FIRMWARE   : AdUpdate.exe -d filename                  *
*             (3)Restore CONFIG  : AdUpdate.exe -c -f filename.bin           *
*             (4)Backup CONFIG   : AdUpdate.exe -c -d filename.bin           *
*****************************************************************************
* OPTION                                                                    *
*   -r Preserve Configuration(default is Preserve)                          *
*      n:No Preserve, reset to factory default settings                     *
*      y:Preserve, keep all of the settings                                 *
*   -c IPMI configuration backup/restore                                    *
*      -f [restore.bin] Restore configurations                              *
*      -d [backup.bin] Backup configurations                                *
*****************************************************************************
```

Figure 1: BMC IPMI Firmware Updates Utility in DOS - Main Screen

The main screen of the BMC IPMI Update Utility for DOS (above) displays the version and the built date of the utility currently used in the system. The DOS version of Flash Tools Utility allows the user to update or dump the firmware via KCS channels.

Firmware Updating via KCS Channels

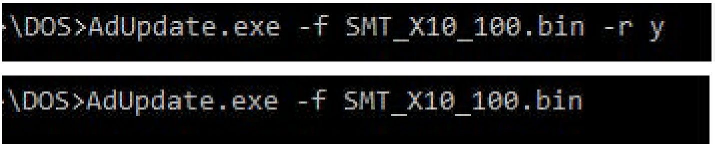
To update your firmware via KCS (Keyboard Controller Style), type <dUpdate.exe –f [filename.bin] *–r y*.>. After entering this command, a screen will display as shown in Figure 2.

1. –f: Type <-f> to enter the file name of the firmware that you want to update.

2. –r: Type <-r> to preserve the configuration settings you've chosen. This feature is optional. The default setting is to "preserve" the configuration.

3. y: Type <y> for the BMC to keep all settings after the firmware is updated; otherwise, the BMC will reset all settings to factory default.

After you have entered the commands above, ATEN Flash Tools will start to update the firmware. There are two phases in firmware updating.

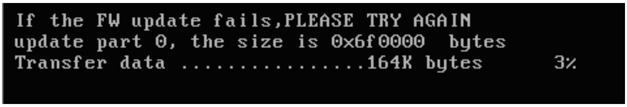


```
\DOS>AdUpdate.exe -f SMT_X10_100.bin -r y
```

```
\DOS>AdUpdate.exe -f SMT_X10_100.bin
```

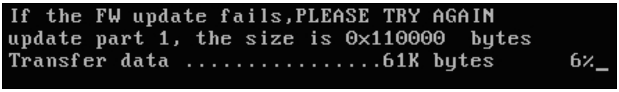
Figure 2: Examples of Firmware Updates with or without the "Preserved" Command

1. Phase 1 is to transfer the FW image file to the BMC. In this phase, Flash Tools will transfer three parts to the BMC as shown in Figure 3, Figure 4 and Figure 5.



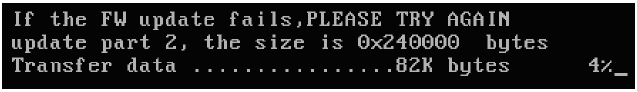
```
If the FW update fails,PLEASE TRY AGAIN
update part 0, the size is 0x6f0000  bytes
Transfer data ...............164K bytes      3%
```

Figure 3: Transferring (Part 0)



```
If the FW update fails,PLEASE TRY AGAIN
update part 1, the size is 0x110000  bytes
Transfer data ...............61K bytes       6%_
```

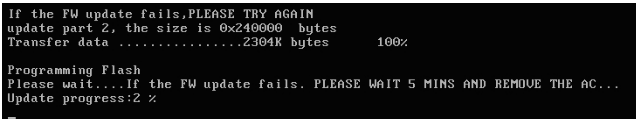
Figure 4: Transferring (Part 1)



```
If the FW update fails,PLEASE TRY AGAIN
update part 2, the size is 0x240000  bytes
Transfer data ...............82K bytes       4%_
```

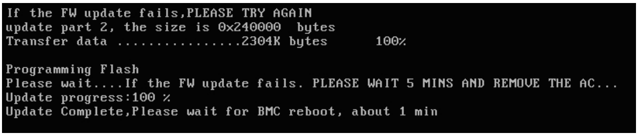
Figure 5: Transferring (Part 2)

2. Phase 2 is to flash the new firmware. The progress of firmware updating will be displayed as shown in Figure 6. After the firmware is completely updated, the BMC will reboot. Please wait for the BMC to complete system reboot (Figure 7).



```
If the FW update fails,PLEASE TRY AGAIN
update part 2, the size is 0x240000  bytes
Transfer data ...............2304K bytes      100%

Programming Flash
Please wait....If the FW update fails. PLEASE WAIT 5 MINS AND REMOVE THE AC...
Update progress:2 %
```

Figure 6: Progress of Firmware Updating

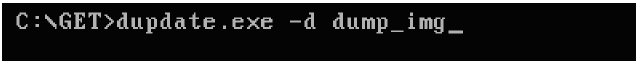


```
If the FW update fails,PLEASE TRY AGAIN
update part 2, the size is 0x240000  bytes
Transfer data ...............2304K bytes      100%

Programming Flash
Please wait....If the FW update fails. PLEASE WAIT 5 MINS AND REMOVE THE AC...
Update progress:100 %
Update Complete,Please wait for BMC reboot, about 1 min
```

Figure 7: Updates Completed

Dumping Firmware from the BMC via KCS channels

The user can dump the firmware by typing <dupdate.exe –d [filename].>. Flash Tools will dump the firmware into the file that the user has assigned in the previous command. In the example given in Figure 8, Flash Tools will dump the firmware to dump_img.



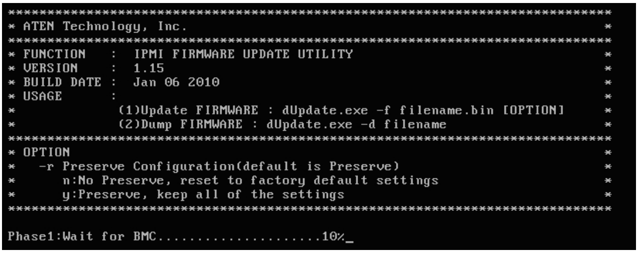
```
C:\GET>dupdate.exe -d dump_img_
```

Figure 8: Example of Firmware Dumping via KCS

There are two phases in firmware dumping.

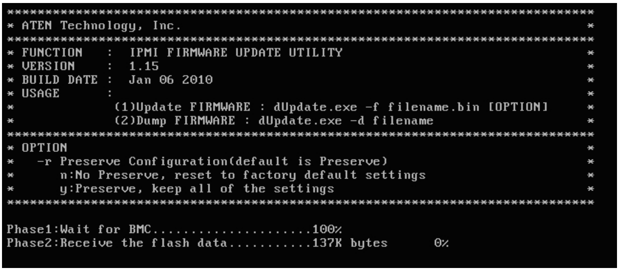
1. During Phase 1, the Flash Tools Utility is waiting for the BMC to prepare the firmware for dumping. As soon as preparation is complete, the Flash Tools Utility will enter Phase 2.

2. In Phase 2, the Flash Tools utility gets the firmware from the BMC. The user can see the progress on the screen as shown in Figure 10.



```
******************************************************************************
* ATEN Technology, Inc.                                                      *
******************************************************************************
* FUNCTION   :  IPMI FIRMWARE UPDATE UTILITY                                 *
* VERSION    :  1.15                                                         *
* BUILD DATE :  Jan 06 2010                                                  *
* USAGE      :                                                               *
*             (1)Update FIRMWARE : dUpdate.exe -f filename.bin [OPTION]      *
*             (2)Dump FIRMWARE : dUpdate.exe -d filename                     *
******************************************************************************
* OPTION                                                                     *
*   -r Preserve Configuration(default is Preserve)                           *
*      n:No Preserve, reset to factory default settings                      *
*      y:Preserve, keep all of the settings                                  *
******************************************************************************

Phase1:Wait for BMC....................10%_
```

Figure 9: Phase 1- Flash Tools Waiting for the BMC to Prepare Data



```
*****************************************************************************
* ATEN Technology, Inc.                                                     *
*****************************************************************************
* FUNCTION   :  IPMI FIRMWARE UPDATE UTILITY                                *
* VERSION    :  1.15                                                        *
* BUILD DATE :  Jan 06 2010                                                 *
* USAGE      :                                                              *
*             (1)Update FIRMWARE : dUpdate.exe -f filename.bin [OPTION]     *
*             (2)Dump FIRMWARE : dUpdate.exe -d filename                    *
*****************************************************************************
* OPTION                                                                    *
*   -r Preserve Configuration(default is Preserve)                          *
*      n:No Preserve, reset to factory default settings                     *
*      y:Preserve, keep all of the settings                                 *
*****************************************************************************

Phase1:Wait for BMC.....................100%
Phase2:Receive the flash data...........137K bytes      0%
```

Figure 10: Flash Tools Dumping the Firmware

A-4 Using ATEN Flash Tools in Windows

In addition to DOS, ATEN's Flash Tools Utility supports Windows platforms.

The Windows version of Flash Tools Utility provides the same features supported by the DOS version. In addition, it also allows the user to update the firmware via LAN connections.

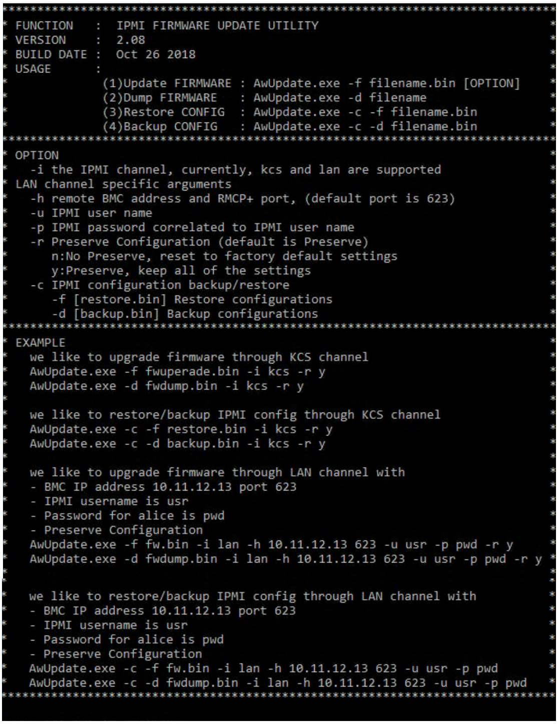
To use the ATEN Flash Tools in Windows, follow the steps below:

1. For Windows, start the Command Prompt.

2. At the command line prompt, type “cd /specify location” to change to the directory where the flash tool is located. Example: “cd /temp”.

3. At the command line prompt, type "AwUpdate.exe" and press <Enter>.

4. The information about the utility will display. Follow the instructions given on the screen to configure the settings as shown in Figure 11.



```
*****************************************************************************
* FUNCTION   :  IPMI FIRMWARE UPDATE UTILITY                                *
* VERSION    :  2.08                                                        *
* BUILD DATE :  Oct 26 2018                                                 *
* USAGE      :                                                              *
*             (1)Update FIRMWARE : AwUpdate.exe -f filename.bin [OPTION]    *
*             (2)Dump FIRMWARE   : AwUpdate.exe -d filename                 *
*             (3)Restore CONFIG  : AwUpdate.exe -c -f filename.bin          *
*             (4)Backup CONFIG   : AwUpdate.exe -c -d filename.bin          *
*****************************************************************************
* OPTION                                                                    *
*   -i the IPMI channel, currently, kcs and lan are supported               *
* LAN channel specific arguments                                            *
*   -h remote BMC address and RMCP+ port, (default port is 623)             *
*   -u IPMI user name                                                       *
*   -p IPMI password correlated to IPMI user name                           *
*   -r Preserve Configuration (default is Preserve)                         *
*      n:No Preserve, reset to factory default settings                     *
*      y:Preserve, keep all of the settings                                 *
*   -c IPMI configuration backup/restore                                    *
*      -f [restore.bin] Restore configurations                              *
*      -d [backup.bin] Backup configurations                                *
*****************************************************************************
* EXAMPLE                                                                   *
*   we like to upgrade firmware through KCS channel                         *
*   AwUpdate.exe -f fwuperade.bin -i kcs -r y                               *
*   AwUpdate.exe -d fwdump.bin -i kcs -r y                                  *
*                                                                           *
*   we like to restore/backup IPMI config through KCS channel               *
*   AwUpdate.exe -c -f restore.bin -i kcs -r y                              *
*   AwUpdate.exe -c -d backup.bin -i kcs -r y                               *
*                                                                           *
*   we like to upgrade firmware through LAN channel with                    *
*   - BMC IP address 10.11.12.13 port 623                                   *
*   - IPMI username is usr                                                  *
*   - Password for alice is pwd                                             *
*   - Preserve Configuration                                                *
*   AwUpdate.exe -f fw.bin -i lan -h 10.11.12.13 623 -u usr -p pwd -r y     *
*   AwUpdate.exe -d fwdump.bin -i lan -h 10.11.12.13 623 -u usr -p pwd -r y *
*                                                                           *

*   we like to restore/backup IPMI config through LAN channel with          *
*   - BMC IP address 10.11.12.13 port 623                                   *
*   - IPMI username is usr                                                  *
*   - Password for alice is pwd                                             *
*   - Preserve Configuration                                                *
*   AwUpdate.exe -c -f fw.bin -i lan -h 10.11.12.13 623 -u usr -p pwd       *
*   AwUpdate.exe -c -d fwdump.bin -i lan -h 10.11.12.13 623 -u usr -p pwd   *
*****************************************************************************
```

Figure 11: Main Screen of Flash Tools (Windows Version)

In the Windows version of the Flash Tools Utility, there are six parameters:

1. –f: Type <-f> to enter the filename of the firmware that you want to update.

2. –i: -i indicates the BMC IPMI channel. Currently, KCS and LAN connections are supported. If a LAN connection is used, the user needs to enter the following parameters:

3. –h: Type <-h> to enter the addresses of the remote BMC IPMI and the RMCP+ port (default port is 623).

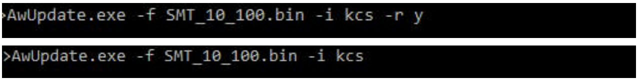
4. –u: Type <-u> to enter the BMC IPMI username.

5. –p: Type <-p> to enter the password for the BMC IPMI user.

6. –r: Type <-r> to preserve (to save) the configuration settings you've entered. (This feature is optional.) (Default: preserve configuration.)

7. -y: Type <-y> for the BMC IPMI to keep all settings after updating the firmware; otherwise, the BMC will reset the settings to factory default.

To connect BMC IPMI via KCS, type <wUpdate.exe/lUpdate –f [filename.bin] –I kcs –r y> as shown in Figure 12.

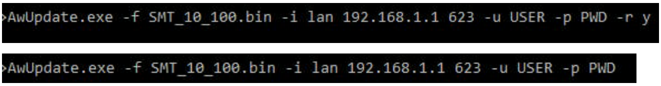


```
>AwUpdate.exe -f SMT_10_100.bin -i kcs -r y
```

```
>AwUpdate.exe -f SMT_10_100.bin -i kcs
```

Figure 12: Example of KCS FW Updates with/without Preserving Configuration

To connect BMC IPMI via LAN, type <wUpdate.exe/lUpdatewUpdate.exe -f [filename.bin] -i lan -h 192.168.46.65 623 -u alice -p secret -r y> as shown in Figure 13.



```
>AwUpdate.exe -f SMT_10_100.bin -i lan 192.168.1.1 623 -u USER -p PWD -r y
```

```
>AwUpdate.exe -f SMT_10_100.bin -i lan 192.168.1.1 623 -u USER -p PWD
```

Figure 13: Example of LAN_FW_Updates with/without Preserving Configuration and RMCP+ Port

For other settings, please refer to their counterparts in the DOS version for configuration instructions.

A-5 Using ATEN Flash Tools in Linux

In addition to DOS, ATEN's Flash Tools Utility supports Linux platforms.

The Linux version of Flash Tools Utility provides the same features supported by the DOS version. In addition, it also allows the user to update the firmware via LAN connections.

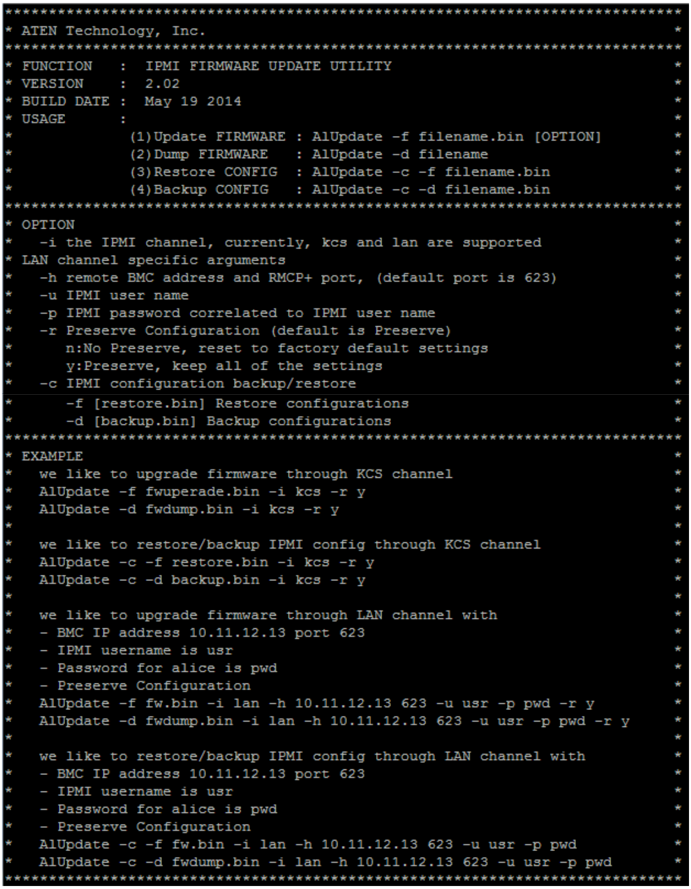
To use the ATEN Flash Tools in Linux, follow the steps below:

1. For Linux, start the Terminal.

2. At the command line prompt, type “cd /specify location” to change to the directory where the flash tool is located. Example: “cd /temp”

3. At the command line prompt, type "AlUpdate.exe" and press <Enter>.

4. The information about the utility will display. Follow the instructions given on the screen to configure the settings as shown in Figure 14.



```
*****************************************************************************
* ATEN Technology, Inc.                                                     *
*****************************************************************************
* FUNCTION   :  IPMI FIRMWARE UPDATE UTILITY                                *
* VERSION    :  2.02                                                        *
* BUILD DATE :  May 19 2014                                                 *
* USAGE      :                                                              *
*             (1)Update FIRMWARE : AlUpdate -f filename.bin [OPTION]        *
*             (2)Dump FIRMWARE   : AlUpdate -d filename                     *
*             (3)Restore CONFIG  : AlUpdate -c -f filename.bin              *
*             (4)Backup CONFIG   : AlUpdate -c -d filename.bin              *
*****************************************************************************
* OPTION                                                                    *
*   -i the IPMI channel, currently, kcs and lan are supported               *
* LAN channel specific arguments                                            *
*   -h remote BMC address and RMCP+ port, (default port is 623)             *
*   -u IPMI user name                                                       *
*   -p IPMI password correlated to IPMI user name                           *
*   -r Preserve Configuration (default is Preserve)                         *
*      n:No Preserve, reset to factory default settings                     *
*      y:Preserve, keep all of the settings                                 *
*   -c IPMI configuration backup/restore                                    *
*      -f [restore.bin] Restore configurations                              *
*      -d [backup.bin] Backup configurations                                *
*****************************************************************************
* EXAMPLE                                                                   *
*   we like to upgrade firmware through KCS channel                         *
*   AlUpdate -f fwuperade.bin -i kcs -r y                                   *
*   AlUpdate -d fwdump.bin -i kcs -r y                                      *
*                                                                           *
*   we like to restore/backup IPMI config through KCS channel               *
*   AlUpdate -c -f restore.bin -i kcs -r y                                  *
*   AlUpdate -c -d backup.bin -i kcs -r y                                   *
*                                                                           *
*   we like to upgrade firmware through LAN channel with                    *
*   - BMC IP address 10.11.12.13 port 623                                   *
*   - IPMI username is usr                                                  *
*   - Password for alice is pwd                                             *
*   - Preserve Configuration                                                *
*   AlUpdate -f fw.bin -i lan -h 10.11.12.13 623 -u usr -p pwd -r y         *
*   AlUpdate -d fwdump.bin -i lan -h 10.11.12.13 623 -u usr -p pwd -r y     *
*                                                                           *
*   we like to restore/backup IPMI config through LAN channel with          *
*   - BMC IP address 10.11.12.13 port 623                                   *
*   - IPMI username is usr                                                  *
*   - Password for alice is pwd                                             *
*   - Preserve Configuration                                                *
*   AlUpdate -c -f fw.bin -i lan -h 10.11.12.13 623 -u usr -p pwd           *
*   AlUpdate -c -d fwdump.bin -i lan -h 10.11.12.13 623 -u usr -p pwd       *
*****************************************************************************
```

Figure 14: Main Screen of Flash Tools (Linux Version)

In the Linux version of the Flash Tools Utility, there are six parameters:

1. –f: Type <-f> to enter the filename of the firmware that you want to update.

2. –i: -i indicates the BMC IPMI channel. Currently, KCS and LAN connections are supported. If a LAN connection is used, the user needs to enter the following parameters:

3. –h: Type <-h> to enter the addresses of the remote BMC IPMI and the RMCP+ port (default port is 623).

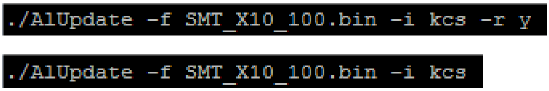
4. –u: Type <-u> to enter the BMC IPMI username.

5. –p: Type <-p> to enter the password for the BMC IPMI user.

6. –r: Type <-r> to preserve (to save) the configuration settings you've entered. (This feature is optional.) (Default: preserve configuration.)

7. -y: Type <-y> for the BMC IPMI to keep all settings after updating the firmware; otherwise, the BMC will reset the settings to factory default.

To connect BMC IPMI via KCS, type <wUpdate.exe/lUpdate –f [filename.bin] –l kcs –r y> as shown in Figure 15.

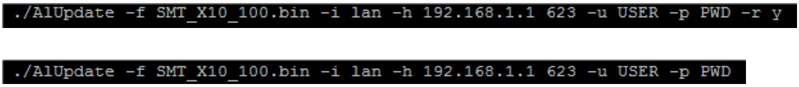


```
./AlUpdate -f SMT_X10_100.bin -i kcs -r y
```

```
./AlUpdate -f SMT_X10_100.bin -i kcs
```

Figure 15: Example of KCS FW Updates with/without Preserving Configuration

To connect BMC IPMI via LAN, type <wUpdate.exe/lUpdatewUpdate.exe -f [filename.bin] -i lan -h 192.168.46.65 623 -u alice -p secret -r y> as shown in Figure 16.



```
./AlUpdate -f SMT_X10_100.bin -i lan -h 192.168.1.1 623 -u USER -p PWD -r y
```

```
./AlUpdate -f SMT_X10_100.bin -i lan -h 192.168.1.1 623 -u USER -p PWD
```

Figure 16: Example of LAN_FW_Updates with/without Preserving Configuration and RMCP+ Port

For other settings, please refer to their counterparts in the DOS version for configuration instructions.

Appendix B

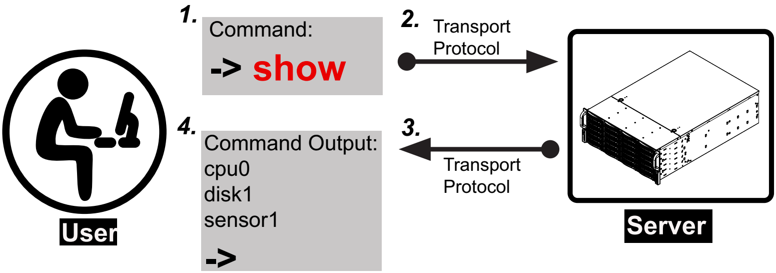
Introduction to SMASH

B-1 Overview

The SMASH (System Management Architecture for Server Hardware) platform, developed by Distributed Management Task Force, Inc. (DMTF), delivers a host of architecture-based and industry-standard protocols that will allow IT professionals to simplify the task of managing multiple network systems in a data center. This platform offers a simple, intuitive solution to manage heterogeneous servers in a web environment regardless of their differences in hardware, software, OS, or network configuration. It also provides the end-user and the ISV community with interoperable management technology for multi-vendor server platforms.

How SMASH works

SMASH simplifies typical SMASH scripts by reducing commands to simple verbs. Although designed to manage multi-servers as a whole, SMASH can address individual components in a specific machine by using the SSH command-line protocol. Even when multiple processors, add-on cards, logical devices, and cooling systems are installed in a server, SMASH can be directed at a particular component in the server. A manager can use a text console to access, monitor, and manage all servers that are connected to the same SSL connection. This platform can be programmed to periodically check all sensors in all machines or monitor a particular component in a specific server at any time. By adjusting the scope of tasks and the schedules of monitoring, SMASH allows the IT professionals to effectively manage multi-system clusters, minimize power consumption, and achieve system management efficiency.



```
Command:
-> show
```

```
Command Output:
cpu0
disk1
sensor1
->
```

Figure 1 SMASH-CLP User Interface

SMASH Compliance Information

The SMASH platform documented in this user's guide is developed in reference to and in compliance with the SMASH Initiative Standards based on the following DMTF documents.

- System Management Architecture for Server Hardware (SMASH) Command Line Protocol (CLP) Architecture White Paper (DSP 2001)
- SM CLP Specification (DSP 0214)
- SM ME Addressing Specifications (DSP 0215)
- SM SLP to CIM Common Mapping Specification (DSP 0216)
- Common Information Model (CIM) Infrastructure Specification (DSP0004)
- The Secure Shell (SSH) Protocol Architecture (RFC4251)
- The Secure Shell (SSH) Connection Protocol (RFC4254)

B-2 An Important Note to the User

The information included in this user's guide provides a general guideline on how to use the SMASH protocol for your system management. Instructions given in this document may or may not be applicable to your system depending on the configuration of the system or the environment it operates in.

For documents concerning utility support such as Redfish, SMCIPMITool, SUM, SSM, IPMICFG, SPM, SuperDoctor, UEFI BIOS, RSD/SCC, TAS, and IPMIView, please refer to our website at https://www.supermicro.com/products/nfo/IPMI.cfm for details.

B-3 Using SMASH

This section provides a general guideline on how to use SMASH for your system management in a web-based environment. Refer to the SMASH script provided below to curtail a server management protocol for your systems.

Note: The instructions listed below are applicable to both Windows and Linux systems. We use the Windows platform as our default setting.

B-4 Initiating the SMASH Protocol

There are two ways of initiating the SMASH protocol.

To Initiate SMASH Automatically

You can initiate SMASH automatically by connecting the BMC (Baseboard Management Controller) via the Secure Shell protocol (SSH) from a client machine.

To connect from a Linux machine

1. Use 'ssh<BMC ip address>'.

2. Enter the password.

To connect from other machines

1. Use a terminal emulator application such as *Putty*.

2. Enter the *BMC ip* address in the terminal emulator application.

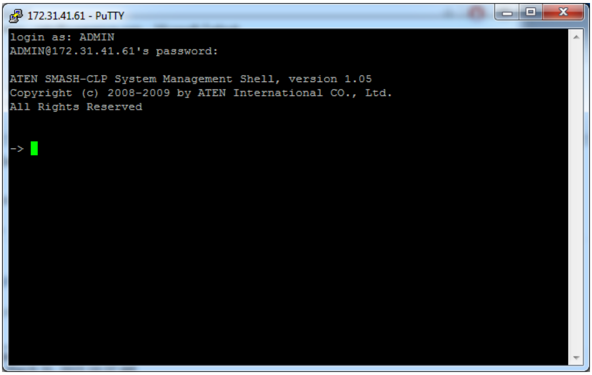
3. Choose *ssh* as the connection type

4. Enter the password at the prompt.

5. If you have successfully logged in, the SMASH prompt will display.

B-5 SMASH-CLP Main Screen

After you've successfully logged in the SSL network, the SMASH Command Line Protocol Main screen will display as shown below.



```
login as: ADMIN
ADMIN@172.31.41.61's password:

ATEN SMASH-CLP System Management Shell, version 1.05
Copyright (c) 2008-2009 by ATEN International CO., Ltd.
All Rights Reserved


->
```

Figure 2 SMASH-CLP Main Screen

B-6 Using SMASH for System Management

After you've familiarized yourself with SMASH commands, you are able to use these commands to manage your system. To properly manage your network system, be sure to follow the instructions below.

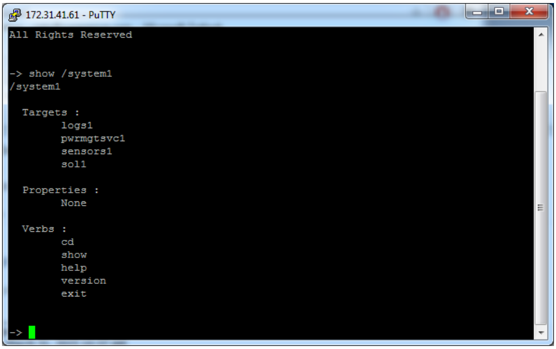
Note: Make sure that the format of all your commands are compliant with the DMTF specification, which is "<Verb> [<option>] [<target>] [<properties>]", where:

- A ***Verb*** means a *command*.

- An ***Option*** works according to the definition of a command given in Section B-7: Definitions of Command Verbs.

- A ***Target*** is a managed device.

- ***Properties*** are the specific attributes that you want to assign to a target machine or to get from a target machine.



```
All Rights Reserved


-> show /system1
/system1

  Targets :
        logs1
        pwrmgtsvc1
        sensors1
        sol1

  Properties :
        None

  Verbs :
        cd
        show
        help
        version
        exit


->
```

Figure 3 Using SMASH for System Management

B-7 Definitions of Command Verbs

Based on the DSP Specification, each target supports its own set of verbs. These verbs allow the user to issue commands to a target system to perform certain tasks. For example, the verbs supported by the *admin* target group include: cd, help, load, dump, create, delete, exit, version, show, etc.

- ***cd***

The command verb *cd* is used to navigate to a specific target address using the SSL protocol. For example, issuing the command *cd/admin1* will direct you to the target *admin* (AdminDomain).

- ***show***

The command verb *show* is used to display the properties and the contents of a target, a group of targets, a sub-groups of the target(s). Properties, contents, supported operations related to the target, the group of targets or their sub-targets will be displayed.

- ***exit***

The command verb *exit* is used when you want to exit from a SMASH session or close a session.

- ***help***

The command verb *help* is used when you want to get helpful hints or information on a context-specific item. This command has the same function as the *help option* listed for the target group.

- ***Version***

Use the command verb *version* to display the CLP version used in a specific machine.

- ***set***

Use the command verb *set* to assign a set of values to the properties of a target machine.

- ***start***

The command verb *start* is used to turn on the power control, to start a process, or to change an operation state from a lower level to a higher level in a system.

- ***stop***

The command verb *stop* is used to turn off the power, to stop a process, or to change an operation state from a higher level to a lower level.

- ***reset***

The command verb *reset* is used to enable or to disable the power control of or the processes of the machine.

- ***delete***

The command verb *delete* is used to delete or to destroy an entry or a value previously entered. It can only be used in a specific target as defined according to the SAMSHCLP Standards.

- ***load***

The command verb *load* is used to move a binary image file from a URI source to the MAP. This command will achieve different results depending on the setting of a target system, and how the verb *load* is defined in the DSP specification used in the system.

- ***dump***

The command verb *dump* is used to move a binary image file from the MAP to a URI source. This command will achieve different results depending on the setting of a target system, and how the verb *dump* is defined in the DSP specification implemented in the system.

- ***create***

The command verb *create* is used to create a new address entry or a new item in the MAP. It can only be used in a specific target as defined in the SMASH profile or in MAP specifications.

B-8 SMASH Commands

The following table provides the definitions and descriptions of SMASH commands. The most useful commands are *show* and *help*, which will provide the user with information on how to navigate through the SSL network connection.

Option Name	Short Form	Definition	Notes
-all	-a	Instructs a command verb to perform all tasks possible	None
-destination <*URI*>	None	Indicates the final location of an image or selected data	URI or SM instance address
-display	-d	Selects data that the user wishes to display	This can generate multiple query results
-examine	-x	Instructs the Command Processor to examine a command for syntax or semantic errors without executing it	None
-force	-f	Instructs the verb to ignore any warnings triggered by default but go ahead executing the command instead	None
-help	-h	Displays all information and documentation regarding the command verb	None
-keep <m[.s]	-k	Sets a time period to hold and keep the Job ID and the status of a command	The amount of time set to hold a command Job ID or its status can differ.
-level <n>	-l	Instructs the Command Processor to execute the command for the current target and for all target machines within the level specified by the user	Levels should be expressed in a nature number or "all".
-Output <args>	-o	Controls the format and the content of a command output. This only supports "format=clpxml" and "format=keyword"	Many variables or factors can affect the outcome of format, language, level of details of the output.
-Source <URI>	None	Indicates the location of a source image or a target	URI or SM Instance Address
-Version	-v	Displays the version of the command verb	None
-Wait	-w	Instructs the Command Processor to hold the command response or query result until all spawned jobs are completed.	None

Table 1 SMASH Commands

B-9 Standard Command Options

The following table lists the standard command options.

CLP Option	CLP Verbs												
	CD	Create	delete	dump	exit	help	load	reset	set	show	start	Stop	version
all										x			
destination				x									
display										x			
examine	x	x	x	x	x	x	x	x	x	x	x	x	x
force			x	x			x	x	x	x	x	x	
help	x	x	x	x	x	x	x	x	x	x	x	x	x
keep													
level										x			
Output	x	x	x	x	x	x	x	x	x	x	x	x	x
Source							x						
Version	x	x	x	x	x	x	x	x	x	x	x	x	x
Wait													

Table 2 Standard Command Options

B-10 Target Addressing

To simplified the process of SMASH command execution, a file system called Target Addressing was created as shown in the diagram below.

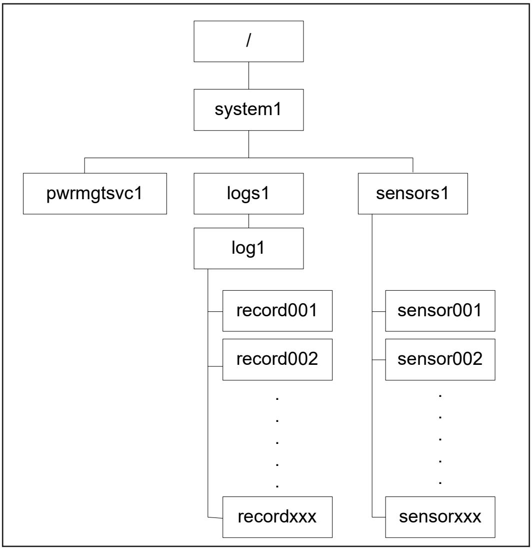


Figure 4 Target Addressing Diagram

Terms Used in the Target Addressing Diagram

This section provides the descriptions of the terms used in the Target Addressing Diagram above.

- ***"/"*** indicates *the root* of the system.
- ***"/system1"*** includes all major *Targets*.
- ***"/system1/logs1/log1"*** includes all senor event logs.
- ***"/system1/sensors1"*** contains the readings and information of all sensors.
- ***"/system1/pwrmgtsvc1"*** is used for chassis control.
- ***"show../logs1"*** allows you to issue SMASH commands for the system to perform the tasks of your choice. For example:
  - Issuing the command ***"show/system1/logs1"*** *while you are in* ***"show../logs1"*** will allow you to set the *Absolute* or the *Relative* target path.

Notes

Appendix C

RADIUS Configuration

C-1 Overview

This chapter provides instructions on how to configure RADIUS on Ubuntu and the Windows operating systems.

RADIUS (Remote Authentication Dial In User Service) is a network protocol that allows you to manage remote user authentication and accounting. It authenticates users trying to establish a network connection, authorizes users to access the network, and accounts for users accessing the network. Before you run RADIUS, you need to cocfigure the user account and client information.

C-2 Configuring a User Account in Ubuntu

Follow the instructions below to configure a user account.

1. To add a local user and password, type the following command at the prompt and press <Enter>:

```
# vi /etc/freeradius/users
```

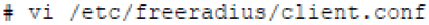
2. Then you will be able to grant privileges to a user account. There are four types of user accounts. The list below displays the four types of accounts and vendor-specific attributes.

- radius_admin: Password: "123456"
  Vendor-Specific Attributes: "H=4, I=4"
- radius_operator: Password: "654321"
  Vendor-Specific Attributes: "H=3, I=3"
- radius_user: Password: "654321"
  Vendor-Specific Attributes: "H=2, I=2"
- radius_callback: Password: "654321"
  Vendor-Specific Attributes: "H=1, I=1"A-2

C-3 Configuring Client Information in Ubuntu

Follow the instructions below to configure the client information.

1. To add the client IP, secret and short name, type the following command at the prompt and press <Enter>:



```
# vi /etc/freeradius/client.conf
```

Example:

client 192.123.4.5 {

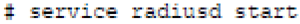
secret   = super

shortname   = superbmc

}

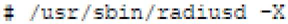
C-4 Starting the RADIUS Server in Ubuntu

1. To start the server, type the following command:



```
# service radiusd start
```

2. To start the server in debugging mode, type the following command:



```
# /usr/sbin/radiusd -X
```

C-5 Adding Roles in Windows

Follow the instructions below to add a role in Windows Server.

1. Click on the <Start> button, then *Adminstrative Tools* and then *Server Manager*.

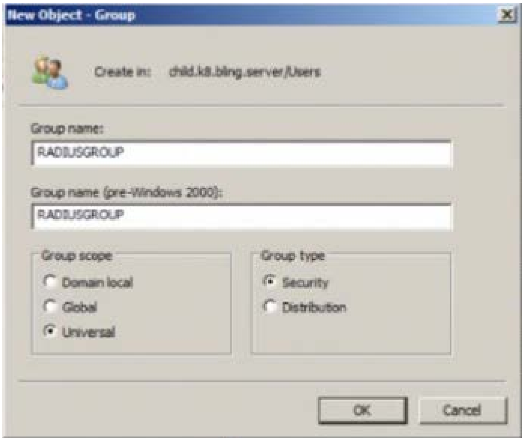
2. Under *Server Manager*, select *Add Roles.*

3. Select *Server Roles* and click on <Next>.

4. Select *Network Policy and Access Services* and click on <OK>.

Adding a New Object - Group

1. To add a new object group, enter the group name and select the group scope and type. Click on <OK> to complete to this step.



Create in: child.k8.bling.server/Users

Group name:
RADIUSGROUP

Group name (pre-Windows 2000):
RADIUSGROUP

Group scope
○ Domain local
○ Global
● Universal

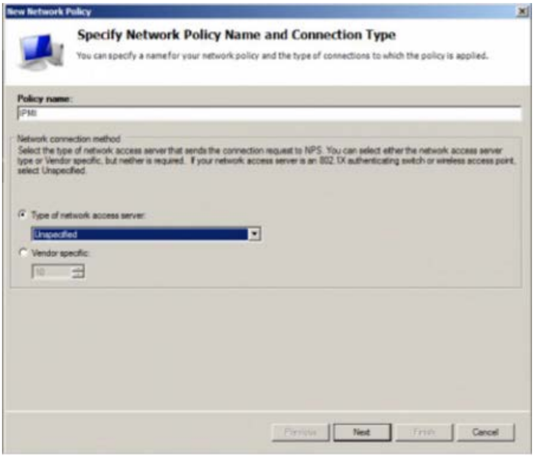
Group type
● Security
○ Distribution

Add a New Object - User

1. To add a new object user, enter the user's name and login name. Click on <Next>.

Adding a New Network Policy

1. To add a new network policy, click on *Network Policies*. Enter the policy name and select the type of network access server.



New Network Policy

Specify Network Policy Name and Connection Type

You can specify a name for your network policy and the type of connections to which the policy is applied.

Policy name: IPMI

Network connection method

Select the type of network access server that sends the connection request to NPS. You can select either the network access server type or Vendor specific, but neither is required. If your network access server is an 802.1X authenticating switch or wireless access point, select Unspecified.

● Type of network access server: Unspecified

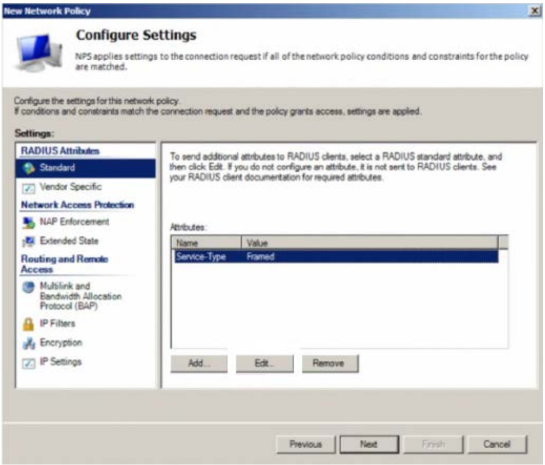
○ Vendor specific: 10

2. Click on <Next> to choose a permission.

3. Then configure Contraints and remove *Framed* protocol.

4. Edit Service-Type for login.

5. Check the *Others* option and select *Login.* Click <OK> to complete the configuration.



New Network Policy

Configure Settings

NPS applies settings to the connection request if all of the network policy conditions and constraints for the policy are matched.

Configure the settings for this network policy.
If conditions and constraints match the connection request and the policy grants access, settings are applied.

Settings:

To send additional attributes to RADIUS clients, select a RADIUS standard attribute, and then click Edit. If you do not configure an attribute, it is not sent to RADIUS clients. See your RADIUS client documentation for required attributes.

Attributes:

Name	Value
Service-Type	Framed

Adding a Vendor Specific

1. In the *New Network Policy* screen, select *Vendor Specific* and click <Add>.

2. Select a vendor specific attribute and click <Add>.

3. Click <Add> and configure the attrbiute.

4. Specify the vendor specific account and click the <Configure Attribute> button to configure the attribute. Click on <OK> to complete the configuration.

Configuring a New RADIUS Client

1. In the *New RADIUS Client* screen, select the *Settings* tab and enter information in the following fields:

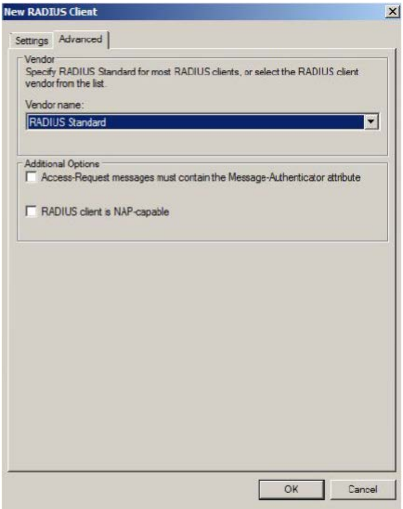
   - Friendly name:

   - Address (IP or DNS):

   - Shared secret:

   - Confirm shared secret:

2. In the *Advanced* tab, select a vendor name from the drop-down menu. Select RADIUS Standard for most RADIUS clients.



Vendor

Specify RADIUS Standard for most RADIUS clients, or select the RADIUS client vendor from the list.

Vendor name: RADIUS Standard

Additional Options

☐ Access-Request messages must contain the Message-Authenticator attribute

☐ RADIUS client is NAP-capable

Notes

Appendix D

Unique Password for BMC

D-1 Overview

Due to California Senate Bill No. 327, a common default password in a connected device that is capable of connecting to an IP network. Supermicro will no longer use the default password “ADMIN” for new devices or systems. Instead, we will assign a unique password that is specific to each new motherboard.

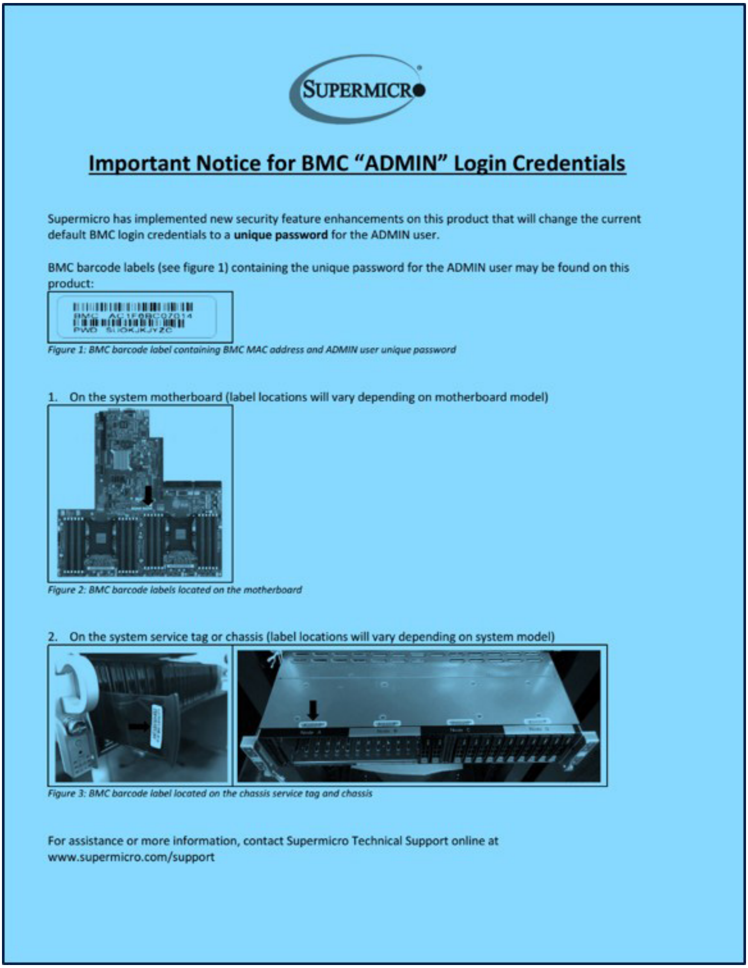
Effective as of January 1, 2020, each new Supermicro motherboard will come with two labels that contain a unique password assigned to that motherboard. One unique password label will be placed near the BMC (Baseboard Management Controller) chip and/or close to the MB serial number label. This label is not to be removed. The other unique password label will be placed on the CPU1 socket cover. This label is removable and can be placed in any location, such as on the side of the chassis or a service tag.

When logging in to the BMC for the first time, please use the unique password provided by Supermicro to log in. Afterward, the unique password can be changed to the customer's chosen user name and password for subsequent logins.

For more information regarding BMC passwords, please visit our website at http://www.supermicro.com/bmcpassword.

D-2 Notice and Shipping Label Identifier

Every server that has a BMC unique password will include a notice in the plastic wrap on the top side of the plastic wrap as well as an identifier on its shipping label.



SUPERMICRO
BMC AC1F6BC07014
PWD SUOKJKJYZC

Important Notice for BMC "ADMIN" Login Credentials

Supermicro has implemented new security feature enhancements on this product that will change the current default BMC login credentials to a **unique password** for the ADMIN user.

BMC barcode labels (see figure 1) containing the unique password for the ADMIN user may be found on this product:

Figure 1: BMC barcode label containing BMC MAC address and ADMIN user unique password

1. On the system motherboard (label locations will vary depending on motherboard model)

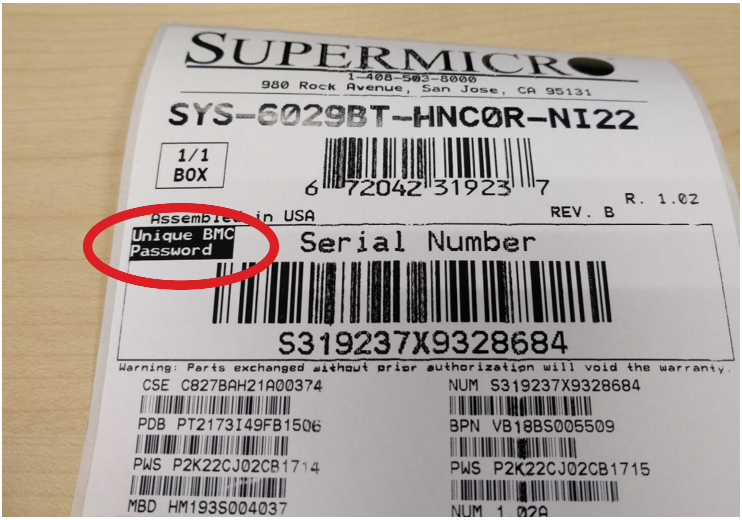
Figure 2: BMC barcode labels located on the motherboard

2. On the system service tag or chassis (label locations will vary depending on system model)

Figure 3: BMC barcode label located on the chassis service tag and chassis

For assistance or more information, contact Supermicro Technical Support online at www.supermicro.com/support

BMC Unique Password Notice for servers



SUPERMICRO
1-408-503-8000
980 Rock Avenue, San Jose, CA 95131

SYS-6029BT-HNC0R-NI22

1/1
BOX

6 72042 31923 7

R. 1.02

Assembled in USA

REV. B

Unique BMC
Password

Serial Number

S319237X9328684

Warning: Parts exchanged without prior authorization will void the warranty.

CSE C827BAH21A00374
PDB PT2173I49FB1506
PWS P2K22CJ02CB1714
MBD HM193S004037

NUM S319237X9328684
BPN VB18BS005509
PWS P2K22CJ02CB1715
NUM 1.02A

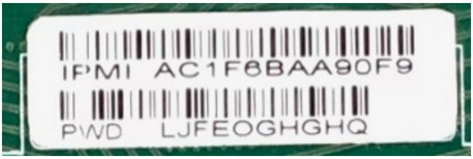
Shipping Label Identifier

D-3 Label Specifications

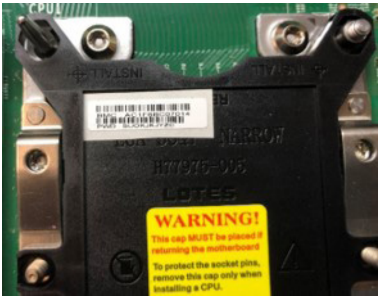
The unique password will consist of at least 10 alphabetic upper case characters. To avoid confusion, provided passwords will not include any lower case alphabetic characters or numbers.

One password label will be located near the BMC (Baseboard Management Controller) chip and/or close to the motherboard serial number label. Do not remove this label. The other label will be placed on the CPU1 socket cover. This label may be removed and placed in another location, such as on the side of the chassis or a service tag.

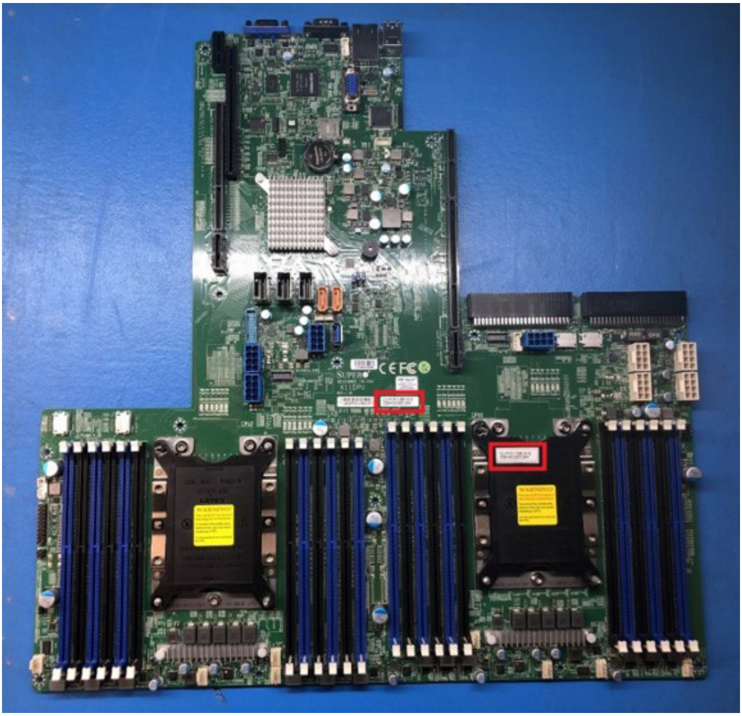
Most systems have a pull-out tag to display the BMC MAC address and the preprogrammed unique password. The rest of the systems will have the sticker on top/front of the chassis.



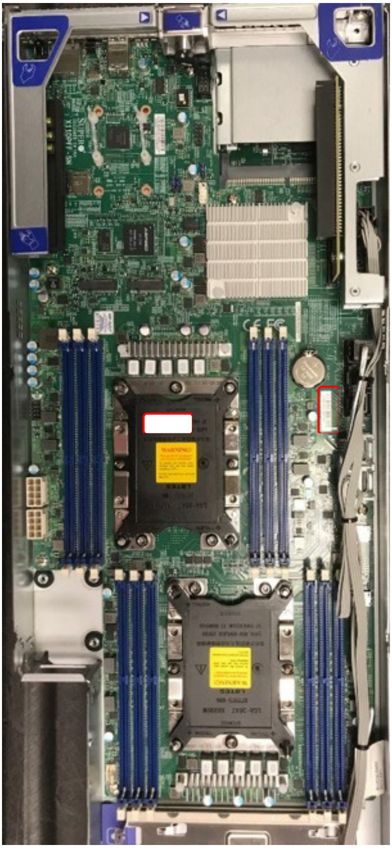
Default password label


CPU1
INSTALL
H77976-005
LOTES
WARNING!
This cap MUST be placed if returning the motherboard
To protect the socket pins, remove this cap only when installing a CPU.

Label location on BMC chip

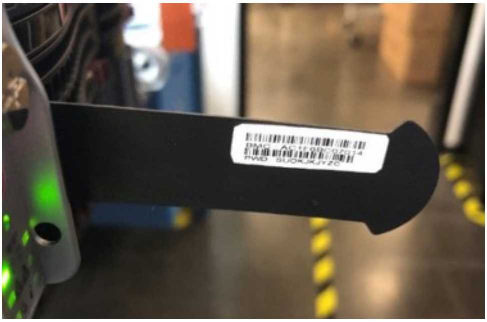


Label locations on motherboard PCB and the cover of CPU1.

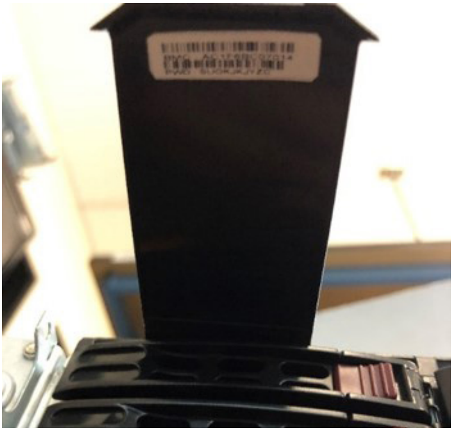


Label locations on motherboard PCB and the cover of CPU1.

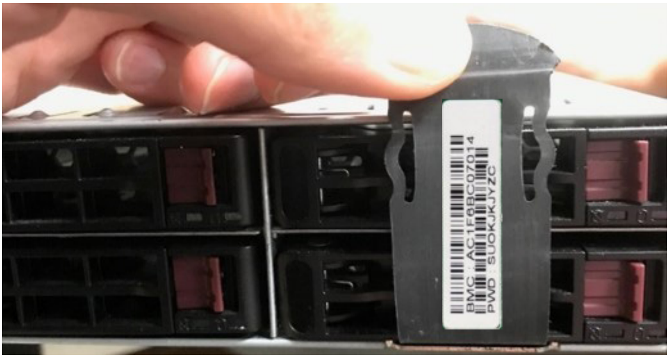
Label on the opposite side of the service tag



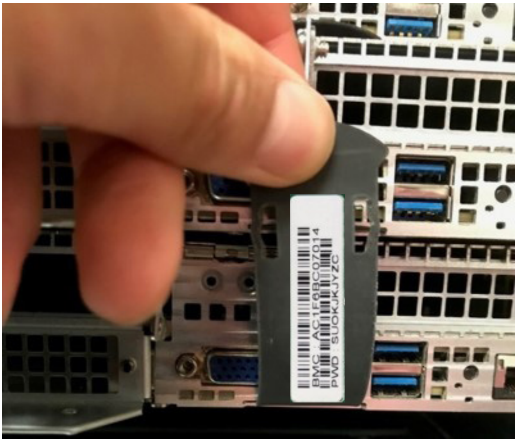
Label on the opposite side of the service tag



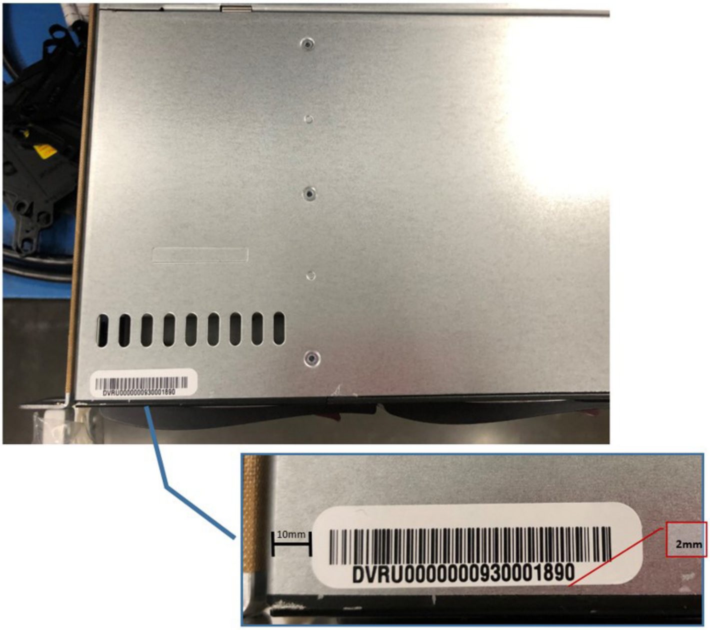
Label on the opposite side of the service tag



Label on the opposite side of the service tag



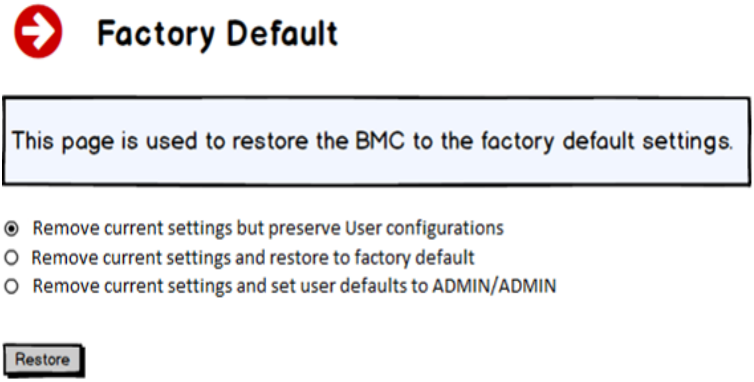
Label on the opposite side of the service tag



Label location on chassis

D-4 Restore Factory Default

When restoring the BMC to the factory default settings, the unique password may only be reset once.



Factory Default

This page is used to restore the BMC to the factory default settings.

- ● Remove current settings but preserve User configurations
- ○ Remove current settings and restore to factory default
- ○ Remove current settings and set user defaults to ADMIN/ADMIN

D-5 Change All Unique Passwords Using Script

Due to possible different operating environments, the user is given the option to modify their provisioning script and unique passwords.

D-6 Frequently Asked Questions

Question: What if a password sticker is lost? How do I get my unique password?

Answer: There is a minimum of two stickers on each product. One sticker will be placed on the motherboard and a second sticker will be on the server chassis. At this time, Supermicro has not encountered any instances of lost or misplaced stickers. In the rare case of such incidence, please contact your direct sales support to receive the soft copy of the password.

Question: What if the password stickers on the chassis and the motherboard are different?

Answer: If there is a discrepancy, use the motherboard sticker. The motherboard sticker is always correct.

Question: I purchased my products from a distributor. Can Supermicro provide me soft copies of the unique preprogrammed passwords?

Answer: At this time, we only have the ability to provide soft copies to our direct customers. These customers will need to register their products to obtain soft copies of their passwords. For direct customers, please use the Supermicro Customer Registration portal.

Question: Do you have a script that can change all unique passwords to my password?

Answer: We will provide a sample script with documentation. Of course, the operating environment may change from customer to customer. It is the end user's responsibility to modify their provisioning script.

Question: Will this law affect customers in Europe and Asia where shipments are from the Netherlands or Taiwan manufacturing facilities?

Answer: Since our standard SKUs will be originated from California, we keep the same design across our portfolio, so it gives a unified experience across all platforms.

Question: Will customers purchasing Supermicro products from an OEM vendor be subject to the preprogrammed password initiative?

Answer: Yes, customers will still receive products with a unique preprogrammed password. Customers will be able to change the preprogrammed password themselves or they can work with their OEM vendor to make the necessary password updates.

Question: I am purchasing multiple systems for my datacenter. How do I change all of the unique preprogrammed passwords for these systems in an efficient manner to support my operations?

Answer: Please contact your systems integrator (SI) or value-added reseller (VAR) to assist you in this process.

Question: Can Supermicro apply a single unique customer-specified password for all my systems? Will this comply with SB327?

Answer: All systems from Supermicro will ship with a unique preprogrammed password. Customers will be able to change the password on each system. In order for Supermicro to comply with SB327, we are not able to use customer-specified passwords. All passwords will be unique and assigned at the time of manufacturing.

Question: When will my motherboard have this change rolled out?

Answer: Supermicro plans to have new stickers rolled out starting mid-December 2019.

(Disclaimer Continued)

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