

BMC Configuration User's Guide

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/bmc_config/doc/

If the "External Libraries" require to include their Source Code with this product, see the folder below.

/bmc_config/src/

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About this Document

This document explains the complete procedures from installation of "BMC Configuration" to setup of managed server.

Before attempting to operate BMC Configuration, read this document so as to gain an adequate understanding of the contents.

■ Notes

This document is intended for persons who are familiar with the operating system's functions and operations and the network's functions and setup. For operations and inquiries about the operating system, see its online help information.

This document covers universal information about generally managed servers. The notes and restrictions on use of each product as a managed server are explained in the user's guide provided with the managed server and "ESMPRO Manager Setup guide".

Names used with screen images in this document are fictitious. They are unrelated to existing product names, names of organizations, or individual names. The setting values on the screen images are shown as examples, so setting values such as IP addresses on screen images are not guaranteed for operation.

In this document, "¥" expresses back slash.

■ About Symbols in This Document

The following explains three symbols that are used in this document:

- | | |
|-------------------|---|
| IMPORTANT: | Points or particular notes you must follow when handling software of servers. |
| CHECK: | Points or notes you need to check when handling software or servers. |
| TIPS: | Useful information. |

1. Summary

BMC Configuration is software that works on the managed server. It configures BMC on the managed server.

1.1 BMC Configuration Functions

1.1.1 NEC Express5800 series

- **BMC Configuration**
You can specify the configurations to the managed server's BMC.
- **BIOS Configuration**
You can configure the System BIOS settings on the managed server.
The settings are effective by rebooting the server.
- **Battery Configuration**
If the managed server is equipped with a battery, you can check and configure the information of the battery.
- **Backup**
You can output the configurations on the managed server to files.
- **Restore**
You can apply the configurations which are backed up in files on the managed server.
- **Clear BMC SEL**
You can clear the SEL(System Event Log) information of BMC.
- **BMC Configuration Initialization**
You can clear the configurations to the ex-factory settings.
- **Reset BMC**
You can restart BMC without system rebooting.
- **Monitoring**
You can configure the monitoring setting of WDT and OS shutdown.
- **System Information (Version Information)**
The versions of BMC Firmware, Boot Firmware, Sensor Data Information (SDR) and System BIOS can be collected.

***1.1.2* NEC Express5800/ft Server**

- **BMC Configuration**

You can specify the configurations to the managed server's BMC.

- **Backup**

You can output the settings of FRU/BIOS/BMC Configuration on the server to a file.

- **Restore (maintenance person only)**

You can apply the FRU/BIOS/BMC settings which are backed up in files to BMC on the server.

***1.1.3* NEC Express5800/The highly parallel computing server**

- **Setting for NEC ESMPRO Management**

You can specify the authentication key to manage from NEC ESMPRO Manager to the managed server's BMC.

2. System Requirements

2.1 Hardware

It needs to satisfy the following conditions.

- **Target System**
 - NEC Express5800 Series that integrates EXPRESSSCOPE Engine 3 or EXPRESSSCOPE Engine SP3 and bundles this product.
 - The highly parallel computing server (NEC Express5800/HR120a-1, HR120b-1)
- **Memory**
 - 512MB or more
- **Availability of hard disk**
 - 100MB or more

CHECK:

- ft Server (NEC Express5800/R320c-M4, R320c-E4, R310c-E4, R320d-M4, R320d-E4 and R310d-E4) is supported by the upper version from BMC Configuration for Windows Ver.1.20.
 - ft Server (NEC Express5800/R320e-M4, R320e-E4, R310e-E4, R320f-M4, R320f-E4 and R310f-E4) is supported by the upper version from BMC Configuration for Windows Ver.1.42.
 - ft Server (NEC Express5800/ R320h-M4, R320h-E4, R320g-M4, R320g-E4 and R310g-E4) is supported by the upper version from BMC Configuration for Windows Ver.1.45.
 - ECO CENTER (NEC Express5800/E120d-1, E120d-M and E110d-M) is supported by the upper version from BMC Configuration for Windows Ver.1.21.
 - The highly parallel computing server (NEC Express5800/HR120a-1 and HR120b-1) is supported by the upper version from BMC Configuration for Windows Ver.1.33 and BMC Configuration for Linux Ver.1.31.
 - EXPRESSSCOPE Engine SP3 is supported by the upper version from BMC Configuration for Windows/Linux Ver.1.40.
-

2.2 Operating System

Target OS is as follows.

- **Windows**
 - Windows Server 2012 R2
 - Windows Server 2016
 - Windows Server 2019
 - Windows Server 2022

- **Linux**
 - Red Hat Enterprise Linux Server 6 (x86, x64)
 - Red Hat Enterprise Linux Server 7 (x64)
 - Oracle Linux 6 (x64)
 - Oracle Linux 7 (x64)

IMPORTANT:

- You can not install BMC Configuration in the following case.
 - Installation on guest OS virtual of machine.
 - The following packages are necessary to use BMC Configuration on Red Hat Enterprise Linux Server 6(x64), Red Hat Enterprise Linux Server 7(x64) or Oracle Linux 6(x64) or Oracle Linux 7(x64). If these are not installed, you need to install them from the install disc of operating system.
 - glibc i686
 - nss-softokn-freebl i686
 - libxml2 i686
 - zlib i686
-

CHECK:

- Red Hat Enterprise Linux Server 7 is supported by the upper version from BMC Configuration for Linux Ver.1.41.
 - Windows Server 2016 is supported by the upper version from BMC Configuration for Windows Ver.1.43.
 - Windows Server 2019 and later is supported by the upper version from BMC Configuration for Windows Ver.1.45.
-

2.3 Server Management Driver

On Linux, OpenIPMI Driver must be started to use BMC Configuration.

CHECK:

- Use the following command to confirm that OpenIPMI Driver has been installed on Linux.
`rpm -qa | grep -i OpenIPMI`
- If the OpenIPMI Driver is stopped, you need to start OpenIPMI Driver. You can confirm the status of OpenIPMI Driver by the following command.
`/etc/init.d/ipmi status`

If "not loaded" is displayed after executing the above command, please start OpenIPMI Driver by the following command.

`/etc/init.d/ipmi start`

And you can start OpenIPMI Driver automatically at the system booting to execute the following command and reboot the operation system.

`chkconfig ipmi on`

3. Installation

3.1 BMC Configuration Installation for Windows

Explain the installation of BMC Configuration.

3.1.1 Check before installation

Check the followings:

- See chapter 2 to check the system requirement.
- Login to Windows as Administrator.

3.1.2 Start installation menu

■ **If you install BMC Configuration by using downloaded modules:**

After unzipping the downloaded modules, please execute the following file. BMC Configuration installation will be started.

¥bmc_config¥setup.exe

■ **If you install BMC Configuration by using EXPRESSBUILDER:**

You can install BMC Configuration as follows:

(1) Insert EXPRESSBUILDER into the DVD drive on the managed server which Windows has started. Autorun Menu will be displayed.

TIPS:

- If Autorun Menu does not launch, double-click ¥autorun¥dispatcher.exe from EXPRESSBUILDER. (x64 Edition : dispatcher_x64.exe)
 - If the device selection window is displayed, select the device you are using.
-

(2) In any of the following, BMC Configuration installation will be started.

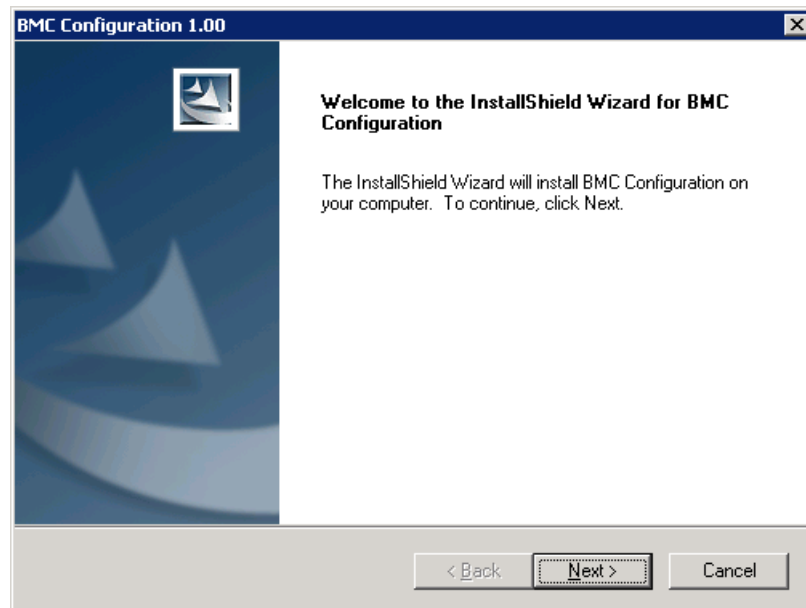
- Click [Applications] - [BMC Configuration] - [Install].
- Click [Applications] - [BMC Configuration].
- Click [Set up software] - [BMC Configuration].

TIPS:

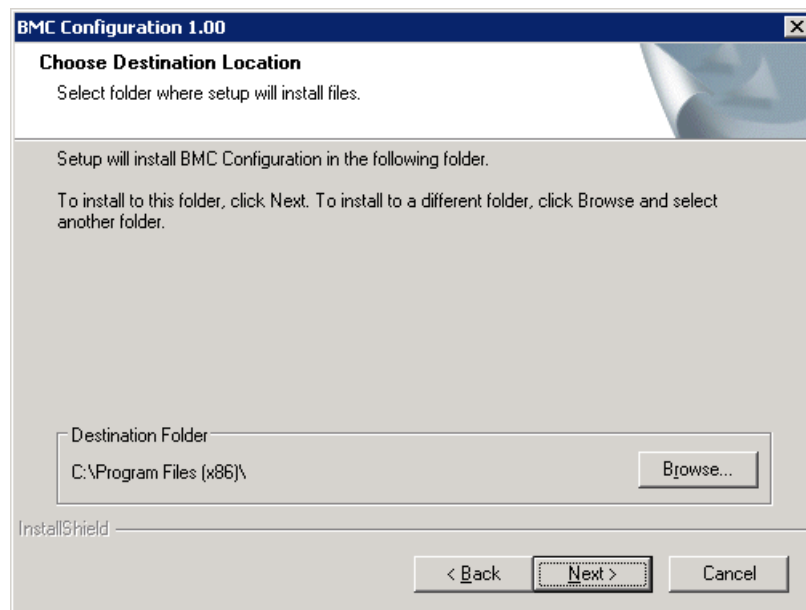
- Please refer to 7.1 BMC Configuration installation when you install it.
-

3.1.3 Install BMC Configuration

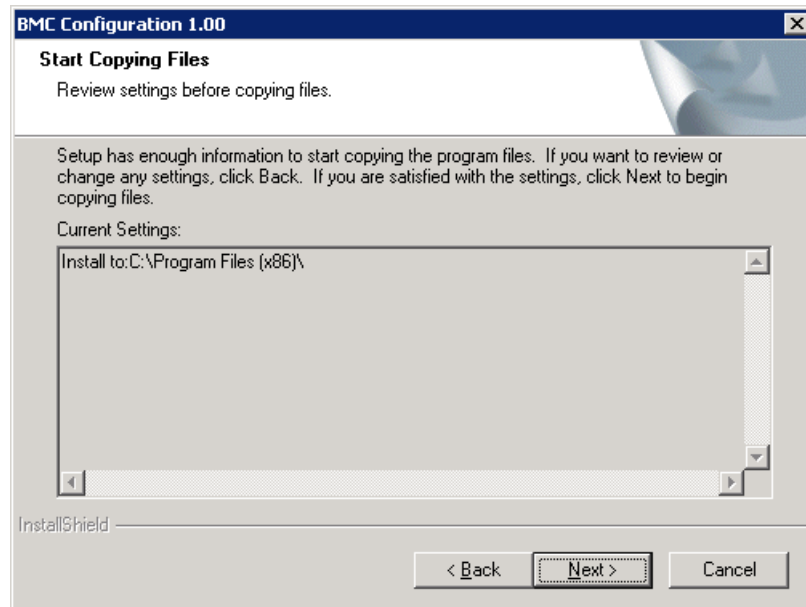
(1) The BMC Configuration installer is started. Click [Next].



(2) Enter a folder name to install. Click [Next].



- (3) Confirm the installation settings, and click [Next]. The installation is started.



After the installation is completed, BMC Configuration is available.

CHECK:

- If the following message is displayed on the installation complete screen, BMC Configuration is available after the system is rebooted.
-- "The change will take effect after system restart."
-

3.2 BMC Configuration Uninstallation for Windows

Explain the uninstallation of BMC Configuration.

3.2.1 Check before uninstallation

Check the following:

-- Login to Windows as Administrator.

3.2.2 Uninstall BMC Configuration

Uninstall from the Windows menu [Control Panel] - [Add or Remove Programs]. Select [BMC Configuration] and click [Change/Remove] button. You can uninstall it by displayed direction.

CHECK:

- Close the dialog box of BMC Configuration if it has been opened, and then uninstall BMC Configuration.
-

3.3 BMC Configuration Installation for Linux

Explain the installation of BMC Configuration.

3.3.1 Check before installation

Check the followings:

- See chapter 2 to check the system requirement.
- Login to Linux as root user.

CHECK:

- BMC Configuration installer exists on following directory:
 - If you install by using downloaded modules: /bmc_config.
 - If you install by using EXPRESSBUILDER: <revision folder>/lnx/pp/bmc_config.As for <revision folder>, confirm the number in the parenthesis of the version displayed on the lower right of Autorun Menu.
For example, if the version is "Version 6.10-020.05 (024)", then <revision folder> is 024.
-

3.3.2 Copy and extract BMC Configuration installer

Copy the BMC Configuration installer (all files in /bmc_config) into any directory on the managed server.
The following is an example to copy into /usr/local/bin:

- (1) Copy the all installer files to /usr/local/bin.

It is shown example that files is copied from EXPRESSBUILDER to /usr/local/bin directory.

(The mount path is dependent on the OS. Specify the right path.)

```
cp -r /mnt/cdrom/001/lnx/pp/bmc_config /usr/local/bin
```

- (2) Move to the directory containing the installer.

```
cd /usr/local/bin/bmc_config
```

- (3) Extract the installer.

```
tar xzvf BMCConfiguration-N.NN-x.tgz
```

"N.NN" in the example file name means the version.

TIPS:

- Please refer to 7.1 BMC Configuration installation when you install it.
-

3.3.3 Install BMC Configuration

- (1) Move to the directory that the installer was extracted.

```
cd /usr/local/bin/bmc_config/BMCConfiguration-N.NN-x
```

"N.NN" in the example directory name means the version.

- (2) Execute the shell for the installation.

```
sh BMCConfiguration-N.NN-x.sh
```

"N.NN" in the example file name means the version.

- (3) A confirmation message of BMC Configuration installation is displayed. Input "yes" and "Enter" key.

BMC Configuration is installed under /opt/nec/BMC_Configuration directory. If you input "no", the installation is not executed.

When the installation is completed, the following message is displayed.

"The installation of BMC Configuration is now completed."

After the installation is completed, BMC Configuration is available.

CHECK:

- Don't delete the files that are used to install, because you will use them to uninstall.
-

3.4 BMC Configuration Uninstallation for Linux

Explain the uninstallation of BMC Configuration.

3.4.1 Check before installation

Check the following:

-- Login to Linux as root user.

3.4.2 Uninstall BMC Configuration

- (1) Move to the directory in which all installation files are copied.

```
cd /usr/local/bin/bmc_config/BMCConfiguration-N.NN-x
```

"N.NN" in the example directory name means the version.

- (2) Execute the shell for uninstallation.

```
sh BMCConfiguration-N.NN-x.sh
```

"N.NN" in the example file name means the version.

- (3) A confirmation message of BMC Configuration uninstallation is displayed. Input "delete" and "Enter" key.

When the uninstallation is completed, the following message is displayed.

"The uninstallation of BMC Configuration is now completed."

4. Functions

This chapter describes the functions of BMC Configuration of if you use a standard server.

Please refer to chapter 5 when you use ft Server.

Please refer to chapter 6 when you use the highly parallel computing server.

4.1 Start procedure

4.1.1 On Windows

After the installation is completed, do the following operation as the built-in Administrator to start BMC Configuration.

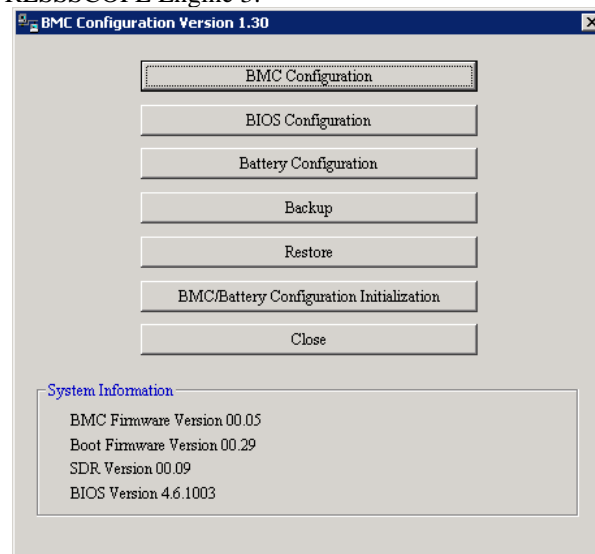
- Click "BMC_Configuration" - "BMC Configuration" from [start] on Windows

CHECK:

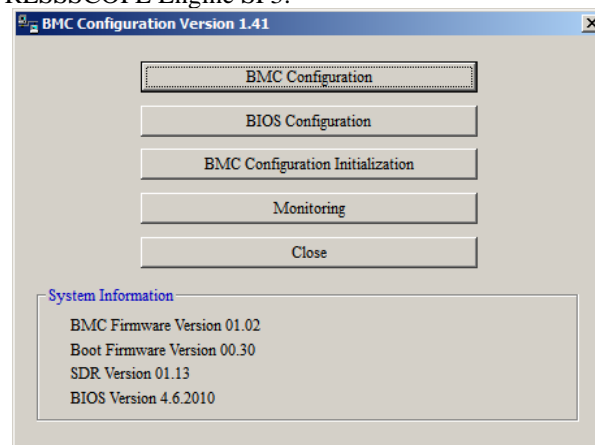
- If it is not a built-in Administrator, right click the menu and select "Run as administrator".
-

The following screen shows example.

In the case of EXPRESSSCOPE Engine 3:



In the case of EXPRESSSCOPE Engine SP3:



CHECK:

- Battery Configuration is displayed at the following version when the managed server is equipped with a battery.
 - BMC Configuration for Windows Ver.1.30 or later
 - Monitoring is displayed at the following version when the managed server supports this function.
 - BMC Configuration for Windows Ver.1.41 or later
-

TIPS:

- Refer to the following to see BMC Configuration help information.
 - Click "BMC_Configuration" - "BMC Configuration Help" from [start] on Windows.
-

4.1.2 On Linux

After the installation is completed, do the following operation as root user to open the setting function of BMC Configuration.

```
/opt/nec/BMC_Configuration/bmcconf
```

TIPS:

- Refer to the following to see BMC Configuration help information.
 - Open the setting of BMC Configuration and press F12 key on the screen displayed "[F12] help" at the bottom.
-

4.1.3 On Off-line TOOL

You can start the Off-line TOOL as follows.

(1) The following message is displayed on the bottom of POST screen.

```
Press<F2> SETUP, <F3> Internal flash memory, <F4> ROM Utility, <F12> Network
```

(2) Press F4 key on this screen. If F4 key is entered, Keyboard type selection screen is displayed after POST screen, and the Off-line TOOL menu is displayed after selecting keyboard type.

(3) Select BMC Configuration.

TIPS:

- Off-line TOOL is integrated in the managed server by default.
 - The Off-line TOOL menu is not displayed and BMC Configuration will start directory according to the system.
 - Refer to the following to see help information.
 - Start the tool and select Help menu, or press Home key or "?" key on the screen displayed "[Help:[Home or ?]]" at the bottom.
-

4.2 BMC Configuration

This chapter explains all the BMC Configuration information items. Refer to set more detailed settings. Explain the settings with the screen of BMC Configuration for Windows.

4.2.1 Network

This screen displays and sets the network environment of BMC.
It is displayed "Network(Master)" or " Network(Standby)" in the case of EXPRESSSCOPE Engine SP3.

The screenshot shows the 'BMC Configuration' window with the 'Network' tab selected. The 'Management LAN' section is active, displaying various network settings. A warning message at the top states: "Modifying the setting in this screen will turn the connection with the BMC off." The settings include:

- Management LAN: Management LAN
- Connection Type: Auto Negotiation (dropdown)
- BMC MAC Address: 6C:F0:49:56:94:53
- DHCP: ☒ Enable ☐ Disable
- IP Address [Required]: 192.168.14.77
- Subnet Mask [Required]: 255.255.254.0
- Default Gateway: 0.0.0.0
- Dynamic DNS: ☒ Enable ☐ Disable
- DNS Server: (empty text box)
- Host Name: (empty text box)
- Domain Name: (empty text box)

At the bottom, there is an 'Access Limitation' section which is currently collapsed. The 'Default Value' button is on the left, and 'Apply' and 'Cancel' buttons are on the right.

This screenshot shows the same 'BMC Configuration' window, but with the 'Access Limitation' section expanded. The settings are as follows:

- Access Limitation Type: ☒ Allow All ☐ Allowed Address ☐ Denied Address
- IP Address [Required]: (empty text box with up/down arrows)

Below the IP address field, there are two instructional notes:

- *Use commas (,) to separate IP address.
- *The wildcard (?) can be used in Denied address.

The 'Default Value' button remains on the left, while 'Apply' and 'Cancel' buttons are on the right.

Item	Description	Default Value
Management LAN	Management LAN setting	
Management LAN	Set and display LAN port to communicate with BMC. You can modify this setting only on BMC Configuration of Off-line TOOL. *1 *2 Management LAN : LAN port for BMC exclusive use. Shared BMC LAN : LAN port of System (OS) is shared and used.	Management LAN
Connection Type	Set and display the connection type of the management LAN. When Management LAN is "Shared BMC LAN", you can modify this setting only on BMC Configuration of Off-line TOOL. *1 Auto Negotiation : Connecting by suitable setting. 1Gbps Full : Connecting by Full Duplex at speed of 1Gbps. *10 1Gbps Half : Connecting by Half Duplex at speed of 1Gbps. *10 100Mbps Full : Connecting by Full Duplex at speed of 100Mbps. 100Mbps Half : Connecting by Half Duplex at speed of 100Mbps. 10Mbps Full : Connecting by Full Duplex at speed of 10Mbps. 10Mbps Half : Connecting by Half Duplex at speed of 10Mbps.	Auto Negotiation
BMC MAC Address	MAC Address of the management LAN is displayed.	
DHCP	Determine whether to dynamically obtain an IP address from a DHCP server. If the item is set Enable and applied, BMC set the value obtained from DHCP server on "IP Address", "Subnet Mask" and "Default Gateway".	Blade Server: Enable Other server: Disable
IP Address	Set the BMC IP address of the management LAN. *4	192.168.1.1 [*11]
Subnet Mask	Set the Subnet Mask of the management LAN. *3 *4	255.255.255.0
Default Gateway	Set the Default Gateway IP Address of the management LAN. *4 If you set this item, it is necessary for applying configuration information that the gateway is connected on network.	0.0.0.0
Dynamic DNS	Determine whether to enable/disable of Dynamic DNS. *5 *12	Disable
DNS Server	Set the DNS Server. *12	0.0.0.0
Host Name	Set the Host Name. *6 *7 *12	Blank
Domain Name	Set the Domain Name. *7 *12	Blank
GUID	GUID of the managed server is displayed. *10 *12	
Access Limitation	Access Limitation setting *12	
Access Limitation Type	Select the Access Limitation Type. Allow All : Access to BMC is not limited. Allowed Address : Set the IP Address that is allowed to access BMC. Denied Address : Set the IP Address that is limited to access BMC.	Allow All
IP Address	Set the IP Address to allow or deny to access with the management LAN. *8 *9	Blank

- *1: It is possible to set when the system supports change.
- *2: If you modify this setting, "Reset BMC" is necessary on some systems. When set to "Shared BMC LAN", the management LAN port is disabled. When set to "Shared BMC LAN", the network performance may be reduced because the data of both LANs must be transmitted or received.
- *3: When the Subnet Mask is wrong setting, error message, such as "Failed to apply configuration.", is displayed.
- *4: It is possible to set when DHCP is "Disable".
- *5: It is possible to set when DHCP is "Enable".
- *6: The length of Host Name must be less than 64 characters. Host Name will be truncated to 63 characters, if you input over 63 characters.
- *7: Host Name and Domain Name should be within total of 255 characters.
- *8: The range of IP address to "Allow" or "Deny" access is delimited by ",(Comma)". With regard to the setting of "Denied Address", "(Asterisk)" can be described as a wild-card. (ex: 192.168.1.*,192.168.2.1,192.168.2.254)
- *9: It is possible to set when Access Limitation Type is "Allowed Address" or "Denied Address". The length must be less than 255 characters.
- *10: It is possible to set or display in the case of EXPRESSSCOPE Engine SP3.
- *11: The default value is "192.168.1.100" or "192.168.1.101" in the case of EXPRESSSCOPE Engine SP3.
- *12: It displays only the case of Network(Master) of EXPRESSSCOPE Engine SP3.

4.2.2 Service

This screen displays and sets the list of the service of BMC.

It is displayed "Service(Master)" in the case of EXPRESSSCOPE Engine SP3.

BMC Configuration

SNMP Alert | System Operation | ECO | Control | Miscellaneous

Network | **Service** | User Account | Active Directory | LDAP | Mail Alert

*Modifying the setting in this screen will turn the connection with the BMC off.

Web Server

HTTP ☒ Enable ☐ Disable

HTTP Port [Required] (1 - 65535)

HTTPS ☒ Enable ☐ Disable

HTTPS Port [Required] (1 - 65535)

*HTTP cannot be set enabled singularly.

SSH

SSH ☒ Enable ☐ Disable

SSH Port [Required] (1 - 65535)

Default Value Apply Cancel

Item	Description	Default Value
Web Server	Web Server setting	
HTTP	Select Enable/Disable of HTTP. *1	Enable
HTTP Port	Set the HTTP Port. *2 *3	80
HTTPS	Select Enable/Disable of HTTPS.	Enable
HTTPS Port	Set the HTTPS Port. *2 *3	443
SSH	SSH setting	
SSH	Select Enable/Disable of SSH.	Enable
SSH Port	Set the SSH Port. *2 *3	22

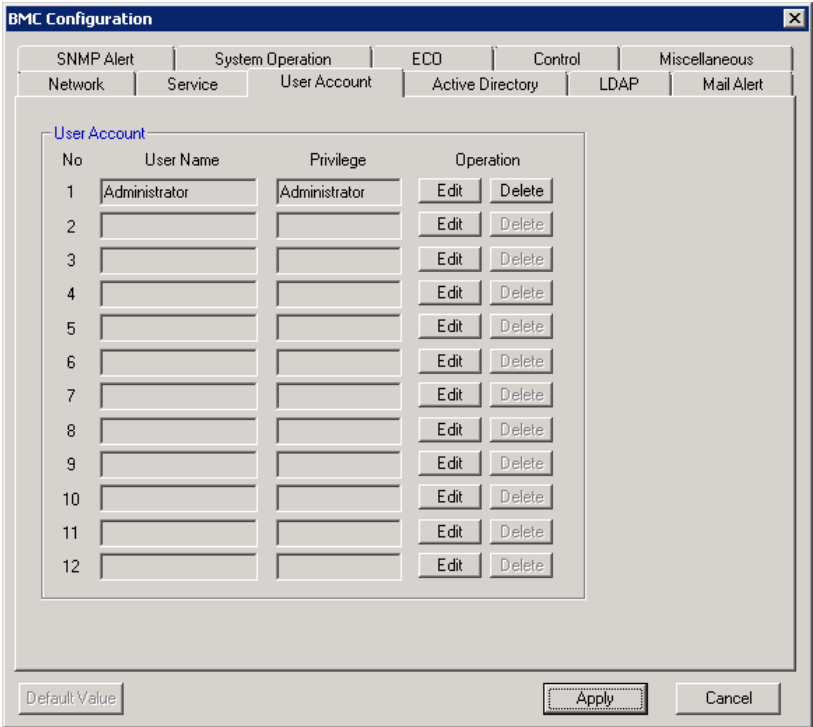
*1: If HTTP is set Enable, HTTPS is also set Enable automatically. You can not set HTTP alone to enable.

*2: It is possible to set when each port is set to enable.

*3: Each port number must not overlap.

4.2.3 User Account

This screen displays and sets the users who use BMC. It is possible to register up to 12 users or less.



Item	Description
User Account	Displays a list of registered users.
No	The number allocated to user is displayed.
User Name	The user name is displayed.
Privilege	The privilege of the user is displayed.
Edit	Add or change user information.
Delete *1	Delete user information.

*1: It is possible to delete only for the existing user.

CHECK:

- In Off-line Tool, you can delete user information at the next user settings screen.

4.2.4 User

This screen sets the selected user.

Item	Description	Default Value
User	User setting	
User	Select Enable/Disable of User. *1	Enable
User Name	Set the User Name. *2	Blank
Password	Set the Password of the User. *3	Blank
Confirm Password	Set same character string as the Password. *3	Blank
Privilege	Select the privilege of the User. *4 Administrator Operator User	Administrator

*1: It is possible to set only for the existing user.

*2: It is possible to set less than 15 alphanumeric characters, "-(minus sign)" and "_(underscore)". "-(minus sign)" cannot use top character of User Name. "root", "null", "MWA", "AccessByEM-Poem", "Maintenance" and already registered name in other number cannot use.

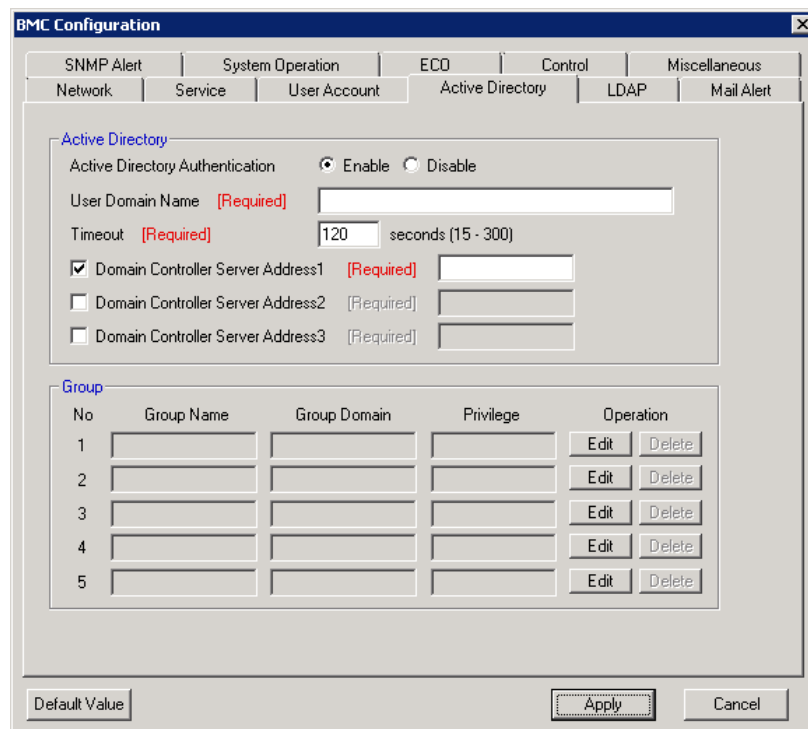
*3: It is possible to set less than 19 ASCII characters, except for " (space)", " "(quotation marks)", "&" , "?" , "=", "#" and "¥".

*4: The privilege is as follows:

Privilege	Description
Administrator	Users who have an administrative account and are allowed to perform any operation.
Operator	Users who can operate the system, except session management, registration of license, Remote KVM/Media, whole settings and update.
User	General users who are only allowed to access the IPMI Information.

4.2.5 Active Directory

This screen displays and sets the Active Directory.



The screenshot shows the 'BMC Configuration' window with the 'Active Directory' tab selected. The 'Active Directory' section includes radio buttons for 'Enable' (selected) and 'Disable'. Below this are input fields for 'User Domain Name' (marked [Required]), 'Timeout' (set to 120, marked [Required], with a range of 15-300 seconds), and three checkboxes for 'Domain Controller Server Address1', 'Address2', and 'Address3' (all marked [Required]). The 'Group' section contains a table with 5 rows for group management, each with fields for 'No', 'Group Name', 'Group Domain', 'Privilege', and 'Operation' (with 'Edit' and 'Delete' buttons). At the bottom are 'Default Value', 'Apply', and 'Cancel' buttons.

Item	Description	Default Value
Active Directory	Active Directory setting	
Active Directory Authentication	Select Enable/Disable of Active Directory Authentication.	Disable
User Domain Name	Set the user domain name used by Active Directory Authentication. *1 *2	Blank
Timeout	Set the timeout period with domain controller. *1	120
Domain Controller Server 1	Select Enable/Disable of Domain Controller Server 1. *1 *3	Enable
Server Address 1	Set the IP Address of Domain Controller Server 1. *1 *4	Blank
Domain Controller Server 2	Select Enable/Disable of Domain Controller Server 2. *1 *3	Disable
Server Address 2	Set the IP Address of Domain Controller Server 2. *1 *4	Blank
Domain Controller Server 3	Select Enable/Disable of Domain Controller Server 3. *1 *3	Disable
Server Address 3	Set the IP Address of Domain Controller Server 3. *1 *4	Blank

Item	Description
Group *1	Displays a list of registered groups.
No	The number allocated to group is displayed.
Group Name	The group name is displayed.
Group Domain	The domain name of Active Directory is displayed.
Privilege	The privilege of the group is displayed.
Edit *1	Add or change group information.
Delete *1 *5	Delete group information.

*1: It is possible to set when Active Directory Authentication is "Enable".

*2: It is possible to set less than 255 alphanumeric characters, "-(minus sign)", "_ (underscore)" and ".(period)".

*3: When Active Directory Authentication is enabled, one or more of the Domain Controller Server should be enable.

*4: It is possible to set when each Domain Controller Server is "Enable".

*5: It is possible to set only for the existing group.

CHECK:

- In Off-line Tool, you can delete group information at the next group settings screen.
-

4.2.6 Group

This screen sets the selected group.

The screenshot shows a dialog box titled "Group No.1". Inside, there is a section labeled "Group" containing three fields: "Group Name" with a red "[Required]" label, "Group Domain" with a red "[Required]" label, and "Group Privilege" which is a dropdown menu currently set to "Administrator". Below these fields are three buttons: "Default", "OK", and "Cancel".

Item	Description	Default Value
Group	Group setting	
Group Name	Set the Group Name. *1	Blank
Group Domain	Set the Group Domain Name. *2	Blank
Privilege	Select the privilege of the Group. Administrator Operator User	Administrator

*1: It is possible to set less than 255 alphanumeric characters, "-(minus sign)" and "_(underscore)".

*2: It is possible to set less than 255 alphanumeric characters, "-(minus sign)", "_(underscore)" and ".(period)".

4.2.7 LDAP

This screen displays and sets the LDAP (Lightweight Directory Access Protocol).

Item	Description	Default Value
LDAP	LDAP setting	
LDAP Authentication	Select Enable/Disable of LDAP Authentication.	Disable
IP Address	Set the IP Address. *1	0.0.0.0
Port	Set the LDAP Port. *1	636
Search Base	Set the Search Base used by LDAP Authentication. *1 *2	Blank
Bind Domain Name	Set the Domain Name used by LDAP Authentication. *1 *2	Blank
Bind Password	Set the Password used by LDAP Authentication. *1 *3	Blank

- *1: It is possible to set when LDAP Authentication is "Enable".
- *2: It is possible to set from 4 to 62 alphanumeric characters, "-(minus sign)", "_ (underscore)", ".(period)", ",(comma)"and "=".
- *3: It is possible to set from 4 to 31 alphanumeric characters, except for " "(quotation marks)", "#" and "¥".

4.2.8 Mail Alert

This screen displays and sets the alert by E-mail from BMC.
This setting does not exist in the case of EXPRESSSCOPE Engine SP3.

BMC Configuration

SNMP Alert | System Operation | ECO | Control | Miscellaneous
Network | Service | User Account | Active Directory | LDAP | Mail Alert

Mail Alert

Alert ☐ Enable ☒ Disable Alert Test

Response time of SMTP server **[Required]** seconds (30 - 600)

Mail

☒ To:1 **[Required]**
☐ To:2 **[Required]**
☐ To:3 **[Required]**
From
Reply-To
Subject

SMTP Server

SMTP Server
*IP Address or Dmain Name

SMTP Port **[Required]** (1 - 65535)

SMTP Authentication ☐ Enable ☒ Disable

☒ CRAM-MD5 ☒ LOGIN ☒ PLAIN

Default Value Apply Cancel

BMC Configuration

SNMP Alert | System Operation | ECO | Control | Miscellaneous
Network | Service | User Account | Active Directory | LDAP | Mail Alert

SMTP Port **[Required]** (1 - 65535)

SMTP Authentication ☐ Enable ☒ Disable

☒ CRAM-MD5 ☒ LOGIN ☒ PLAIN

User Name **[Required]**
Password **[Required]**

Alert Level

Alert Level

	To:1	To:2	To:3
Temperature(Monitoring Threshold)			
Error	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Warning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Voltage(Monitoring Threshold)			
Error	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Warning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FAN(Speed)			
Error	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Warning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Default Value Apply Cancel

Item	Description	Default Value
Mail Alert	Mail Alert setting	
Alert	Select Enable/Disable of Mail Alert.	Disable
Response time of SMTP server	Set the timeout period until when the connection to SMTP server succeed by E-mail transmission.	30
Mail	Mail Header setting	
To:1	Select Enable/Disable of To:1. *1	Enable
Mail Address	Set the mail address of To:1. *2 *3	Blank
To:2	Select Enable/Disable of To:2. *1	Disable
Mail Address	Set the mail address of To:2. *2 *3	Blank
To:3	Select Enable/Disable of To:3. *1	Disable
Mail Address	Set the mail address of To:3. *2 *3	Blank
From	Set the From. *3	Blank
Reply-To	Set the Reply-To. *3	Blank
Subject	Set the Subject. *4	Blank
SMTP Server	SMTP Server setting	
SMTP Server	Set the SMTP Server. *5	0.0.0.0
SMTP Port	Set the SMTP Port.	25
SMTP Authentication	Select Enable/Disable of SMTP Authentication.	Disable
CRAM-MD5	Select Enable/Disable of CRAM-MD5. *6 *7	Enable
LOGIN	Select Enable/Disable of LOGIN. *6 *7	Enable
PLAIN	Select Enable/Disable of PLAIN. *6 *7	Enable
User Name	Set the SMTP User Name. *6 *8	Blank
Password	Set the SMTP User Password. *6 *9	Blank
Alert Level	Alert Level setting	
Alert Level	Set the kind of event to alert. *10	Error/ Warning
Alert Test	Execute the alert test by E-mail.	

*1: When Mail Alert is enabled, one or more of the addresses should be enabled.

*2: It is possible to set when To:X is "Enable".

*3: It is possible to set less than 255 alphanumeric characters and "-(minus sign)", "_ (underscore)", ".(period)", "@(at mark)".

*4: It is possible to set less than 63 alphanumeric characters, except for "+", " "(quotation marks)", "?", "=", "<", ">", "#" and "¥".

*5: It is possible to set full domain or IP Address less than 255 alphanumeric characters and "-(minus sign)", "_ (underscore)", ".(period)".

*6: It is possible to set when SMTP Authentication is "Enable".

*7: When SMTP Authentication is enabled, one or more of the authentic method should be enabled.

*8: It is possible to set less than 64 alphanumeric characters, except for " (space)", " "(quotation marks)", "?", "=", "<", ">", "#" and "¥".

*9: It is possible to set less than 19 alphanumeric characters, except for " (space)", " "(quotation marks)", "?", "=", "<", ">", "#" and "¥".

*10: The Alert Level is as follows:

Alert Level	Description
Error	When "Error" is detected in each sensor type, the alert is sent to the checked address.
Error/ Warning	When "Error" or "Warning" is detected in each sensor type, the alert is sent to the checked address.
Error/ Warning/ Information	When "Error", "Warning" or "Information" is detected in each sensor type, the alert is sent to the checked address.
Separate Setting	You can arbitrarily select the event and the address(To:X) to alert in each sensor type.

4.2.9 SNMP Alert

This screen displays and sets the alert by SNMP from BMC.

BMC Configuration

Network | Service | User Account | Active Directory | LDAP | Mail Alert

SNMP Alert | System Operation | ECO | Control | Miscellaneous

SNMP Alert

Alert: ☐ Enable ☒ Disable

Computer Name:

Community Name:

Alert Process: ☒ One Alert Receiver ☐ All Alert Receivers

Alert Acknowledge: ☒ Enable ☐ Disable

Alert Retry Count: times (0 - 7)

Alert Timeout: seconds (3 - 30)

Alert Receiver

☒ Primary IP Address [Required]

☐ Secondary IP Address [Required]

☐ Tertiary IP Address [Required]

Alert Level

Alert Level:

Alert Test

Default Value Apply Cancel

The screenshot shows the 'BMC Configuration' dialog box. The 'Alert Receiver' tab is selected. Under 'Alert Receiver', the 'Primary IP Address' is set to '0.0.0.0' and is marked as '[Required]'. The 'Secondary IP Address' and 'Tertiary IP Address' are also set to '0.0.0.0' and marked as '[Required]'. Under 'Alert Level', the 'Alert Level' dropdown is set to 'Error/Warning'. Below this, there is a table with columns 'Error', 'Warning', and 'Information' for various system events.

	Error	Warning	Information
Temperature(Monitoring Threshold)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Voltage(Monitoring Threshold)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FAN(Speed)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cooling Device(Monitoring Threshold)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Temperature(Monitoring Abnormal State)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
POST Memory Resize	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Module/Board(Missing)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMI Timeout	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Voltage(Monitoring Abnormal State)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooling Device(Monitoring Abnormal)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Transition to Power Save	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Microcontroller State	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

At the bottom of the dialog, there are buttons for 'Default Value', 'Apply', and 'Cancel'.

Item	Description	Default Value
SNMP Alert	SNMP Alert setting	
Alert*1	Select Enable/Disable of SNMP Alert.	Disable
Computer Name	Set the Computer Name. *2	Blank
Community Name	Set the Community Name. *2	public
Alert Process	Select One Alert Receiver/All Alert Receiver of Alert Process.	One Alert Receiver
Alert Acknowledge	Select Enable/Disable of Alert Acknowledge.	Enable
Alert Retry Count	Set the count of Alert retry. *3	3
Alert Timeout	Set the seconds to alert timeout. *3	6
Alert Receiver	Alert Receiver setting.	
Primary IP Address	Select Enable/Disable of Primary IP Address. *4	Enable
IP Address	Set the IP Address of Primary. *5	0.0.0.0
Secondary IP Address	Select Enable/Disable of Secondary IP Address. *4	Disable
IP Address	Set the IP Address of Secondary. *5	0.0.0.0
Tertiary IP Address	Select Enable/Disable of Tertiary IP Address. *4	Disable
IP Address	Set the IP Address of Tertiary. *5	0.0.0.0
Alert Level	Alert Level setting	
Alert Level	Set the kind of event to alert. *6	Error/ Warning
Alert Test	Execute the alert test by SNMP.	

*1: When PEF(Platform Event Filter) setting is "Disable", it can not alert.

*2: It is possible to set less than 16 alphanumeric characters.

*3: It is possible to set when Alert Acknowledge is "Enable".

*4: When SNMP Alert is enabled, one or more of the addresses should be enable.

*5: It is possible to set when each Alert Receiver is "Enable".

*6: The Alert Level are as follows:

Alert Level	Description
Error	When "Error" is detected in each sensor type, the alert is sent to the checked address.
Error/ Warning	When "Error" or "Warning" is detected in each sensor type, the alert is sent to the checked address.
Error/ Warning/ Information	When "Error", "Warning" or "Information" is detected in each sensor type, the alert is sent to the checked address.
Separate Setting	You can arbitrarily select the event to alert in each sensor type.

4.2.10 System Operation

This screen displays and sets the Remote KVM console and the Remote Media.

BMC Configuration

Network

Service

User Account

Active Directory

LDAP

Mail Alert

SNMP Alert

System Operation

ECO

Control

Miscellaneous

Remote KVM Console

Encryption

☒ Enable ☐ Disable

Port(No Encryption)

[Required]

7578

(1024 - 65535)

Port(Encryption)

[Required]

7582

(1024 - 65535)

Mouse Cursor Mode

☐ Single ☒ Dual

Mouse Coordinate Mode

☐ Relative ☒ Absolute

*When server OS is Microsoft Windows, Absolute Mode is recommended.
When OS is Linux, Relative Mode is recommended.

Keyboard Language

English(US)

Remote Media

Encryption

☒ Enable ☐ Disable

Port(No Encryption)

Remote CD/DVD

[Required]

5120

(1024 - 65532)

Remote USB Memory

5122

Remote FD

5123

Default Value

Apply

Cancel

BMC Configuration

Network

Service

User Account

Active Directory

LDAP

Mail Alert

SNMP Alert

System Operation

ECO

Control

Miscellaneous

Mouse Cursor Mode

☐ Single ☒ Dual

Mouse Coordinate Mode

☐ Relative ☒ Absolute

*When server OS is Microsoft Windows, Absolute Mode is recommended.
When OS is Linux, Relative Mode is recommended.

Keyboard Language

English(US)

Remote Media

Encryption

☒ Enable ☐ Disable

Port(No Encryption)

Remote CD/DVD

[Required]

5120

(1024 - 65532)

Remote USB Memory

5122

Remote FD

5123

Port(Encryption)

Remote CD/DVD

[Required]

5124

(1024 - 65532)

Remote USB Memory

5126

Remote FD

5127

Default Value

Apply

Cancel

Item	Description	Default Value
Remote KVM Console	Remote KVM Console setting	
Encryption	Select Enable/Disable of Encryption.	Enable
Port (No Encryption)	Set the Remote KVM Console Port when Encryption is enabled. *1	7578
Port (Encryption)	Set the Remote KVM Console Port when Encryption is disabled. *1	7582
Mouse Cursor Mode	Select the mode of the mouse cursor. Single Dual	Dual
Mouse Coordinate Mode	Select the mode of expression of coordinates of the mouse cursor. *2 Relative Absolute	Windows: Absolute Linux, Off-line: Relative
Keyboard Language	Select the Keyboard Language. Japanese(JP) English(US) French(FR) German(DE)	English(US) *3
Remote Media	Remote Media setting	
Encryption	Select Enable/Disable of Encryption.	Enable
Remote CD/DVD Port (No Encryption)	Set the Remote CD/DVD Port when Encryption is enabled. *1	5120
Remote USB Memory Port (No Encryption)	Remote USB Memory Port is displayed. (Remote CD/DVD Port + 2)	
Remote FD Port (No Encryption)	Remote FD Port is displayed. (Remote CD/DVD Port + 3)	
Remote CD/DVD Port (Encryption)	Set the Remote CD/DVD Port when Encryption is disabled. *1	5124
Remote USB Memory Port (Encryption)	Remote USB Memory Port is displayed. (Remote CD/DVD Port + 2)	
Remote FD Port (Encryption)	Remote FD Port is displayed. (Remote CD/DVD Port + 3)	

*1: Each port number must not overlap.

*2: When OS is Windows, the Absolute mode is recommended. The Relative mode is recommended for Linux.

*3: When the language of OS is Japanese, the default value is Japanese(JP).

4.2.11 ECO

This screen displays and sets the items concerning the power consumption and the system load.

■ In the case of EXPRESSSCOPE Engine 3

BMC Configuration

Network | Service | User Account | Active Directory | LDAP | Mail Alert
SNMP Alert | System Operation | **ECO** | Control | Miscellaneous

☒ **Aggressive Mode** ?

Power Threshold(Pa) [Required] 250 (W)(240 - 250)
Correction time limit [Required] 2 Sec (1 - 600)
☐ Shutdown System

☒ **Non-Aggressive Mode** ?

Power Threshold(Pn) [Required] 240 (W)(30 - 250)
Correction time limit [Required] 10 Sec (1 - 600)

Safe Power Capping ?

☒ Power Reading Timeout

☒ **Boot Time Configuration** ?

Performance Mode ☒ Performance Optimized ☐ Power Optimized
Disable CPU Cores [Required] 0 (0 - 5)

ECO Info.

Default Value Apply Cancel

Item	Description	Default Value
Aggressive Mode (Critical Power Cap)	Aggressive Mode brings the system power consumption under the specified upper limit threshold. This function reduces power consumption by changing CPU clock, throttling CPU clock and throttling Memory clock instead of lowering the system performance. If the power consumption has been exceeded over the Power Threshold(Pa) during the period specified in the Correction time limit, it will be able to generate System Event Log, send alert, and Shutdown System.	
Aggressive Mode (Critical Power Cap)	Select Enable/Disable of Aggressive Mode.	Disable
Power Threshold(Pa) (Power Cap Value(Pc))	Set the Power consumption upper limit threshold of Aggressive Mode. The range is from AAA to Maximum Power Configuration.[Watt] *1 *2 *9	Maximum Power Configuration [*9]
Correction time limit	Set the maximum time to take corrective actions in order to bring the system power consumption back to the specified Power Threshold(Pa) before generating System Event Log, sending alert and Shutdown System. The range is from NNN to MMM.[Sec] *1 *3 *9	2 or Minimum value, whichever is greater. [*9]
Shutdown System (Exception Action)	Select Enable/Disable of the action if the power consumption has been exceeded over the Power Threshold(Pa) during the period specified in the Correction time limit. *1	Disable

Item	Description	Default Value
Non- Aggressive Mode (Non-Critical Power Cap)	Non-Aggressive Mode brings the system power consumption under the specified upper limit threshold without extremely decreasing system performance. This function reduces power consumption by changing only CPU clock in order to reduce the deterioration of the system performance compared with Aggressive Mode. If the power consumption has been exceeded over the Power Threshold(Pn) during the period specified in the Correction time limit, it will be able to generate System Event Log and send alert.	
Non-Aggressive Mode (Non-Critical Power Cap)	Select Enable/Disable of Non-Aggressive Mode.	Disable
Power Threshold(Pn) (Power Cap Value(Pn))	Set the Power consumption upper limit threshold of Non-Aggressive Mode. The range is from Minimum Power Configuration to BBB.[Watt] *4 *5 *9	Power Threshold(Pa) - 10 or Minimum Power Configuration + 10, whichever is greater. [*9]
Correction time limit	Set the maximum time to take corrective actions in order to bring the system power consumption back to the specified Power Threshold(Pn) before generating System Event Log and sending alert. The range is from NNN to MMM.[Sec] *4 *9	10 or Minimum value, whichever is greater. [*9]
Safe Power Capping *7	Safe Power Capping brings the system power consumption down forcibly when the system is unable to obtain the power readings. This function is considered for the case where the sharp increase of power consumption causes circuit breaker tripping while the system power consumption is not readable.	
Safe Power Capping (Power Reading Timeout)	Select Enable/Disable of Safe Power Capping.	Disable
Boot Time Configuration *7	Boot Time Configuration can set the performance of the system in booting. Also can set disable CPU cores per sockets.	
Boot Time Configuration	Select Enable/Disable of Boot Time Configuration.	Disable
Performance Mode	Select the performance of the system in booting. *8 Performance Optimized Power Optimized	Performance Optimized
Disable CPU Cores	Set the CPU Core number(s) to disable. *8 *9	0
ECO Info.	The reference value and the statistics value of the managed server are displayed.	

*1: It is possible to set when Aggressive Mode is "Enable".

*2: AAA is "Minimum Power Configuration" or "Power Threshold(Pn)".

*3: When "Power Threshold(Pa)" is not equal to "Power Threshold(Pn)", NNN is the minimum value of the system.

When "Power Threshold(Pa)" is equal to "Power Threshold(Pn)", NNN is "Correction time limit" of Non-Aggressive Mode.

MMM is the maximum value of the system.

*4: It is possible to set when Non-Aggressive Mode is "Enable".

*5: BBB is "Maximum Power Configuration" or "Power Threshold(Pa)".

*6: NNN is the minimum value of the system.

MMM is the maximum value of the system.

*7: It is not displayed when the system does not support this function.

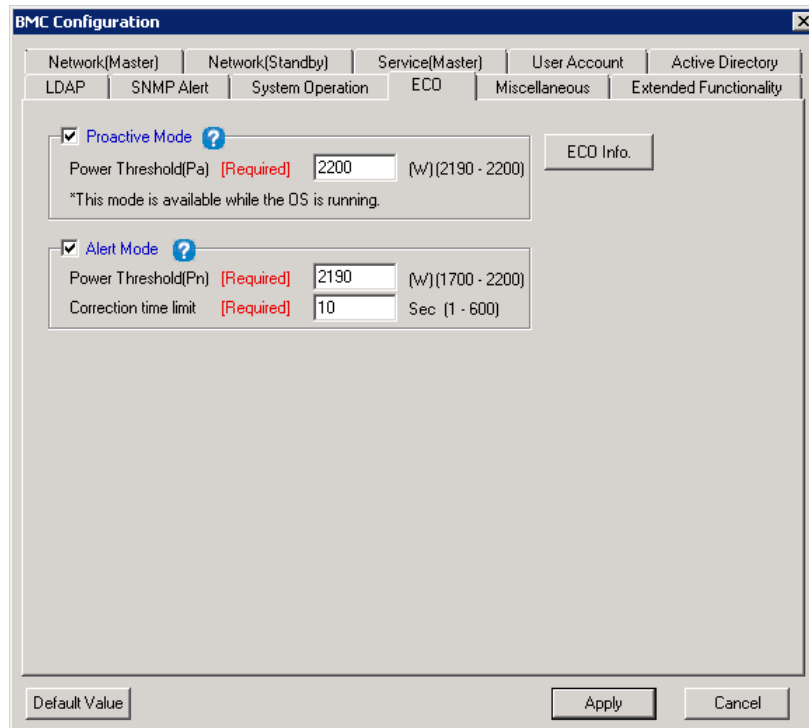
*8: It is possible to set when Boot Time Configuration is "Enable".

*9: The range and value is different according to the system.

CHECK:

- The ECO screen is not displayed if the managed server does not support this function.

■ In the case of EXPRESSSCOPE Engine SP3



Item	Description	Default Value
Proactive Mode *1	Proactive Mode function brings the system power consumption under the specified upper limit threshold as the "Power Threshold(Pa)".	
Proactive Mode	Select Enable/Disable of Proactive Mode.	Disable
Power Threshold(Pa)	Set the Power consumption upper limit threshold of Proactive Mode. The range is from AAA to Maximum Power Configuration.[Watt] *2 *3 *7	Maximum Power Configuration [*7]
Alert Mode *4	If the power consumption has been exceeded over the "Power Threshold (Pn)" during the period specified in the "Correction time limit", it will be able to generate System Event Log and send alert.	
Alert Mode	Select Enable/Disable of Alert Mode.	Disable
Power Threshold(Pn)	Set the Power consumption upper limit threshold of Alert Mode. The range is from Minimum Power Configuration to BBB.[Watt] *5 *6 *7	BBB - 10 or Minimum Power Configuration + 10, whichever is greater. [*7]

Item	Description	Default Value
Correction time limit	Set the maximum time to take corrective actions in order to bring the system power consumption back to the specified Power Threshold(Pn) before generating System Event Log and sending alert. The range is from 1 to 600.[Sec] *5	10
ECO Info.	The reference value and the statistics value of the managed server are displayed.	

- *1: This mode is available while the OS is running.
- *2: It is possible to set when Proactive Mode is "Enable".
- *3: AAA is "Minimum Power Configuration" or "Power Threshold(Pn)".
- *4: It is not displayed when the system does not support this function.
- *5: It is possible to set when Alert Mode is "Enable".
- *6: BBB is "Maximum Power Configuration" or "Power Threshold(Pa)".
- *7: The range and value is different according to the system.

4.2.12 ECO Information

This screen displays the reference value and the statistics value of the managed server according to its HW configuration and system load. The display format is different according to the system.

■ In the case of EXPRESSSCOPE Engine 3

ECO Information

Reference

Maximum Configuration (*1)

During Operation

250

[W]

Idle

60

[W]

Minimum Configuration (*2)

During Operation

100

[W]

Idle

30

[W]

(*1) Maximum configuration means 'an available maximum configuration in the purchase.'

(*2) Minimum configuration means 'an available minimum configuration in the purchase.'

These values are reference only. Each value includes a possible tolerance and might be different from the actual value which depends on your precise server configuration.

Statistics

Power

Current

40

[W]

Maximum

60

[W]

Minimum

38

[W]

Average

40

[W]

Reset

CPU Throttling

Current

0

[%]

Maximum

100

[%]

Minimum

0

[%]

Average

5

[%]

Reset

Memory Throttling

Current

0

[%]

Maximum

0

[%]

Minimum

0

[%]

Average

0

[%]

Reset

OK

ECO Information

Reference

Maximum Power Consumption

250

[W]

Minimum Power Consumption

30

[W]

Warning:

These values are reference only. Each value includes a possible tolerance.

Statistics

Power

Current

40

[W]

Maximum

60

[W]

Minimum

38

[W]

Average

40

[W]

Reset

CPU Throttling

Current

0

[%]

Maximum

100

[%]

Minimum

0

[%]

Average

5

[%]

Reset

Memory Throttling

Current

0

[%]

Maximum

0

[%]

Minimum

0

[%]

Average

0

[%]

Reset

OK

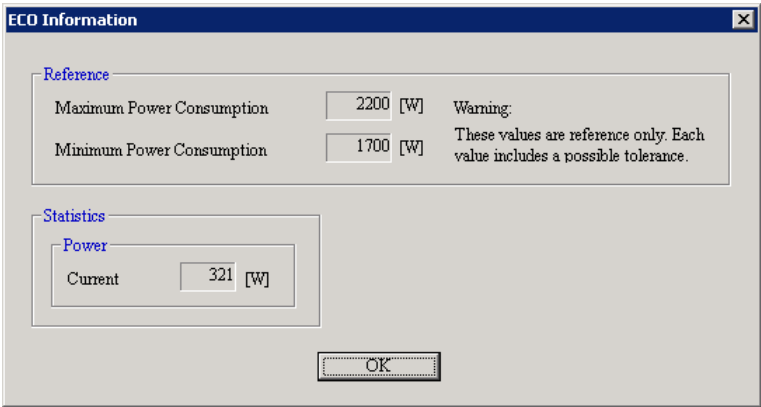
Item	Description
Maximum Configuration *1	An available maximum configuration in the model.
During Operation	At system high load.
Idle	When only power supply ON.
Minimum Configuration *1	An available minimum configuration in the model.
During Operation	At system high load.
Idle	When only power supply ON.
Maximum Power Consumption *1	Maximum system power consumption.
Minimum Power Consumption *1	Maximum system power consumption.
Power	The power consumption of the managed server is displayed.
Current	Present power consumption.
Maximum	Maximum power consumption.
Minimum	Minimum power consumption.
Average	Average value of power consumption.
CPU Throttling *2	CPU throttling rate of the managed server is displayed.
Current	Present CPU throttling rate.
Maximum	Maximum CPU throttling rate.
Minimum	Minimum CPU throttling rate.
Average	Average value of CPU throttling.
Memory Throttling *2 *3	Memory Throttling rate of the managed server is displayed.
Current	Present Memory Throttling rate.
Maximum	Maximum Memory Throttling rate.
Minimum	Minimum Memory Throttling rate.
Average	Average value of Memory Throttling.
Reset	The statistics values are reset.

*1: These values are reference purpose only. Each value might be different from the actual value which depends on your precise server configuration.

*2: Technology that decreases frequency or duty cycle of clock, and suppresses power consumption.

*3: It is not displayed when the system does not support this function.

■ In the case of EXPRESSSCOPE Engine SP3

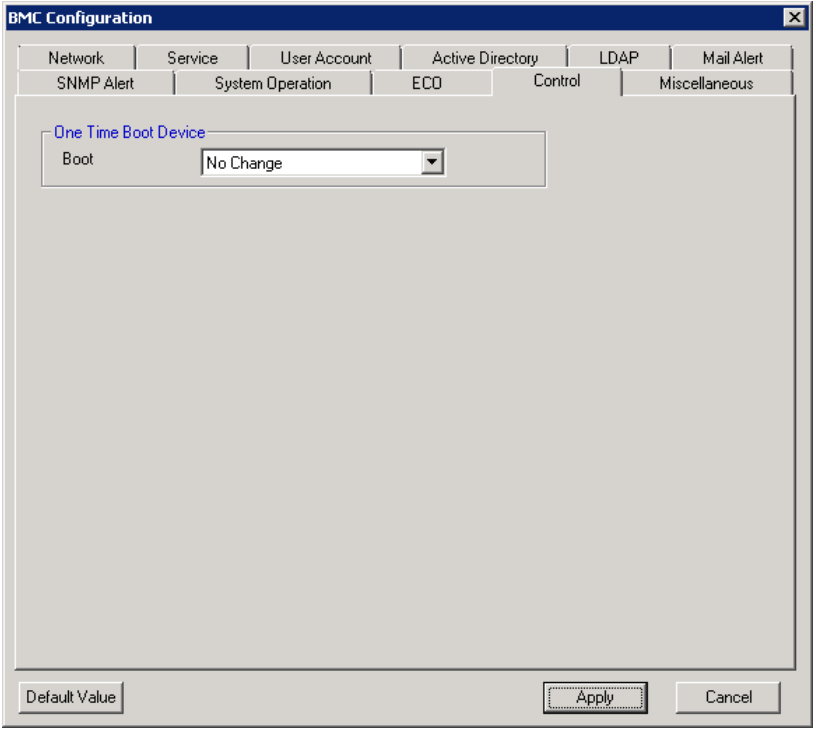


Item	Description
Maximum Power Consumption *1	Maximum system power consumption.
Minimum Power Consumption *1	Maximum system power consumption.
Power	The power consumption of the managed server is displayed.
Current	Present power consumption.

*1: These values are reference purpose only. Each value might be different from the actual value which depends on your precise server configuration.

4.2.13 Control

Control the managed server. This setting is applied at the next booting time of the managed server. This setting does not exist in the case of EXPRESSSCOPE Engine SP3.



Item	Description	Default Value
One Time Boot Device	One Time Boot Device setting	
Boot Device *1	Select the Device used at next boot.	No Change

*1: The Boot Devices are as follows:

Boot Device	Description
No Change	It follows the setting of System BIOS of the managed server.
PXE	PXE Boot is done.
HDD	It starts from the hard disk connected to the managed server.
CD/DVD	It starts from the CD/DVD drive connected to the managed server.
Remote FD	It starts from the FD drive (media) connected by the remote media function.
Remote CD/DVD	It starts from the CD/DVD drive (media) connected by the remote media function.
Remote USB Memory	It starts from USB Memory connected by the remote media function.
FD	It starts from the FD drive or the removable mass storage connected to the managed server.

CHECK:

- This setting item does not exist in Off-line TOOL.

4.2.14 Miscellaneous

This screen displays and sets the various functions of BMC.

Item	Description	Default Value
SEL	SEL setting	
Behavior when SEL repository is full	Select the Behavior when SEL repository is full. *1 Stop logging SEL : SEL is not recorded any more. Clear all SEL : Delete all SEL and record SEL newly. Overwrite oldest SEL : Old SEL is overwritten with new SEL.	Stop logging SEL
Power Restore Delay	Power Restore Delay setting	
AC-Link	Select the AC-Link setting. Stay Off : DC is not turned on. Last State : It becomes the same as time when AC was turned off. Power On : DC on always.	Last State *2
Delay Time	Set the value or specify the Random. The range is from "Minimum value" to "600"[Sec], *3	Minimum value
PEF	PEF setting	
Platform Event Filter	Select Enable/Disable of Platform Event Filter. *4	Enable
Management Software	Management Software setting	
ESMPRO Management	Select Enable/Disable of ESMPRO Management. *5	Current value

Item	Description	Default Value
Authentication Key	Set the Authentication Key. *6 *7	guest
Redirection	Select Enable/Disable of Redirection. *6 If Redirection is set to "Enable", BIOS Redirection Port in Console Redirection Configuration of BIOS is set to "Serial Port B".	Enable

*1: When this item is changed to/from "Overwrite oldest SEL", all log records in the SEL Repository are cleared.

*2: When the "Standby Power Save" function of System BIOS is Enable, it is set to "Power On". And the default value is changed to "Power On".

*3: It is not possible to set when AC-Link is "Stay Off" or the system is Blade Server. Delay time from turning on AC to turning on DC is specified. It is possible to set up to 600(seconds). Minimum value is different according to the system. It is possible to set "Random" when the system supports it.

*4: "Enable" and "Disable" of the report function from BMC are set. It makes SNMP Alert be impossible when it sets to "Disable".

*5: When BMC can be managed directly from NEC ESMPRO Manager (Ver.5.4 or later), it must be set to "Enable". If it sets to "Enable", Authentication Key also must be set.

*6: It is possible to set when NEC ESMPRO Management is set "Enable".

*7: It is Authentication key when managing from NEC ESMPRO Manager (Ver.5.4 or later). It is possible to set less than 16 alphanumeric characters.

CHECK:

- Power Restore Delay settings do not exist in Off-line TOOL.
-

4.2.15 Extended Functionality

This screen displays and sets the extended functions.
This setting only exists in the case of EXPRESSSCOPE Engine SP3.
Please refer to the User's Guide of the managed server for details of the item.

BMC Configuration

Network(Master)Network(Standby)Service(Master)User AccountActive DirectoryLDAPSNMP AlertSystem OperationECOMiscellaneousExtended Functionality

Cooling

Current valueValue of after rebooting

BBU(*) on PCI SlotNot-InstalledNot-InstalledInstalled

*BBU: Battery Backup Unit for SAS Card.

Fault Handling

Current valueValue of after rebooting

Degraded Server Boot PolicyBootBootNot-Boot

Failing Unit RemovalEnableEnableDisable

FRB2 MonitoringEnableEnableDisable

Diagnostics

Current valueValue of after rebooting

Periodic DiagnosisEnableEnableDisable

Configuration

Current valueValue of after rebooting

Master Clock ModuleClock1Clock1Clock2

Default Value

Apply

Cancel

BMC Configuration

Network(Master)Network(Standby)Service(Master)User AccountActive DirectoryLDAPSNMP AlertSystem OperationECOMiscellaneousExtended Functionality

Fault Handling

Current valueValue of after rebooting

Degraded Server Boot PolicyBootBootNot-Boot

Failing Unit RemovalEnableEnableDisable

FRB2 MonitoringEnableEnableDisable

Diagnostics

Current valueValue of after rebooting

Periodic DiagnosisEnableEnableDisable

Configuration

Current valueValue of after rebooting

Master Clock ModuleClock1Clock1Clock2

Spare Memory Configuration ModeStaticStaticDynamic

Spare PCIe Configuration ModeStaticStaticDynamic

Default Value

Apply

Cancel

Item	Description	Default Value
Cooling	Cooling function setting	
BBU(*1) on PCI Slot	Select the cooling function of the BBU(*1). Not -Installed Installed	Not -Installed
Fault Handling	Fault Handling function setting	
Degraded Server Boot Policy	Select the Degraded Server Boot Policy. Boot Not-Boot	Not-Boot
Failing Unit Removal	Select Enable/Disable of Failing Unit Removal. Enable Disable	Enable
FRB2 Monitoring	Select Enable/Disable of FRB2 Monitoring. Enable Disable	Enable
POST Monitoring *3	Select Enable/Disable of POST Monitoring. Enable Disable	Enable
Boot Monitoring *3	Select Enable/Disable of Boot Monitoring. Enable (Set time [Min]) Disable	Disable
OpROM Monitoring *3	Select Enable/Disable of OpROM Monitoring. Enable Disable	Disable
Failure Flow Monitoring *3	Select Enable/Disable of Failure Flow Monitoring. Enable (Set time [Min]) Disable	Disable
Shutdown Monitoring *3	Select Enable/Disable of Shutdown Monitoring. Enable (Set time [Min]) Disable	Disable
Diagnostics *2	Diagnostics function setting	
Periodic Diagnosis	Select Enable/Disable of Periodic Diagnosis. Enable Disable	Enable
Configuration *2	Various other setting	
Master Clock Module	Select the Master Clock Module. Clock1 Clock2	Clock1
Spare Memory Configuration Mode	Select the Spare Memory Configuration Mode. Static Dynamic	Static
Spare PCIe Configuration Mode	Select the Spare PCIe Configuration Mode. Static Dynamic	Static

*1: Battery Backup Unit for SAS Card

*2: It is not displayed when the system does not support this function.

*3: This item only exists in Off-line TOOL. It is displayed when the system supports this function.

CHECK:

- This setting is applied at the next booting time of the managed server.
-

4.3 BIOS Configuration

This screen displays and sets System BIOS settings of the server. Please refer to the User's Guide of the managed server for details of the item.

This setting is applied at the next booting time of the managed server.

BIOS Configuration

BIOS

Basic Configuration

	Current value	Value of after rebooting
POST Error Pause	Enable	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Memory	Boot	<input type="radio"/> Halt <input checked="" type="radio"/> Boot
CLI Setup	Disable	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Standby Power Save	Disable	<input type="radio"/> Enable <input checked="" type="radio"/> Disable

Serial Port A Configuration

	Current value	Value of after rebooting
Serial Port A	Enable	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Serial A Base I/O	3F8h	3F8h
Serial A Interrupt	IRQ 4	IRQ 4

Serial Port B Configuration

	Current value	Value of after rebooting
Serial Port B	Enable	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Serial B Base I/O	2F8h	2F8h
Serial B Interrupt	IRQ 3	IRQ 3

Default Value Apply Cancel

BIOS Configuration

BIOS

	Current value	Value of after rebooting
Serial Port B	Enable	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Serial B Base I/O	2F8h	2F8h
Serial B Interrupt	IRQ 3	IRQ 3

Console Redirection Configuration

	Current value	Value of after rebooting
BIOS Redirection Port	Serial Port B	Serial Port B
Terminal Type	VT-100+	VT-100+
Baud Rate	115200	115200
Data Bits	8	8
Stop Bits	1	1
Parity	None	None
Flow Control	Hardware RTS/CTS	Hardware RTS/CTS
Continue C.R. after POST	Enable	<input checked="" type="radio"/> Enable <input type="radio"/> Disable

Default Value Apply Cancel

Item	Description	Default Value *1
Basic Configuration	Basic Configuration setting	
POST Error Pause	Select Enable/Disable of POST Error Pause.	Enable
Memory Error *2	Select Halt/Boot of Memory Error.	Boot
CLI Setup *2	Select Enable/Disable of CLI Setup.	Disable
Standby Power Save *2	Select Enable/Disable of Standby Power Save.	Disable
Serial Port A Configuration	Serial Port A Configuration setting	
Serial Port A	Select Enable/Disable of Serial Port A.	Enable
Serial A Base I/O	Select Base I/O Address of Serial Port A. It must be different from Serial Port B.	3F8h
Serial A Interrupt	Select IRQ of Serial Port A. It must be different from Serial Port B.	IRQ 4
Serial Port B Configuration	Serial Port B Configuration setting	
Serial Port B	Select Enable/Disable of Serial Port B.	Enable
Serial B Base I/O	Select Base I/O Address of Serial Port B. It must be different from Serial Port A.	2F8h
Serial B Interrupt	Select IRQ of Serial Port B. It must be different from Serial Port A.	IRQ 3
Console Redirection Configuration	Console Redirection Configuration setting	
BIOS Redirection Port	Select BIOS Redirection Port. You can not select "Disable" Port.	Disabled
Terminal Type	Select Terminal Type.	VT-100+
Baud Rate	Select Baud Rate.	115200
Data Bits	Select Data Bits.	8
Stop Bits	Select Stop Bits	1
Parity	Select Parity.	None
Flow Control	Select Flow Control.	Hardware RTS/CTS
Continue C.R. after POST	Select Enable/Disable of Continue Console Redirection after POST.	Enable

*1: The value might be different according to the system.

*2: It is not displayed when the system does not support this function.

CHECK:

- This setting item does not exist in Off-line TOOL.
-

4.4 Battery Configuration

If the managed server is equipped with a battery, you can check and configure the information of the battery.

CHECK:

- Battery Configuration is not displayed if the managed server is not equipped with a battery.
- Select Battery Configuration in Off-line TOOL.

4.4.1 Battery Pack Information

This screen displays the various information of the battery pack.

	Battery Pack1	Battery Pack2
Status	Normal	Normal
Charge Status	Fully Charged	Fully Charged
Battery Pack Replacement	No Need	No Need
Remaining Charge	2500 mAh	2500 mAh
Full Charge Capacity	2500 mAh	2500 mAh
Rated Capacity	2500 mAh	2500 mAh
Voltage	9443 mV	9443 mV
Current	0 mA	0 mA
Manufacturer Name	FDK	FDK
Model Name	TC071NE3	TC071NE3
Battery Type	NiMH	NiMH
Total Working Hours	888 Hours	890 Hours
Recharged Count	12 Times	12 Times
Full Charged Count	78 Times	77 Times

Item	Description
Battery Pack Information	Displays the information of the Battery Pack 1 and 2.
Status	The detected state of the battery pack is displayed. Normal / Warning / Error / Not Mounted
Charge Status	The charge status of the battery pack is displayed. *1 Fully Charged / Charging / Discharging(%) / Unknown
Battery Pack Replacement	The necessity of the battery pack replacement is displayed. *1 Need / No Need
Remaining Charge	The remaining charge[mAh] of the battery pack is displayed. *1 Remaining Charge : The remaining capacity for the Full Charge Capacity.
Full Charge Capacity	The full charge capacity[mAh] of the battery pack is displayed. *1 Full Charge Capacity : The battery capacity that could be discharged to the voltage at the end of discharge from full charge.
Rated Capacity	The rated capacity[mAh] of the battery pack is displayed. *1 Rated Capacity : The minimum capacity of the battery pack based on the charge and discharge conditions of JIS C8708 2007.

Item	Description
Voltage	The measured voltage[mV] of the battery pack is displayed. *1
Current	The measured current [mA] of the battery pack is displayed. *1
Manufacturer Name	The manufacturer name of the battery pack is displayed. *1
Model Name	The model name of the battery pack is displayed. *1
Battery Type	The type of the battery pack is displayed. *1
Total Working Hours	The total working hours of the battery pack is displayed. *1
Recharged Count	The recharged count of the battery pack is displayed. *1
Full Charged Count	The full charged count of the battery pack is displayed. *1

*1: If the battery pack is not mounted, "-" is displayed.

4.4.2 Battery Controller Information

This screen displays the various information of the battery controller.

Battery Controller Information	
Manufacturer Name	FDK
Device Name	TC071NE3
Firmware Revision	04.06
Supported Battery Type	NiMH
Approximate Backup Time at Full Charge(current load) min:sec	26:1
Approximate Backup Time at Full Charge(maximum load) min:sec	2:45
Rated Capacity	5000 mAh
Rated Power	300 W
Peak VA	350 W
Charge Power	25 W

Item	Description
Battery Controller Information	Displays the information of the Battery Controller.
Manufacturer Name	The manufacturer name of the battery controller is displayed.
Device Name	The device name of the battery controller is displayed.
Firmware Revision	The firmware revision of the battery controller is displayed.
Supported Battery Type	The type of the battery controller is displayed.
Approximate Backup Time at Full Charge(current load)	The approximate backup time[minutes:seconds] in fully charged state at current load of the battery controller is displayed. *1 *2
Approximate Backup Time at Full Charge(maximum load)	The approximate backup time[minutes:seconds] in fully charged state at maximum load of the battery controller is displayed. *1 *2
Rated Capacity	The rated capacity[mAh] of the battery controller is displayed. Rated Capacity : The minimum capacity of the battery controller based on the charge and discharge conditions of JIS C8708 2007.
Rated Power	The rated power[W] of the battery is displayed.
Peak VA	The peak power[W] of the battery is displayed.
Charged Power	The power[W] required for charging is displayed.

*1: If the approximate backup time is unknown, "-" is displayed.

*2 'Approximate Backup Time at Full Charge' is a reference value when the server's environment temperature is 25 degrees Celsius. This value may be different from actual operating time caused by temperature differences.

4.4.3 Battery Controller Configuration

This screen displays and sets the various functions of the battery controller.

Item	Description	Default Value
Battery Controller Configuration	Battery Controller setting	
Shutdown at power lost	Select Enable/Disable of the ability to shutdown at the power failure. *1	Disable
Shutdown delay time	Set the timeout period until the shutdown will be started at the power failure. *2 *3	0
Battery turn off delay time	Set the timeout period until the shutdown will be finished at the power failure. *2 *3	0
Boot after power recovery	Select Enable/Disable of the ability to boot after the power recovery. *2 *4	Disable
Boot timeout after DC-ON	Set the timeout period until the boot is complete after DC-ON. *2 *3 *5	0

*1: The POWER Switch should be configured to shutdown in the OS.

*2: It is possible to set only if Shutdown at power lost is set to "Enable".

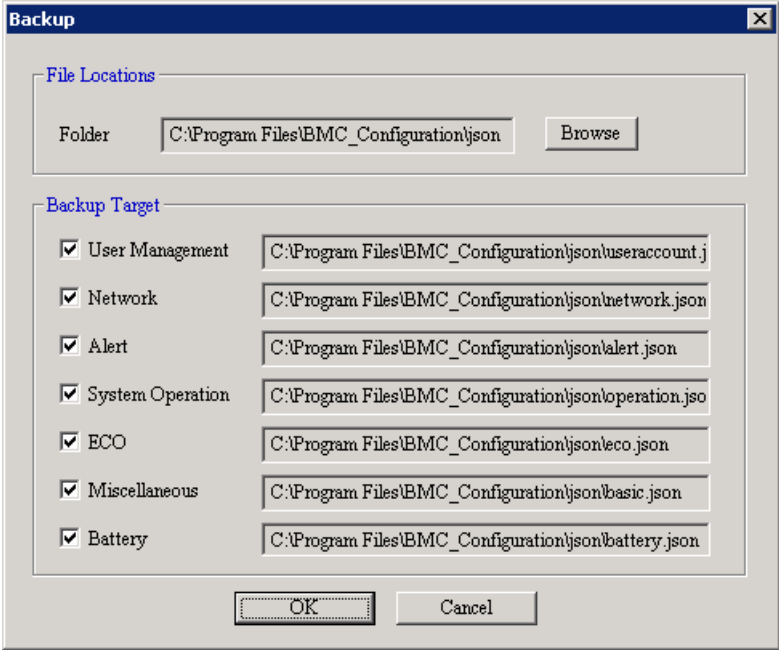
*3: The battery output period may be briefer in duration than the each configured time in this item, depending on the remaining charge.

*4: This item is valid only when AC-LINK is set 'Stay Off', or AC-LINK is set 'Last State' and Last State is DC-OFF.

*5: This item is valid at DC-ON after the shutdown system by 'Shutdown at power lost'. (DC-ON by 'Boot after power recovery' or manually)

4.5 Backup

Back up the configurations to files. Select the backup target and click [OK].
This function does not exist in the case of EXPRESSSCOPE Engine SP3.



Item	Description
File Locations	Set the location of backup files.
Folder	The preservation folder of the file is displayed.
Browse	It changes the preservation folder.
Backup Target	Select the backup target.
User Account	Select whether backup User Account settings or not, and display the backup file name.
Network	Select whether backup Network settings or not, and display the backup file name.
Alert	Select whether backup Alert settings or not, and display the backup file name.
Operation	Select whether backup Operation settings or not, and display the backup file name.
ECO *1	Select whether backup ECO settings or not, and display the backup file name.
Miscellaneous	Select whether backup Miscellaneous settings or not, and display the backup file name.
Battery *1	Select whether backup Battery settings or not, and display the backup file name.

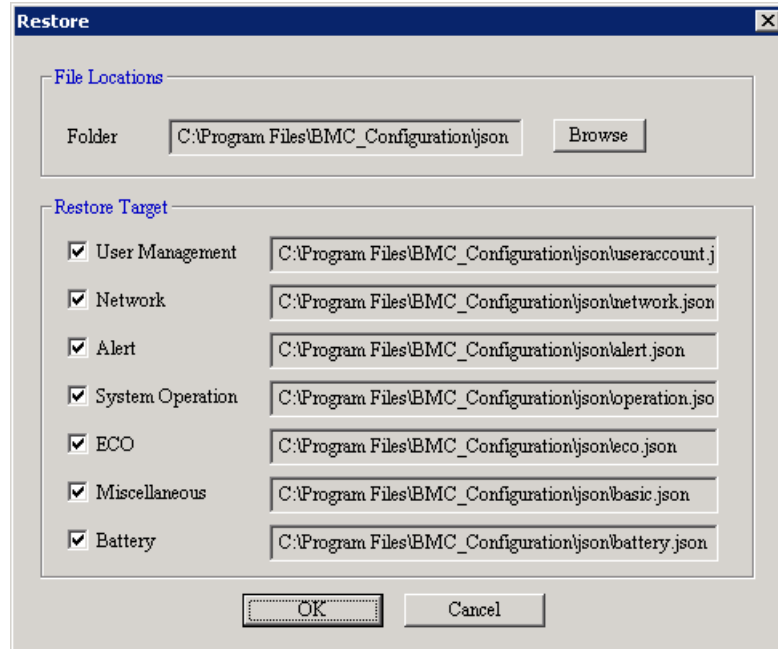
*1: It is not displayed when the system does not support this function.

CHECK:

- Off-line TOOL has no backup function.

4.6 Restore

Restore the configurations from files. Select the restore target and click [OK].
This function does not exist in the case of EXPRESSSCOPE Engine SP3.



Item	Description
File Locations	Set the locations of files.
Folder	The preservation folder of the file is displayed.
Browse	It changes the preservation folder.
Restore Target	Select the restore target.
User Account	Select whether restore User Account settings or not. Only when the target backup file exists, the file name is displayed and able to be selected.
Network	Select whether restore Network settings or not. Only when the target backup file exists, the file name is displayed and able to be selected.
Alert	Select whether restore Alert settings or not. Only when the target backup file exists, the file name is displayed and able to be selected.
Operation	Select whether restore Operation settings or not. Only when the target backup file exists, the file name is displayed and able to be selected.
ECO *1	Select whether restore ECO settings or not. Only when the target backup file exists, the file name is displayed and able to be selected.
Miscellaneous	Select whether restore Miscellaneous settings or not. Only when the target backup file exists, the file name is displayed and able to be selected.
Battery *1	Select whether restore Battery settings or not. Only when the target backup file exists, the file name is displayed and able to be selected.

*1: It is not displayed when the system does not support this function.

CHECK:

- Off-line TOOL has no restore function.
-

4.7 Clear BMC SEL

If you select "Clear BMC SEL" on the menu of BMC Configuration, you can clear all records of System Event Log.

4.8 BMC Configuration Initialization

If you select "BMC Configuration Initialization" on the starting screen, you can restore all of BMC Configuration parameters to the default settings except for the part. It will take a few minutes to restart BMC.

IMPORTANT:

- This operation may cause data destruction.
 - False HW error information may be detected on the server if Shutdown, Reboot, or any other operation is executed during a few minutes after this operation. Please refer to the server's User's Guide to get more information, because the occurrence of the false HW error detection depends on the model of the server.
-

CHECK:

- The initialization of the ECO settings is supported the following version.
 - BMC Configuration for Windows Ver.1.21 or later
 - If the managed server is equipped with a battery, this item appears in "BMC/Battery Configuration Initialization" and the Battery settings are also initialized.
-

4.9 Reset BMC

If you select "Reset BMC" on the menu of BMC Configuration, you can reset BMC without rebooting system. It will take a few minutes to restart BMC.

IMPORTANT:

- Please use it when you can not operate the BMC functions correctly or if necessary.
 - This operation does not clear the configuration settings.
 - False HW error information may be detected on the server if Shutdown, Reboot, or any other operation is executed during a few minutes after this operation. Please refer to the server's User's Guide to get more information, because the occurrence of the false HW error detection depends on the model of the server.
-

4.10Monitoring

This chapter explains "Monitoring" items. Refer to set more detailed settings.
This setting only exists in the case of EXPRESSSCOPE Engine SP3 and the managed server supports this function.

- CHECK:
- NEC System Management Controller driver must be run to set.
 - This setting item does not exist in Linux and Off-line TOOL.

4.10.1 WDT

This screen displays and sets the Monitor System Hangs.

WDT

☒ Monitor System Hangs

Timeout [Required]60Seconds (60 - 600)

Interval [Required]30Seconds (30 - 60)

Action at timeoutNone

Action after timeoutSystem

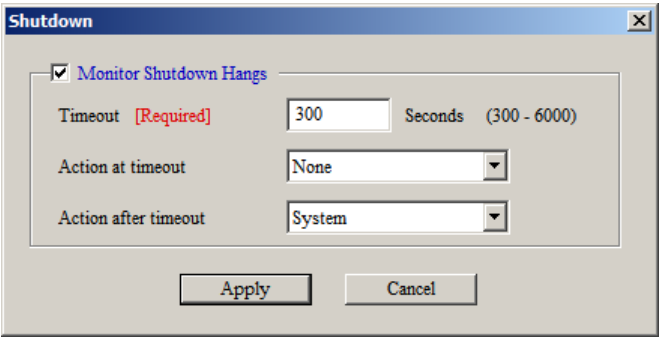
Apply

Cancel

Item	Description
Monitor System Hangs	WDT monitoring setting
Timeout	Set the timeout period of monitoring.
Interval	Set the interval period of monitoring.
Action at timeout	Select the action at timeout. None NMI
Action after timeout	Select the action after timeout. System Reset Power off Power cycle

4.10.2 Shutdown

This screen displays and sets the Monitor Shutdown Hangs.



Item	Description
Monitor Shutdown Hangs	Shutdown monitoring setting
Timeout	Set the timeout period of monitoring.
Action at timeout	Select the action at timeout. None NMI
Action after timeout	Select the action after timeout. System Reset Power off Power cycle

5. Functions for ft Server

This chapter describes the functions of BMC Configuration of if you use ft Server.
Please refer to chapter 4 when you use a standard server.

5.1 Start procedure

5.1.1 On Windows

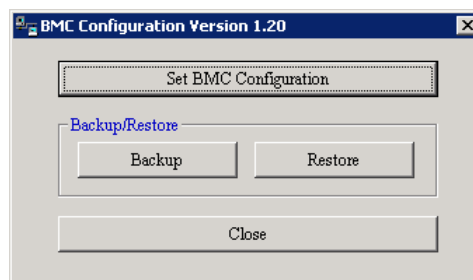
After the installation is completed, do the following operation as the built-in Administrator to start BMC Configuration.

- Click "BMC_Configuration" - "BMC Configuration" from [start] on Windows

CHECK:

- If it is not a built-in Administrator, right click the menu and select "Run as administrator".
-

The following screen shows example.



TIPS:

- Refer to the following to see BMC Configuration help information.

Click "BMC_Configuration" - "BMC Configuration Help"
from [start] on Windows.

5.1.2 On Off-line TOOL

You can start the Off-line TOOL as follows.

(1) The following message is displayed on the bottom of POST screen.

Press<F2> SETUP, <F4> ROM Utility, <F12> Network

(2) Press F4 key on this screen. If F4 key is entered, Keyboard type selection screen is displayed after POST screen, and the Off-line TOOL menu is displayed after selecting keyboard type.

(3) Select BMC Configuration.

TIPS:

- Off-line TOOL is integrated in the managed server by default.
- Refer to the following to see help information.

Start the tool and select Help menu, or press Home key or "?" key
on the screen displayed "[Help:[Home or ?]]" at the bottom.

5.2 BMC Configuration Setting

This chapter explains all the BMC Configuration information items. Refer to set more detailed settings. Explain the settings with the screen of BMC Configuration for Windows.

"Network" and "Service" are different settings for CPU/IO module0 and CPU/IO module1. Otherwise, they are common settings for CPU/IO module0 and CPU/IO module1. However, part of network settings of primary module are preferentially. It should be same settings for CPU/IO module0 and CPU/IO module1. Please refer to chapter 5.2.1 to get more information.

5.2.1 Network

This screen displays and sets the network environment of BMC.

The screenshot shows the "BMC Configuration" window with the "Network0" tab selected. The window has a title bar with a close button. Below the title bar is a tabbed interface with the following tabs: Mail Alert, SNMP Alert, System Operation, Control, Miscellaneous, Network0, Service0, Network1, Service1, User Account, Active Directory, and LDAP. The "Network0" tab is active, displaying a message: "Modifying the setting in this screen will turn the connection with the BMC off." Below this message is a section titled "Management LAN" containing the following settings:

- Management LAN: Management LAN
- Connection Type: Auto Negotiation (dropdown menu)
- BMC MAC Address: 50:E5:49:25:05:81
- DHCP: ☒ Enable ☐ Disable
- IP Address [Required]: 192.168.14.22
- Subnet Mask [Required]: 255.255.254.0
- Default Gateway: 0.0.0.0
- Dynamic DNS: ☐ Enable ☒ Disable
- DNS Server: (empty text box)
- Host Name: (empty text box)
- Domain Name: (empty text box)

Below the "Management LAN" section is a section titled "Access Limitation" which is currently empty. At the bottom of the window are three buttons: "Default Value", "Apply", and "Cancel".

The screenshot shows the 'BMC Configuration' dialog box with the 'Network0' tab selected. The 'IPv6 Configuration' section has the following settings: IPv6 is disabled; IPv6 Address Assignment Mode is Dynamic; IPv6 Link Local Address is fe80::763a:65ff:fe84:6ec2; IPv6 Global Address is empty; IPv6 Static Address [Required] is empty; IPv6 Prefix Length [Required] is 64 (range 0-64); IPv6 Gateway Address [Required] is empty; and IPv6 DNS Server Address [Required] is empty. The 'Access Limitation' section has 'Access Limitation Type' set to Allow All, and 'IP Address [Required]' is empty. At the bottom, there are buttons for 'Default Value', 'Apply', and 'Cancel'. A note at the bottom states: '*Use commas (,) to separate IP address. *The wildcard (*) can be used in IP Address.'

Item	Description	Default Value
Management LAN	Management LAN setting	
Management LAN	LAN port to communicate with BMC is displayed. *1	Management LAN
Connection Type	Set and display the connection type of managed server. *16 Auto Negotiation : Connecting by suitable setting. 100Mbps Full : Connecting by Full Duplex at speed of 100 Mbps. 100Mbps Half : Connecting by Half Duplex at speed of 100 Mbps. 10Mbps Full : Connecting by Full Duplex at speed of 10 Mbps. 10Mbps Half : Connecting by Half Duplex at speed of 10 Mbps.	Auto Negotiation
BMC MAC Address	MAC Address is displayed.	
DHCP	Determine whether to dynamically obtain an IP address from a DHCP server. If the item is set Enable and applied, BMC set the value obtained from DHCP server on "IP Address", "Subnet Mask" and "Default Gateway". *2	Disable *16
IP Address	Set the BMC IP address of the managed server. *4	192.168.1.1
Subnet Mask	Set the Subnet Mask of the managed server. *2 *3 *4	255.255.255.0
Default Gateway	Set the Default Gateway IP address of the managed server. *2 *4 If you set this item, it is necessary for applying configuration information that the gateway is connected on network.	0.0.0.0
Dynamic DNS	Determine whether to enable/disable of Dynamic DNS. *5	Disable
DNS Server	Set the DNS Server.	0.0.0.0

Item	Description	Default Value
Host Name	Set the Host Name. *6 *7	Blank
Domain Name	Set the Domain Name. *7	Blank
IPv6 Configuration *8	IPv6 setting	
IPv6	Select Enable/Disable of IPv6. *2	Disable
IPv6 Address Assignment Mode	Select Dynamic/Static of IPv6 Address Assignment Mode. *2 *9	Dynamic
IPv6 Link Local Address	IPv6 Link Local Address is displayed. *9 *10	
IPv6 Global Address	IPv6 Global Address is displayed. *9 *11	
IPv6 Static Address	Set the IPv6 Static Address. *9 *12 *13	0::0
IPv6 Prefix Length	Set the IPv6 Prefix Length. *2 *9 *12	64
IPv6 Gateway Address	Set the IPv6 Gateway Address. *2 *9 *12	0::0
IPv6 DNS Server Address	Set the IPv6 DNS Server Address. *2 *8 *9	0::0
Access Limitation	Access Limitation setting	
Access Limitation Type	Select the Access Limitation Type. Allow All : Access to BMC is not limited. Allow Address : Set the IP Address that is allowed to access BMC. Deny Address : Set the IP Address that is limited to access BMC.	Allow All
IP Address	Set the IP Address to allow or deny to access with BMC. *14 *15	Blank

*1: It is not possible to change for ft Server.

*2: It should be same settings for CPU/IO module0 and CPU/IO module1. When the setting is different, the settings of primary module is preferentially.

*3: When the Subnet Mask is wrong setting, error message, such as "Failed to apply configuration.", is displayed.

*4: It is possible to set when DHCP is "Disable".

*5: It is possible to set when DHCP is "Enable".

*6: The length of Host Name must be less than 64 characters. Host Name will be truncated to 63 characters, if you input over 63 characters.

*7: Host Name and Domain Name should be within total of 255 characters.

*8: It is not displayed when the system does not support this function.

*9: This item is valid only when IPv6 is "Enable".

*10: When you need to know the Link Local Address, first set IPv6 to "Enable", redisplay this screen. Then Link Local Address configured automatically appear, be sure to use this address.

*11: It is displayed when IPv6 Address Assignment Mode is "Dynamic".

*12: It is possible to set when IPv6 Address Assignment Mode is "Static".

*13: Cannot set the Static Address whose start is "fe8".

14: The range of IP address to "Allow" or "Deny" access is delimited by ",(Comma)". With regard to the setting of both "Allowed Address" and "Denied Address", "(Asterisk)" can be described as a wild-card. (ex: 192.168.1.,192.168.2.1,192.168.2.254) But, depending on the system, "(Asterisk)" cannot be described for "Allowed Address".

*15: It is possible to set when Access Limitation Type is "Allowed Address" or "Denied Address". The length must be less than 255 characters.

*16: The value might be different according to the system.

5.2.2 Service

This screen displays and sets the list of the service of BMC.

BMC Configuration

Mail Alert | SNMP Alert | System Operation | Control | Miscellaneous
 Network0 | **Service0** | Network1 | Service1 | User Account | Active Directory | LDAP

*Modifying the setting in this screen will turn the connection with the BMC off.

Web Server

HTTP ☒ Enable ☐ Disable
 HTTP Port [Required] (1 - 65535)
 HTTPS ☒ Enable ☐ Disable
 HTTPS Port [Required] (1 - 65535)
 *HTTP cannot be set enabled singularly.

SSH

SSH ☒ Enable ☐ Disable
 SSH Port [Required] (1 - 65535)

Default Value Apply Cancel

Item	Description	Default Value
Web Server	Web Server setting	
HTTP	Select Enable/Disable of HTTP. *1	Enable
HTTP Port	Set the HTTP Port. *2 *3	80
HTTPS	Select Enable/Disable of HTTPS.	Enable
HTTPS Port	Set the HTTPS Port. *2 *3	443
SSH	SSH setting	
SSH	Select Enable/Disable of SSH.	Enable
SSH Port	Set the SSH Port. *2 *3	22

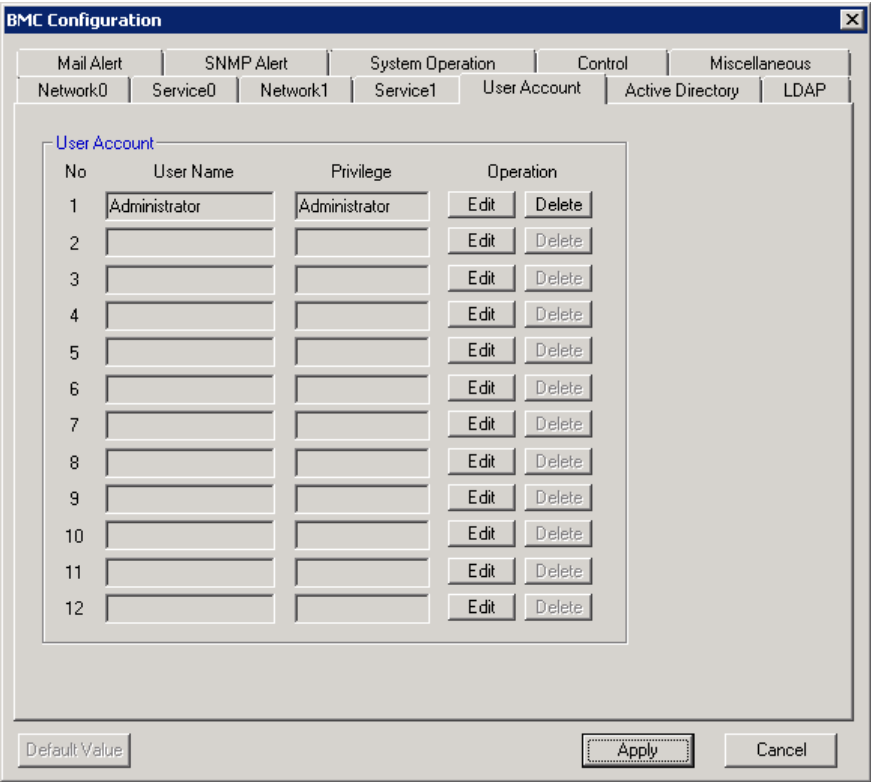
*1: If HTTP is set Enable, HTTPS is also set Enable automatically. You can not set HTTP alone to enable.

*2: It is possible to set when each port is set to enable.

*3: Each port number must not overlap.

5.2.3 User Account

This screen displays and sets the users who use BMC. It is possible to register up to 12 users or less.



Item	Description
User Account	Displays a list of registered users.
No	The number allocated to user is displayed.
User Name	The user name is displayed.
Privilege	The privilege of the user is displayed.
Edit	Add or change user information.
Delete *1	Delete user information.

*1: It is possible to delete only for the existing user.

CHECK:

- In Off-line Tool, you can delete user information at the next user settings screen.

5.2.4 User

This screen sets the selected user.

Item	Description	Default Value
User	User setting	
User	Select Enable/Disable of User. *1	Enable
User Name	Set the User Name. *2	Blank
Password	Set the Password of the User. *3	Blank
Confirm Password	Set same character string as the Password. *3	Blank
Privilege	Select the privilege of the User. *4 Administrator Operator User	Administrator

*1: It is possible to set only for the existing user.

*2: It is possible to set less than 15 alphanumeric characters, "-"(minus sign)" and "_"(underscore)". "-"(minus sign)" can not use top character of User Name. "eng", "root", "null", "InternalUseOnly", "MWA", "AccessByEM-Poem" and already registered name in other number cannot use.

*3: It is possible to set less than 19 ASCII characters, except for " (space)", " "(quotation marks)", "&" , "?" , "=", "#" and "¥".

*4: The privilege is as follows:

Privilege	Description
Administrator	Users who have an administrative account and are allowed to perform any operation.
Operator	Users who can operate the system, except session management, registration of license, Remote KVM/Media, whole settings and update.
User	General users who are only allowed to access the IPMI Information.

5.2.5 Active Directory

This screen displays and sets the Active Directory.

Item	Description	Default Value
Active Directory	Active Directory setting	
Active Directory Authentication	Select Enable/Disable of Active Directory Authentication.	Disable
Authentication User	Set the user name of Active Directory Authentication. *1 *2 *8	Blank
Authentication Password	Set the password of Active Directory Authentication. *1 *3 *8	Blank
User Domain Name	Set the user domain name used by Active Directory Authentication. *1 *4	Blank
Timeout	Set the timeout period with domain controller. *1	120
Domain Controller Server 1	Select Enable/Disable of Domain Controller Server 1. *1 *5	Enable
Server Address 1	Set the IP Address of Domain Controller Server 1. *1 *6	Blank
Domain Controller Server 2	Select Enable/Disable of Domain Controller Server 2. *1 *5	Disable
Server Address 2	Set the IP Address of Domain Controller Server 2. *1 *6	Blank
Domain Controller Server 3	Select Enable/Disable of Domain Controller Server 3. *1 *5	Disable
Server Address 3	Set the IP Address of Domain Controller Server 3. *1 *6	Blank

Item	Description
Group *1	Displays a list of registered groups.
No	The number allocated to group is displayed.
Group Name	The group name is displayed.
Group Domain	The domain name of Active Directory is displayed.
Privilege	The privilege of the group is displayed.
Edit *1	Add or change group information.
Delete *1 *7	Delete group information.

*1: It is possible to set when Active Directory Authentication is "Enable".

2: It is possible to set less than 64 ASCII characters, except for " (space)", ",(comma)" , ":", "|", "=", "+", "", "?", "<", ">", "@", " "(quotation marks)", "/", "¥", "[", "]", " '(apostrophe)", and "#".

*3: It is possible to set from 6 to 127 ASCII characters, except for " (space)".

*4: It is possible to set less than 255 alphanumeric characters, "-(minus sign)", "_ (underscore)" and ".(period)".

*5: When Active Directory Authentication is enabled, one or more of the Domain Controller Server should be enable.

*6: It is possible to set when each Domain Controller Server is "Enable".

*7: It is possible to set only for the existing group.

*8: It is not displayed when the system does not support this function.

CHECK:

- In Off-line Tool, you can delete group information at the next group settings screen.
-

5.2.6 Active Directory Group

This screen sets the selected group. It is possible to register up to 5 groups or less.

The screenshot shows a dialog box titled "Group No.1". Inside, there is a section labeled "Group" containing three fields: "Group Name" with a red "[Required]" label, "Group Domain" with a red "[Required]" label, and "Group Privilege" which is a dropdown menu currently showing "Administrator". Below these fields are three buttons: "Default", "OK", and "Cancel".

Item	Description	Default Value
Group	Active Directory Group setting	
Group Name	Set the Group Name. *1	Blank
Group Domain	Set the Group Domain Name. *2	Blank
Group Privilege	Select the privilege of the Group. Administrator Operator User	Administrator

*1: It is possible to set less than 255 alphanumeric characters, "-(minus sign)" and "_(underscore)".

*2: It is possible to set less than 255 alphanumeric characters, "-(minus sign)", "_(underscore)" and ".(period)".

5.2.7 LDAP

This screen displays and sets the LDAP (Lightweight Directory Access Protocol).

BMC Configuration

Mail Alert

SNMP Alert

System Operation

Control

Miscellaneous

Network0

Service0

Network1

Service1

User Account

Active Directory

LDAP

LDAP

LDAP Authentication

Enable

Disable

IP Address

Required

0.0.0.0

Port

Required

636

(1 - 65535)

Search Base

Required

Bind Domain Name

Required

Bind Password

Required

Group

No	Group Name	Group Search Base	Privilege	Operation
1				<div>Edit</div> <div>Delete</div>
2				<div>Edit</div> <div>Delete</div>
3				<div>Edit</div> <div>Delete</div>
4				<div>Edit</div> <div>Delete</div>
5				<div>Edit</div> <div>Delete</div>

Default Value

Apply

Cancel

Item	Description	Default Value
LDAP	LDAP setting	
LDAP Authentication	Select Enable/Disable of LDAP Authentication.	Disable
IP Address	Set the IP Address. *1	0.0.0.0
Port	Set the LDAP Port. *1	636
Search Base	Set the Search Base used by LDAP Authentication. *1 *2	Blank
Bind Domain Name	Set the Domain Name used by LDAP Authentication. *1 *2	Blank
Bind Password	Set the Password used by LDAP Authentication. *1 *3	Blank

Item	Description
Group *1 *5	Displays a list of registered groups.
No	The number allocated to group is displayed.
Group Name	The group name is displayed.
Group Search Base	The Search Base of the group is displayed.
Privilege	The privilege of the group is displayed.
Edit *1	Add or change group information.
Delete *1 *4	Delete group information.

*1: It is possible to set when LDAP Authentication is "Enable".

*2: It is possible to set from 4 to 62 alphanumeric characters, "-(minus sign)", "_ (underscore)", ".(period)", ",(comma)" and "=".

*3: It is possible to set from 4 to 31 alphanumeric characters, except for " "(quotation marks)", "#" and "¥".

*4: It is possible to set only for the existing group.

*5: It is not displayed when the system does not support this function.

CHECK:

- In Off-line Tool, you can delete group information at the next group settings screen.
-

5.2.8 LDAP Group

This screen sets the selected group. It is possible to register up to 5 groups or less.

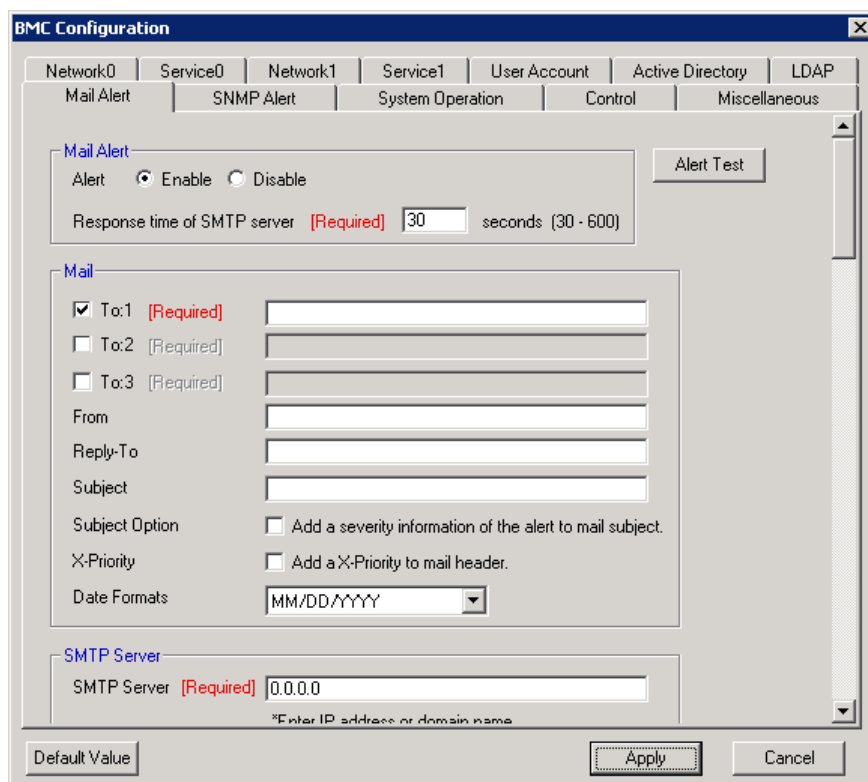
The screenshot shows a dialog box titled "Group No.1". Inside, there is a section labeled "Group" containing three fields: "Group Name" with a red "[Required]" label, "Group Search Base" with a red "[Required]" label, and "Group Privilege" which is a dropdown menu currently set to "Administrator". At the bottom of the dialog are three buttons: "Default", "OK", and "Cancel".

Item	Description	Default Value
Group	LDAP Group setting	
Group Name	Set the Group Name. *1	Blank
Group Search Base	Set the Group Search Base *2	Blank
Group Privilege	Select the privilege of the Group. Administrator Operator User	Administrator

*1: It is possible to set less than 255 alphanumeric characters, "-(minus sign)" and "_ (underscore)".
*2: It is possible to set from 4 to 62 alphanumeric characters, "-(minus sign)", "_ (underscore)", ".(period)", ",(comma)" and "=".

5.2.9 Mail Alert

This screen displays and sets the alert by E-mail from BMC.



BMC Configuration

Network0 | Service0 | Network1 | Service1 | User Account | Active Directory | LDAP

Mail Alert | SNMP Alert | System Operation | Control | Miscellaneous

Mail Alert

Alert ☒ Enable ☐ Disable Alert Test

Response time of SMTP server [Required] 30 seconds (30 - 600)

Mail

☒ To:1 [Required]

☐ To:2 [Required]

☐ To:3 [Required]

From

Reply-To

Subject

Subject Option ☐ Add a severity information of the alert to mail subject.

X-Priority ☐ Add a X-Priority to mail header.

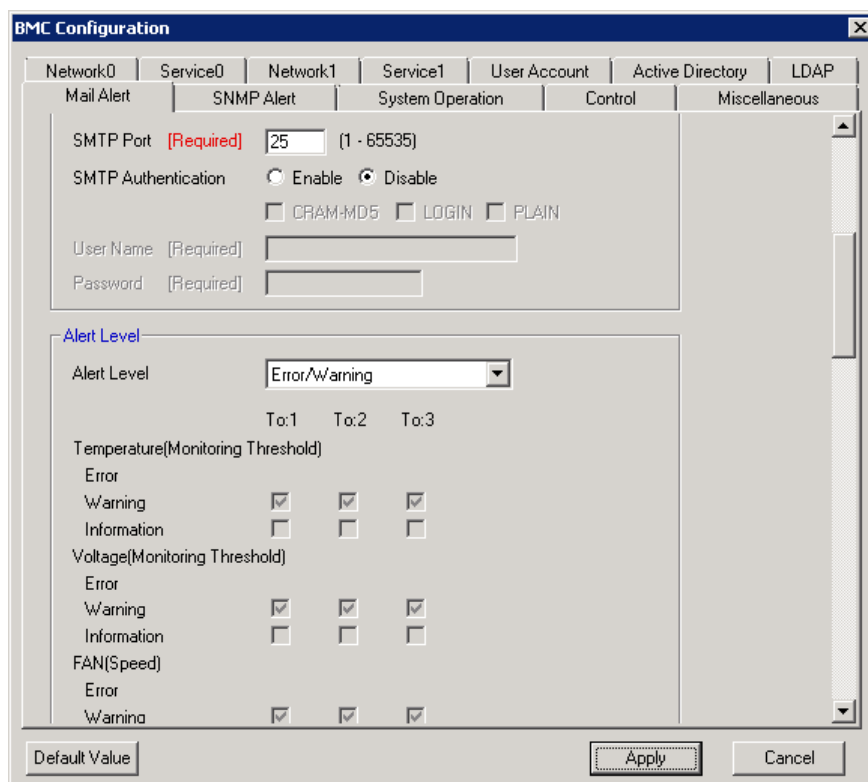
Date Formats

SMTP Server

SMTP Server [Required] 0.0.0.0

*Enter IP address or domain name

Default Value Apply Cancel



BMC Configuration

Network0 | Service0 | Network1 | Service1 | User Account | Active Directory | LDAP

Mail Alert | SNMP Alert | System Operation | Control | Miscellaneous

SMTP Port [Required] 25 (1 - 65535)

SMTP Authentication ☐ Enable ☒ Disable

☐ CRAM-MD5 ☐ LOGIN ☐ PLAIN

User Name [Required]

Password [Required]

Alert Level

Alert Level

	To:1	To:2	To:3
Temperature(Monitoring Threshold)			
Error			
Warning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Voltage(Monitoring Threshold)			
Error			
Warning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FAN(Speed)			
Error			
Warning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Default Value Apply Cancel

Item	Description	Default Value
Mail Alert	Mail Alert setting	
Alert	Select Enable/Disable of Mail Alert.	Disable
Response time of SMTP server	Set the timeout period until when the connection to SMTP server succeed by E-mail transmission.	30
Mail	Mail Header setting	
To:1	Select Enable/Disable of To:1. *1	Enable
Mail Address	Set the mail address of To:1. *2 *3	Blank
To:2	Select Enable/Disable of To:2. *1	Disable
Mail Address	Set the mail address of To:2. *2 *3	Blank
To:3	Select Enable/Disable of To:3. *1	Disable
Mail Address	Set the mail address of To:3. *2 *3	Blank
From	Set the From. *3	Blank
Reply-To	Set the Reply-To. *3	Blank
Subject	Set the Subject. *4	Blank
Subject Option	Select Enable/Disable of Subject Option. *5	Disable
X-Priority	Select Enable/Disable of X-Priority. *5	Enable
Date Formats	Select the Date Formats. *5	MM/DD/YYYY
SMTP Server	SMTP Server setting	
SMTP Server	Set the SMTP Server. *6	0.0.0.0
SMTP Port	Set the SMTP Port.	25
SMTP Authentication	Select Enable/Disable of SMTP Authentication.	Disable
CRAM-MD5	Select Enable/Disable of CRAM-MD5. *7 *8	Enable
LOGIN	Select Enable/Disable of LOGIN. *7 *8	Enable
PLAIN	Select Enable/Disable of PLAIN. *7 *8	Enable
User Name	Set the SMTP User Name. *7 *9	Blank
Password	Set the SMTP User Password. *7 *10	Blank
Alert Level	Alert Level setting	
Alert Level	Set the kind of event to alert. *11	Error/ Warning
Alert Test	Execute the alert test by E-mail.	

*1: When Mail Alert is enabled, one or more of the addresses should be enabled.

*2: It is possible to set when To:X is "Enable".

*3: It is possible to set less than 255 alphanumeric characters, "-(minus sign)", "_ (underscore)", ".(period)" and "@(at mark)".

*4: It is possible to set less than 63 alphanumeric characters, except for "+", " "(quotation marks)", "?", "=", "<", ">", "#", "% and ' (apostrophe)".

*5: It is not displayed when the system does not support this function.

*6: It is possible to set full domain or IP Address less than 255 alphanumeric characters and "-(minus sign)", "_ (underscore)", ".(period)". It is possible to set IPv6 address when the system is supporting IPv6.

*7: It is possible to set when SMTP Authentication is "Enable".

*8: When SMTP Authentication is enabled, one or more of the authentic method should be enabled.

*9: It is possible to set less than 64 alphanumeric characters, except for " (space)", " "(quotation marks)", "?", "=", "<", ">", "#", "% and ' (apostrophe)".

*10: It is possible to set less than 19 alphanumeric characters, except for " (space)", " "(quotation marks)", "?", "=", "<", ">", "# and %".

*11: The Alert Level is as follows:

Alert Level	Description
Error	When "Error" is detected in each sensor type, the alert is sent to the checked address.
Error/ Warning	When "Error" or "Warning" is detected in each sensor type, the alert is sent to the checked address.
Error/ Warning/ Information	When "Error", "Warning" or "Information" is detected in each sensor type, the alert is sent to the checked address.
Separate Setting	You can arbitrarily select the event and the address(To:X) to alert in each sensor type.

5.2.10 SNMP Alert

This screen displays and sets the alert by SNMP from BMC.

BMC Configuration

Network0

Service0

Network1

Service1

User Account

Active Directory

LDAP

Mail Alert

SNMP Alert

System Operation

Control

Miscellaneous

SNMP Alert

Alert

Enable

Disable

Computer Name

Community Name

public

Alert Process

One Alert Receiver

All Alert Receivers

Alert Acknowledge

Enable

Disable

Alert Retry Count

0

 times (0 - 7)

Alert Timeout

3

 seconds (3 - 30)

Alert Receiver

Primary IP Address

Required

0.0.0.0

Secondary IP Address

Required

0.0.0.0

Tertiary IP Address

Required

0.0.0.0

Alert Level

Alert Level

Error/Warning

Default Value

Apply

Cancel

Alert Receiver

Primary IP Address

Required

0.0.0.0

Secondary IP Address

Required

0.0.0.0

Tertiary IP Address

Required

0.0.0.0

Alert Level

Alert Level

Error/Warning

Error

Warning

Information

Temperature(Monitoring Threshold)

Voltage(Monitoring Threshold)

FAN(Speed)

Processor

Power Supply

Power Unit State

Memory

POST

Event Logging

System Event

Critical Interrupt

Default Value

Apply

Cancel

Item	Description	Default Value
SNMP Alert	SNMP Alert setting	
Alert*1	Select Enable/Disable of SNMP Alert.	Disable
Computer Name	Set the Computer Name. *2	Blank
Community Name	Set the Community Name. *3	public
Alert Process	Select One Alert Receiver/All Alert Receiver of Alert Process.	One Alert Receiver
Alert Acknowledge	Select Enable/Disable of Alert Acknowledge.	Enable
Alert Retry Count	Set the count of Alert retry. *4	3
Alert Timeout	Set the seconds to alert timeout. *4	6
Alert Receiver	Alert Receiver setting.	
Primary IP Address	Select Enable/Disable of Primary IP Address. *5	Enable
IP Address	Set the IP Address of Primary. *6	0.0.0.0
Secondary IP Address	Select Enable/Disable of Secondary IP Address. *5	Disable
IP Address	Set the IP Address of Secondary. *6	0.0.0.0
Tertiary IP Address	Select Enable/Disable of Tertiary IP Address. *5	Disable
IP Address	Set the IP Address of Tertiary. *6	0.0.0.0
Alert Level	Alert Level setting	
Alert Level	Set the kind of event to alert. *7	Error/ Warning
Alert Test	Execute the alert test by SNMP.	

*1: When PEF(Platform Event Filter) setting is "Disable", it can not alert.

*2: It is possible to set less than 16 alphanumeric characters.

*3: It is possible to set less than 16 alphanumeric characters, "-(minus sign)" and "_ (underscore)".

*4: It is possible to set when Alert Acknowledge is "Enable".

*5: When SNMP Alert is enabled, one or more of the addresses should be enable.

*6: It is possible to set when each Alert Receiver is "Enable".

*7: The Alert Level are as follows:

Alert Level	Description
Error	When "Error" is detected in each sensor type, the alert is sent to the checked address.
Error/ Warning	When "Error" or "Warning" is detected in each sensor type, the alert is sent to the checked address.
Error/ Warning/ Information	When "Error", "Warning" or "Information" is detected in each sensor type, the alert is sent to the checked address.
Separate Setting	You can arbitrarily select the event to alert in each sensor type.

5.2.11 System Operation

This screen displays and sets the Remote KVM console and the Remote Media.

The screenshot shows the 'BMC Configuration' window with the 'System Operation' tab selected. The 'Remote KVM Console' section has 'Encryption' set to 'Disable', 'Port(No Encryption)' set to 7578, 'Port(Encryption)' set to 7582, 'Mouse Cursor Mode' set to 'Dual', 'Mouse Coordinate Mode' set to 'Absolute', and 'Keyboard Language' set to 'English(US)'. The 'Remote Media' section has 'Encryption' set to 'Disable', 'Remote CD/DVD' set to 5120, 'Remote USB Memory' set to 5122, and 'Remote FD' set to 5123. The 'Default Value' button is highlighted.

Section	Property	Value	Range
Remote KVM Console	Encryption	Disable	
	Port(No Encryption)	7578	(1024 - 65535)
	Port(Encryption)	7582	(1024 - 65535)
	Mouse Cursor Mode	Dual	
	Mouse Coordinate Mode	Absolute	
Remote Media	Encryption	Disable	
	Remote CD/DVD	5120	(1024 - 65532)
	Remote USB Memory	5122	
	Remote FD	5123	

The screenshot shows the 'BMC Configuration' window with the 'System Operation' tab selected. The 'Remote Media' section has 'Encryption' set to 'Disable', 'Remote CD/DVD' set to 5120, 'Remote USB Memory' set to 5122, and 'Remote FD' set to 5123. The 'Default Value' button is highlighted.

Section	Property	Value	Range
Remote Media (No Encryption)	Encryption	Disable	
	Remote CD/DVD	5120	(1024 - 65532)
	Remote USB Memory	5122	
	Remote FD	5123	
Remote Media (Encryption)	Encryption	Disable	
	Remote CD/DVD	5124	(1024 - 65532)
	Remote USB Memory	5126	
	Remote FD	5127	

Item	Description	Default Value
Remote KVM Console	Remote KVM Console setting	
Encryption	Select Enable/Disable of Encryption.	Enable
Port (No Encryption)	Set the Remote KVM Console Port when Encryption is enabled. *1	7578
Port (Encryption)	Set the Remote KVM Console Port when Encryption is disabled. *1	7582
Mouse Cursor Mode	Select the mode of the mouse cursor. Single Dual	Dual
Mouse Coordinate Mode	Select the mode of expression of coordinates of the mouse cursor. *2 Relative Absolute	Windows: Absolute Linux, Off-line: Relative
Keyboard Language	Select the Keyboard Language. Japanese(JP) English(US) French(FR) German(DE)	English(US) *3
Remote Media	Remote Media setting	
Encryption	Select Enable/Disable of Encryption.	Enable
Remote CD/DVD Port (No Encryption)	Set the Remote CD/DVD Port when Encryption is enabled. *1	5120
Remote USB Memory Port (No Encryption)	Remote USB Memory Port is displayed. (Remote CD/DVD Port + 2)	
Remote FD Port (No Encryption)	Remote FD Port is displayed. (Remote CD/DVD Port + 3)	
Remote CD/DVD Port (Encryption)	Set the Remote CD/DVD Port when Encryption is disabled. *1	5124
Remote USB Memory Port (Encryption)	Remote USB Memory Port is displayed. (Remote CD/DVD Port + 2)	
Remote FD Port (Encryption)	Remote FD Port is displayed. (Remote CD/DVD Port + 3)	

*1: Each port number must not overlap.

*2: When OS is Windows, the Absolute mode is recommended. The Relative mode is recommended for Linux.

*3: When the language of OS is Japanese, the default value is Japanese(JP).

5.2.12 Control

Control the managed server. This setting is applied at the next booting time of the managed server.

The screenshot shows the 'BMC Configuration' window with the 'Control' tab selected. Under the 'One Time Boot Device' section, there is a 'Boot' label and a dropdown menu currently showing 'No Change'. The window has a standard Windows-style title bar and a set of tabs at the top. At the bottom, there are three buttons: 'Default Value', 'Apply', and 'Cancel'.

Item	Description	Default Value
One Time Boot Device	One Time Boot Device setting	
Boot Device *1	Select the Device used at next boot.	No Change

*1: The Boot Devices are as follows:

Boot Device	Description
No Change	It follows the setting of System BIOS of the managed server.
PXE	PXE Boot is done.
HDD	It starts from the hard disk connected to the managed server.
CD/DVD	It starts from the CD/DVD drive connected to the managed server.
Remote FD	It starts from the FD drive (media) connected by the remote media function.
Remote CD/DVD	It starts from the CD/DVD drive (media) connected by the remote media function.
Remote USB Memory	It starts from USB Memory connected by the remote media function.
FD	It starts from the FD drive or the removable mass storage connected to the managed server.

CHECK:

- This setting item does not exist in Off-line TOOL.

5.2.13 Miscellaneous

This screen displays and sets the various functions of BMC.

BMC Configuration

Network0 | Service0 | Network1 | Service1 | User Account | Active Directory | LDAP

Mail Alert | SNMP Alert | System Operation | Control | **Miscellaneous**

SEL

Behavior when SEL repository is full ☒ Stop logging SEL ☐ Clear all SEL ☐ Overwrite oldest SEL

Power Restore Delay

AC-LINK ☐ Stay Off ☒ Last State ☐ Power On

Delay Time [Required] 40 seconds (40 - 600)

PEF

Platform Event Filter ☒ Enable ☐ Disable

*If PEF Configuration is set to disable, SNMP alert will not work.

Management Software

ESMPRO Management ☐ Enable ☒ Disable

Authentication Key [Required]

Redirection ☐ Enable ☒ Disable

Default Value Apply Cancel

Item	Description	Default Value
SEL	SEL setting	
Behavior when SEL repository is full	Select the Behavior when SEL repository is full. *1 Stop logging SEL : SEL is not recorded any more. Clear all SEL : Delete all SEL and record SEL newly. Overwrite oldest SEL : Old SEL is overwritten with new SEL.	Stop logging SEL or Overwrite oldest SEL *7
Power Restore Delay	Power Restore Delay setting	
AC-Link	Select the AC-Link setting. Stay Off : DC is not turned on. Last State : It becomes the same as time when AC was turned off. Power On : DC on always.	Last State
Delay Time	Set the value or specify the Random. The range is from "Minimum value" to "600"[Sec], *2	Minimum value
PEF	PEF setting	
Platform Event Filter	Select Enable/Disable of Platform Event Filter. *3	Enable
Management Software	Management Software setting	

Item	Description	Default Value
ESMPRO Management	Select Enable/Disable of ESMPRO Management. *4	Current value
Authentication Key	Set the Authentication Key. *5 *6	guest
Redirection	Select Enable/Disable of Redirection. *5 Set to "Disable" on Express5800/ft Server.	Enable

*1: When this item is changed to/from "Overwrite oldest SEL", all log records in the SEL Repository are cleared.

*2: It is not possible to set when AC-Link is "Stay Off". Delay time from turning on AC to turning on DC is specified. It is possible to set up to 600(seconds). Minimum value is different according to the system. It is possible to set "Random" when the system supports it.

*3: "Enable" and "Disable" of the report function from BMC are set. It makes SNMP Alert be impossible when it sets to "Disable".

*4: When BMC can be managed directly from NEC ESMPRO Manager (Ver.5.61 or later), it must be set to "Enable". If it sets to "Enable", Authentication Key also must be set.

*5: It is possible to set when NEC ESMPRO Management is set "Enable".

*6: It is Authentication key when managing from NEC ESMPRO Manager (Ver.5.61 or later). It is possible to set less than 16 alphanumeric characters.

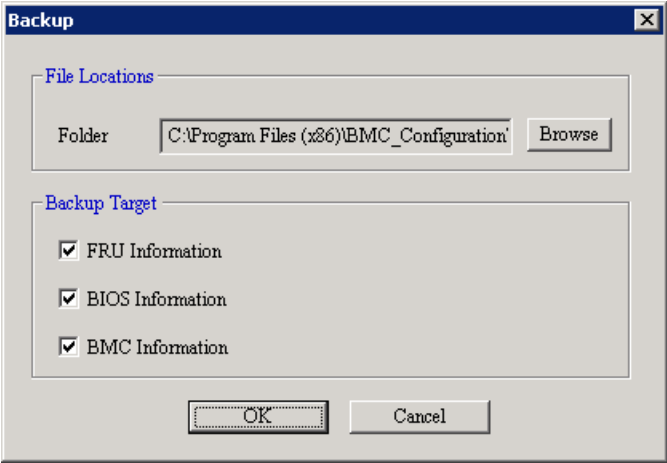
*7: Default value is different according to the system.

CHECK:

- Power Restore Delay settings do not exist in Off-line TOOL.
-

5.3 Backup

Back up the system information to files. Select the backup target and click [OK].



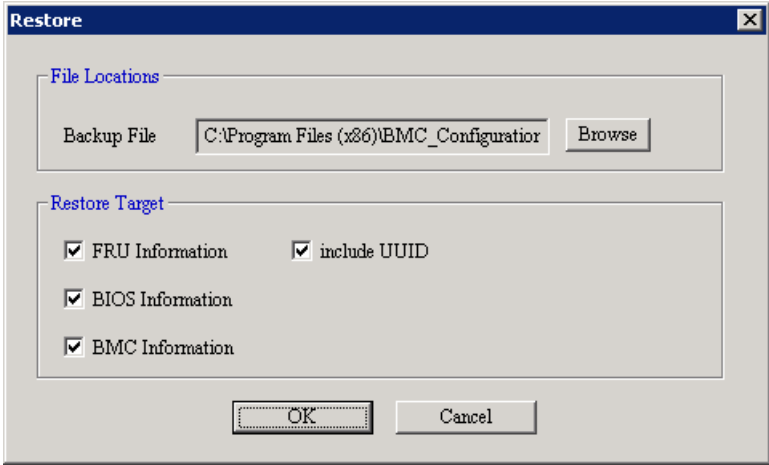
Item	Description
File Locations	Set the location of backup files.
Folder	The preservation folder of the file is displayed.
Browse	It changes the preservation folder.
Backup Target	Select the backup target.
FRU Information	Select whether backup FRU Information or not.
BIOS Information	Select whether backup BIOS Information or not.
BMC Information	Select whether backup BMC Information or not.

CHECK:

- Off-line TOOL has no backup function.

5.4 Restore (maintenance person only)

Restore the system information from files. Select the restore target and click [OK].



Item	Description
File Locations	Set the locations of file.
Backup File	The backup file is displayed.
Browse	It changes the backup file.
Restore Target	Select the restore target.
FRU Information	Select whether restore FRU Information or not. Only when the target information exists in the file, you are able to select this item.
include UUID	When you restore FRU Information, select whether restore UUID or not. Only when FRU Information is selected and the target information exists in the file, you are able to select this item.
BIOS Information	Select whether restore BIOS Information or not. Only when the target information exists in the file, you are able to select this item.
BMC Information	Select whether restore BMC Information or not. Only when the target information exists in the file, you are able to select this item.

- IMPORTANT:**
- This operation may cause data destruction. Other than the maintenance person, please do not run.
 - After this operation, it is necessary to shut down and unplug ac cable.

- CHECK:**
- You need backup file in the Backup function.
 - Off-line TOOL has no restore function.

5.5 BMC Initialization

If you select "BMC Initialization" on Off-line TOOL, you can restore all of BMC Configuration parameters to the default settings except for the part. It will take a few minutes to restart BMC.

IMPORTANT:

- This operation may cause data destruction.
 - False HW error information may be detected on the server if Shutdown, Reboot, or any other operation is executed during a few minutes after this operation. Please refer to the server's User's Guide to get more information, because the occurrence of the false HW error detection depends on the model of the server.
-

CHECK:

- This operation is only possible on Off-line TOOL.
 - This operation is initialized both CPU/IO module0 and CPU/IO module1.
-

5.6 Reset BMC

If you select "Reset BMC" on Off-line TOOL, you can reset BMC. It will take a few minutes to restart BMC.

IMPORTANT:

- Please use it when you can not operate the BMC functions correctly or if necessary.
 - This operation does not clear the configuration settings.
 - False HW error information may be detected on the server if Shutdown, Reboot, or any other operation is executed during a few minutes after this operation. Please refer to the server's User's Guide to get more information, because the occurrence of the false HW error detection depends on the model of the server.
-

CHECK:

- This operation is only possible on Off-line TOOL.
 - This operation is different in CPU/IO module0 and CPU/IO module1.
-

6. Functions for the highly parallel computing server

This chapter describes the functions of BMC Configuration of if you use the highly parallel computing server.

Please refer to chapter 4 when you use a standard server.

6.1 Start procedure

6.1.1 On Windows

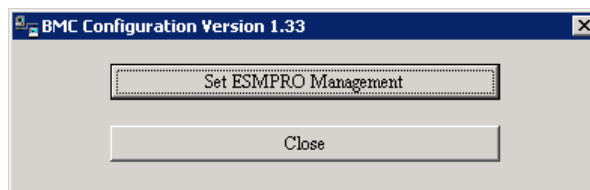
After the installation is completed, do the following operation as the built-in Administrator to start BMC Configuration.

- Click "BMC_Configuration" - "BMC Configuration" from [start] on Windows

CHECK:

- If it is not a built-in Administrator, right click the menu and select "Run as administrator".
-

The following screen shows example.



TIPS:

- Refer to the following to see BMC Configuration help information.

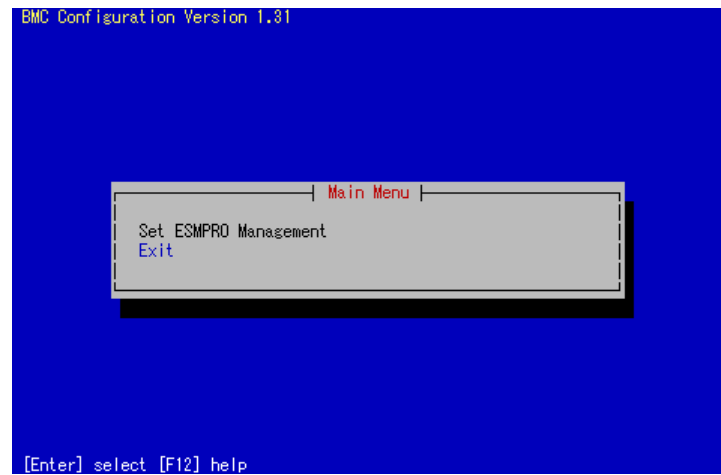
Click "BMC_Configuration" - "BMC Configuration Help"
from [start] on Windows.

6.1.2 On Linux

After the installation is completed, do the following operation as root user to open the setting function of BMC Configuration.

```
/opt/nec/BMC_Configuration/bmcconf
```

The following screen shows example.



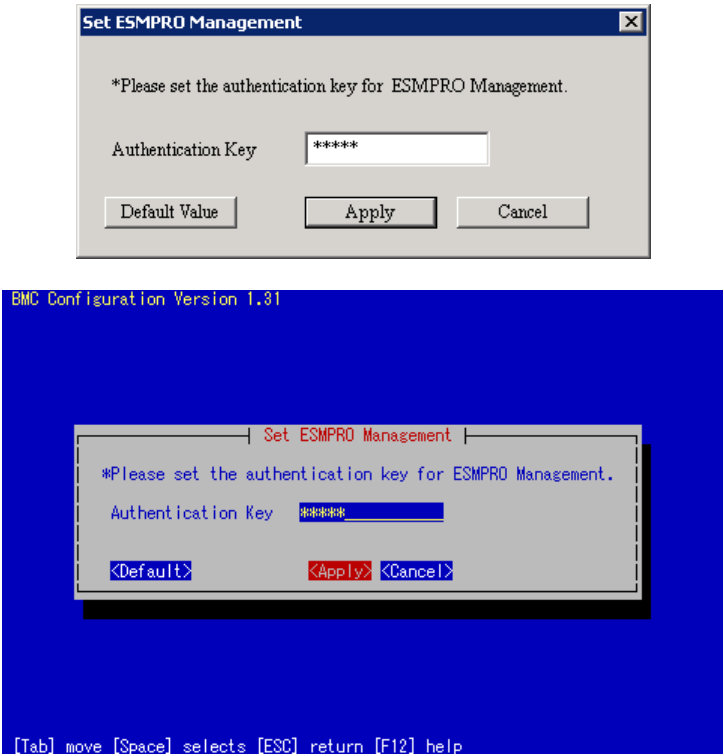
TIPS:

- Refer to the following to see BMC Configuration help information.

Open the setting of BMC Configuration and press F12 key on the screen displayed "[F12] help" at the bottom.

6.2 ESMPRO Management

This screen sets the managed server for remote management with NEC ESMPRO Manager.



Item	Description	Default Value
ESMPRO Management	Setting to manage from NEC ESMPRO.	
Authentication Key	Set the Authentication Key. *1	guest

*1: It is Authentication key when managing from NEC ESMPRO Manager (Ver.5.65 or later). It is possible to set less than 16 alphanumeric characters.

7. Precautions for Use

7.1 BMC Configuration installation

- BMC Configuration Installer (Windows & Linux) can not downgrade to the older version. If you want to use the older version, uninstall the current version and then install older version.
Note: All the registered information will be deleted as the result of the uninstalling.
- BMC Configuration (Windows) Installer may indicate a message that requests the removable media if you upgrade the BMC Configuration with the installer on CD-ROM/DVD-ROM. In this case, copy the installer on the HDD and then upgrade.

7.2 HTTP / HTTPS settings

- HTTP alone can not be set to "Enable". When HTTP is set to "Enable", HTTPS is also set to "Enable" automatically.

7.3 Redirection setting

- If Redirection of Management Software setting in Miscellaneous is applied to "Enable", the Value of after rebooting of BIOS Redirection Port in BIOS Console Redirection Configuration is set to "Serial Port B". Set to "Disable" on Express5800/ft Server.

7.4 PEF setting and SNMP Alert setting

- If Platform Event Filter in Miscellaneous is applied to "Disable", SNMP Alert is set to "Disable". And if SNMP Alert is applied to "Enable", Platform Event Filter is set to "Enable".

7.5 Alert form BMC

- In the case that the item "Alert" on BMC Configuration is enabled, BMC will alert directly to the specified alert receiver when the event specified in Alert Level is occurred. If NEC ESMPRO Manager or NEC ESMPRO Manager Association Module is installed on the alert receiver, the SNMP alert from BMC is registered on Alert Manager.
- Sending the alert from BMC depends on exist of NEC ESMPRO Agent.
 - (1) In the case of NEC ESMPRO Agent has been installed on the managed server.
 - If OS does not run on the managed server, BMC send the alert when the specified event happens.
 - After OS runs and NEC ESMPRO Agent starts, BMC does not send the alert even if the event happens, because NEC ESMPRO Agent sends the alert.
 - (2) In the case of NEC ESMPRO Agent has not been installed on the managed server.
 - BMC sends the alert whenever the specified event happens.

7.6 Alert Test

- Please send a test alert after completing all the settings of the Alert Configuration. You may be unable to use the alert function due to network environment and settings.

7.7 ECO setting

- The electric power value might not necessarily reach even the value of Power Threshold. The electric power control lowers the power consumption of the system by lowering the frequency of CPU/Memory. When CPU/Memory Throttling value reaches 100%, the electric power value does not fall any more.
- The server may not boot correctly if you configure too low value to the Aggressive Mode "Power Threshold(Pa)" and enable the Shutdown System option. When validating this setup, it is recommended to fully consider the value of "Power Threshold(Pa)" to be specified.
- ECO settings are not supported on Express5800/ft Server.

7.8 Management LAN setting

- When set to "Shared BMC LAN", the management LAN port is disabled.
- When set to "Shared BMC LAN", the network performance may be reduced because the data of both LANs must be transmitted or received.

7.9 Miscellaneous setting

- If you set 100 or greater to "Power On Delay Time" on the Server menu of the BIOS SETUP utility, and make the Miscellaneous setting in Off-line TOOL, an error may occur. In this case, set 99 or less to "Power On Delay Time" temporarily, and then make the Miscellaneous setting. After that, set "Power On Delay Time" again as needed.

7.10 Network / Service setting

- When you change the Network setting or the Service setting on the EXPRESSSCOPE Engine SP3, an error may occur depending on the load status of the system. In this case, please check the setting and set again as needed.

7.11 Default setting

- Please refer to the appropriate EXPRESSSCOPE Engine User's Guide about differences between BMC Configuration's default values and values which "BMC Configuration Initialization" function will set.

7.12 Key input

- If you select the keyboard type "Japanese" in Off-line TOOL startup, you are not able to enter the key of "¥", "|" and "_".
- In BMC Configuration for Windows, if you want to apply a string containing "%", you must specify "%%" instead of "%".
- The input possible characters in settings depend on the system.

7.13 Exclusions setting of security software

-- When using security software, please exclude following installation folder or directory of this software from a target of scan. Because this software may not work right by influence of security software. Further please refer to the manual of security software about setting of exclusion.

1. on Windows

The following folder is the default folder. If you changed the installation folder, please exclude the changed folder.

- (32bit Edition) <systemdrive>\Program Files\BMC_Configuration
- (64bit Edition) <system drive>\Program Files (x86)\BMC_Configuration

2. on Linux

- /opt/nec/BMC_Configuration

Revision History

1.00	2011/05/10	Initial edition
1.01	2011/06/24	Adds ECO setting Precautions. Adds Management LAN setting Precautions. Adds required packages by Red Hat Enterprise Linux Server 6 (x64). Changes cover. Corrects writing errors.
1.02	2011/10/14	Changes Mail Alert and ECO setting. Changes ECO setting Precautions. Corrects writing errors.
1.10	2012/02/29	Adds User Account, User, Active Directory, Group, LDAP and System Operation setting. Changes Network, ECO and Miscellaneous setting. Adds Clear BMC SEL. Changes BMC Initialization. Adds Default setting Precautions. Corrects writing errors.
1.11	2012/05/24	Adds the old item name of ECO setting. Changes Installation. Corrects writing errors.
1.20	2012/08/21	Adds Functions for ft Server. Changes System Requirements. Corrects writing errors.
1.21	2012/11/12	Changes System Requirements. Changes ECO setting. Changes BMC Initialization. Changes Default setting Precautions. Corrects writing errors.
1.30	2012/11/16	Changes Summary and System Requirements. Changes the menu and the item name. Adds Battery Configuration. Changes Default setting Precautions. Corrects writing errors.
1.31	2013/02/13	Adds Functions for The highly parallel computing server (HR120a-1). Corrects writing errors.
1.32	2013/04/03	Changes ECO setting. Changes Default setting Precautions. Corrects writing errors.
1.33	2013/08/06	Adds Windows as a target OS of The highly parallel computing server. Changes BMC Configuration Initialization and Reset BMC. Changes ECO setting Precautions. Corrects writing errors.
1.34	2013/09/05	Changes BMC Configuration Initialization and Reset BMC. Changes Restore for ft Server. Adds Miscellaneous setting Precautions. Corrects writing errors.
1.40	2014/01/07	Changes System Requirements. Adds Functions for EXPRESSSCOPE Engine SP3. Adds Network/Service setting Precautions. Corrects writing errors.
1.41	2014/06/12	Adds Key input Precautions. Corrects writing errors.
1.42	2015/03/04	Changes System Requirements.

1.43	2015/05/28	Adds Monitoring setting. Changes Extended Functionality setting. Changes cover, Corrects writing errors.
1.44	2015/07/27	Changes System Requirements. Changes Network setting and Restore for ft Server. Corrects writing errors.
1.45	2016/07/22	Changes System Requirements. Changes cover, Corrects writing errors.
1.46	2017/06/30	Changes System Requirements. Changes Monitoring setting. Changes BMC Configuration and Network setting for ft Server. Adds security software Precautions. Corrects writing errors.
1.47	2018/11/22	Changes System Requirements. Changes Network setting, User setting, Active Directory setting, LDAP setting, Mail Alert setting, SNMP Alert Setting and Miscellaneous setting for ft Server. Adds "(maintenance person only)" to Restore for ft Server. Changes Redirection setting, ECO setting and Key input Precautions. Corrects writing errors.
1.48	2022/12/05	Changes System Requirements.
1.49	2023/01/31	Update System Requirements.

