NEC

NEC ESMPRO Manager Ver.7
Setup Guide

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Terminology

Term	Description
ESMPRO Extension for Windows Admin Center	A plugin to display hardware information of Express5800 servers for Windows Admin Center.
NEC ESMPRO Agent	This is a software that works together with NEC ESMPRO Manager to monitor servers and to obtain various informations from them.
NEC ESMPRO ServerAgentService	It is NEC ESMPRO Agent's successor software.
ExpressUpdate Agent	This is a software that works on managed servers. it can update modules such as the firmware and the software on managed servers after recevie the demand from NEC ESMPRO Manager.
WebSAM iStorageManager	This is a software that centrally, productively manages storage resources and displays its component and monitor status and notify fault.
iStorage (M Series) NEC ESMPRO Manager relative module	This is neccessary relative module for NEC ESMPRO Manager to monitor iStorage M series.
Windows Admin Center	A web-browser-based server management software provided by Microsoft.
BMC	Baseboard Management Controller BMC is an Embedded controller that can monitor hardware status and abnormality without depending on system status and OS.
EXPRESSSCOPE Engine	This is a NEC management controller by using BMC.
BMC (EXPRESSSCOPE Engine)	Baseboard Management Controller An Embedded controller which is able to monitor the system status or error regardless of DC off/on.
BMC (Other)	Baseboard Management Controller Management component pre-contains EMS (Embedded Management Software). (Product other than BMC (EXPRESSSCOPE Engine), iLO and vPro.)
IPMI	Intelligent Platform Management Interface A standard interface specification for monitoring server hardware without depending on system status and OS.
Redfish	Redfish is a standard interface that is newer than IPMI, defined by the DMTF(Distributed Management Task Force), for managing server operations.
iLO	Integrated Lights-Out A management controller which is able to monitor the system status or error regardless of DC off/on.
vPro	Intel platform brand for business users (Intel® vPro™ Technology).
iAMT	Intel® Active Management Technology Remote control technology and one of main functions of vPro.
SOL	Serial Over LAN A function which BMC converts the serialized data to UDP Packet and sends to LAN.
WS-Man	Web Service Management Open standard protocol for remotely accessing management data with any computer device.
Classic Mode	It is user interface for NEC ESMPRO Manager Ver.7 to start the same functionas NEC ESMPRO Manager Ver.6. It can display Server detail information and oprate environment setting of NEC ESMPRO Manager.
Component	It is the device managed in NEC ESMPRO Manager.
System management	System management is to manage components using SNMP (NEC

	ESMPRO Agent) / WS-Man / ESXi / iStorage in NEC ESMPRO Manager.
Microsoft Teams	Microsoft Teams is a collaboration and communication platform developed by Microsoft.
Alert Define File	In the settings file, SNMP trap for receiving on NEC ESMPRO Manager is defined. Please read the URL below to obtain more detail information. https://www.58support.nec.co.jp/global/download/index.html

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Windows Server 2022 stands for Windows Server® 2022 Standard, and Windows Server® 2022 Datacenter.
Windows Server 2019 stands for Windows Server® 2019 Standard, and Windows Server® 2019 Datacenter.
Windows Server 2016 stands for Windows Server® 2016 Standard, and Windows Server® 2016 Datacenter.
Windows 11 stands for Windows® 11 Pro 64-bit Edition
Windows 10 stands for Windows® 10 Pro 64-bit Edition

Notes

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About This Document

This document introduces remote management using the server management utility "NEC ESMPRO Manager" and explains the complete procedures from installation to managed component's setup.

Before attempting to operate the component management utility NEC ESMPRO Manager, 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 components. The notes and restrictions on use of each product as a managed component are explained in the user's guide provided with the managed component and "Appendix D. Managed Components Summary".

If the NEC EXPRESSBUILDER(SE) CD-ROM or Maintenance Management Tool CD-ROM is attached to the managed component, read the word in place of "NEC EXPRESSBUILDER" in this document.

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 components.
CHECK:	Points or notes you need to check when handling software or components.
TIPS:	Useful information.

Other Documents for NEC ESMPRO Manager
For other information about the NEC ESMPRO Manager, see the documents below.

- **Which components can NEC ESMPRO Manager control?**
  See the "Appendix D. Managed Components Summary".
- **How to operate after setup.**
  See the NEC ESMPRO Manager online help information.
- **How to operate the command line Interface.**
  See the "NEC ESMPRO Manager Command Line Interface".

Chapter1 Setup for Managed Component in which EXPRESSSCOPE Engine 3 is integrated

This chapter explains the setup procedure for the NEC ESMPRO Manager to manage the BMC and NEC ESMPRO Agent Extension ver.2.xx on a managed component remotely via LAN connection.

1.1 Setup Flow

Setup by the following setup procedure:

(1) Connect the management PC on which NEC ESMPRO Manager is installed and the managed component on the same network.

(2) Configure BMC on the managed component to enable ESMPRO Management.

(3) Register the managed component on NEC ESMPRO Manager.

1.2 Configure BMC on Managed Component

Configure BMC of the managed component at first.

> **TIPS:**
> - This section explains about the minimum setting that is necessary to connect NEC ESMPRO Manager with the managed component. For details of BMC configuration, see document of each tool.

There are three ways for configuring a BMC on a managed component for LAN connection.

Configuration with NEC EXPRESSSCOPE Engine 3 WebConsole

You can access EXPRESSSCOPE Engine 3 from a Web browser, and set BMC Configuration.

> **CHECK:**
> - You can use EXPRESSSCOPE Engine 3 only when the HTTP/HTTPS is enabled.
> - You cannot configure BMCs on ft server with NEC EXPRESSSCOPE Engine 3 Web Console. Please choose other method.

Configuration with online BMC Configuration.

Online configuration tool installed on Windows/Linux OS configures BMC.

> **TIPS:**
> - The name of the tool is "BMC Configuration" or "Server Configuration Utility". It is depends on a model of server.

Configuration with off-line BMC Configuration.

Off-line tool started from POST screen by F4 key configures BMC.

> **TIPS:**
> - The name of the tool is "BMC Configuration" or "Server Configuration Utility". It is depends on a model of server.

1.2.1 Configuration with EXPRESSSCOPE Engine 3 WebConsole

Explain the operation of Web Console of EXPRESSSCOPE Engine 3.

CHECK:

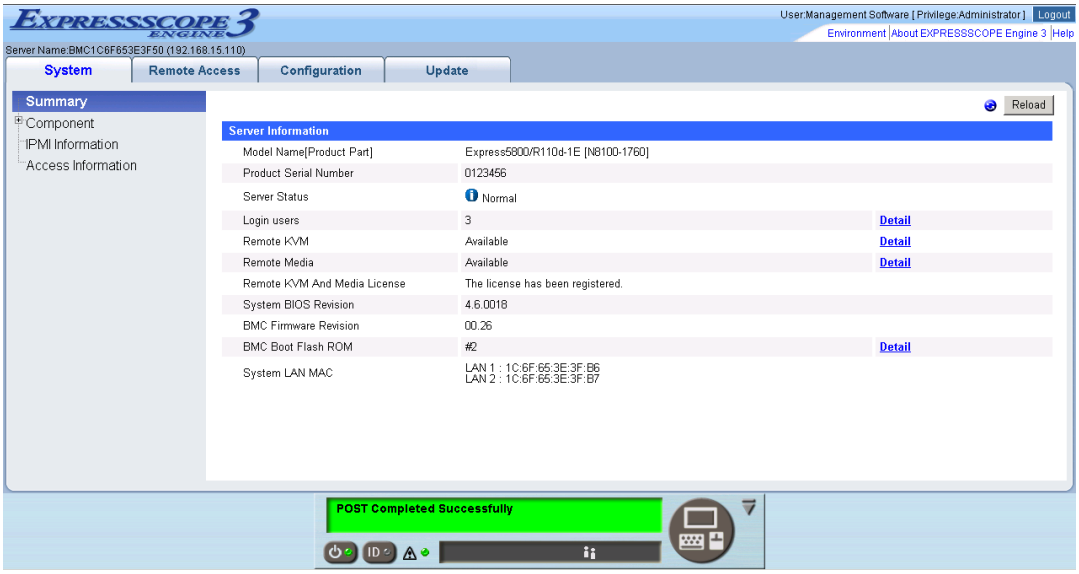
- You cannot configure BMCs on ft server with NEC EXPRESSSCOPE Engine 3 Web Console. Please choose other method.

(1) After starting a web browser on the management PC, input following URL.

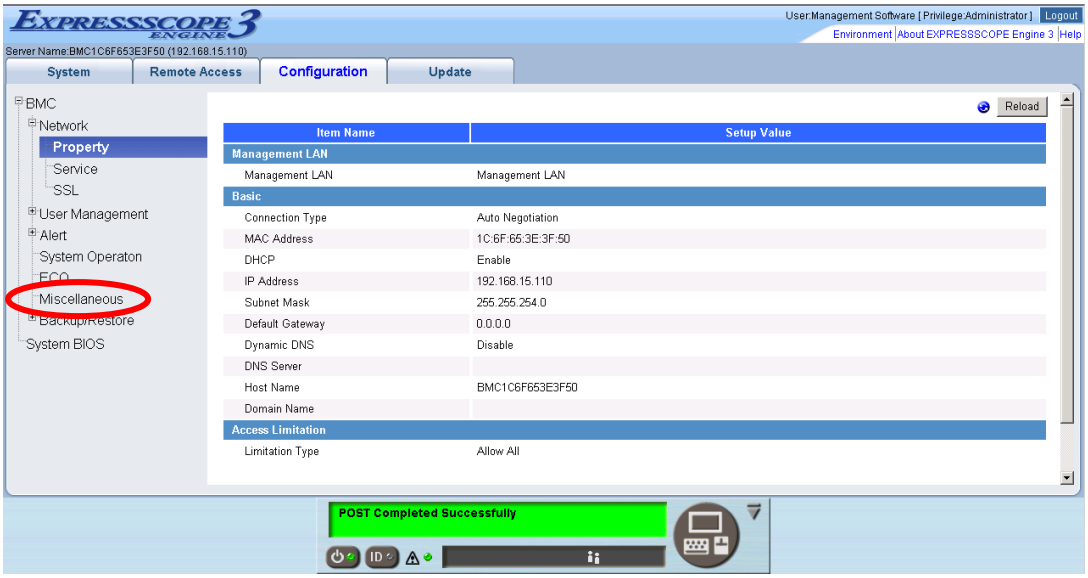
In the case that the IP address of BMC is 192.168.1.1 and the setting of HTTPS is enable.

```
https://192.168.1.1/
```

(2) "Main Menu" screen will be displayed.
Select "Configuration" tab.
The following screen shows example.



(3) "Configuration" screen will be displayed.
Select "Miscellaneous".

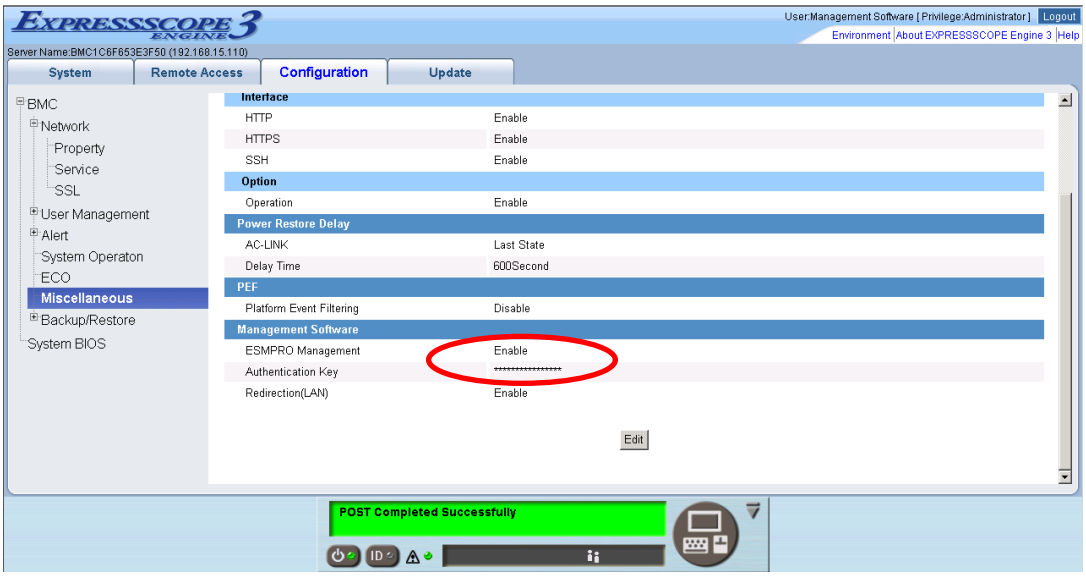


(4) "Miscellaneous" screen will be displayed.

Be sure to set the following items. The other items can be used with the default values.

-- "ESMPRO Management"
Click "Enable".
-- "Authentication Key"
Enter the authentication key.

The following screen shows example.



CHECK:

- If a managed component supports SOL and "Redirection" is selected to "Enable", you must change the following items for the remote console via the LAN.
  "Configuration" page - "System BIOS" page - "Flow Control": Hardware RTS/CTS.

(5) Select "Apply".
The configuration information is set in the BMC.

(6) Select "Property" page in "Network" screen.
Set the following items. The other items can be used with the default values.

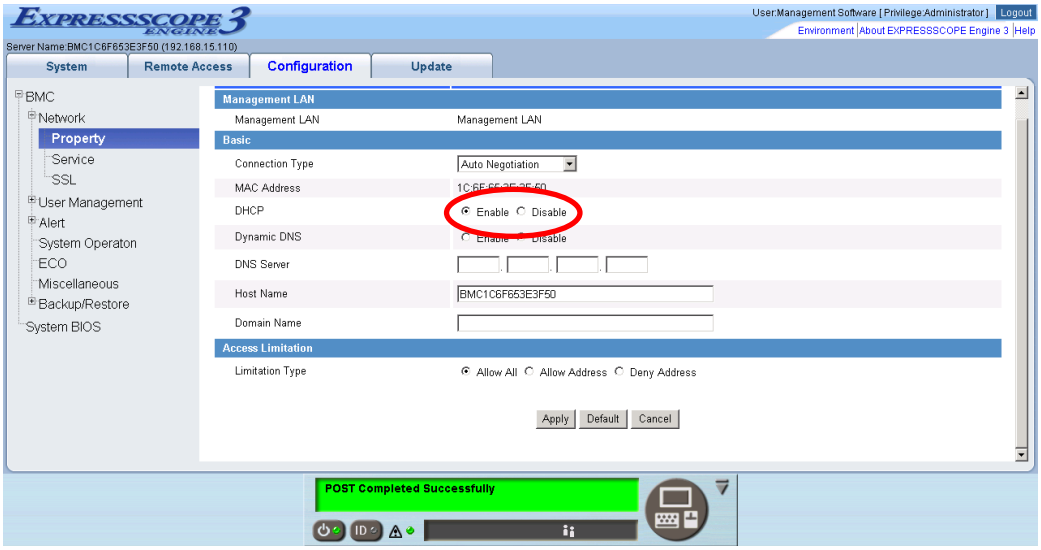
-- "DHCP"
Determine whether to dynamically obtain an IP address from a DHCP server.
If the item is set Enable and applied, BMC set the value obtained from DHCP server on "IP Address", "Subnet Mask" and "Default Gateway".

-- "IP Address"
Enter the BMC IP address.

-- "Subnet Mask"
Enter the subnet mask for the IP address.

-- "Default Gateway"
Enter the default gateway if the managed component connects to management PC via any gateway

The following screen shows example.



(7) If you set "Default Gateway", confirm that the gateway is connected to network.

(8) Select "Apply".
The configuration information is set in the BMC.

CHECK:

- Please set the following items for NEC ESMPRO Manager to receive alerts from the BMC.
  - Miscellaneous
    - Platform Event Filtering : Enable
  - Alert
    - Alert - SNMP Alert :
      - Alert : Enable
      - Computer Name : Any
      - Alert Receiver 1 IP Address:
        IP address of the management PC on which NEC ESMPRO Manager is installed.

        * Please set the checkbox to enable..

1.2.2 Online Configuration

1.2.2.1 Configuration with Configuration tool for Windows

Explain the operation of Configuration tool for Windows.

(1) After booting Windows on the managed component, start "BMC Configuration" or "Server Configuration Utility" from start menu on Windows.

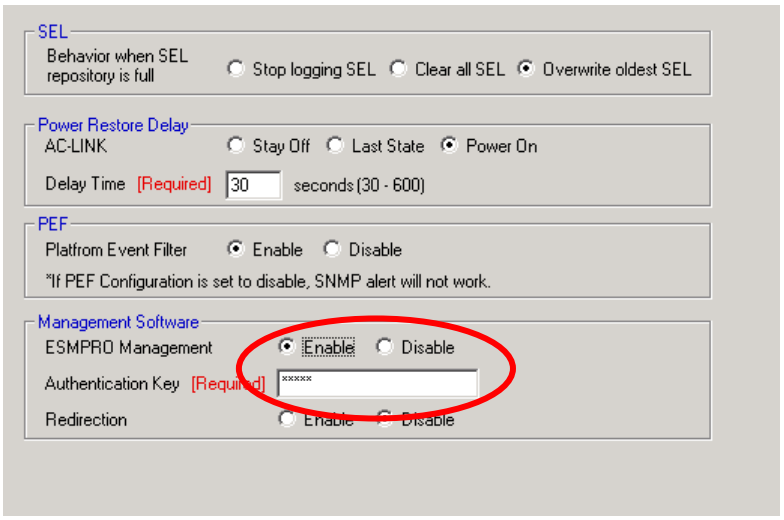
(2) The main dialog box is displayed.

- In the case of BMC Configuration: "Set BMC Configuration" → "Miscellaneous"
- In the case of Server Configuration Utility: "EXPRESSSCOPE Engine 3" → "Miscellaneous"

(3) Be sure to set the following items. The other items can be used with the default values.

-- "ESMPRO Management"
Click "Enable".
-- "Authentication Key"
Enter the authentication key.

The following screen shows example.



CHECK:

- If a managed component supports SOL and "Redirection" is selected to "Enable", you must change the following items for the remote console via the LAN.
  Main dialog box - "Set BIOS Configuration" page - "Flow Control": Hardware RTS/CTS.

Select Network configuration screen.
- In the case of BMC Configuration: "Set BMC Configuration" → "Network"
- In the case of Server Configuration Utility: "EXPRESSSCOPE Engine 3" → "Network" → "Property"

CHECK:
- If you configure a fault tolerant server, there are the tab "Network 0" (for CPU/IO module 0) and the tab "Network 1" (for CPU/IO module 1). Please configure both CPU/IO modules.

(4) Set the following items. The other items can be used with the default values.

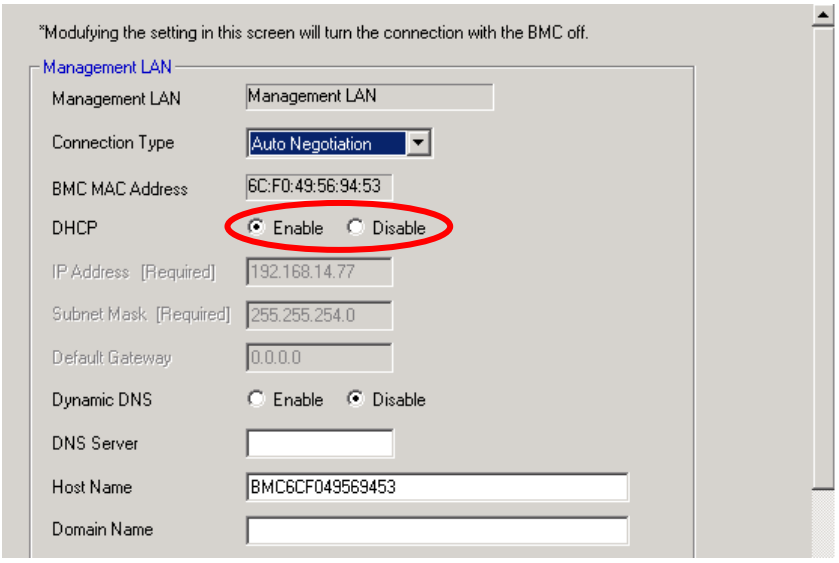
-- "DHCP"
Determine whether to dynamically obtain an IP address from a DHCP server.
If the item is set Enable and applied, BMC set the value obtained from DHCP server on "IP Address", "Subnet Mask" and "Default Gateway".

-- "IP Address"
Enter the BMC IP address.

-- "Subnet Mask"
Enter the subnet mask for the IP address.

-- "Default Gateway"
Enter the default gateway if the managed component connects to management PC via any gateway.

The following screen shows example.



(5) If you set "Default Gateway", confirm that the gateway is connected to network.

(6) Click "Apply".
The configuration information is set in the BMC.

CHECK:

- Please set the following items for NEC ESMPRO Manager to receive alerts from the BMC.
  - Miscellaneous
    - Platform Event Filter : Enable
  - SNMP Alert
    - Alert : Enable
    - Computer Name : Any
    - Alert Receiver Primary IP Address :
      IP address of the management PC on which NEC ESMPRO Manager is installed.

      * Please set the checkbox to enable.

1.2.2.2 Configuration with Configuration tool for Linux

Explains the operation of Configuration tool for Linux.

(1) After booting Linux on the managed component, start BMC Configuration or Server Configuration Utility by the following commands.

In the case of BMC Configuration:

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

In the case of Server Configuration Utility:

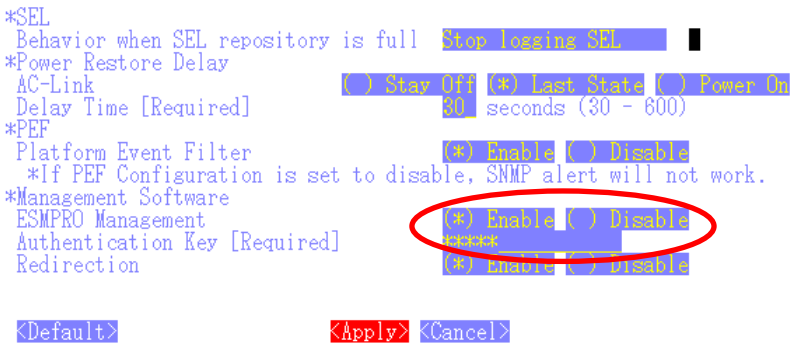
```
/opt/nec/ServerConfiguration/svconf
```

(2) The main dialog box is displayed.

- In the case of BMC Configuration: "Set BMC Configuration" → "Miscellaneous"
- In the case of Server Configuration Utility: "EXPRESSSCOPE Engine 3" → "Configuration" → "Miscellaneous"

(3) "Miscellaneous" screen is displayed.
Be sure to set the following items. The other items can be used with the default values.

-- "ESMPRO Management"
Click "Enable".
-- "Authentication Key"
Enter the authentication key.



CHECK:

- If a managed component supports SOL and "Redirection" is selected to "Enable", you must change the following items for the remote console via the LAN.
  Main dialog box - "Set BIOS Configuration" page - "Console Redirection Configuration" page - "Flow Control": Hardware RTS/CTS.

(4) Select "Apply".
The configuration information is set in the BMC.

(5) Select network configuration screen.

- In the case of BMC Configuration: "Set BMC Configuration" → "BMC Configuration" → "Network" → "Property"
- In the case of Server Configuration Utility: "EXPRESSSCOPE Engine 3" → "Configuration" → "Network" → "IPv4 Property"

(6) Set the following items. The other items can be used with the default values.

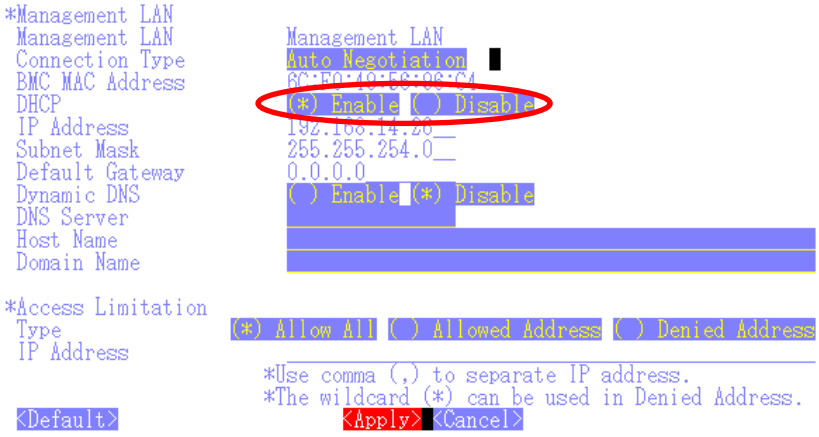
-- "DHCP"
Determine whether to dynamically obtain an IP address from a DHCP server.
If the item is set Enable and applied, BMC set the value obtained from DHCP server on "IP Address", "Subnet Mask" and "Default Gateway".

-- "IP Address"
Enter the BMC IP address.

-- "Subnet Mask"
Enter the subnet mask for the IP address.

-- "Default Gateway"
Enter the default gateway if the managed component connects to management PC via any gateway.

The following screen shows example.



(7) If you set "Default Gateway", confirm that the gateway is connected to network.

(8) Select "Apply".
The configuration information is set in the BMC.

CHECK:

- Please set the following items for NEC ESMPRO Manager to receive alerts from the BMC.
  - Miscellaneous
    - Platform Event Filter : Enable
  - SNMP Alert:
    - Alert : Enable
    - Computer Name : Any
    - Primary Alert Receiver : Enable
    - IP Address :
      IP address of the management PC on which NEC ESMPRO Manager is installed..

1.2.3 Configuration with Off-line BMC Configuration

(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. Select keyboard type.

(3) "Main Menu" screen is displayed.
Select "BMC Configuration" or "Server Configuration Utility".

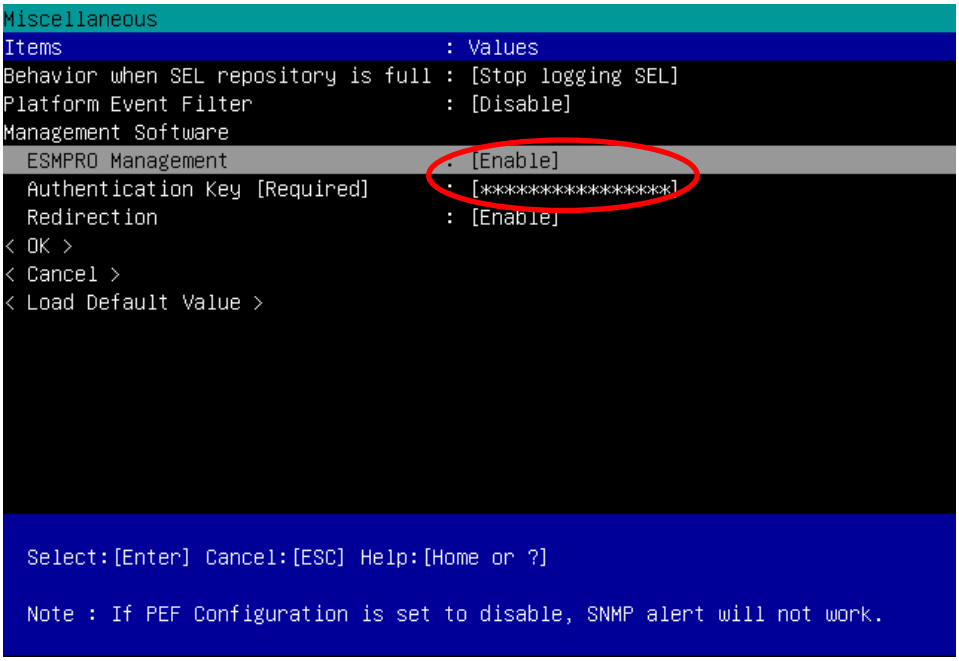
(4) Select Miscellaneous screen.

- In the case of BMC Configuration: "BMC Configuration" → "Miscellaneous"
- In the case of Server Configuration Utility: "EXPRESSSCOPE Engine 3" → "Configuration" → "Miscellaneous"

(5) Be sure to set the following items. The other items can be used with the default values.

-- "ESMPRO Management"
Click "Enable".
-- "Authentication Key"
Enter the authentication key.

The following screen shows example.



CHECK:
- If a managed component supports SOL and "Redirection" is selected to "Enable", you must change the following items necessary for the remote console via the LAN.
  Input <F2> key on the POST screen of the managed component.
  "SETUP" page - "Advanced" page - "Serial Port Configuration" page - "Flow Control": Hardware RTS/CTS.

(6) Select "OK".
The configuration information is set in the BMC.

(7) Select network configuration screen.

- In the case of BMC Configuration: "BMC Configuration" → "Network" → "Property"
- In the case of Server Configuration Utility: "EXPRESSSCOPE Engine 3" → "Configuration" → "Network" → "IPv4 Property"

CHECK:
- If you configure a fault tolerant server, there are the menu "Network: CPU/IO module 0" and the menu "Network 1: CPU/IO module 1". Please configure both CPU/IO modules.

(8) Set the following items. The other items can be used with the default values.

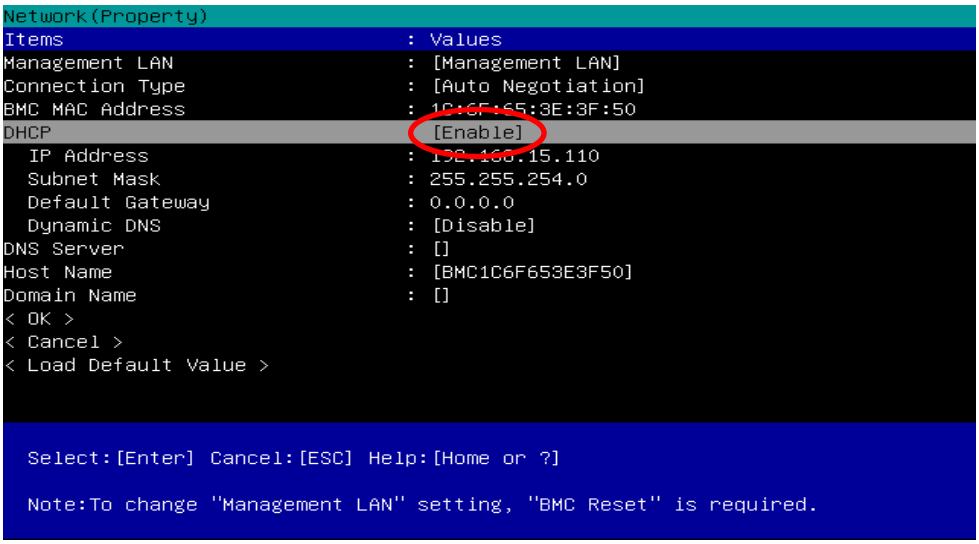
-- "DHCP"
Determine whether to dynamically obtain an IP address from a DHCP server.
If the item is set Enable and applied, BMC set the value obtained from DHCP server on "IP Address", "Subnet Mask" and "Default Gateway".

-- "IP Address"
Enter the BMC IP address.

-- "Subnet Mask"
Enter the subnet mask for the IP address.

-- "Default Gateway"
Enter the default gateway if the managed component connects to management PC via any gateway.

The following screen shows example.



(9) If you set "Default Gateway", confirm that the gateway is connected to network.

(10) Select "OK".
The configuration information is set in the BMC.

IMPORTANT:

- When "Shared BMC LAN" of BMC Network setting is enabled via "BMC Configuration" or "Server Configuration Utility", the system LAN port that is shared and the BMC are not able to communicate directly.
  Therefore, when BMC is managed by NEC ESMPRO Manager of own component, "Management LAN" is enabled instead of enabling "Shared BMC LAN". Detail of this, please refer to EXPRESSSCOPE Engine 3 User's Guide.

CHECK:

- Please set the following items for NEC ESMPRO Manager to receive alerts from the BMC.
  - Miscellaneous
    - Platform Event Filter : Enable
  - SNMP Alert:
    - SNMP Alert : Enable
    - Computer Name : Any
    - Alert Receiver 1: Enable
    - IP Address 1:
      IP address of the management PC on which NEC ESMPRO Manager is installed.

1.3 Register a managed component on NEC ESMPRO Manager

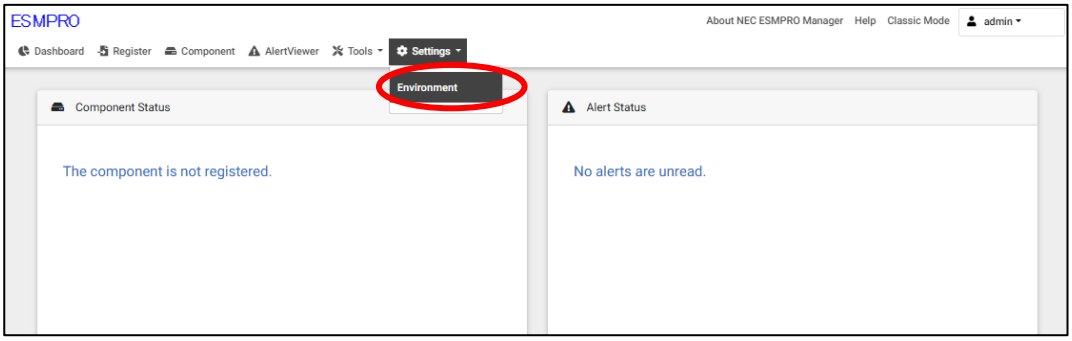
To register the managed component on the NEC ESMPRO Manager, login to the NEC ESMPRO Manager and perform in the following order:

1.3.1 Environment setting

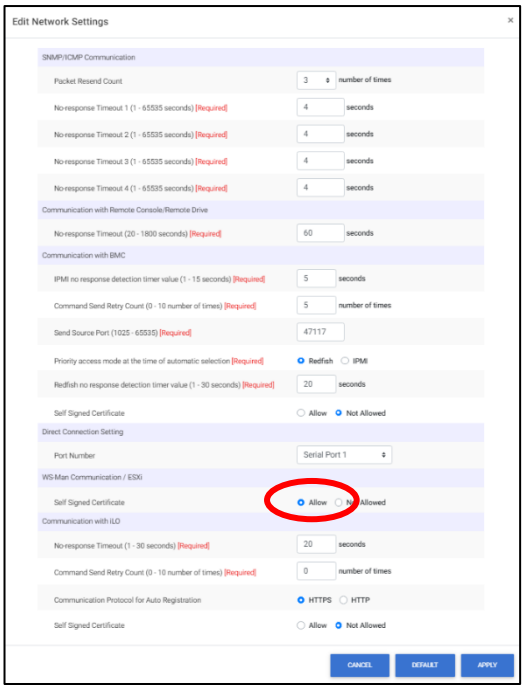
If it has never been set, NEC ESMPRO Manager cannot register following components.
In following cases, "Self Signed Certificate" should be accepted by NEC ESMPRO Manager. Otherwise NEC ESMPRO Manager cannot manage components via WS-Management protocol or ESXi.

- The managed is a VMware ESXi server
- NEC ESMPRO ServerAgentService is installed to managed component, and HTTPS with "Self Signed Certificate" is used for communication between ServerAgentService and NEC ESMPRO Manager.

(1) Click "Environment" from "Settings" menu.



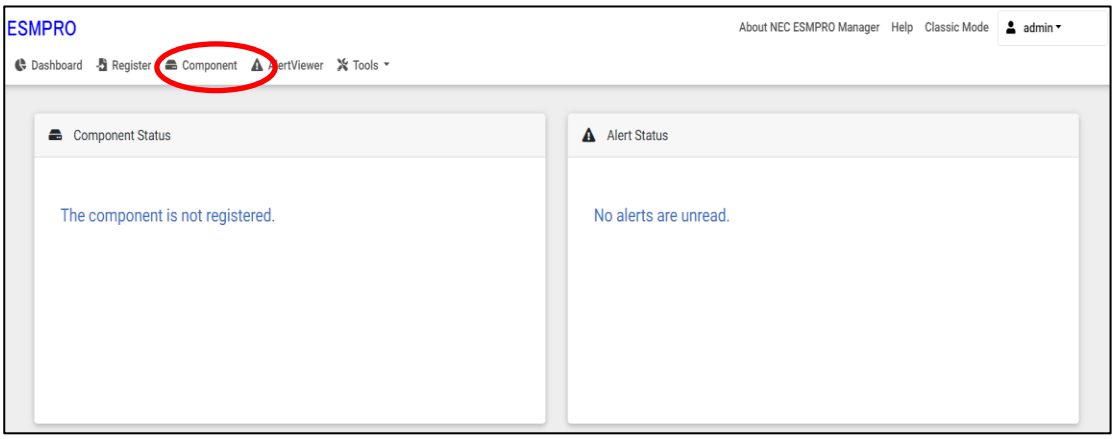
(2) On "Network" screen, click "Edit" and set "Self Signed Certificate" of "WS-Man Communication / ESXi" to "Allow".



1.3.2 Add component to Group

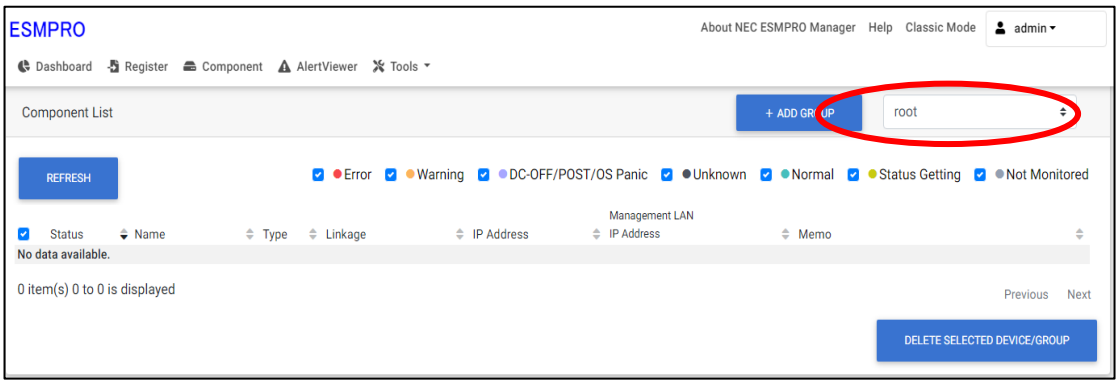
1.3.2.1 Creating group

(1) Click "Component".

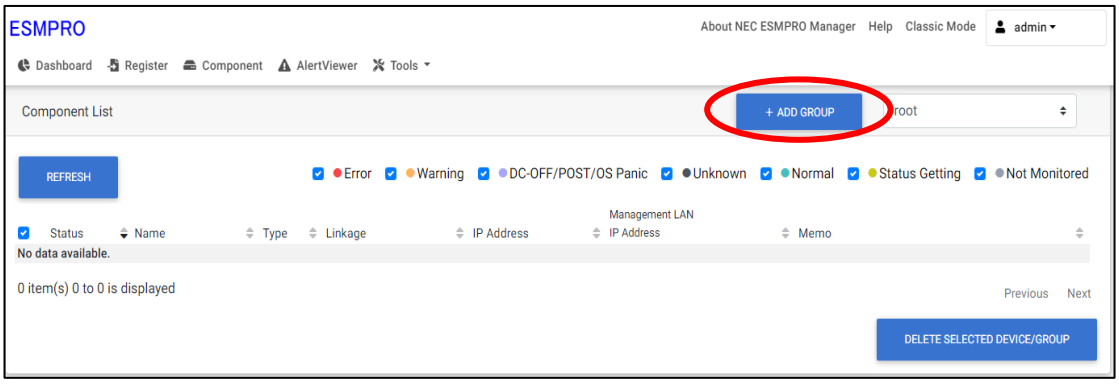


(2) The "Component List"will be displayed. Please select the group to that component belongs from the group list.

For example, if you want to create a new group in group "root", select "root".

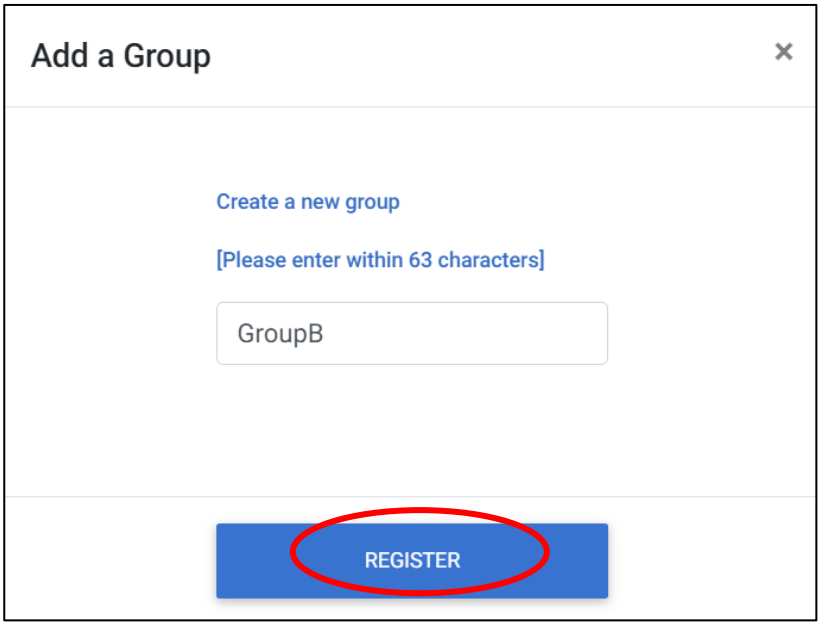


(3) Click "+ ADD GROUP"

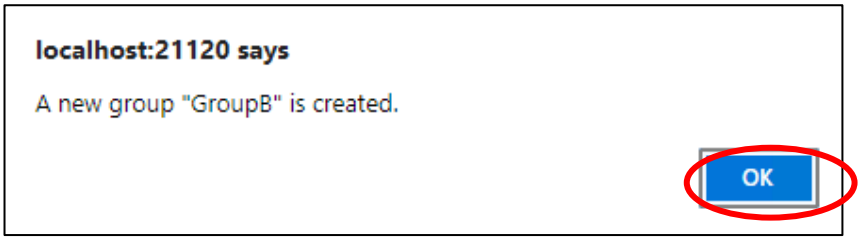


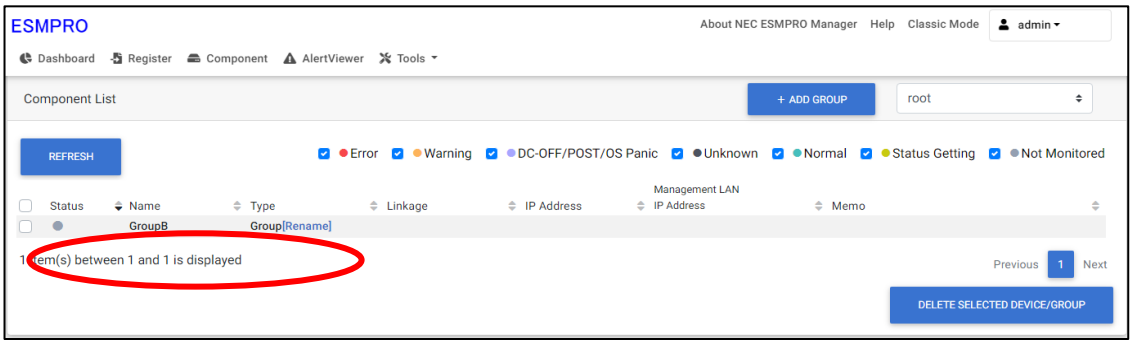
(4) On the "Add a Group"screen, enter the group name and click "REGISTER".

The group name can be up to 63 characters long. Please do not enter a group name that includes whitespace characters.



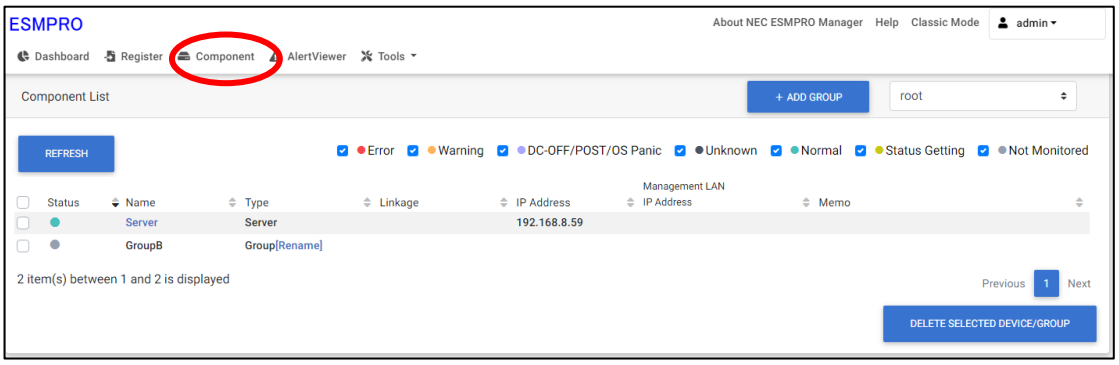
(5) "A new group "GroupB" is created" is displayed, and click "OK". Created group will be listed in "Component List".



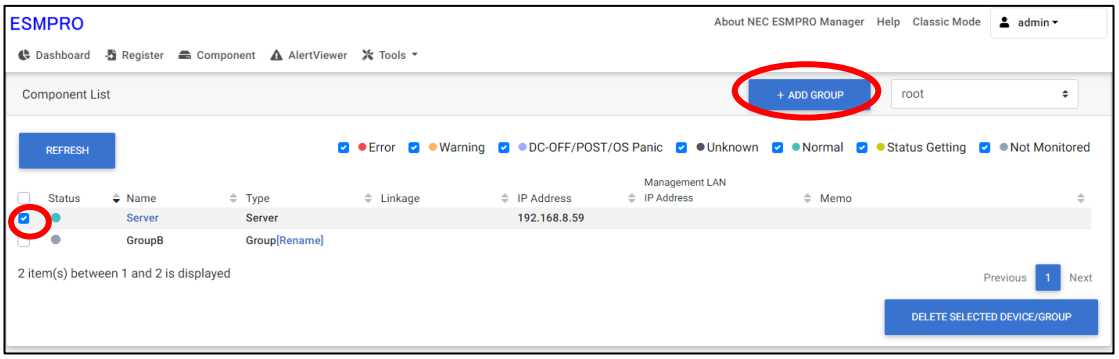


1.3.2.2 Adding a component to a group

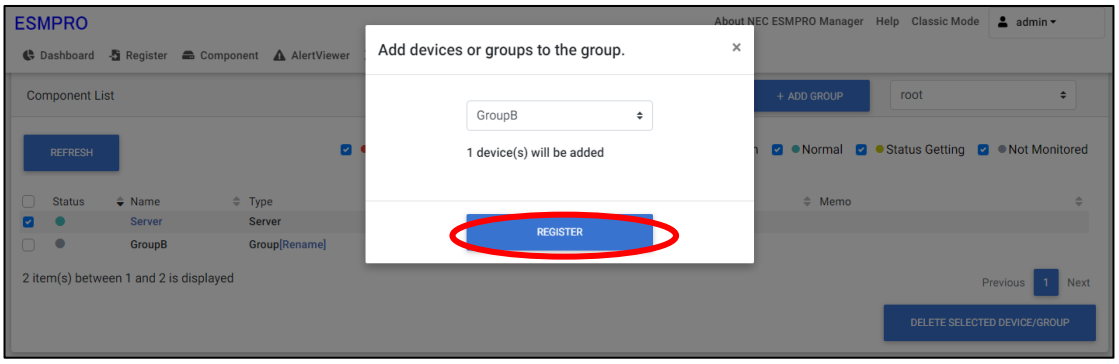
(1) Click "Component".



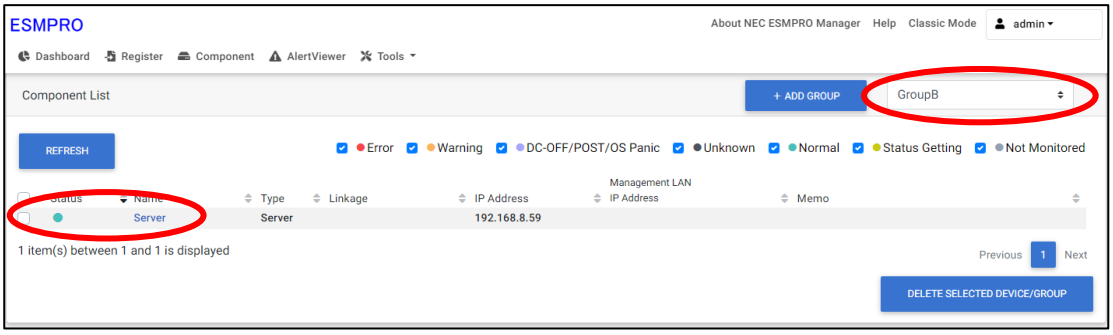
(2) The "Component List" will be displayed, please click the checkbox for the component and then click "+ ADD GROUP".



(3) Select the group from the group list, and then click "REGISTER".
If you want to create a new group and register components, select "+ Add New Group" from the list and enter the group name.



(4) If you select a group where components have been added from the group list, the component or group will be displayed in the "Component List".



1.3.3 Register the Managed Component

Use either of the two methods to register the managed component.

Manual Registration

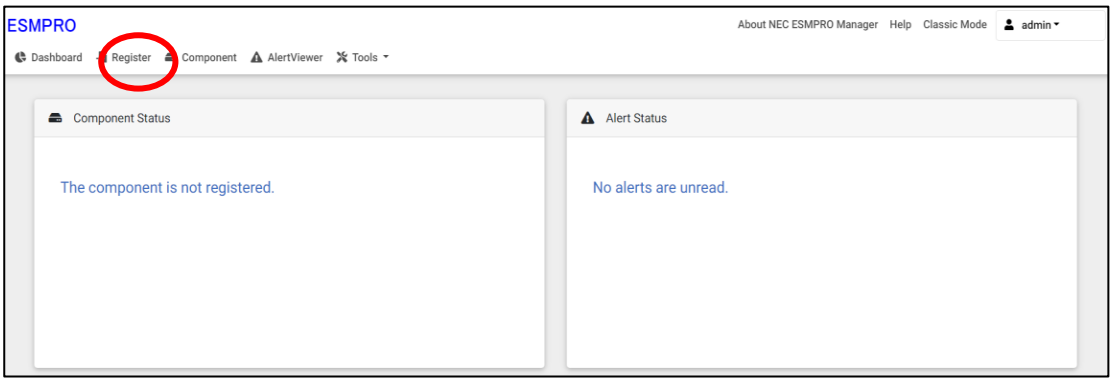
This method requires the operator to directly enter the managed component's information such as the IP address of the BMC and to perform "Check Connection".

Auto Registration

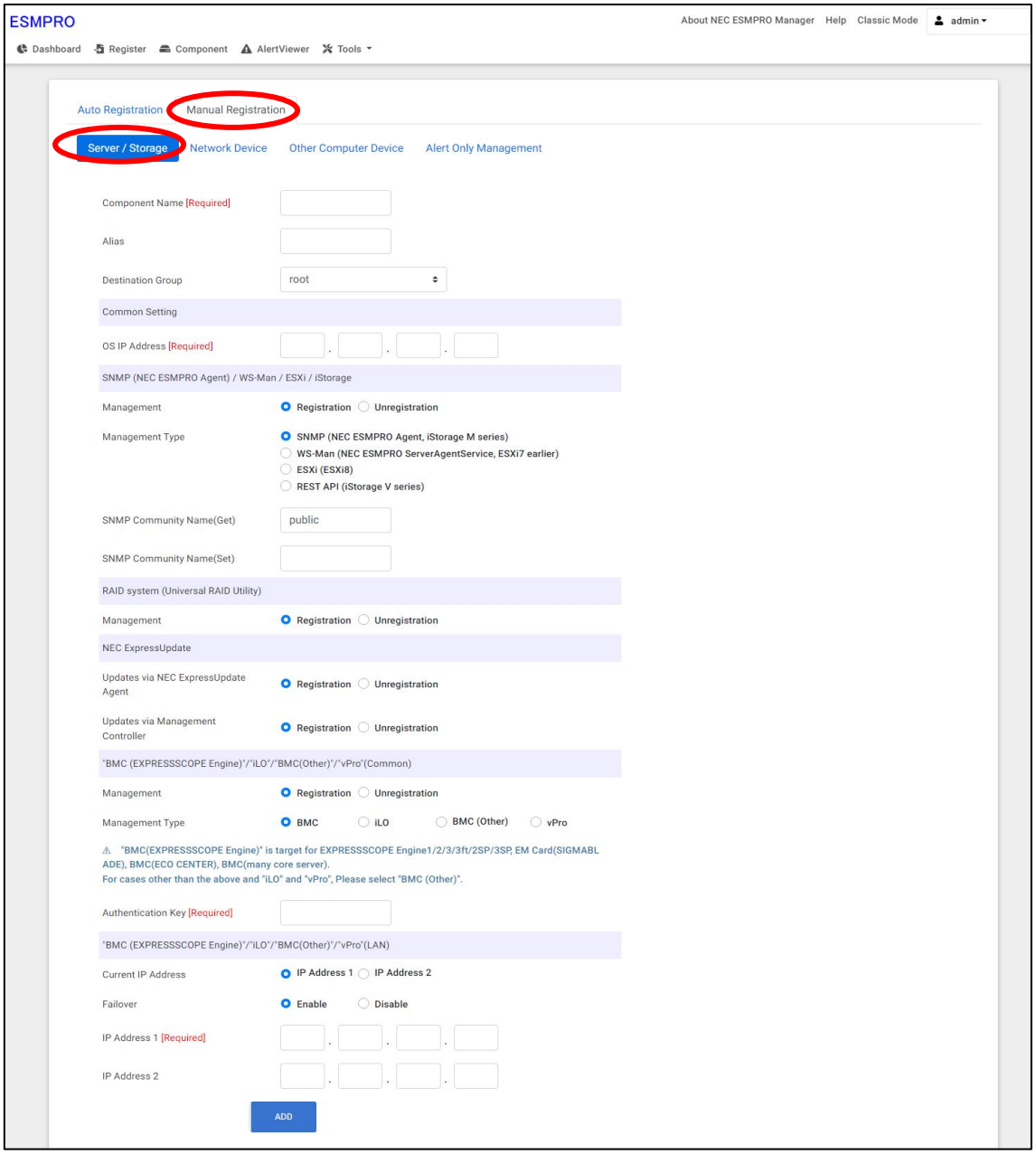
This method automatically searches the network for managed components that are not registered yet on the NEC ESMPRO Manager, and registers the managed components. This method is available only when LAN connection is used.

1.3.3.1 Manual Registration

(1) Click "Register".



(2) Click the "Server / Storage" of "Manual Registration".



(3) Input the following items:

Name	Value
Component Name	Specify the name of the managed component on NEC ESMPRO Manager. Assign a name different from other managed component names. Do not enter a name including blank characters. Uppercase characters are distinguished from lowercase characters.
Alias	Specify the information about the managed component. Do not enter a name including blank characters. Only blank characters cannot be entered. Also, please do not enter a name containing blank characters. The blank characters will be removed if there are half-width blank characters before or after the string. Uppercase characters are distinguished from lowercase characters. Optional.
Destination Group	Specify the group to which the managed component will belong. See "1.3.2 Add component to Group" for the information about creating group.
Common Setting	
OS IP Address	Specify the OS IP Address of the managed component.
SNMP (NEC ESMPRO Agent) / WS-Man / ESXi / iStorage	
Management	Select "Registration" to manage the system of the component.
Management Type	Select a management type of the managed component. - SNMP *1 NEC ESMPRO Agent is installed on the managed component. - WS-Man *1, *2 VMware ESXi7 is installed on the managed component. NEC ESMPRO ServerAgentService is installed on the managed component. - ESXi *1, *2 The operating system of the managed component is VMware ESXi8.
SNMP Community Name(Get)	SNMP Community Name which is specified at SNMP Agent running on the managed component. It is necessary to get the information, configure, monitor via SNMP
SNMP Community Name(Set)	When you want to set SNMP Community names for Get and Set separately on the managed component, specify the SNMP Community name for Set in this field by alphanumeric characters. If it is not specified, SNMP Community name for Get will be used.
User Name	Enter the Username/Password for communication with WS-Man or ESXi. - NEC ESMPRO ServerAgentService (Windows) is installed. Enter Username(Local User Accounts)/Password of Windows system Administrator (does not use a user object in Active Directory Domain Services) - NEC ESMPRO ServerAgentService (Linux) is installed. Enter root/Password of Linux operating system - The operating system of the managed component is VMware ESXi. Enter Username/Password of VMware ESXi Administrator
Password	
Communication Protocol	This is displayed only when WS-Man is selected as the management target. Select protocol HTTP/HTTPS for connection WS-Man service. *2 - NEC ESMPRO ServerAgentService (Windows) is installed. If you want to use HTTPS for WS-Man communication with ESMPRO/ServerAgentService, refer to Chapter 2, Installation 3.3 HTTPS

	Setting in the ESMPRO/ServerAgentService Installation Guide (Windows). - NEC ESMPRO ServerAgentService (Linux) is installed. Select HTTPS. - The operating system of the managed component is VMware ESXi7. Select HTTPS.
Port Number	Enter port number where WS-Man service listens for connection. *3 - NEC ESMPRO ServerAgentService (Windows) is installed. If you want to use HTTP, enter 5985. If you want to use HTTPS, enter 5986. - NEC ESMPRO ServerAgentService (Linux) is installed. Enter 5986. - The operating system of the managed component is VMware ESXi7. Enter 443.
RAID system(Universal RAID Utility)	
Management	Select "Registration" to manage the RAID system of the component. - The operating system of the managed component is VMware ESXi7. WS-Man management must be enabled in addition to this setting. - The managed component is Express5800/ft server. The RAID system management feature unregistered because there is no utility to manage the RAID system. - If the managed component is a VMware ESXi8, please select " Unregistration ".
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select "Registration" to manage the component using NEC ExpressUpdate.
Updates via Management Controller	Select "Registration" to manage the component using Management Controller
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (Common)	
Management	Select "Registration" otherwise NEC ESMPRO Manager may not monitor HW status.
Management Type	Select "BMC".
Authentication Key	Enter the "authentication key" that you set in “1.2 Configure BMC on Managed Component”.
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (LAN)	
Current IP Address	If you set both "IP Address1" and "IP Address2", specify which IP address you want to use for connection.
Failover	This setting is valid only when both "IP Address1" and "IP Address2" are set. Determine whether to enable/disable the "Failover" feature.
IP Address 1	Enter the IP address that is specified on LAN1 of the BMC configuration for the managed component. If the managed component is a fault tolerant server, you should enter the IP address of the management LAN port for the CPU/IO module 0 to the form. If the managed component is a server which has EXPRESSSCOPE Engine SP3(2BMC model), you should enter the IP address of the management LAN port for the Master BMC to the form.
IP Address 2	Enter the IP address that is specified on LAN2 of the BMC configuration for the managed component. If the managed component is a fault tolerant server, you should enter the IP address of the management LAN port for the CPU/IO module 1 to the form.

	If the managed component is a server which has EXPRESSSCOPE Engine SP3(2BMC model), you should enter the IP address of the management LAN port for the Standby BMC to the form.

CHECK:

- *1 If NEC ESMPRO Manager is installed on Linux system, "SNMP" server management are not supported.

CHECK:

- *2 If a self-signed certificate is installed on the managed server for HTTPS communication, a setting to allow it is required. Refer to "Chapter2 Environment setting" for detailed information.

CHECK:

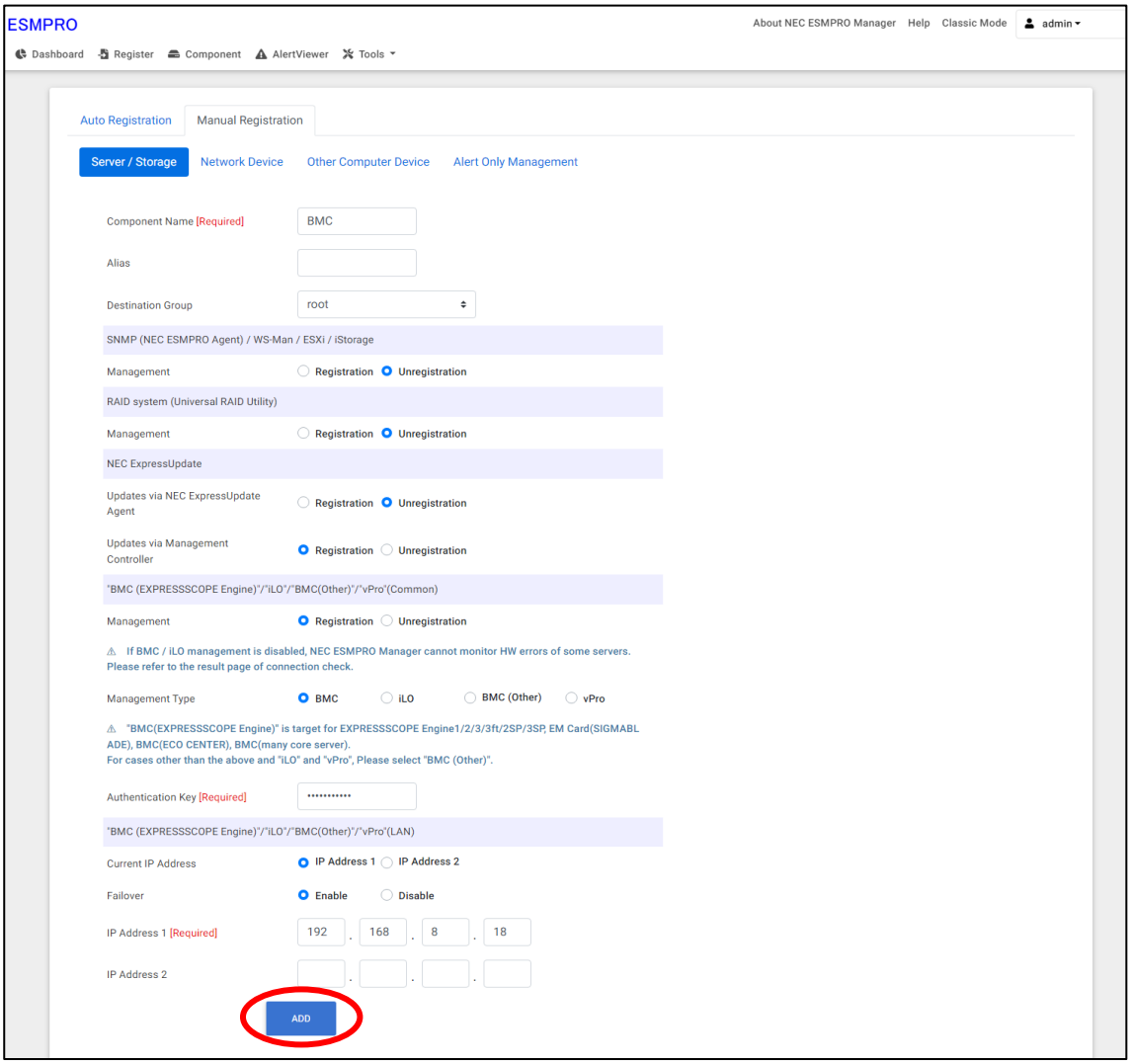
- *3 Regarding a port number for WS-Man communication, refer to "Appendix C. Port number for WS-Man communication".

IMPORTANT:

- If BMC(EXPRESSSCOPE Engine) management is disabled, NEC ESMPRO Manager may not be able to monitor HW status. Detailed information is shown in the connection check result screen.

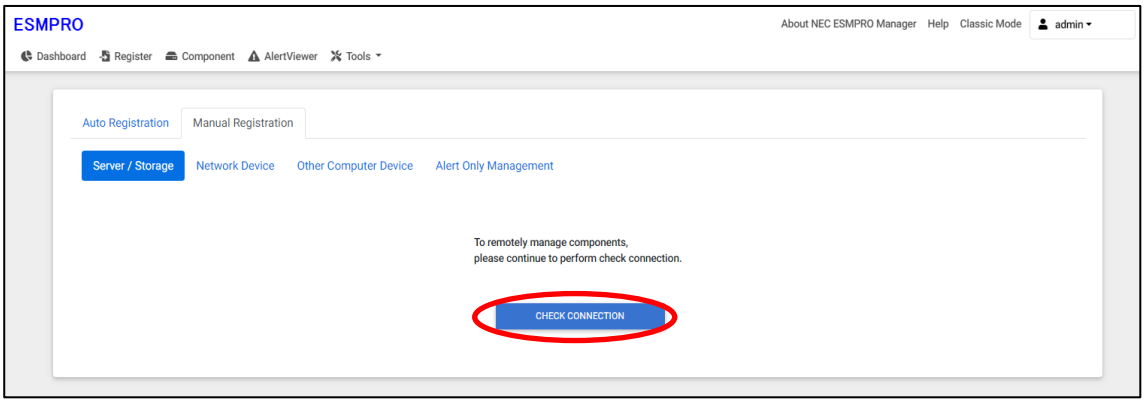
(4) Click "ADD".

If there is an error in the input content, correct the input content following the message.

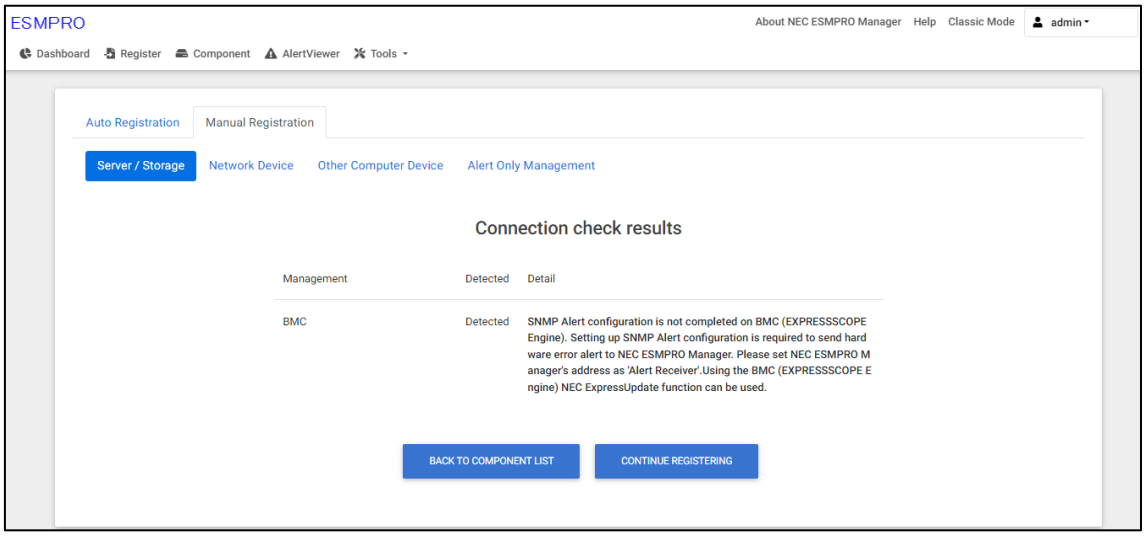


(5) "CHECK CONNECTION" screen is displayed.

Click "CHECK CONNECTION" to start it.



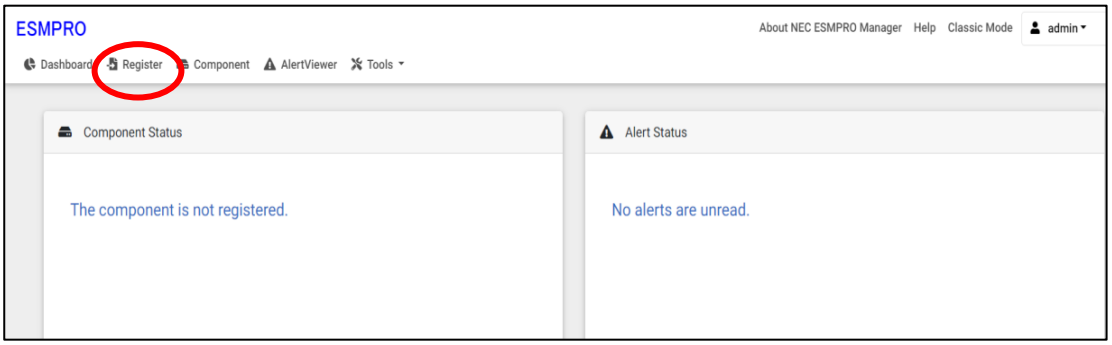
(6) If the "CHECK CONNECTION" is completed, "Connection check results" screen will be displayed.



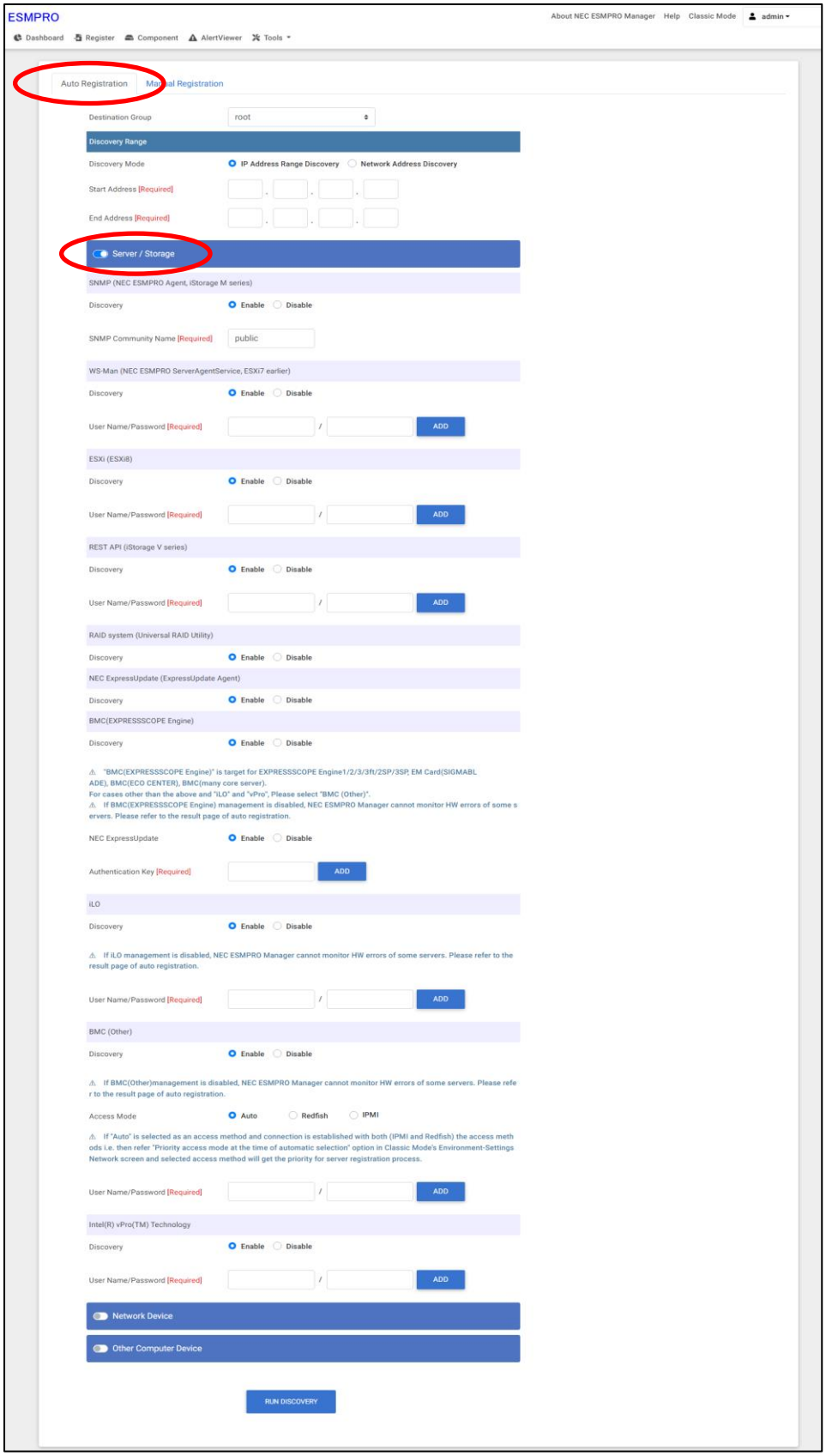
Detected	Detail
Detected	The feature was detected. NEC ESMPRO Manager can use the feature to manage the component.
Not Detected	The feature was not detected. NEC ESMPRO Manager cannot use the feature to manage the component. Click the "Name" of the component that could not be registered in the "Component List". The connection settings screen in Classic mode will be displayed. Please check that there are no errors in the entered items. For more details, please refer to the online help for NEC ESMPRO Manager.

1.3.3.2 Auto Registration

(1) Click "Register".



(2) Click the "Server / Storage" of "Auto Registration".



(3) Input the following items:

Name	Value
Destination Group	Specify the group to which the managed component will belong.See "1.3.2 Add component to Group" for the information about creating group.
Discovery Range	
Discovery Mode	With "IP Address Range Discovery" selected, the NEC ESMPRO Manager searches for the managed components using the IP address range. With "Network Address Discovery" selected, the NEC ESMPRO Manager searches for the managed components using the specified network address.
Start Address End Address	When you select "IP Address Range Discovery" for "Discovery Mode", specify the start IP address and end IP address of the range in which managed components are to be searched for.
Network Address Network Mask	When you select "Network Address Discovery" for "Discovery Mode", specify the network address and network mask of the managed component to be searched for.
SNMP (NEC ESMPRO Agent, iStorage M series)	
Discovery	Select "Enable" to manage the system of the component.*1
SNMP Community Name	SNMP Community Name which is specified at SNMP Agent running on the managed component. It is necessary to get the information, configure, monitor via SNMP
WS-Man(NEC ESMPRO ServerAgentService, ESXi7)	
Discovery	Select “Enable” to manage VMware ESXi of the component. *1,*2, *5
User Name/Password	Enter username and password for WS-Man communication. The account must be a system administrator of the managed operating system. Click "Add" button and you can add a pair of username and password up to 5. *3 - NEC ESMPRO ServerAgentService (Windows) is installed. Enter Username(Local User Accounts)/Password of Windows system Administrator (does not use a user object in Active Directory Domain Services) - NEC ESMPRO ServerAgentService (Linux) is installed. Enter root/Password of Linux operating system - The operating system of the managed component is VMware ESXi7. Enter Username/Password of VMware ESXi Administrator
ESXi (ESXi8)	
Discovery	Select "Enable" to manage ESXi (ESXi8) of the component. *1,*2
User Name/Password	Enter username and password for ESXi (ESXi8) communication. The account must be a system administrator of the managed operating system. Click "Add" button and you can add a pair of username and password up to 5. *3 Enter Username/Password of VMware ESXi Administrator
REST API(iStorage V series)	
Discovery	Select "Disable" .
RAID system (Universal RAID Utility)	
Management	Select "Enable" to manage the RAID system of the component. - The operating system of the managed component is VMware ESXi7. WS-Man management must be enabled in addition to this setting. - The managed component is Express5800/ft server. The RAID system management feature unregistered because there is no utility to manage the RAID system. -If the managed component is a VMware ESXi8, please select " Unregistration ".

NEC ExpressUpdate (ExpressUpdate Agent)	
Updates via NEC ExpressUpdate Agent	Select "Enable" to manage the component using NEC ExpressUpdate.
BMC (EXPRESSSCOPE Engine)	
Discovery	Select "Enable" otherwise NEC ESMPRO Manager may not monitor HW status.
NEC ExpressUpdate	Select "Enable" to feature NEC ExpressUpdate.
Authentication Key	Enter the "authentication key" that you set in "1.2 Configure BMC on Managed Component". *3 *4
iLO	
Discovery	When you discover components which have EXPRESSSCOPE Engine3, this item should be "Disable".
BMC (Ohter)	
Discovery	When you discover components which have EXPRESSSCOPE Engine3, this item should be "Disable".
Intel(R) vPro(TM) Technology	
Discovery	When you discover components which have EXPRESSSCOPE Engine3, this item should be "Disable".

CHECK:

- *1 If NEC ESMPRO Manager is installed on Linux system, "SNMP" and VMware ESXi management are not supported.

CHECK:

- *2 If a self-signed certificate is installed on the managed server for HTTPS communication, a setting to allow it is required. Refer to "1.1 Setup Flow" for detailed information.

CHECK:

- *3 On "Environment" - "Auto Registration Setting List" screen, you can manage a list of username/password and authentication key. All entries in the list are used for auto registration every time.

CHECK:

- *4 If you register the "Management Controller" management for a fault tolerant server, you should specify the search range which includes BMC IP addresses of CPU/IO module 0 and 1.
- *4 If you register the "Management Controller" management for a server which has EXPRESSSCOPE Engine SP3(2BMC model), you should specify the search range which includes both BMC IP addresses of Master and Standby.

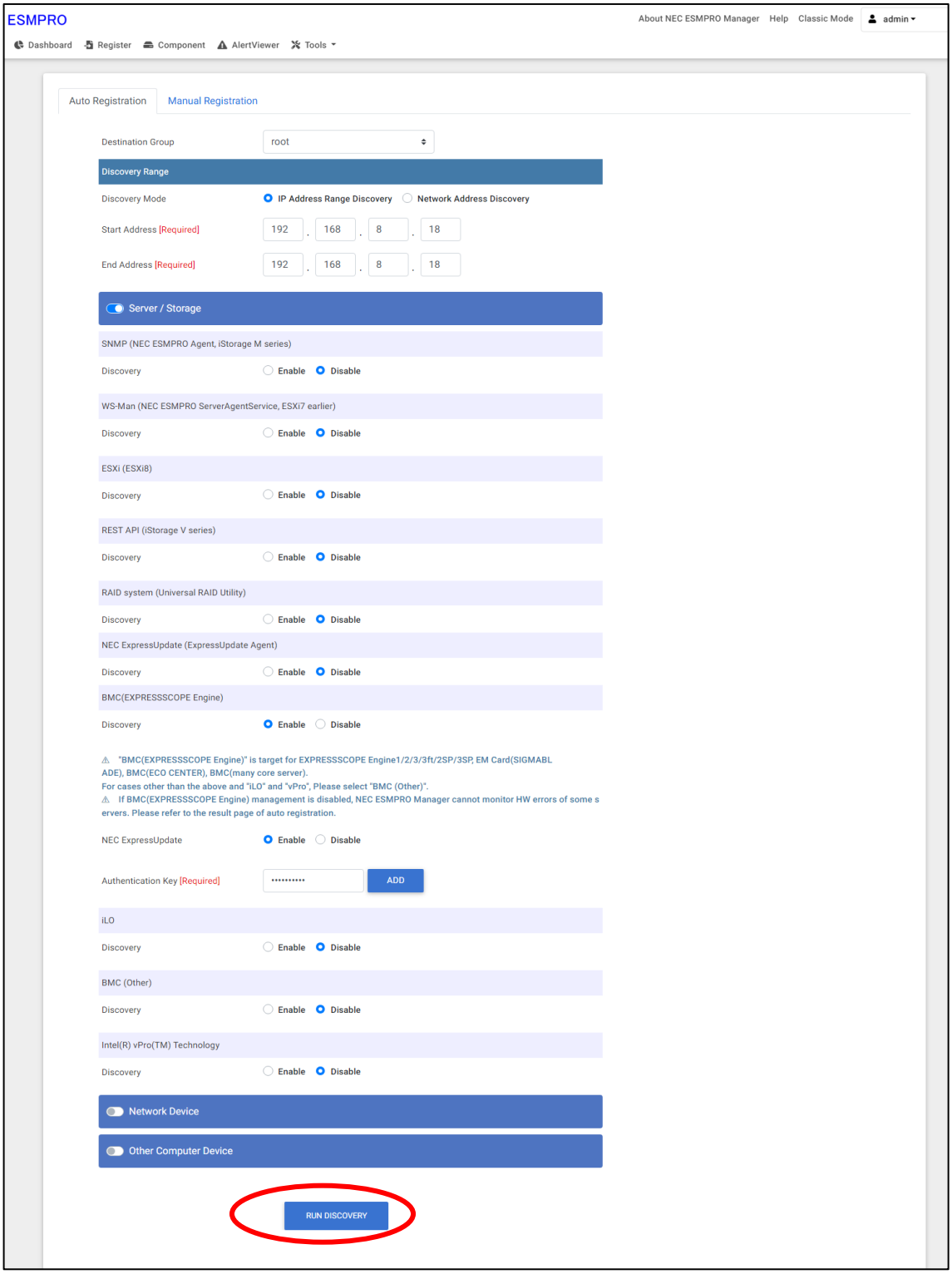
CHECK:

- *5 If you want to use HTTPS for WS-MAN communication with ESMPRO/ServerAgentService, refer to Chapter 2, Installation 3.3 HTTPS Setting in the ESMPRO/ServerAgentService Installation Guide (Windows).

IMPORTANT:

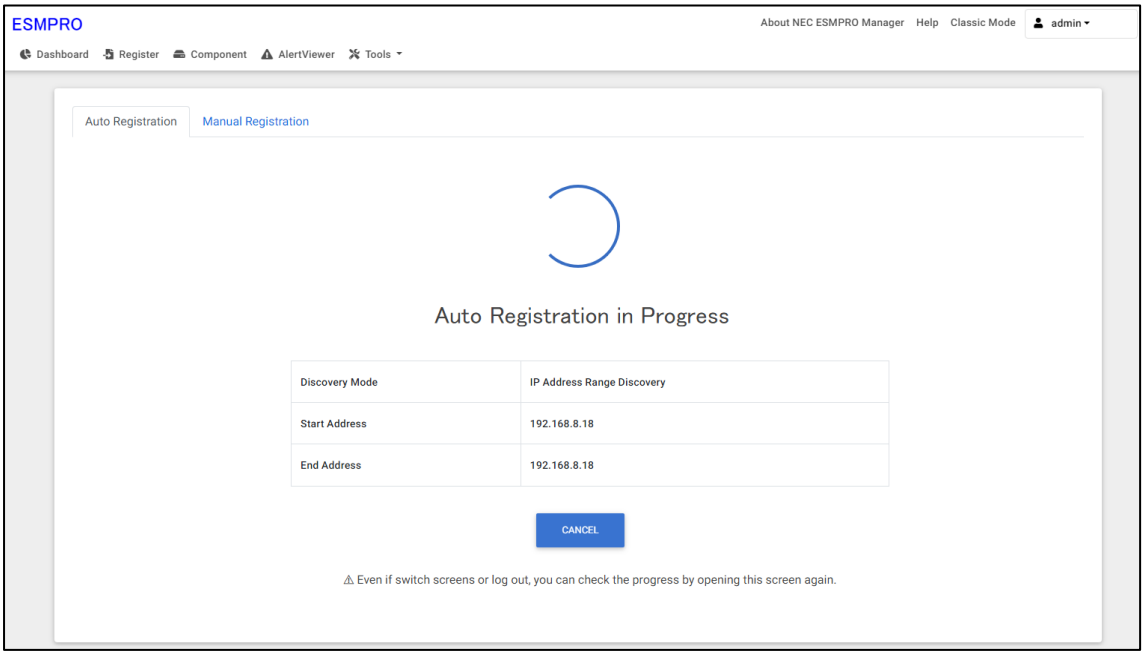
- If BMC(EXPRESSSCOPE Engine) management is disabled, NEC ESMPRO Manager may not be able to monitor HW status. Detailed information is shown in the connection check result screen.

(4) Click "RUN DISCOVERY".

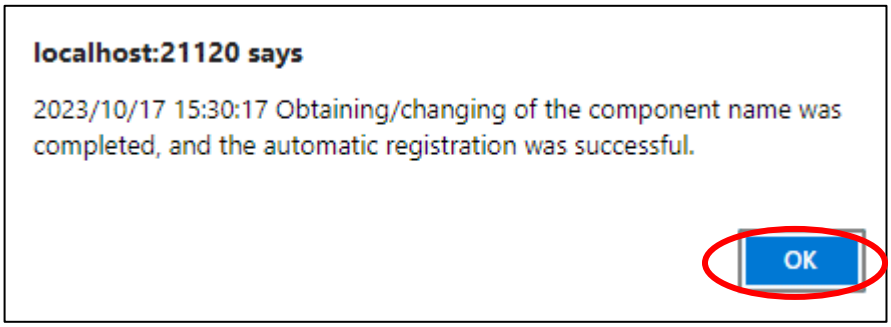


CHECK:
When you click the "RUN DISCOVERY", you may see a message "The search cannot be started. ". If you have enabled "WS-Man Discovery" or "ESXi Discovery", please check whether a "Self Signed Certificate" is allowed in section "1.3.1 Environment setting".

When you click the "RUN DISCOVERY", the discovery for components will begin and the "Auto Registration in Progress" screen will be displayed.

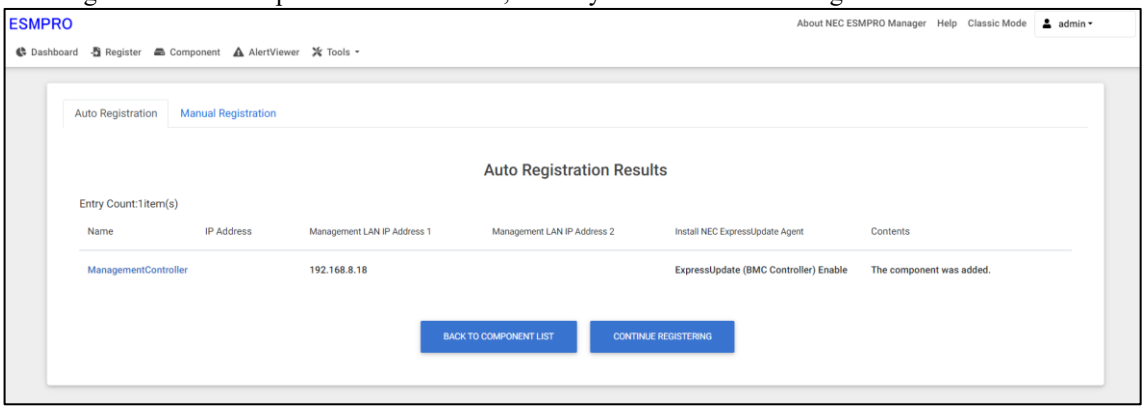


(5) If the "Auto Registration" is completed, following message will be displayed. Click "OK".



(6) The components registered will be displayed on the "Auto Registration Results" screen.

Clicking the "Name" to open the Classic mode, where you can confirm the registered information.



Name	Description
Name	Component name
IP address	IP address
Management LAN IP Address 1	BMC（EXPRESSSCOPE Engine）/iLO/BMC（Other）/vPro) の IP address
Management LAN IP Address 2	IP address of BMC（EXPRESSSCOPE Engine)（device support LAN port2）
Install NEC ExpressUpdate Agent	・ExpressUpdate is enable When "NEC ExpressUpdate(ExpressUpdate Agent)" is enabled, and a component that can be installed with ExpressUpdate Agent is discovered. ・ExpressUpdate is disable - "NEC ExpressUpdate(ExpressUpdate Agent)" is disable - "NEC ExpressUpdate(ExpressUpdate Agent)" is enabled, but there is not component that can be installed with ExpressUpdate Agent.
Contents	・A component has been added. This message will be displayed if the component is successfully registered. ・Management Controller management cannot be used. Hardware monitoring function is unavailable. This message will be displayed when BMC (EXPRESSSCOPE engine)/iLO/BMC (other)/vPro cannot be discovered for a component registered by an OS IP address. If you want to register the Management Controller management function, click the "Name". The connection settings screen in Classic mode will be displayed, so you can perform the registration here.

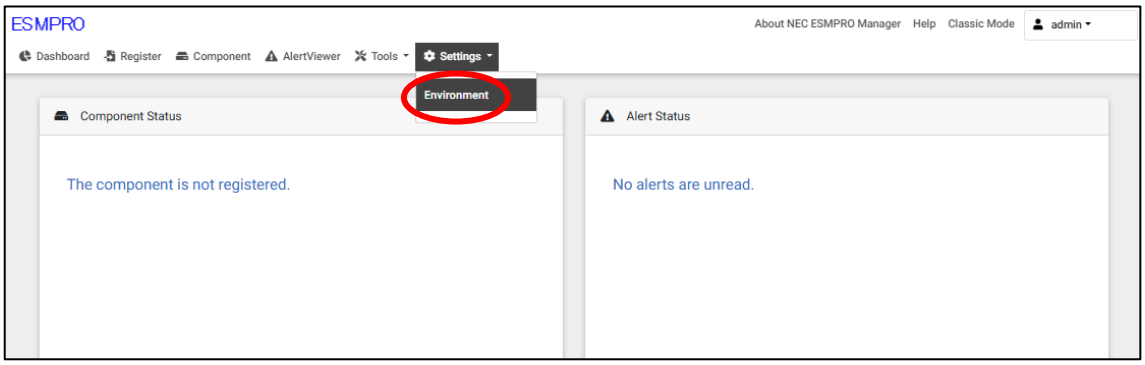
TIPS:

- If the system management cannot discover the managed component name, the "Name" of "Component List" will be "ManagementController".
  The following components will be named "ManagementController + number".
  If you want to change the name, click the "Name" in the "Component List" to launch Classic mode, and then click "Setting" -> "Connection Setting" ->"Edit" to change component name.

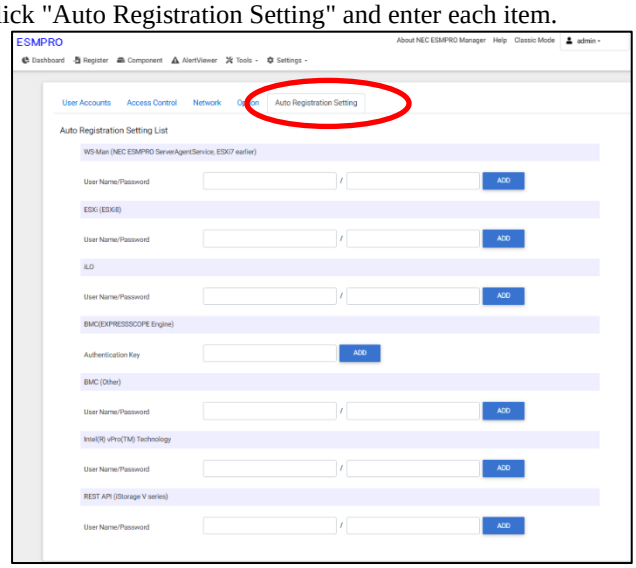
1.3.3.3 Auto Registration Setting

Before executing auto registration, User Name/Password and Authentication Key can be registered up to 5. Using this feature, you do not have to enter these information for each auto registration process.
Executing auto registration, User Name/Password and Authentication Key entered in this screen are used in addition to the information entered in auto registration screen.

(1) Click "Environment" from "Settings" menu.



(2) Click "Auto Registration Setting" and enter each item.



WS-Man (NEC ESMPRO ServerAgentService, brfore ESXi7)
- "User Name/Password"
  Enter a pair of username and password for WS-Man auto registration. You can enter up to 5 pairs.

ESXi (ESXi8)
- “User Name/Password”
  Enter a pair of username and password for ESXi auto registration. You can enter up to 5 pairs.

BMC (EXPRESSSCOPE Engine)
- Authentication Key
  Enter an authentication key for BMC auto registration. You can enter it up to 5. Refer to "1.2 Configure BMC on Managed Component" for more information about Authentication Key.

iLO
- "User Name/Password"
  Enter a pair of user name and password for iLO auto registration. You can enter up to 5 pairs.

BMC (Other)
- "User Name/Password"
  Enter a pair of user name and password for BMC (Other) auto registration. You can enter up to 5 pairs.

Intel(R) vPro(TM) Technology
- "User Name/Password"
  Enter a pair of user name and password for vPro auto registration. You can enter up to 5 pairs.

REST API (iStorage V series)
- "User Name/Password"
  Please enter the username and password that will be used to discovery for the REST API (iStorage V series) Management during Auto Registration. You can enter up to 5 pairs.

Chapter2 Setup for Managed Component in which a BMC excluding EXPRESSSCOPE Engine 3 is integrated

This chapter explains the setup procedure for the NEC ESMPRO Manager to manage the BMC and NEC ESMPRO Agent Extension ver1.xx (or NEC DianaScope Agent) on a managed component remotely via LAN connection.

2.1 Setup Flow

Perform the following setup procedure:

(1) Connect the NEC ESMPRO Manager server and the managed component on the same network.

(2) Configure BMC on the managed component.

(3) Register the managed component on the NEC ESMPRO Manager.

2.2 Configure BMC on Managed Component (for LAN connection)

Configure BMC of the managed component at first.

TIPS:

- This section explains about the minimum setting that is necessary for connection the NEC ESMPRO Manager with the managed component. For details of BMC configuration, see document of each tool.

There are two methods for configuring the BMC on a managed component for LAN connection.

Configuration with NEC ESMPRO Agent Extension ver.1.xx, NEC DianaScope Agent or "System Management" tool of NEC EXPRESSBUILDER CD-ROM

This section explains the configuration procedure using NEC ESMPRO Agent Extension for Windows.

CHECK:

- There are other BMC configuration tools, but do not use the following tools for setup with NEC ESMPRO Manager.
  -- NEC MWA Agent
  -- "System management" started from NEC EXPRESSBUILDER that does not contain NEC ESMPRO Manager.

Configuration with NEC EXPRESSBUILDER DOS based with remote console feature.

NEC EXPRESSBUILDER DOS based with remote console feature is to configure the BMC on the managed component when a keyboard is not connected.

CHECK:

- Configuration with NEC EXPRESSBUILDER DOS based with remote console feature can be available only from the NEC EXPRESSBUILDER that contains NEC ESMPRO Manager.
  See the user's guide provided with the managed component about NEC EXPRESSBUILDER DOS based with remote console feature.
  If there is the description about NEC EXPRESSBUILDER DOS based with remote console feature, the feature is available.

2.2.1 Configuration with NEC ESMPRO Agent Extension ver1.xx (for LAN connection)

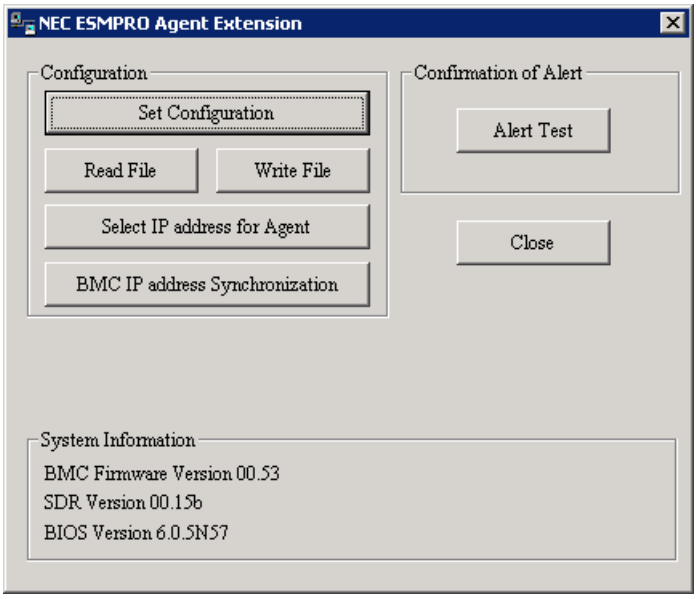
2.2.1.1 Configuration with NEC ESMPRO Agent Extension ver1.xx for Windows

This section explains the configuration procedure using NEC ESMPRO Agent Extension for Windows.

(1) After booting Windows on the managed component, click Windows "start" and start the BMC configuration function of NEC ESMPRO Agent Extension.

(2) The main dialog box will be appeared.
Click "Set Configuration". When a confirmation message is displayed, click "OK".

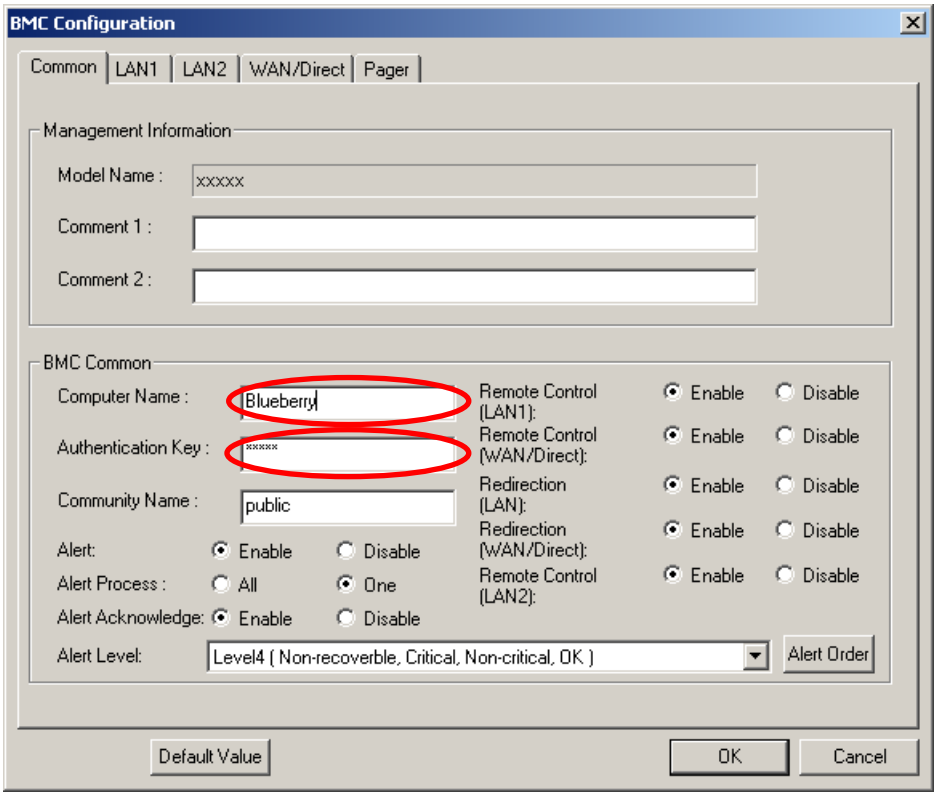
The following screen shows example for the managed component that the BMC uses standard LAN port.



(3) "BMC Configuration" dialog box will be display. Click "Common" tab page.

Be sure to set the below item. The other items can be used with the default values.
-- "Computer Name"
Enter a unique name for each managed component.
-- "Authentication Key"

The following screen shows example.



TIPS:

- If a managed component is compatible with SOL and "Enable" is selected for the item "Redirection (LAN)," the following items necessary for the remote console via the LAN will be changed automatically.
  "Common" tab page - "Redirection (WAN/Direct)": Enable
  "WAN/Direct" page - "Flow Control": RTS/CTS

(4) Select "LAN1" tab page for LAN port 1 of the BMC.
Set the below items. The other items can be used with the default values.

-- "Obtain an IP Address automatically (DHCP)"
Determine whether to dynamically obtain an IP address from a DHCP server.
If the item is set enable and registered, the BMC set the value obtained from DHCP server on "IP Address", "Subnet Mask" and "Default Gateway".
You can set enable on the item only if the BMC supports this capability.

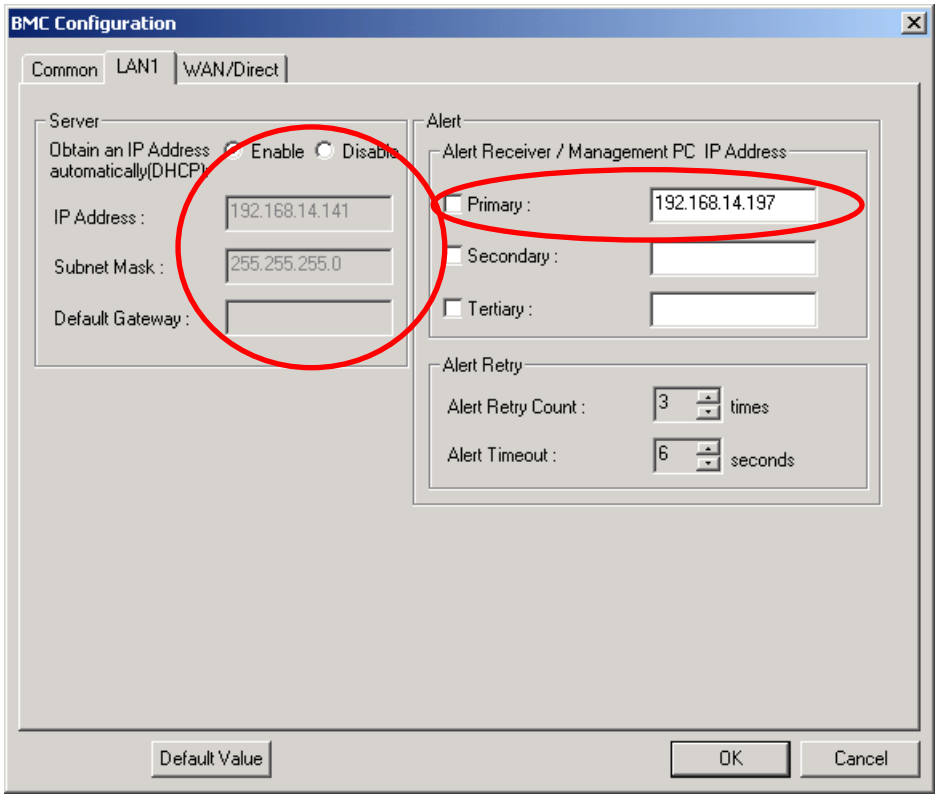
-- "IP Address"
Case that BMC on the managed component uses Management LAN port; enter the IP address for the Management LAN port.
Case that BMC on the managed component uses a standard LAN port; be sure to make the setting identical to the setting on the operating system of the managed component.

-- "Subnet Mask"
Enter the subnet mask for the IP address.

-- "Default Gateway"
Enter the default gateway if the managed component connects to NEC ESMPRO Manager Server via any gateway

-- "Alert Receiver / Management PC IP Address" - "Primary".
Enter the IP address of the management PC.

The following screen shows example.



TIPS:

- The "LAN2" tab is displayed only when the managed component's BMC supports communication via LAN2. To communicate with the NEC ESMPRO Manager via LAN2, make the setting on the "LAN2" tab as same as "LAN1" tab.

CHECK:

- Please set the following items for NEC ESMPRO Manager to receive alerts from the BMC.
  - LAN1 / LAN2
    - Alert Receiver / Management PC IP Address
      - Primary :
        IP address of the management PC on which NEC ESMPRO Manager is installed.
        * Please set the checkbox to enable.

(5) If you set "Default Gateway", please connect the managed component via LAN port used by BMC and the gateway to network.
If you set "Alert Receiver / Management PC IP Address" on same network with the managed component, please connect the managed component via LAN port used by BMC and the alert receiver/management PC to network.

(6) Click "OK".
The configuration information will be set in the BMC. The MAC addresses of the gateway and the alert receivers will be also set in the BMC.

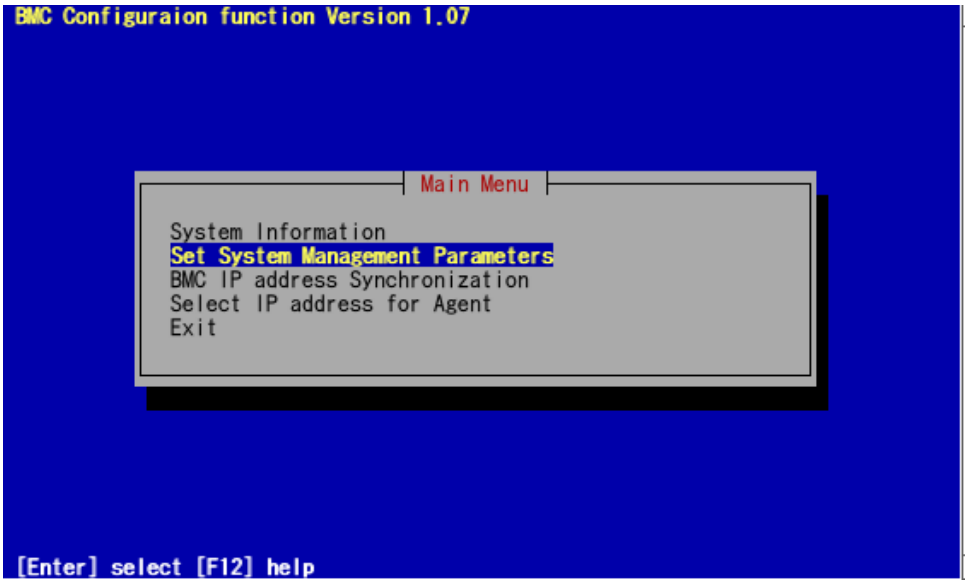
2.2.1.2 Configuration with NEC ESMPRO Agent Extension ver.1.xx for Linux

This section explains the configuration procedure using NEC ESMPRO Agent Extension ver.1.xx for Linux.

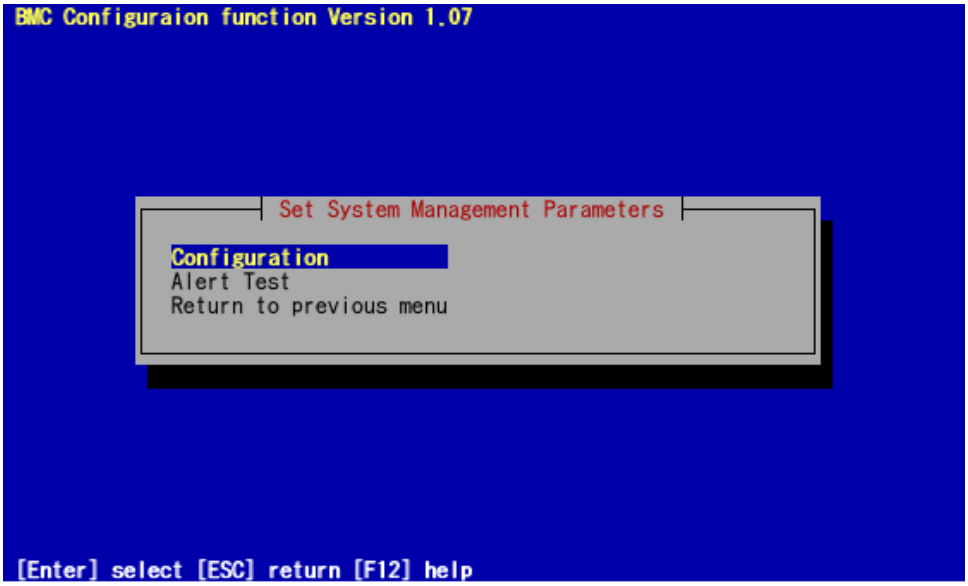
(1) After booting Linux on the managed component, start the BMC configuration function of NEC ESMPRO Agent Extension by the following command.

```
/opt/nec/esmpro_sa_ex_sysman/agentconf
```

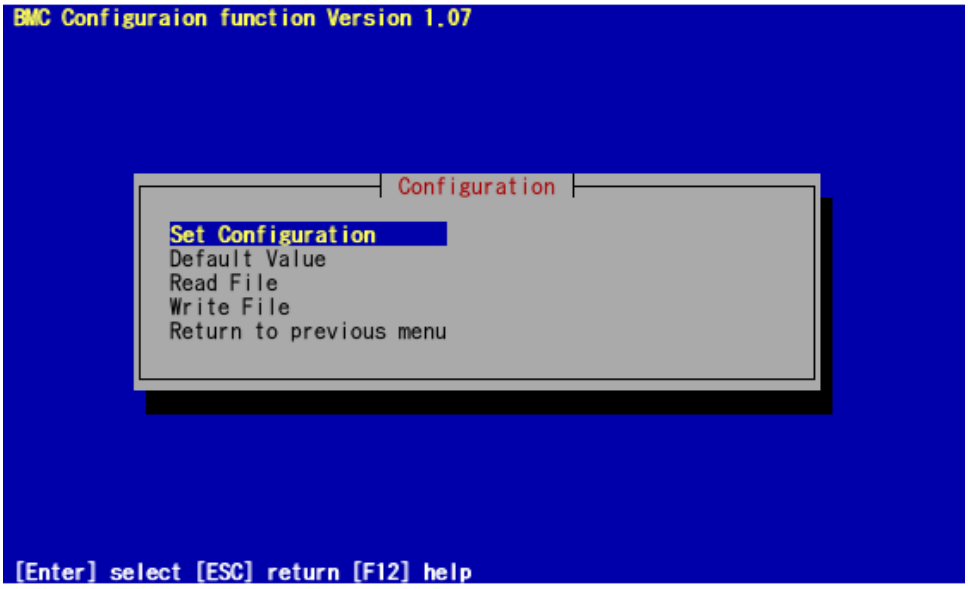
(2) "Main Menu" screen will be displayed.
Select "Set System Management Parameters".
The following screen shows example for the managed server that the BMC uses standard LAN port.



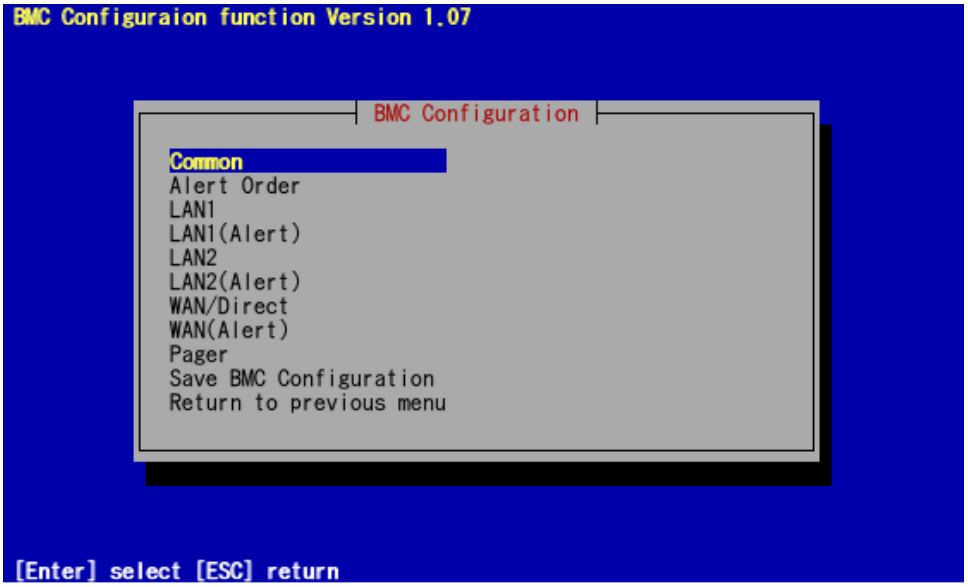
(3) "Set System Management Parameters" screen will be displayed.
Select "Configuration".



(4) "Configuration" screen will be displayed.
Select "Set Configuration".



(5) "BMC Configuration" screen will be displayed.
Select "Common".

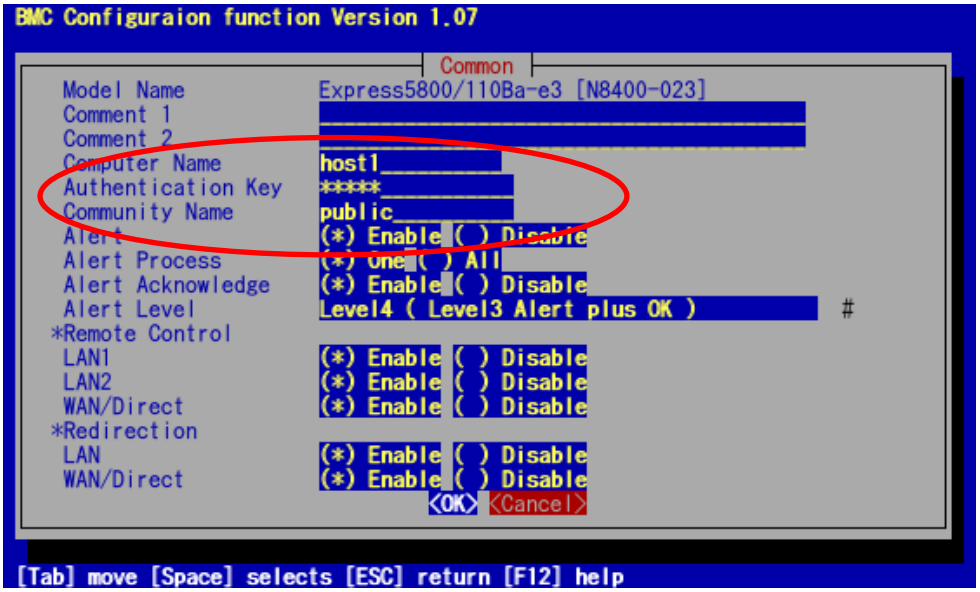


(6) "Common" screen will be displayed.

Be sure to set the below item. The other items can be used with the default values.

-- "Computer Name"
Enter a unique name for each managed server.
-- "Authentication Key"

The following screen shows example.



TIPS:

- If a managed server is compatible with SOL and "Enable" is selected for the item "Redirection (LAN)," the following items necessary for the remote console via the LAN will be changed automatically.
  "Common" screen - "Redirection (WAN/Direct)": Enable
  "WAN/Direct" screen - "Flow Control": RTS/CTS

CHECK:

- Please set the following items for NEC ESMPRO Manager to receive alerts from the BMC.
  - LAN1 (Alert) / LAN2 (Alert) :
    - Primary Alert Receiver : Enable
    - IP Address:
      IP address of the management PC on which NEC ESMPRO Manager is installed.

(7) Select "LAN1" from "BMC Configuration" screen.
Set the below items. The other items can be used with the default values.

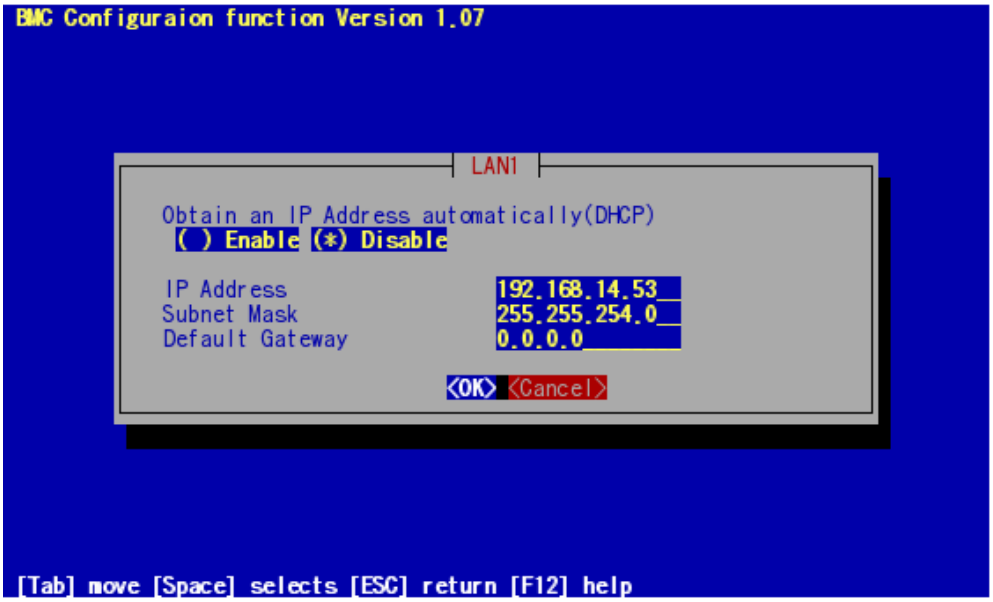
-- "Obtain an IP Address automatically (DHCP)"
Determine whether to dynamically obtain an IP address from a DHCP server.
If the item is set enable and registered, the BMC set the value obtained from DHCP server on "IP Address", "Subnet Mask" and "Default Gateway".
You can set enable on the item only if the BMC supports this capability.

--"IP Address"
Case that BMC on the managed server uses Management LAN port; enter the IP address for the Management LAN port.
Case that BMC on the managed server uses a standard LAN port; be sure to make the setting identical to the setting on the operating system of the managed server.

-- "Subnet Mask"
Enter the subnet mask for the IP address.

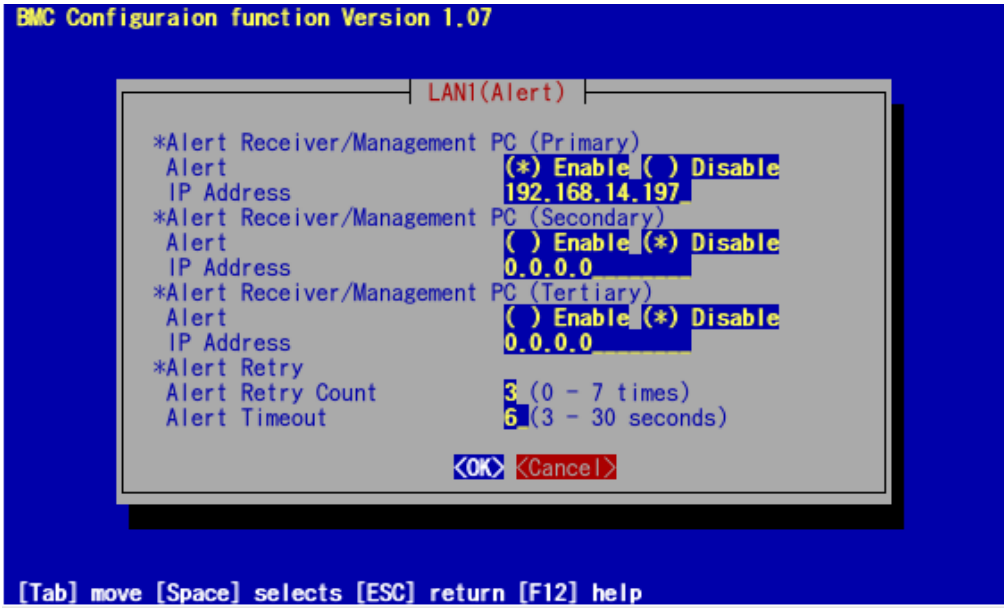
-- "Default Gateway"
Enter the default gateway if the managed server connects to NEC ESMPRO Manager Server via any gateway

The following screen shows example.



-- "Alert Receiver / Management PC IP Address" - "Primary".
Enter the IP address of the management PC.

The following screen shows example.



CHECK:

- The "LAN2" in "BMC Configuration" screen is displayed only when the managed component's BMC supports communication via LAN2. To communicate with the NEC ESMPRO Manager via LAN2, make the setting on the "LAN2" and "LAN2(Alert)" as same as "LAN1" and "LAN1(Alert)".

(8) If you set "Default Gateway", please connect the managed component via LAN port used by BMC and the gateway to network.
If you set "Alert Receiver / Management PC IP Address" on same network with the managed component, please connect the managed component via LAN port used by BMC and the alert receiver/management PC to network.

(9) Select "Save BMC Configuration" from "BMC Configuration" screen.
The configuration information will be set in the BMC. The MAC addresses of the gateway and the alert receivers will be also set in the BMC.

2.2.2 Configuration with NEC EXPRESSBUILDER DOS based with remote console feature (for LAN connection)

NEC EXPRESSBUILDER DOS based with remote console feature can configure the BMC on the managed component with the configuration information FD containing the configuration information.

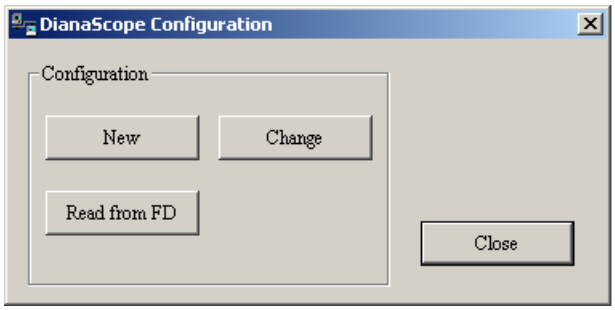
CHECK:

- Configuration with NEC EXPRESSBUILDER DOS based with remote console feature is available only from the NEC EXPRESSBUILDER that contains NEC ESMPRO Manager.
- See the user's guide provided with the managed component about NEC EXPRESSBUILDER DOS based with remote console feature. If there is the description about NEC EXPRESSBUILDER DOS based with remote console feature, the feature is available.
- See "The installation of BMC Configuration" in "chapter4 Applendix 1.4 BMC Configuration" of "NEC ESMPRO Manager Ver. 7 Installation Guide" for the information about installstion of NEC ESMPRO BMC Configuration.

Perform the following procedure:
(1) Create a configuration information file
(2) Run NEC EXPRESSBUILDER DOS based with remote console feature

2.2.2.1 Create a configuration information file

(1) Start the NEC ESMPRO Manager configuration installed on any PC to create the configuration information file.

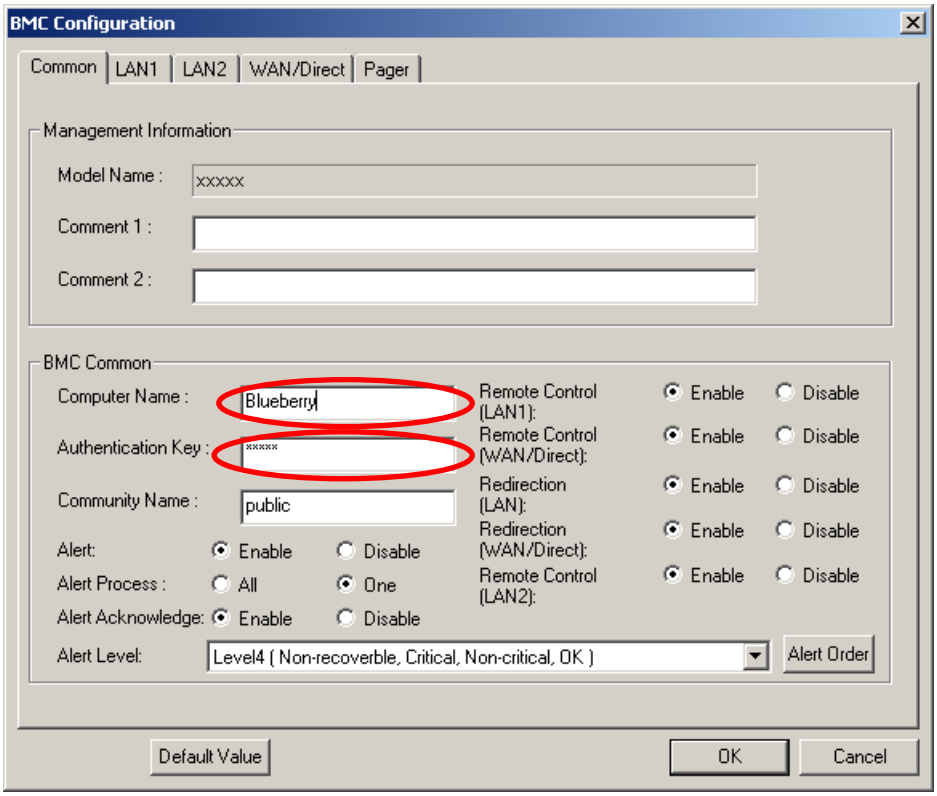


(2) Click "New". The confirming message will be displayed. Click "OK".

(3) The "BMC Configuration" dialog box will appear.
Click "Common" tab page.

Be sure to set the below item. The other items can be used with the default values.
-- "Computer Name"
Enter a unique name for each managed component
-- "Authentication Key"
-- Set "Remote Control (LAN)", "Remote Control (WAN/Direct)", "Redirection (LAN)" and "Redirection (WAN/Direct)" to enable

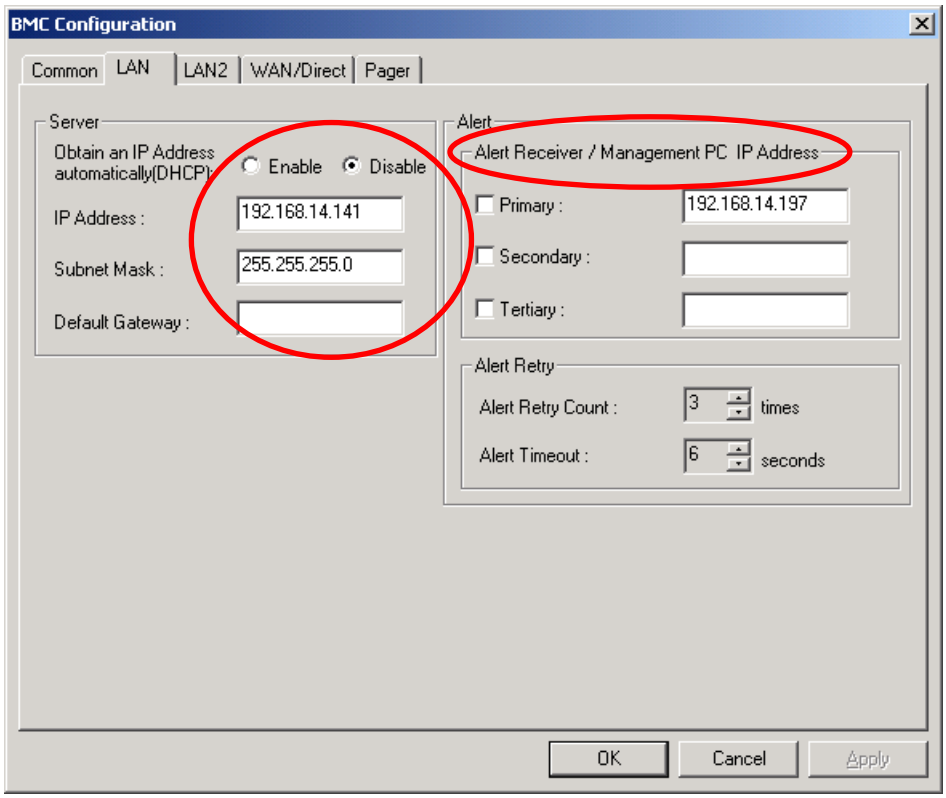
The following screen shows example.



(4) Select "LAN" tab page for LAN port 1 of the BMC.
Set the below items. The other items can be used with the default values.

-- "Obtain an IP Address automatically (DHCP)"
Determine whether to dynamically obtain an IP address from a DHCP server.
If the item is set enable and registered, the BMC set the value obtained from DHCP server on "IP Address", "Subnet Mask" and "Default Gateway".
You can set enable on the item only if the BMC supports this capability.
-- "IP Address"
Case that BMC on the managed component uses Management LAN port; enter the IP address for the Management LAN port.
Case that BMC on the managed component uses a standard LAN port: be sure to make the setting identical to the setting on the operating system of the managed component.
-- "Subnet Mask"
Enter the subnet mask for the IP address.
-- "Default Gateway"
Enter the default gateway if the managed component connects to the management PC via any gateway,
-- "Alert Receiver / Management PC IP Address" - "Primary"
Enter the IP address of the management PC.

The following screen shows example.



CHECK:

- To communicate with the NEC ESMPRO Manager via LAN2, make the setting on the "LAN2" tab as same as "LAN" tab. If the BMC of the managed component does not support communication via LAN2, the values of "LAN2" tab page have no effect with the managed component.
  The managed component installed the BMC that uses Management LAN port supports the function of "Obtain an IP Address automatically (DHCP)".

CHECK:

- Please set the following items for NEC ESMPRO Manager to receive alerts from the BMC.
  - LAN1 / LAN2
    - Platform Event Filter : Enable
  - Alert Receiver / Management PC IP Address :
    - Primary :
      IP address of the management PC on which NEC ESMPRO Manager is installed.

(5) Insert a formatted floppy disk into the FD drive, and click "OK". A dialog box will appear for specifying a location where the configuration information is to be saved.

(6) Specify the floppy disk's root directory as the location.
Enter "CSL_LESS.CFG" for the file name, and click "OK".

The configuration information file will be saved on the floppy disk. This floppy disk is called a "configuration information FD".

CHECK:

- Place the configuration information FD in the write-enable state.

2.2.2.2 Run NEC EXPRESSBUILDER DOS based with remote console feature

(1) If you set "Default Gateway" at creating the configuration information file, please connect the managed component via LAN port used by BMC and the gateway to network.
If you set "Alert Receiver / Management PC IP Address" on same network with the managed component at creating the configuration information file, please connect the managed component via LAN port used by BMC and the alert receiver/management PC to network.

(2) Configure the BMC of the managed component with the configuration information.
Insert the NEC EXPRESSBUILDER CD-ROM into the CD-ROM drive and the "configuration information FD" into the FD drive on the managed component. And then turn on the component.
After NEC EXPRESSBUILDER DOS based with remote console feature is started and the configuration information is loaded from the FD into the managed component. The MAC addresses of the gateway and the alert receivers will be also set in the BMC. And then the Operating System will be rebooted.

TIPS:

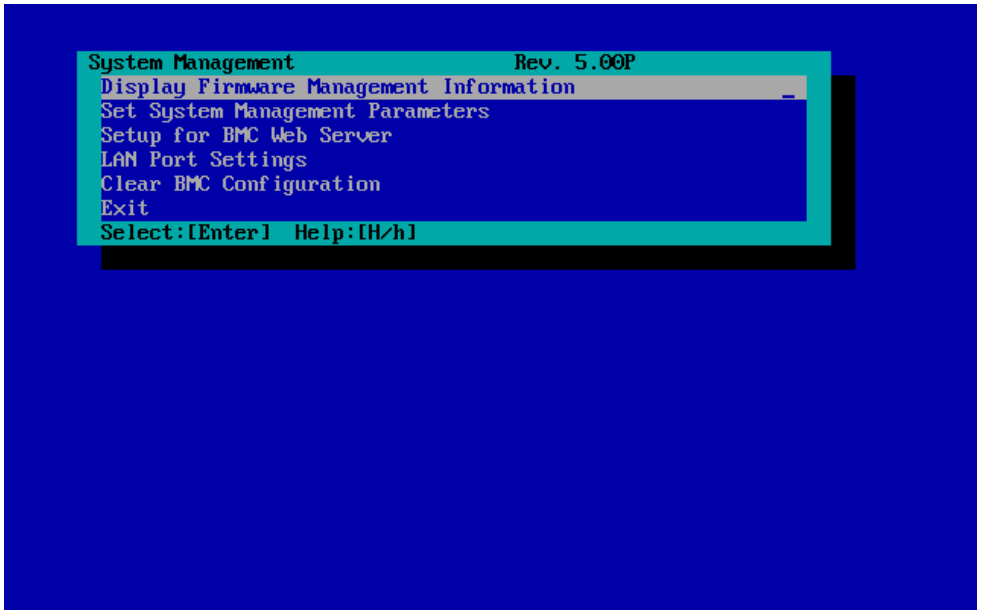
- If the setting in the configuration information file is already configured, the managed component will be not rebooted.
  When the console-less function for LAN connection is used, the BIOS settings are changed as follows:
  Serial Port Address: On Board COM B (only for the managed server supporting SOL)
  Baud Rate: 19.2kbps (only for the managed server supporting SOL)
  Flow Control : RTS/CTS for the managed server supporting SOL
  No Flow for the managed server not supporting SOL
  Terminal Type (Console Type) : PC-ANSI (only for the managed server supporting SOL)
  To check whether that the managed component supports SOL, see Appendix D. Managed Components Summary
  The managed component is opened the main menu of the NEC EXPRESSBUILDER after executing the feature.
  After registering the managed component on the NEC ESMPRO Manager and confirm the remote console for the managed component, remove the NEC EXPRESSBUILDER from the CD-ROM drive if you need.

2.2.3 Configuration with NEC EXPRESSBUILDER System Management (for LAN connection)

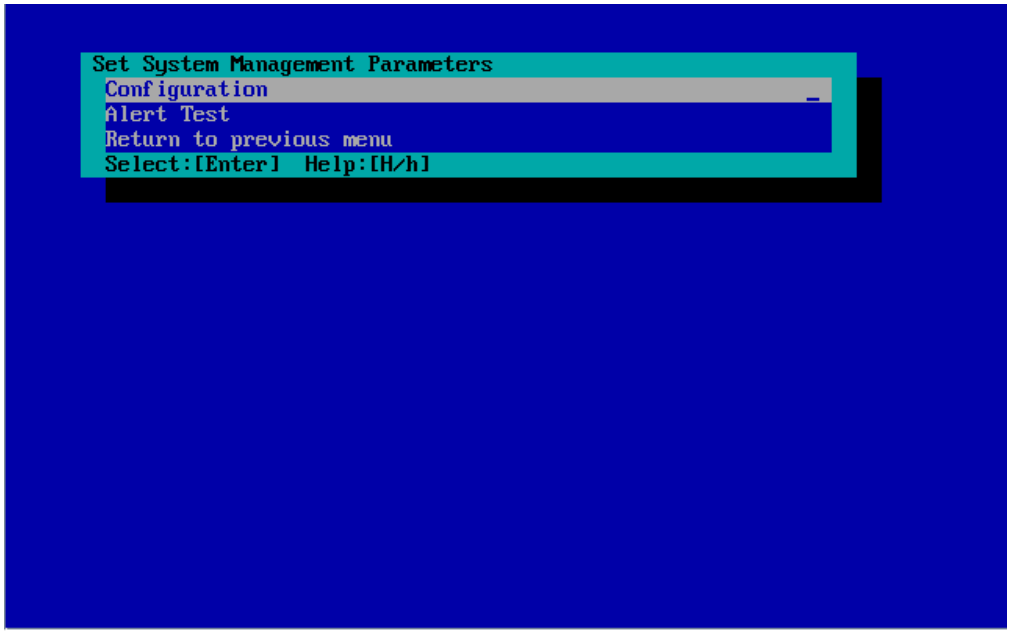
This section explains the configuration procedure using NEC EXPRESSBUILDER System Management.

(1) After booting NEC EXPRESSBUILDER on the managed component, select "System Management" from "TOOL MENU".

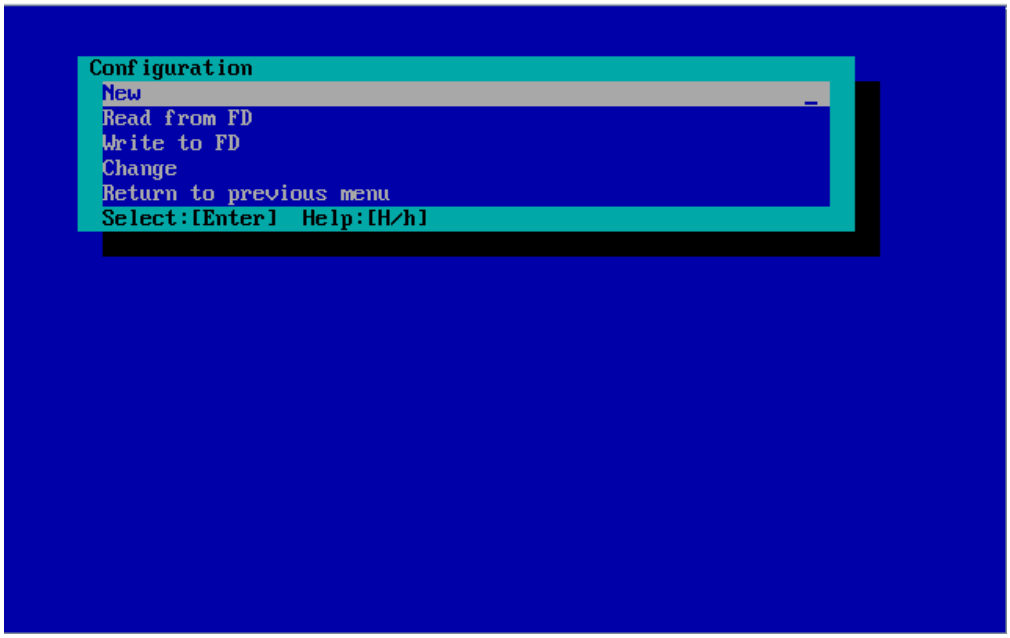
(2) The main screen will be appeared.
Select "System Management".



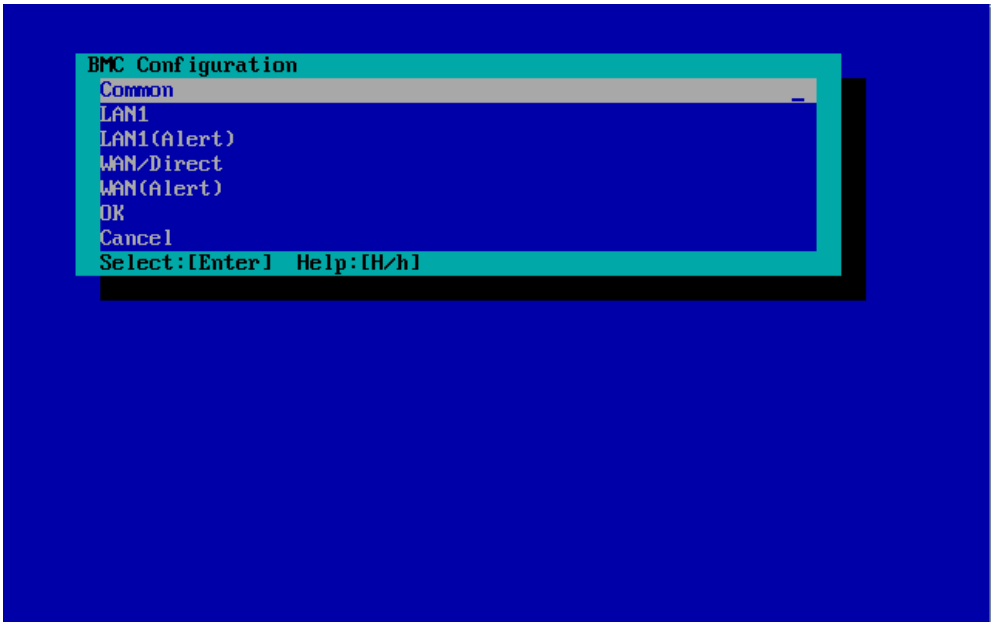
(3) Set "System Management Parameters" screen will be displayed.
Select "Configuration".



(4) "Configuration" screen will be displayed.
Select "New".



(5) "BMC Configuration" screen will be displayed.
Select "Common".

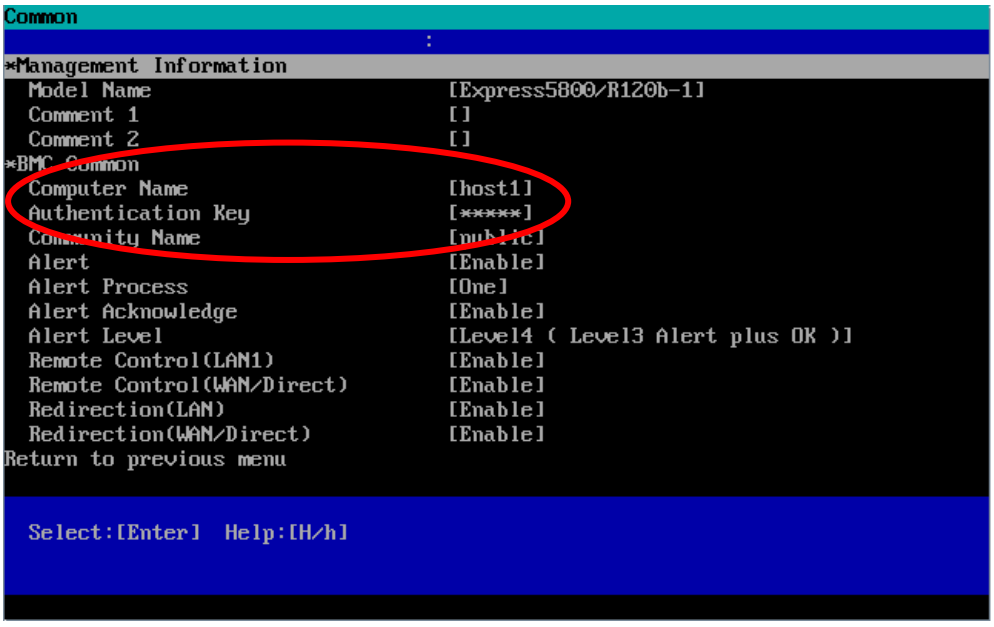


(6) "Common" screen will be displayed.

Be sure to set the below item. The other items can be used with the default values.

-- "Computer Name"
Enter a unique name for each managed server.
-- "Authentication Key"

The following screen shows example.



TIPS:

- If a managed server is compatible with SOL and "Enable" is selected for the item "Redirection (LAN)", the following items necessary for the remote console via the LAN will be changed automatically.
  "Common" screen - "Redirection (WAN/Direct)": Enable
  "WAN/Direct" screen - "Flow Control": RTS/CTS

(7) Select "LAN1" from "BMC Configuration" screen.
Set the below items. The other items can be used with the default values.

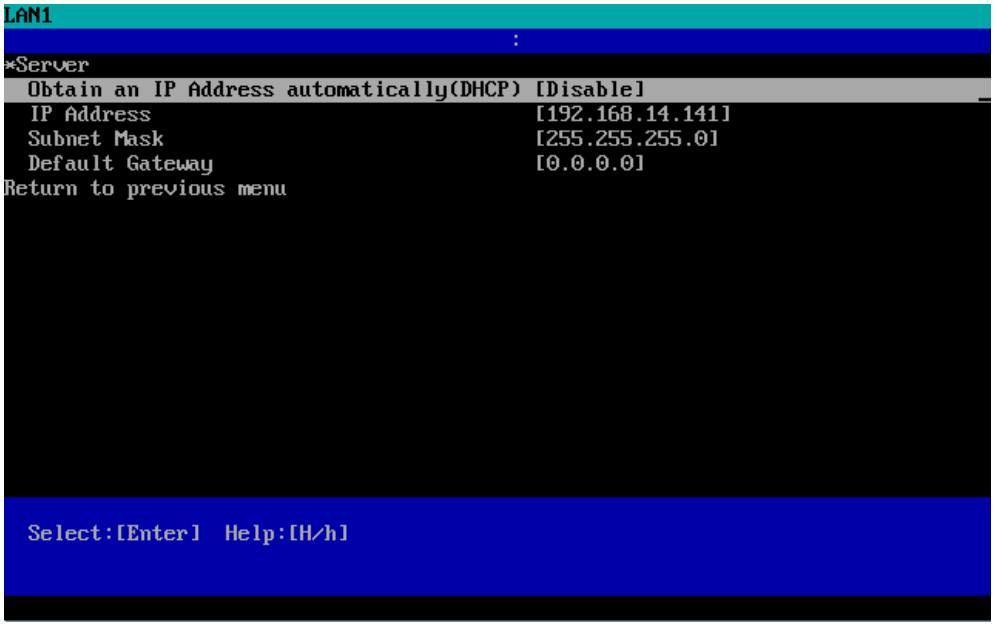
-- "Obtain an IP Address automatically (DHCP)"
Determine whether to dynamically obtain an IP address from a DHCP server.
If the item is set enable and registered, the BMC set the value obtained from DHCP server on "IP Address", "Subnet Mask" and "Default Gateway".
You can set enable on the item only if the BMC supports this capability.

-- "IP Address"
Case that BMC on the managed component uses Management LAN port; enter the IP address for the Management LAN port.
Case that BMC on the managed component uses a standard LAN port; be sure to make the setting identical to the setting on the operating system of the managed component.

-- "Subnet Mask"
Enter the subnet mask for the IP address.

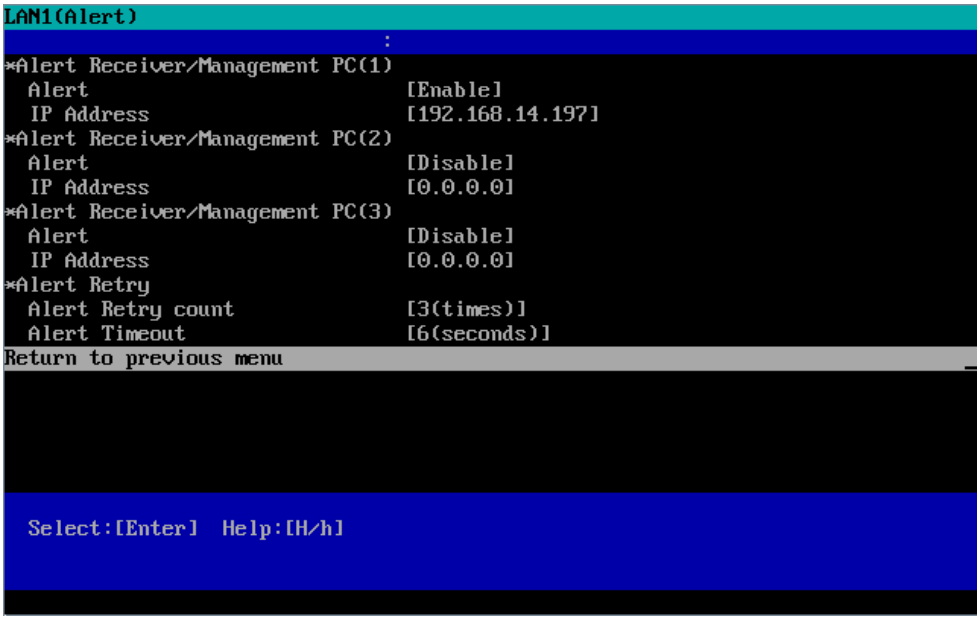
-- "Default Gateway"
Enter the default gateway if the managed component connects to NEC ESMPRO Manager Server via any gateway

The following screen shows example.



-- "Alert Receiver / Management PC(1)".
Enter the IP address of management PC.

The following screen shows example.



TIPS:

- The "LAN2" in "BMC Configuration" screen is displayed only when the managed component's BMC supports communication via LAN2. To communicate with the NEC ESMPRO Manager via LAN2, make the setting on the "LAN2" and "LAN2(Alert)" as same as "LAN1" and "LAN1(Alert)".

CHECK:

- Please set the following items for NEC ESMPRO Manager to receive alerts from the BMC.
  - LAN1 (Alert) / LAN2 (Alert) :
    - Alert Receiver / Management PC (1) :
      - Alert : Enable
      - IP Address :
        IP address of the management PC on which NEC ESMPRO Manager is installed.

(8) If you set "Default Gateway", please connect the managed component via LAN port used by BMC and the gateway to network.
If you set "Alert Receiver / Management PC IP Address" on same network with the managed component, please connect the managed component via LAN port used by BMC and the alert receiver/management PC to network.

(9) Select "Save BMC Configuration" from "BMC Configuration" screen.
The configuration information will be set in the BMC. The MAC addresses of the gateway and the alert receivers will be also set in the BMC.

2.3 Register a managed component on NEC ESMPRO Manager (for LAN connection)

To register the managed component on the NEC ESMPRO Manager, login to the NEC ESMPRO Manager and perform in the following order:
If necessary, see "1.3.2 Add component to Group" and add the group to which the managed component will belong.

2.3.1 Register the Managed Component

Use either of the two methods to register the managed component.

Manual Registration

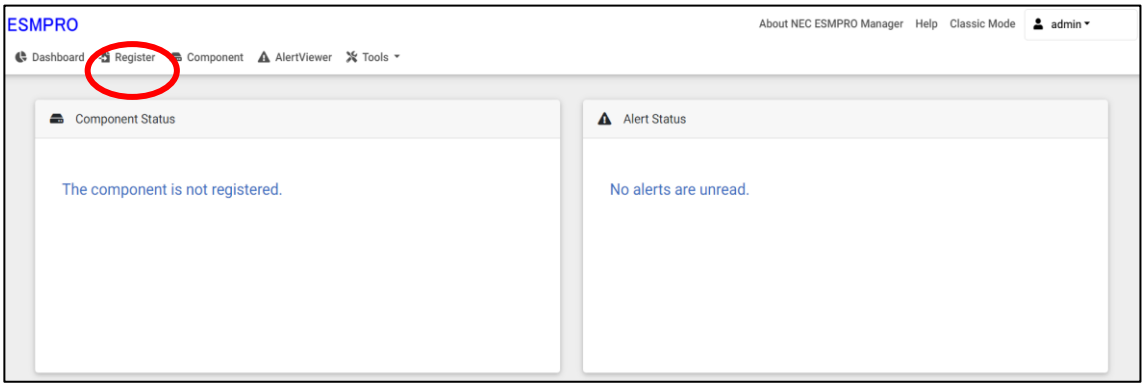
This method requires the operator to directly enter the managed component's information such as the IP address of the BMC and to perform "Check Connection".

Auto Registration

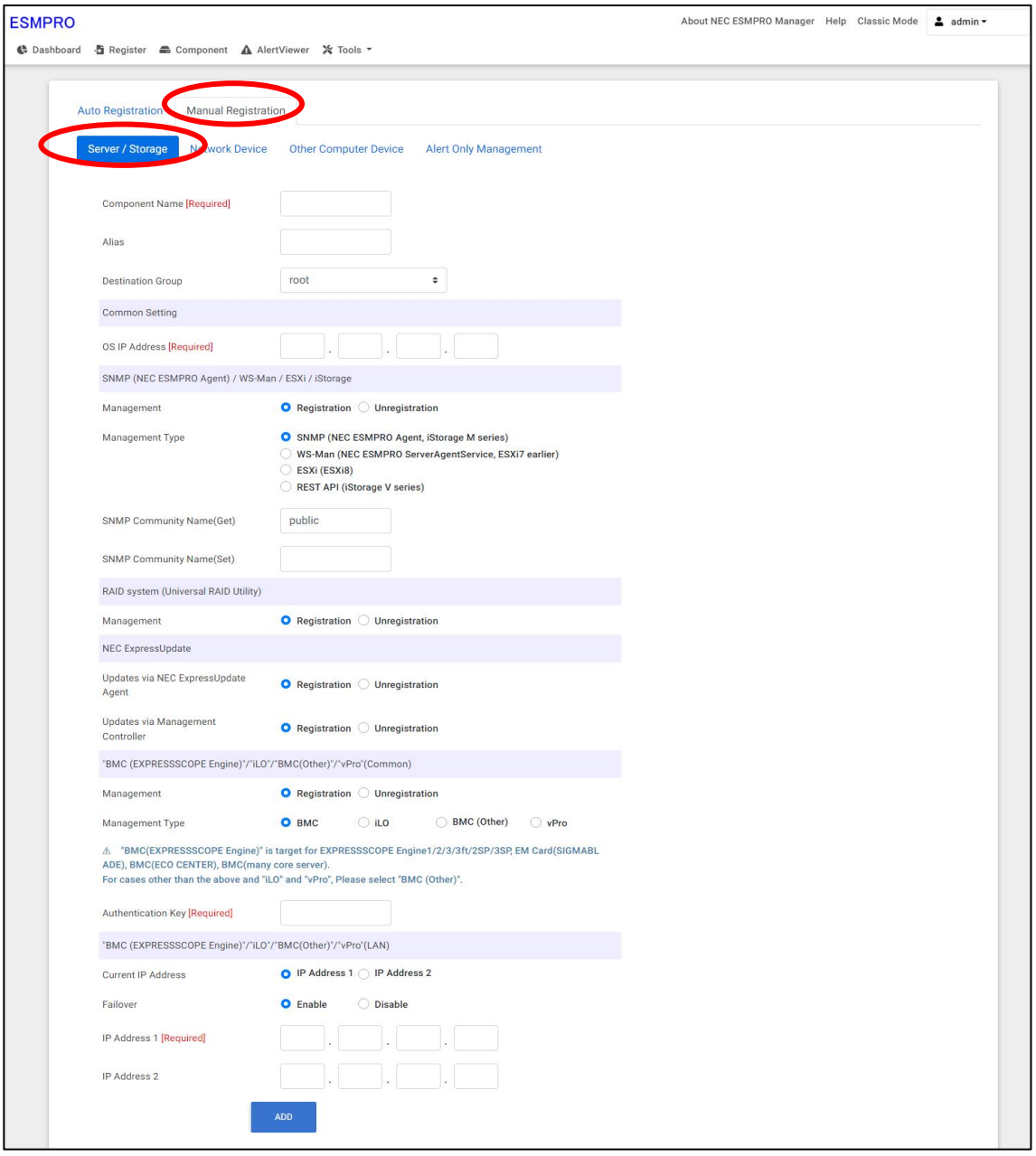
This method automatically searches the network for managed components that are not registered yet on the NEC ESMPRO Manager, and registers the managed components.

2.3.1.1 Manual Registration

(1) Click "Register".



(2) Click the "Server / Storage" of "Manual Registration".



(3) Input the following items:

Name	Value
Component Name	Specify the name of the managed component on NEC ESMPRO Manager. Assign a name different from other managed component names. Do not enter a name including blank characters. Uppercase characters are distinguished from lowercase characters.
Alias	Specify the information about the managed component. Do not enter a name including blank characters. Only blank characters cannot be entered. Also, please do not enter a name containing blank characters. The blank characters will be removed if there are half-width blank characters before or after the string. Uppercase characters are distinguished from lowercase characters. Optional.
Destination Group	Specify the group to which the managed component will belong. See "1.3.2 Add component to Group" for the information about creating group.
Common Setting	
OS IP Address	Specify the OS IP Address of the managed component.
SNMP (NEC ESMPRO Agent) / WS-Man / ESXi / iStorage	
Management	Select "Registration" to manage the system of the component.
Management Type	Select a management type of the managed component. - SNMP *1 NEC ESMPRO Agent is installed on the managed component. - WS-Man *1, *2 VMware ESXi7 is installed on the managed component. NEC ESMPRO ServerAgentService is installed on the managed component. - ESXi *1, *2 The operating system of the managed component is VMware ESXi8.
SNMP Community Name(Get)	SNMP Community Name which is specified at SNMP Agent running on the managed component. It is necessary to get the information, configure, monitor via SNMP
SNMP Community Name(Set)	When you want to set SNMP Community names for Get and Set separately on the managed component, specify the SNMP Community name for Set in this field by alphanumeric characters. If it is not specified, SNMP Community name for Get will be used.
User Name	Enter the Username/Password for communication with WS-Man or ESXi . - The operating system of the managed component is VMware ESXi. Enter Username/Password of VMware ESXi Administrator
Password	
Communication Protocol	This is displayed only when WS-Man is selected as the management target. Select protocol HTTP/HTTPS for connection WS-Man service. *2 - NEC ESMPRO ServerAgentService (Windows) is installed. If you want to use HTTPS for WS-Man communication with ESMPRO/ServerAgentService, refer to Chapter 2, Installation 3.3 HTTPS Setting in the ESMPRO/ServerAgentService Installation Guide (Windows). - NEC ESMPRO ServerAgentService (Linux) is installed. Select HTTPS. - The operating system of the managed component is VMware ESXi7. Select HTTPS.
Port Number	Enter port number where WS-Man service listens for connection. *3 - NEC ESMPRO ServerAgentService (Windows) is installed.

	If you want to use HTTP, enter 5985. If you want to use HTTPS, enter 5986. - NEC ESMPRO ServerAgentService (Linux) is installed. Enter 5986. - The operating system of the managed component is VMware ESXi7. Enter 443.
RAID system management	
Management	Select "Registration" to manage the RAID system of the component. - The operating system of the managed component is VMware ESXi7. WS-Man management must be enabled in addition to this setting. -If the managed component is a VMware ESXi8, please select " Unregistration ".
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select "Registration" to manage the component using NEC ExpressUpdate.
Updates via Management Controller	Select "Registration" to manage the component using Management Controller
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (Common)	
Management	Select "Registration" otherwise NEC ESMPRO Manager may not monitor HW status.
Management Type	Select "BMC".
Authentication Key	Enter the "authentication key" that you set in "1.2 Configure BMC on Managed Component".
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (LAN)	
Current IP Address	If you set both "IP Address1" and "IP Address2", specify which IP address you want to use for connection.
Failover	This setting is valid only when both "IP Address1" and "IP Address2" are set. Determine whether to enable/disable the “Failover” feature.
IP Address 1	Enter the IP address that is specified on LAN1 of the BMC configuration for the managed component.
IP Address 2	Enter the IP address that is specified on LAN2 of the BMC configuration for the managed component.

CHECK:

- *1 If NEC ESMPRO Manager is installed on Linux system, "SNMP" and VMware ESXi server management are not supported.

CHECK:

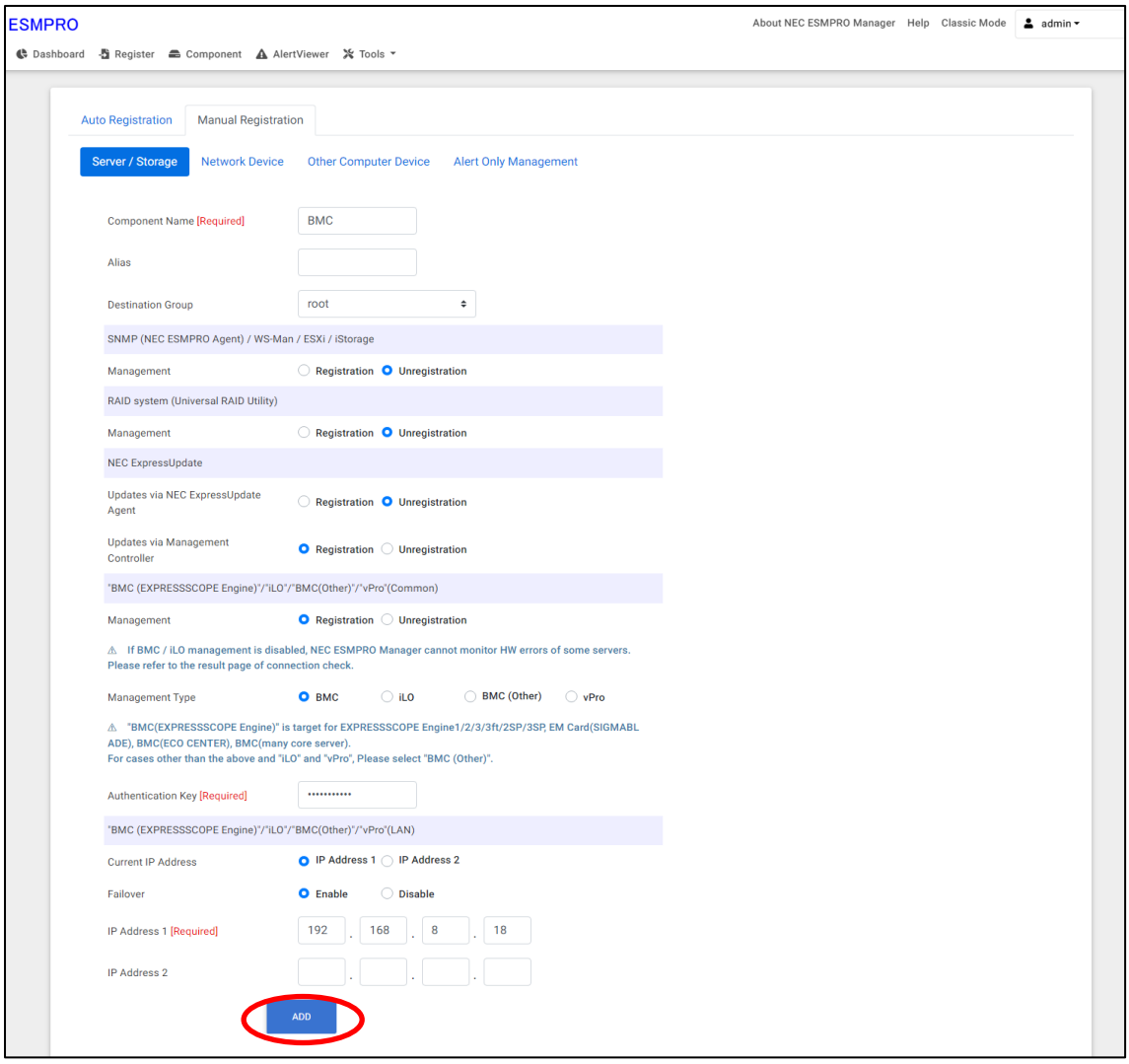
- *2 If a self-signed certificate is installed on the managed server for HTTPS communication, a setting to allow it is required. Refer to "1.3.1 Environment setting" for detailed information.

CHECK:

- *3 On "Environment" - "Auto Registration Setting List" screen, you can manage a list of username/password and authentication key. All entries in the list are used for auto registration every time.

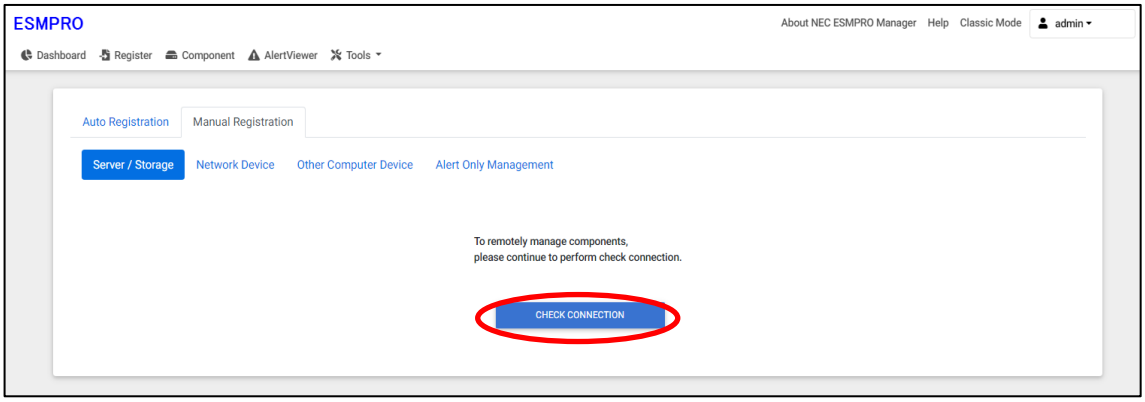
(4) Click "ADD".

If there is an error in the input content, correct the input content following the message.

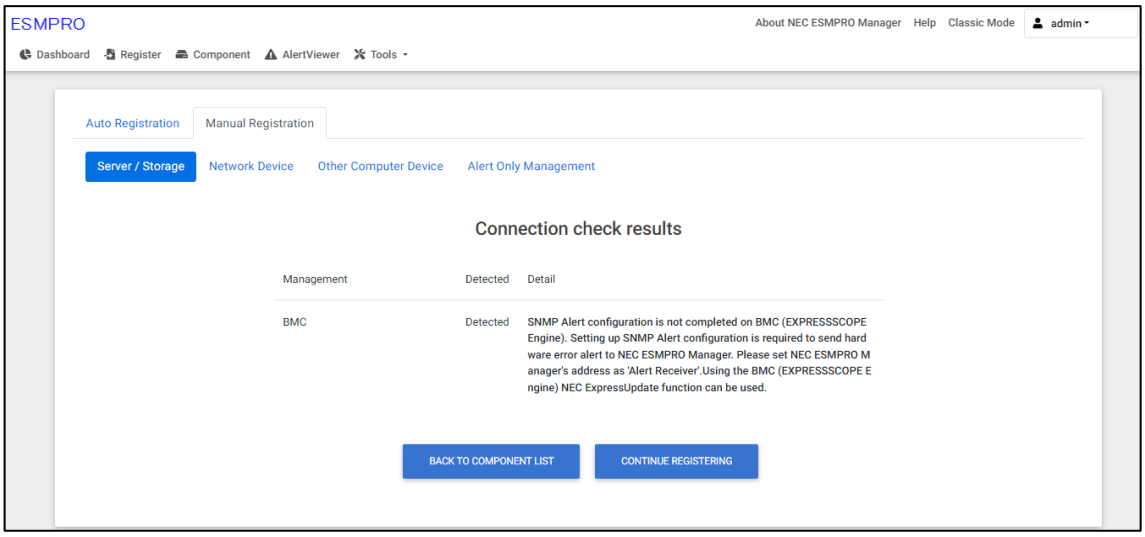


(5) "CHECK CONNECTION" screen is displayed.

Click "CHECK CONNECTION" to start it.



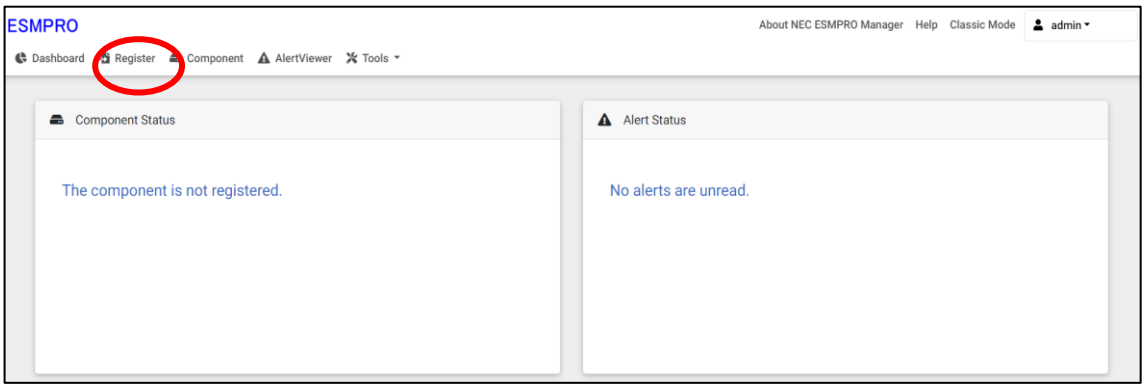
(6) If the "CHECK CONNECTION" is completed, "Connection check results" screen will be displayed.



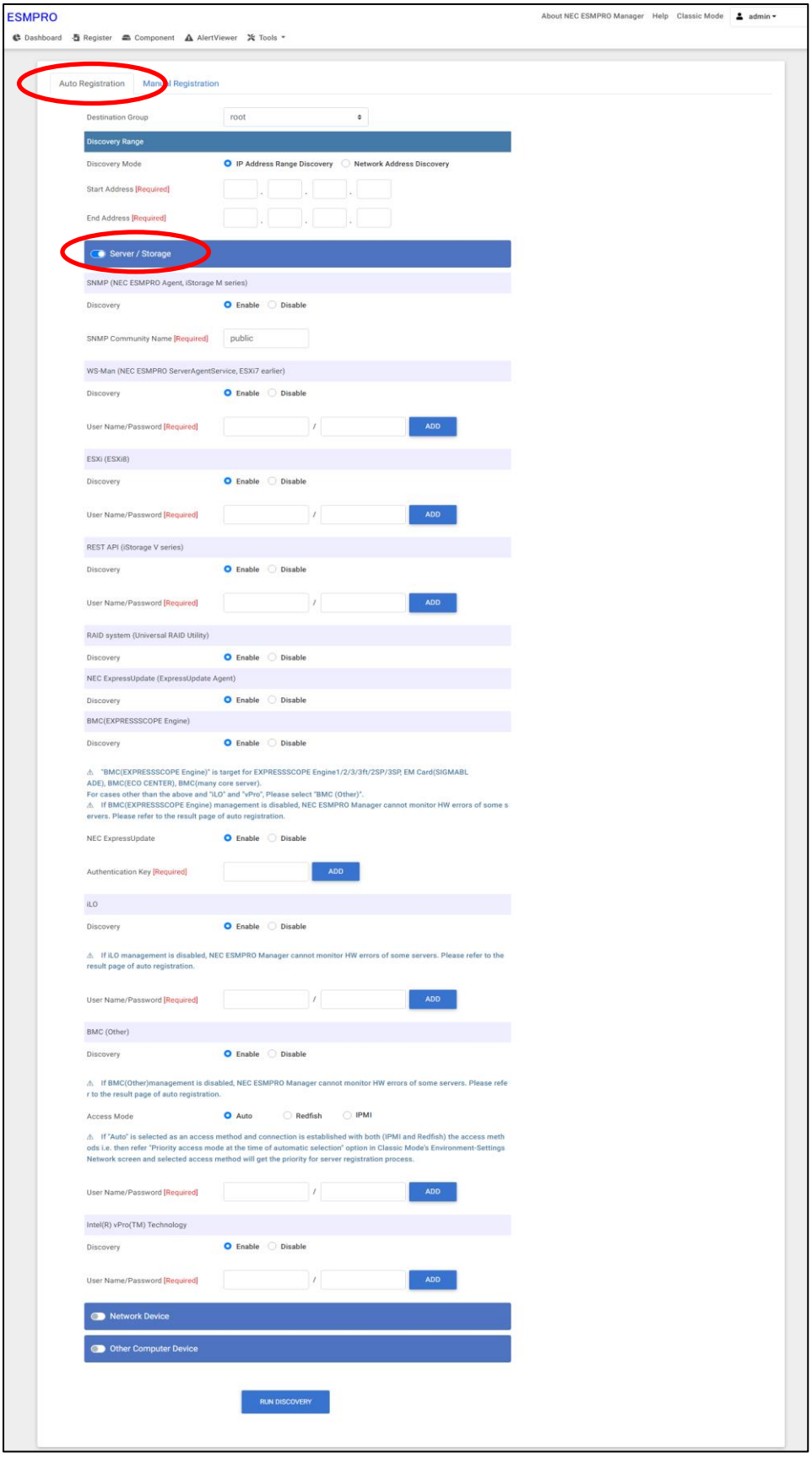
Detected	Detail
Detected	The feature was detected. NEC ESMPRO Manager can use the feature to manage the component.
Not Detected	The feature was not detected. NEC ESMPRO Manager cannot use the feature to manage the component. Click the "Name" of the component that could not be registered in the "Component List". The connection settings screen in Classic mode will be displayed. Please check that there are no errors in the entered items. For more details, please refer to the online help for NEC ESMPRO Manager.

2.3.1.2 Auto Registration

(1) Click "Register".



(2) Click the "Server/Storage" of "Auto Registration".



(3) Input the following items:

Name	Value
Destination Group	Specify the group to which the managed component will belong.
Discovery Range	
Discovery Mode	With "IP Address Range Search" selected, the NEC ESMPRO Manager searches for the managed components using the IP address range. With "Network Address Search" selected, the NEC ESMPRO Manager searches for the managed components using the specified network address.
Start Address End Address	When you select "IP Address Range Search" for "Search Mode", specify the start IP address and end IP address of the range in which managed components are to be searched for.
Network Address Network Mask	When you select "Network Address Search" for "Search Mode", specify the network address and network mask of the managed component to be searched for.
SNMP (NEC ESMPRO Agent, iStorage M series)	
Discovery	Select "Enable" to manage the system of the component.*1
SNMP Community Name	SNMP Community Name which is specified at SNMP Agent running on the managed component. It is necessary to get the information, configure, monitor via SNMP
WS-Man(NEC ESMPRO ServerAgentService, ESXi7)	
Discovery	Select "Enable" to manage VMware ESXi server of the component. *1,*2
User Name/Password	Enter username and password for WS-Man communication. The account must be a system administrator of the managed operating system. Click "Add" button and you can add a pair of username and password up to 5. *3 - The operating system of the managed component is VMware ESXi. Enter Username/Password of VMware ESXi Administrator
ESXi (ESXi8)	
Discovery	Select "Enable" to manage ESXi (ESXi8) of the component. *1,*2
User Name/Password	Enter username and password for ESXi (ESXi8) communication. The account must be a system administrator of the managed operating system. Click "Add" button and you can add a pair of username and password up to 5. *3 Enter Username/Password of VMware ESXi Administrator
REST API(iStorage V series)	
Discovery	Select "Disable" .
RAID system management	
Management	Select "Enable" to manage the RAID system of the component. - The operating system of the managed component is VMware ESXi7. WS-Man management must be enabled in addition to this setting. -If the managed component is a VMware ESXi8, please select " Unregistration ".
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select "Enable" to manage the component using NEC ExpressUpdate.
BMC (EXPRESSSCOPE Engine)	
Discovery	Select "Enable" otherwise NEC ESMPRO Manager may not monitor HW status.
Features NEC ExpressUpdate	Select "Enable" to feature NEC ExpressUpdate.
Authentication Key	Enter the "authentication key" that you set in "1.2 Configure BMC on

	Managed Component". *3
iLO	
Discovery	When you discover components which have BMC excluding EXPRESSSCOPE Engine3, this item should be "Disable".
BMC (Other)	
Discovery	When you discover components which have BMC excluding EXPRESSSCOPE Engine3, this item should be "Disable".
Intel(R) vPro(TM) Technology	
Discovery	When you discover components which have BMC excluding EXPRESSSCOPE Engine3, this item should be “Disable”.

CHECK:

- *1 If NEC ESMPRO Manager is installed on Linux system, "SNMP" and VMware ESXi management are not supported.

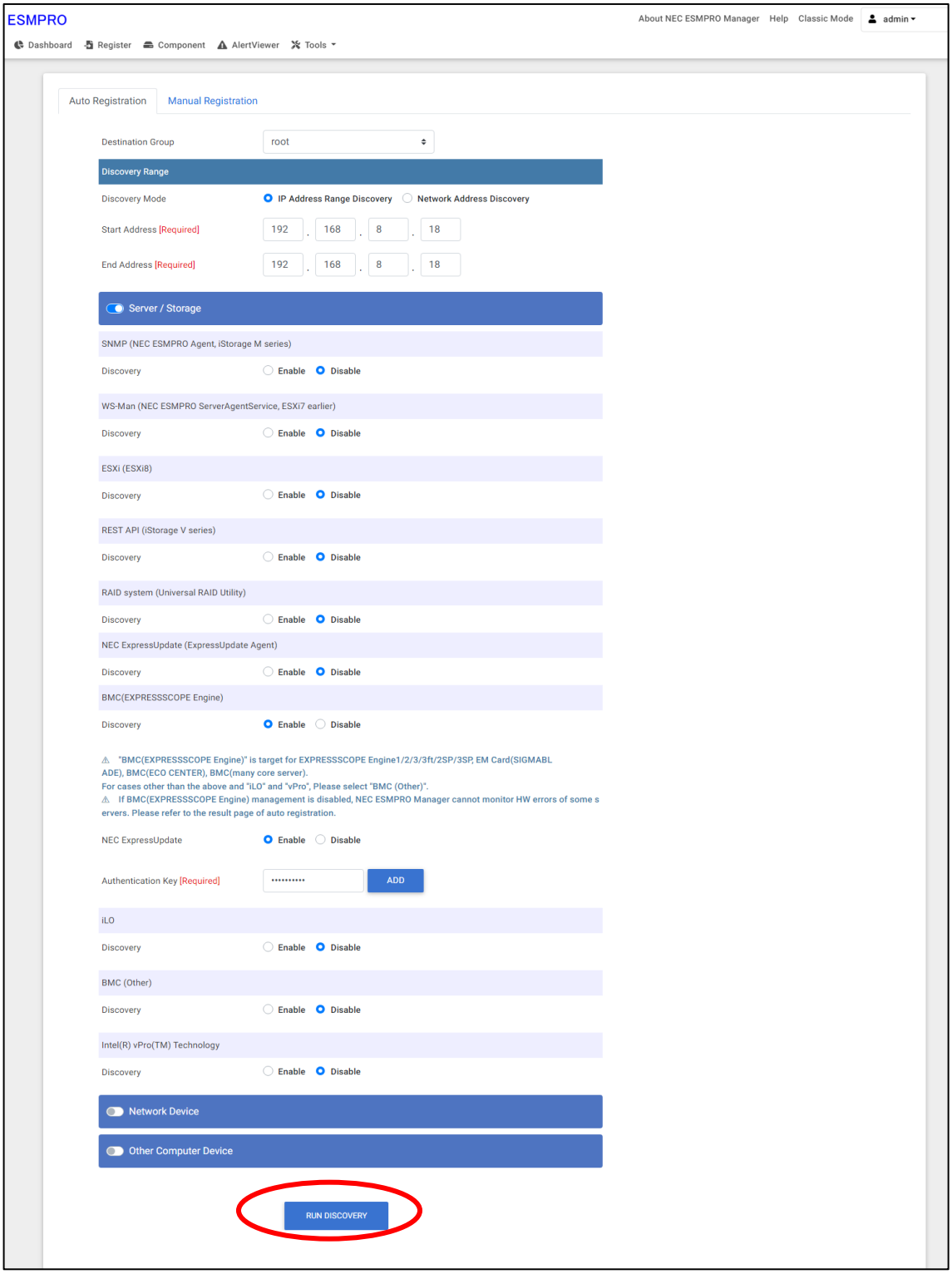
CHECK:

- *2 If a self-signed certificate is installed on the managed server for HTTPS communication, a setting to allow it is required. Refer to "1.3.1 Environment setting" for detailed information.

CHECK:

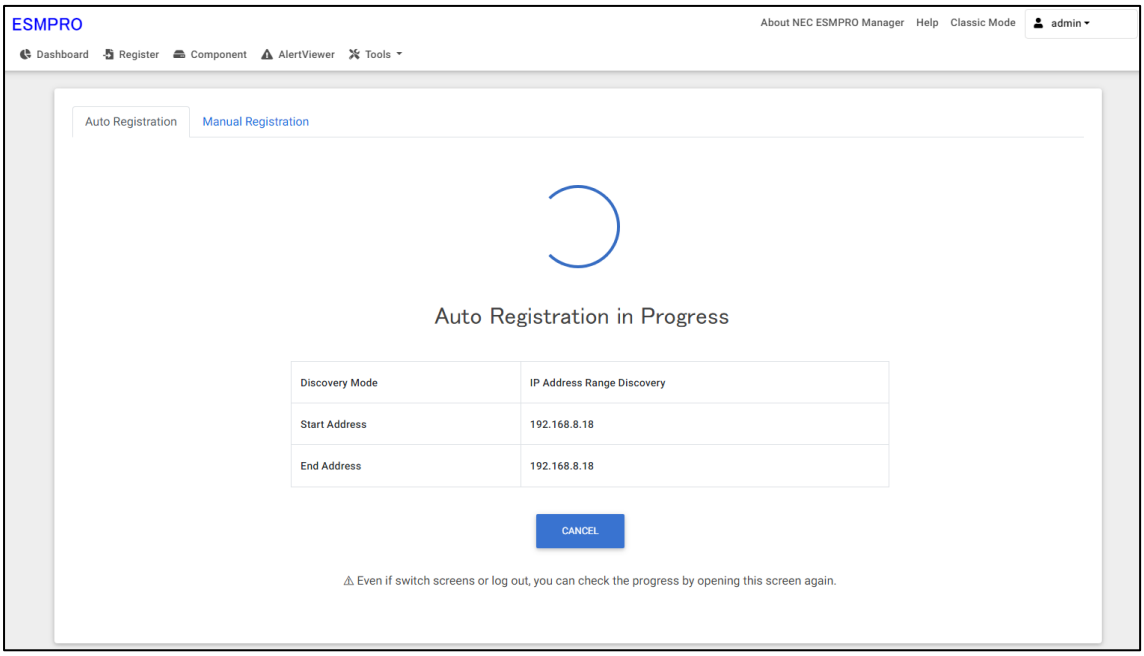
- *3 On "Settings" - "Environment" - "Auto Registration Setting List" screen, you can manage a list of username/password and authentication key. All entries in the list are used for auto registration every time.

(4) Click "RUN DISCOVERY".

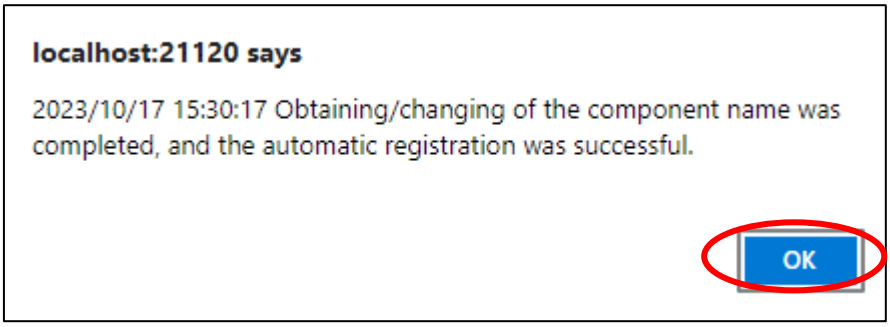


CHECK:
When you click the "RUN DISCOVERY", you may see a message "The search cannot be started. ". If you have enabled "WS-Man Discovery", please check whether a "Self Signed Certificate" is allowed in section "Chapter2　Environment setting".

When you click the "RUN DISCOVERY", the discovery for components will begin and the "Auto Registration in Progress" screen will be displayed.

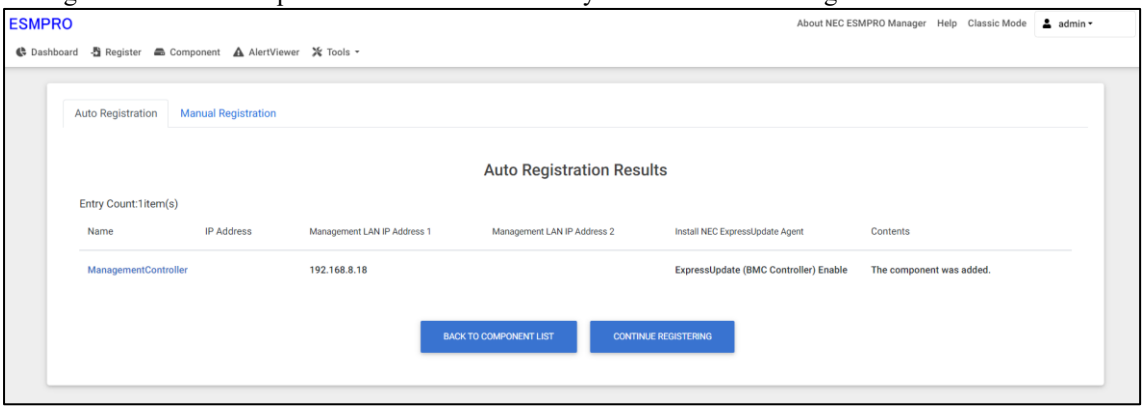


(5) If the "Auto Registration" is completed, following message will be displayed. Click "OK".



(6) The components registered will be displayed on "Auto Registration Results".

Clicking the "Name" will open the Classic mode where you can confirm the registered information.



Name	Description
Name	Component name
IP address	IP address
Management LAN IP Address 1	IP address of BMC (EXPRESSSCOPE Engine)/iLO/BMC (Other)/vPro
Management LAN IP Address 2	IP address of BMC (EXPRESSSCOPE Engine)(device support LAN port2)
Install NEC ExpressUpdate Agent	・ExpressUpdate is enable When "NEC ExpressUpdate(ExpressUpdate Agent)" is enabled, and a component that can be installed with ExpressUpdate Agent is discovered. ・ExpressUpdate is disable - "NEC ExpressUpdate(ExpressUpdate Agent)" is disable - "NEC ExpressUpdate(ExpressUpdate Agent)" is enabled, but there is not component that can be installed with ExpressUpdate Agent.
Contents	・A component has been added. This message will be displayed if the component is successfully registered. ・Management Controller management cannot be used. Hardware monitoring function is unavailable. This message will be displayed when BMC (EXPRESSSCOPE engine)/iLO/BMC (other)/vPro cannot be discovered for a component registered by an OS IP address. If you want to register the Management Controller management function, click the "Name". The connection settings screen in Classic mode will be displayed, so you can perform the registration here.

TIPS:

- When the system management cannot discover the managed component name, the "Name" of "Component List" will be "ManagementController".
  The following components will be named "ManagementController + number". If you want to change the name, click on the "Name" in the "Component List" to launch Classic mode, and then click "Setting" -> "Connection Setting" ->"Edit" to change component name.

2.3.1.3 Auto Registration Setting

Before executing auto registration, User Name/Password and Authentication Key can be registered up to 5. For more details, please refer to "1.3.3.3 Auto Registration Setting".

Chapter3 Setup for Managed Component in which iLO is integrated

This chapter explains the setup procedure for the NEC ESMPRO Manager to manage the iLO component.

3.1 Setup Flow

Setup by the following setup procedure:

(1) Connect the management PC on which NEC ESMPRO Manager is installed and the managed component on the same network.

(2) Configure iLO on the managed component.

(3) Register the managed component on NEC ESMPRO Manager.

3.2 Configure iLO on Managed Component

3.2.1 SNMP Settings

This section explains about the setup procedure for NEC ESMPRO Manager to receive SNMP alerts from iLO.

CHECK:

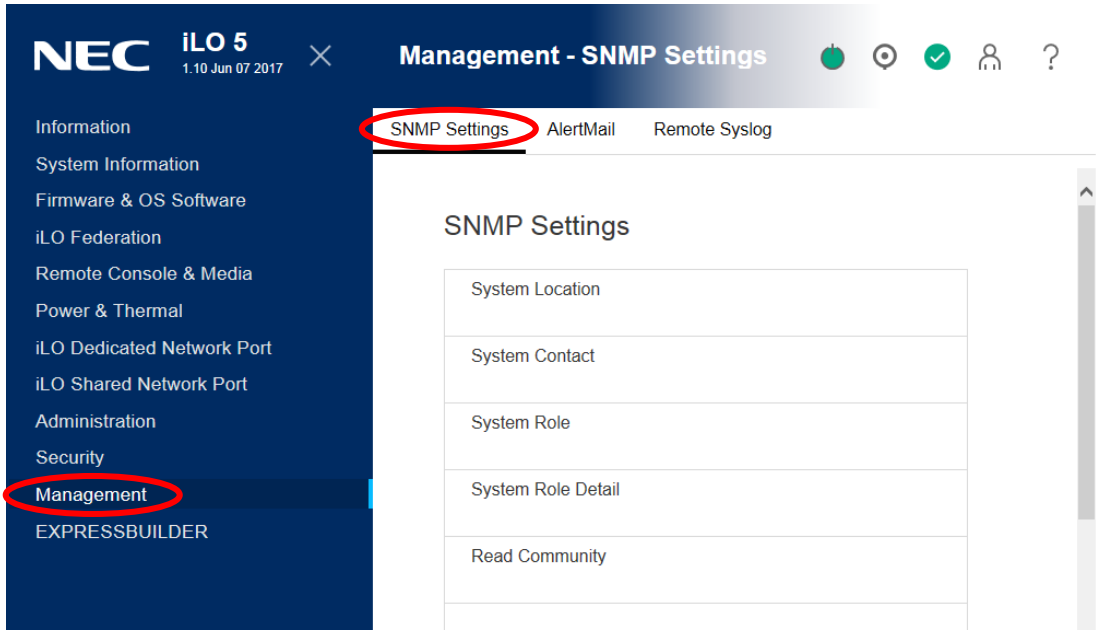
- Because this section uses iLO WebConsole, you need to set the network of iLO beforehand. Please see the user's guide of the managed component about the network setting of iLO.

(1) After starting a web browser on the management PC, input URL as below.

In the case that the IP address of iLO is 192.168.1.1 and the setting of HTTPS is enable.

```
https://192.168.1.1/
```

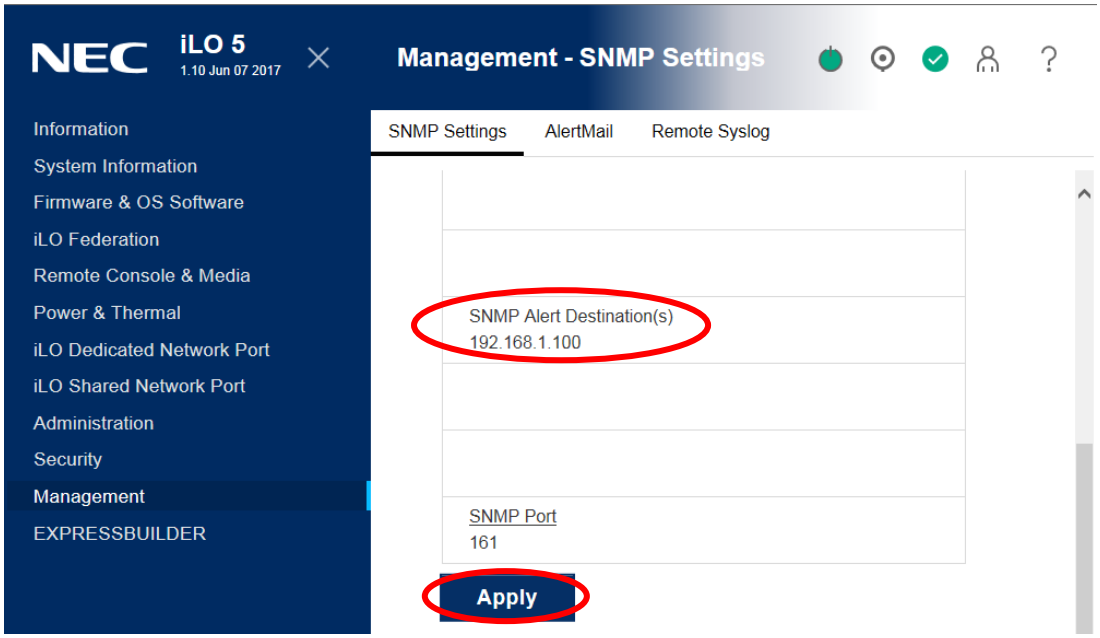
(2) A login screen of iLO will be displayed.
After login to the iLO, Select "Management" - "SNMP Settings" at the WebConsole menu.
The following screen shows example.



(3) Set IP address of the management PC on which NEC ESMPRO Manager is installed in the following order.

-- If iLO5 firmware version is less than 1.20, set a following value and select "Apply" button.
"SNMP Alert Destination(s)" : IP address of the management PC on which NEC ESMPRO Manager is installed.

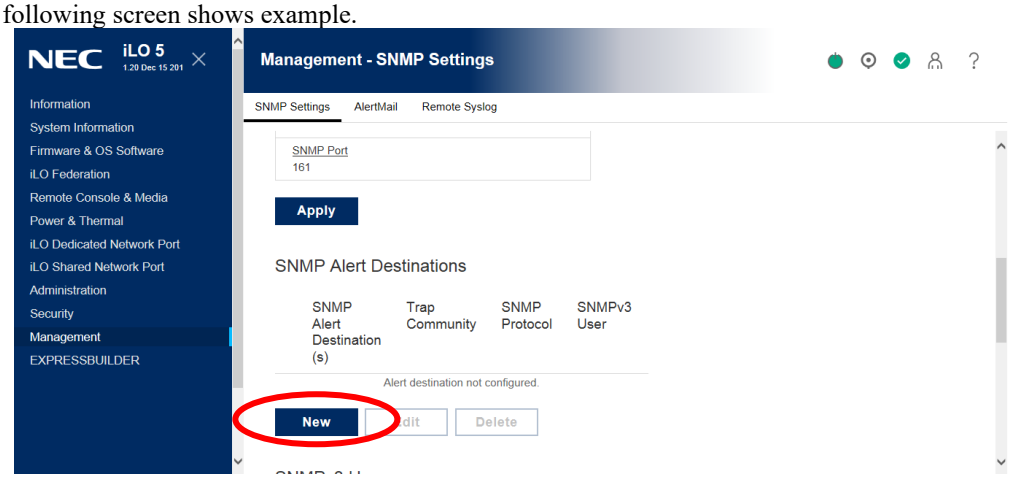
The following screen shows example.

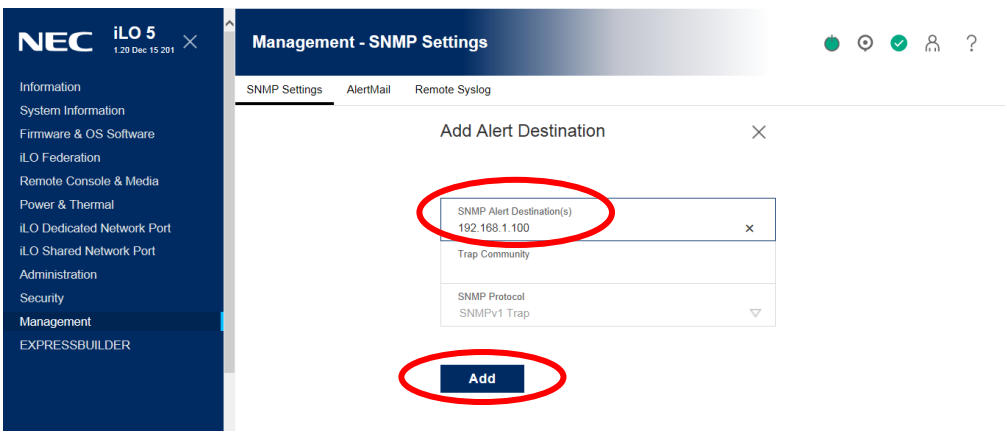


-- If iLO5 firmware version is 1.20 or later, select "New" button of "SNMP Alert Destinations". And set a following value and select "Add" button.

"SNMP Alert Destination(s)" : IP address of the management PC on which NEC ESMPRO Manager is installed.

The following screen shows example.





3.2.2 NEC SSO Settings

This section explains about the setup procedure for NEC ESMPRO Manager to login iLO WebConsole with Single Sign-On.

Regarding Single Sign-On settings of iLO, the following trust mode is supported.

Single Sign-On Trust Mode options

- Trust None (SSO disabled) (default) —Rejects all SSO connection requests.
- Trust by Certificate (most secure)—Enables SSO connections from an NEC SSO-compliant application by matching a certificate previously imported to iLO.
- Trust by Name—Enables SSO connections from an NEC SSO-compliant application by matching a directly imported IP address or DNS name.
- Trust All (least secure)—Accepts any SSO connection initiated from any NEC SSO-compliant application.

In order to enable NEC SSO feature, the different procedure is required for each mode. Refer to below.

CHECK:

- If "Trust None" is configured, when you click "Login to iLO" on NEC ESMPRO Manager, you only browses iLO Top page and login step is required.
- Because this section uses iLO WebConsole, you need to set the network of iLO beforehand. Please see the user's guide of the managed component about the network setting of iLO.

3.2.2.1 The procedure for Trust by Certificate

(1) When you configure "Trust by Certificate" mode, it is necessary to install certificate. Suppose the following for each options when generating it.

Options	Description	Sample for settings
alias	Alias specifies key or Certificate entries stored in keystore file.	esmpro_ilosso
storepass	Password to access keystore.	secret
validity	Validity of the certificate. The unit is 'day'.	365
keystore	Location of keystore.	C:¥Users¥Administrator¥.keystore

(2) Open command prompt on the management PC and change directory as follows:
<NEC ESMPRO Manager install folder>¥ESMWEB¥java¥r1¥bin

Example)

```
cd C:¥Program Files¥ESMPRO¥ESMWEB¥java¥r1¥bin
```

(3) Execute following command to generate a key.

keytool -genkeypair -keysize 2048 -keyalg RSA -sigalg SHA384withRSA -alias {alias value in step(1)} -storepass {storepass value in step(1)} -validity {validity value in step(1)} –keystore {key store value in step (1)}

Example)

```
keytool -genkeypair -keysize 2048 -keyalg RSA -sigalg SHA384withRSA -alias
esmpro_ilosso -storepass secret -validity 365 -keystore C:¥Users¥Administrator¥.keystore
```

(4) After command in step (3), some inputs are required as follows:

```
Enter keystore password ********
What is your first and last name?(*1)
  [Unknown]: Scott Oaks
What is the name of your organizational unit?
      [Unknown]: SMCC
What is the name of your organization?
      [Unknown]: Sun Microsystems
What is the name of your City or Locality?
      [Unknown]: New York
What is the name of your State or Province?
      [Unknown]: NY
What is the two-letter country code for this unit?
      [Unknown]: US
Is <CN=Scott Oaks, OU=SMCC, O=Sun Microsystems, L=New York, S=NY, C=US>
correct?
    [no]: y
Enter key password for <sdo>
(RETURN if same as keystore password): (*2)
```

(*1) You can enter host name or IP address for "first and last name".
(*2) Press Enter in order to enter same password as keystore password.

(5) Confirm if keystore is generated in location of step (1).

(6) In order to convert a keystore to PEM format, execute the following command. If password is required, input storepass value in step (1).

keytool -exportcert -keystore {keystore value in step(1)} -alias {alias value in step(1)} -rfc > {location of output file}

Example)

```
keytool -exportcert -keystore C:¥Users¥Administrator¥.keystore -alias esmpro_ilosso -
rfc > C:¥Users¥Administrator¥test.pem
```

(7) Confirm if Certificate in PEM format is generated in location of step (6).

Example of PEM data)

```
-----BEGIN CERTIFICATE-----
MIIDaTCCAlGgAwIBAgIEZqpiaTANBgkqhkiG9w0BAQwFADBIMQswCQYDVQQGEwJK
UDEQMA4GA1UECBMHVW5rbm93bjEQMA4GA1UEBxMHVW5rbm93bjEQMA4GA1UEChMH
VW5rbm93bjEQMA4GA1UECxMHVW5rbm93bjEOMAwGA1UEAxMFZHVtbXkwHhcNMTgw
OTExMDcxMzM0WhcNMjgwOTA5MDcxMzM0WjBIMQswCQYDVQQGEwJKUDEQMA4GA1UE
CBMHVW5rbm93bjEQMA4GA1UEBxMHVW5rbm93bjEQMA4GA1UEChMHVW5rbm93bjEQ
MA4GA1UECxMHVW5rbm93bjEOMAwGA1UEAxMFZHVtbXkwggEiMA0GCSqGSIb3DQEB
AQUAA4IBDwAwggEKAoIBAQDuoz6D+q0OIInDCEpIhP+EjQDQzPPwPoB4/tAQst/S
j0sjR2r8r7rm7Sn0zBL9VPaqjeSBCqd5YthHAgwN/J6GKeRsbPCVFwCWH9RmmvhM
WrETCLXe663KTAMIC4jZyjCrHvIyIOpyBxu6/CDRPs4FFvOLZKYdkaVwyRCpXbsI
ENvdUdHX3v9A8nii1rZQvTmIcMN5Xd+8Anb5m8XJZJDV+8BpnBdhBQKUeU9/WkX0
LsksB/xNSz+ac5qTK2pGazBxQueFWc7wNXpj/heBvI8k+RmpKTJVa6OOVt+I+b+S
9LQUfddavmj7Dh4IGyG4UYr7gXIs/3RyBuY/H16HnOVnAgMBAAGjITAfMB0GA1Ud
DgQWBBTT9z1swVwNOCre+ygmTtT9xgysqTANBgkqhkiG9w0BAQwFAAOCAQEAbQ8C
7CVOvFFkKt1jQd6CWDg99FSoL9vFIthn4Ax8nDmR3Tt400cSLDmPVM16ya12AtNN
3Yfu2zt3kfxehkJAwNGyQzAqNFDTF6fkNjenBp5oJWWBQ11QmpgZsxFmo3iSJj+Y
GgM/AD5jxmnsVxKx2uM7CN9igKK6U5c0vRzrUZAPwduIYS68hNWqGFJKjN+vPg+L
Z0tpq2Kbb040KRF4INoo4tapayY0fV0/I6iyKtgVVTLfugXrDE3uiWsX+wDvcKJ8
2ZhcIJF1kscnDhRm9Rehv8LmVifAObMLRI4IAtrwTw0TBeU3mUV4r4GGzbbAcq9A
eAh7MNU4BvN4HPT3iw==
-----END CERTIFICATE-----
```

(8) Open "ilosso.properties" in the following location with text editor on the management PC.

Location of "ilosso.properties":
<NEC ESMPRO Manager install folder>¥ESMWEB¥wbserver¥webapps¥esmpro¥WEB-INF¥service¥iLOSSO

CHECK:
- When you open "ilosso.properties" with text editor, select UTF-8 encoding without BOM.

(9) Update the value of the following properites.

Property Name	Value	Sample for property
ALIAS_NAME	"alias" in step (1)	esmpro_ilosso
KEYSTORE_PATH	"location" of keystore in step (1). File separator must be "/" or "¥¥".	-In case that file separator is "¥¥": C:¥¥Users¥¥Administrator¥¥.keystore -In case that file separator is "/": C:/Users/Administrator/.keystore
PASSWORD	"storepass" in step (1).	secret

Example)

```
HOST_NAME=
ALIAS_NAME=esmpro_ilosso
KEYSTORE_PATH=C:¥¥Users¥¥Administrator¥¥.keystore
PASSWORD=secret
```

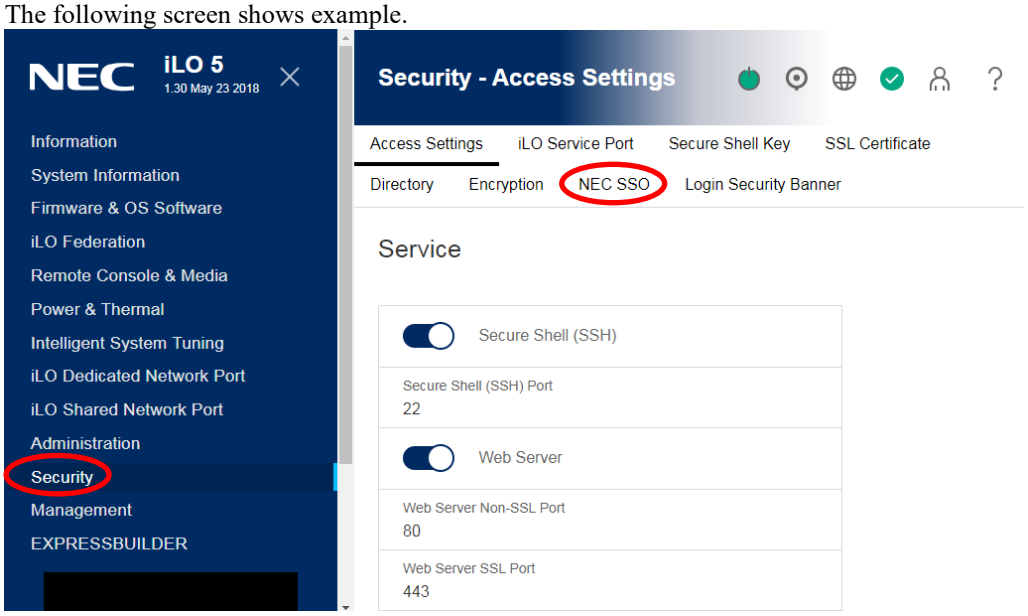
(10) Restart the management PC.

CHECK:
- After NEC ESMPRO Manager restarting, Value of PASSWORD is encrypted and saved as ENCRYPTED_PASSSWORD automatically and then is removed.

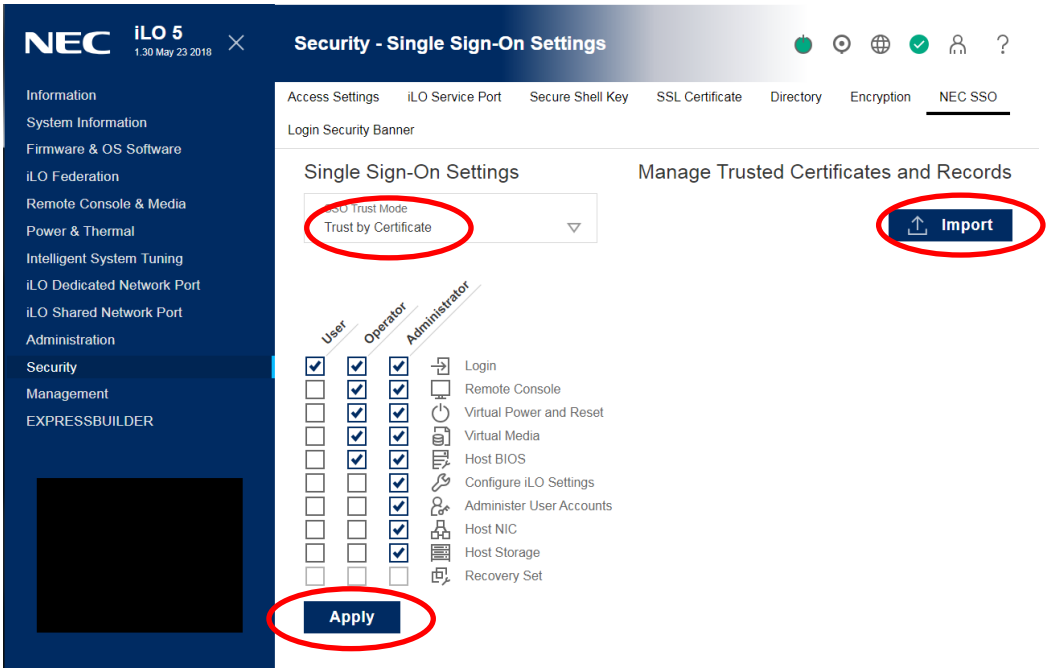
(11) Start a web browser on the management PC and input URL as below.
In the case that the IP address of iLO is 192.168.1.1 and the setting of HTTPS is enable.

```
https://192.168.1.1/
```

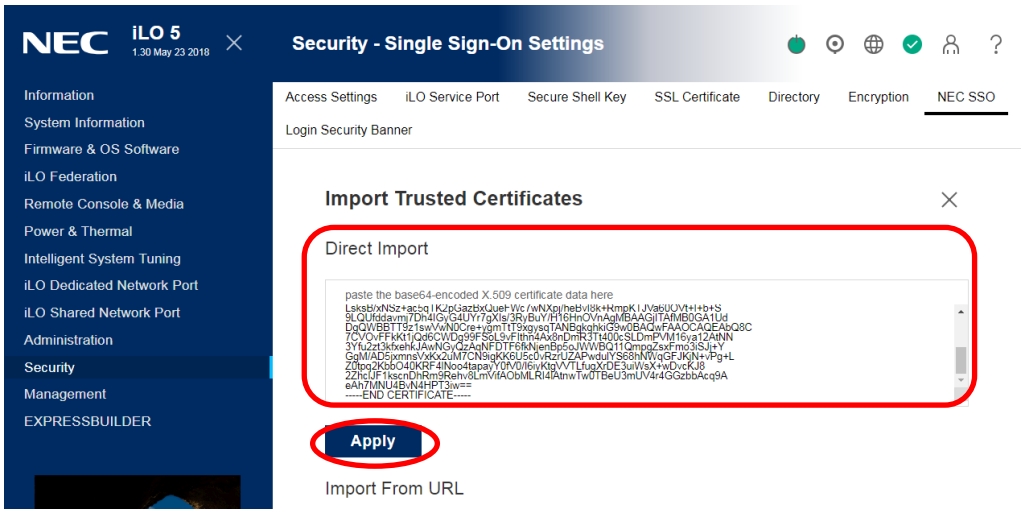
(12) After login to iLO, Select "Security" - "NEC SSO" at the WebConsole menu.
The following screen shows example.



(13) Select "Trust by Certificate" as SSO Trust Mode and click "Apply" button. Then click "Import" button in "Manage Trusted Certificates and Records" to install the trusted certificate.

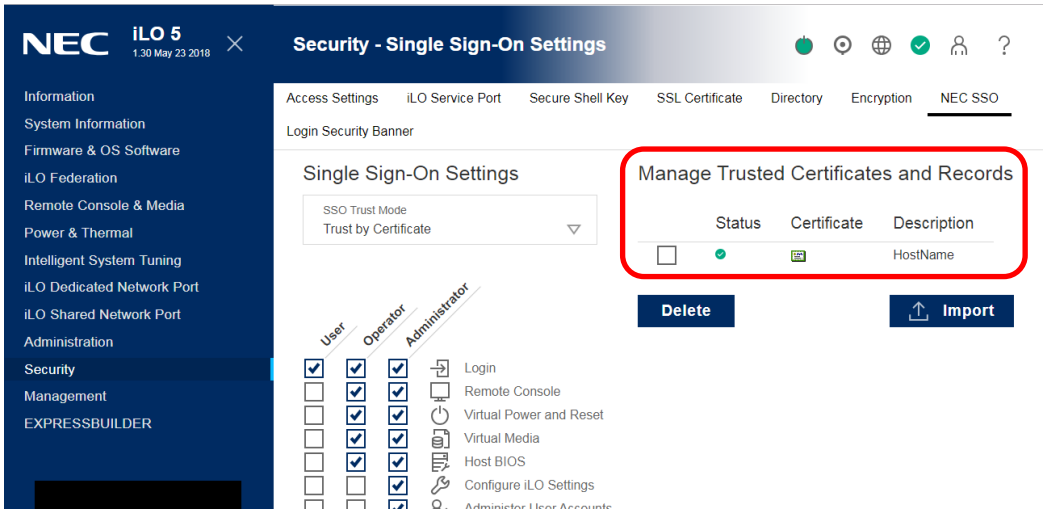


(14) Copy text of Certificate(*1) generated in step (7) and paste it in text field. Then Click "Apply" button.



*1: You must copy and paste all text including "-----BEGIN CERTIFICATE-----" and "-----END CERTIFICATE-----".

(15) Confirm if Certificate is added in "Manage Trusted Certificates and Records" field on NEC SSO settings.



3.2.2.2 The procedure for Trust by Name

(1) Open "ilosso.properties" in the following location with text editor on the management PC.

Location of "ilosso.properties":
<NEC ESMPRO Manager install folder>¥ESMWEB¥wbserver¥webapps¥esmpro¥WEB-INF¥service¥iLOSSO

CHECK:
- When you open "ilosso.properties" with text editor, select UTF-8 encoding without BOM.

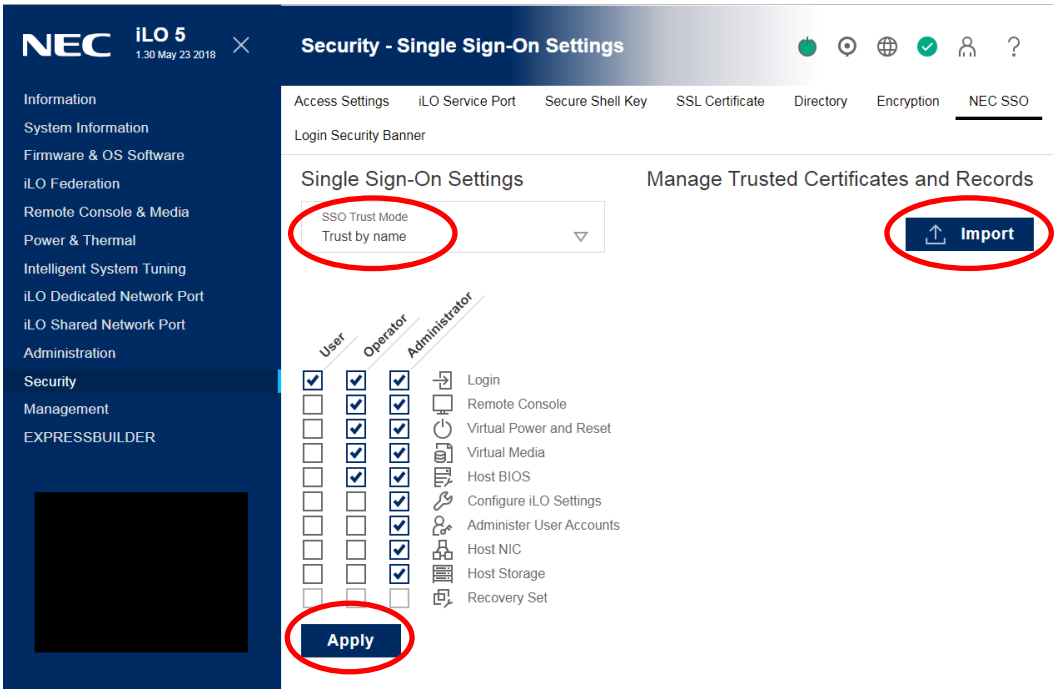
(2) Configure IP address or Domain Name of the management PC for "HOST_NAME" property and save properties file.
Example)

```
HOST_NAME=192.168.1.2
ALIAS_NAME=
KEYSTORE_PATH=
PASSWORD=
```

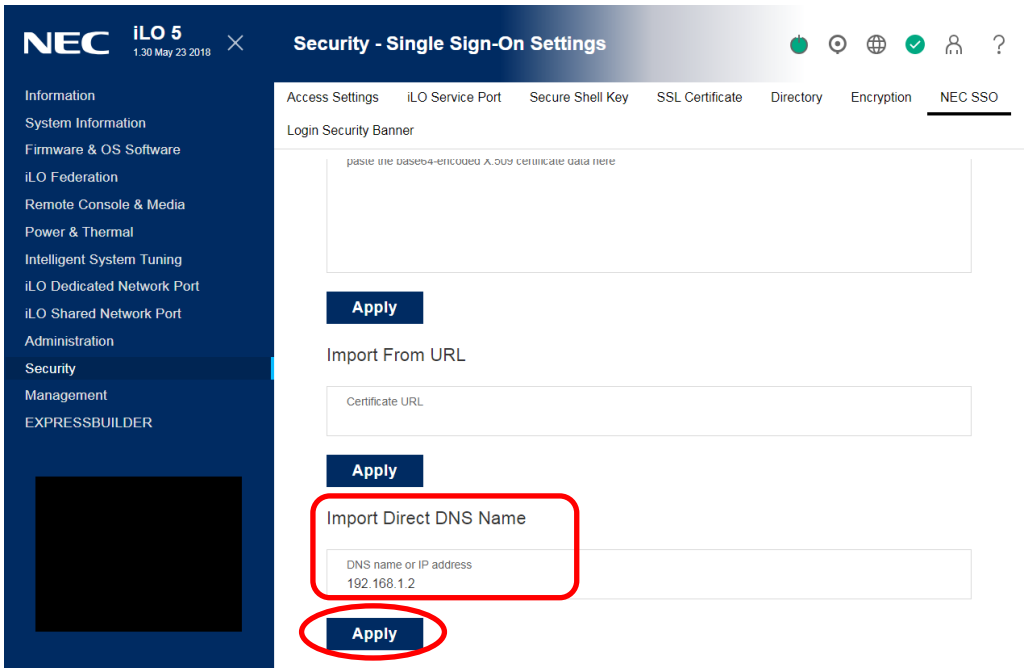
(3) Restart the management PC.

(4) Execute step (11) and (12) in 3.2.2.1.

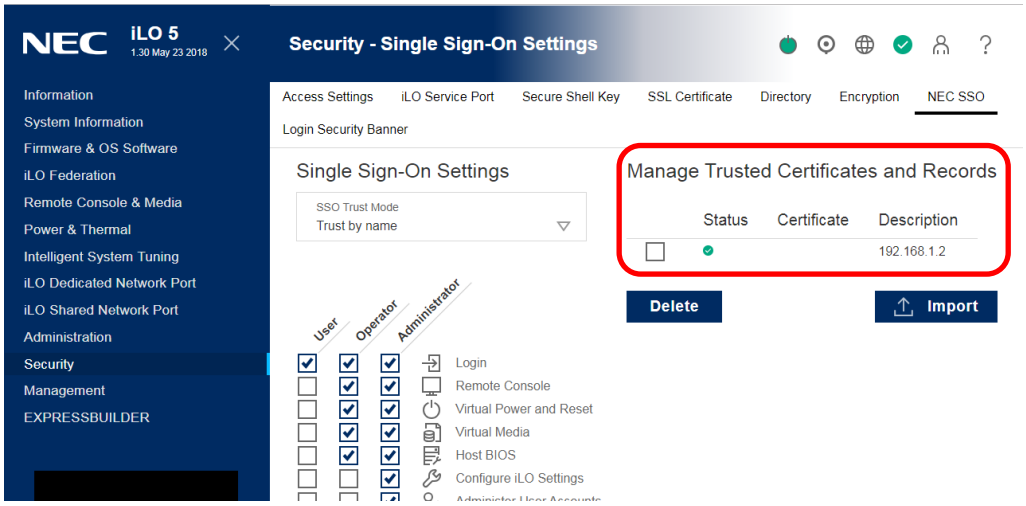
(5) Select "Trust by name" as SSO Trust Mode and click "Apply" button. Then click "Import" button in "Manage Trusted Certificates and Records".



(6) Configure the value saved as "HOST_NAME" in step (2) in text field of "Import Direct DNS Name" and click "Apply" button.



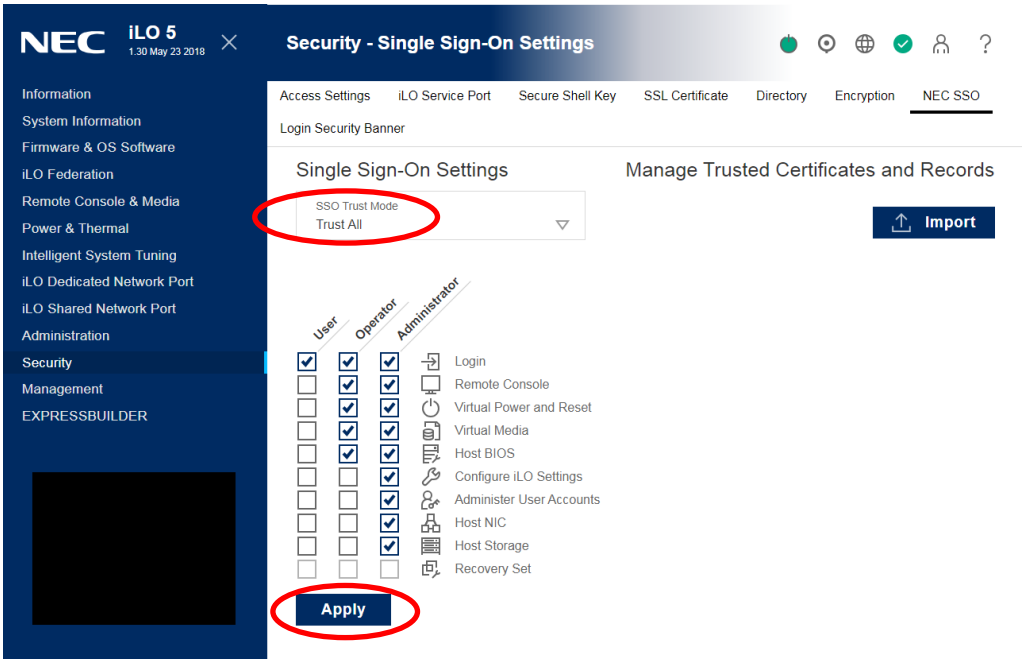
(7) Confirm if name set in step (6) is added in "Manage Trusted Certificates and Records" field on NEC SSO settings.



3.2.2.3 The procedure for Trust by All

(1) Execute step (11) and (12) in 3.2.2.1.

(2) Select "Trust by All" as SSO Trust Mode and click "Apply" button.



3.3 Register a managed component on NEC ESMPRO Manager

To register the managed component on the NEC ESMPRO Manager, login to the NEC ESMPRO Manager and perform steps in the following order:
If necessary, see "1.3.2 Add component to Group" and add the group to which the managed component will belong.

3.3.1 Environment setting

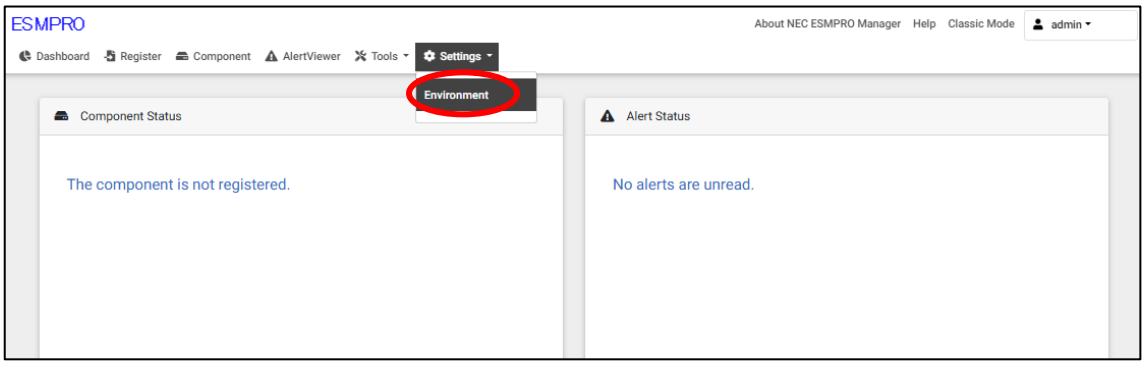
If NEC ESMPRO Manager manages components in which iLO is integrated, in following cases, "Self-Signed Certification" should be accepted by NEC ESMPRO Manager in "Environment Setting". Otherwise NEC ESMPRO Manager cannot manage components in which iLO is integrated.

- NEC ESMPRO Manager communicates with iLO by HTTPS and using "Self-Signed Certificate".

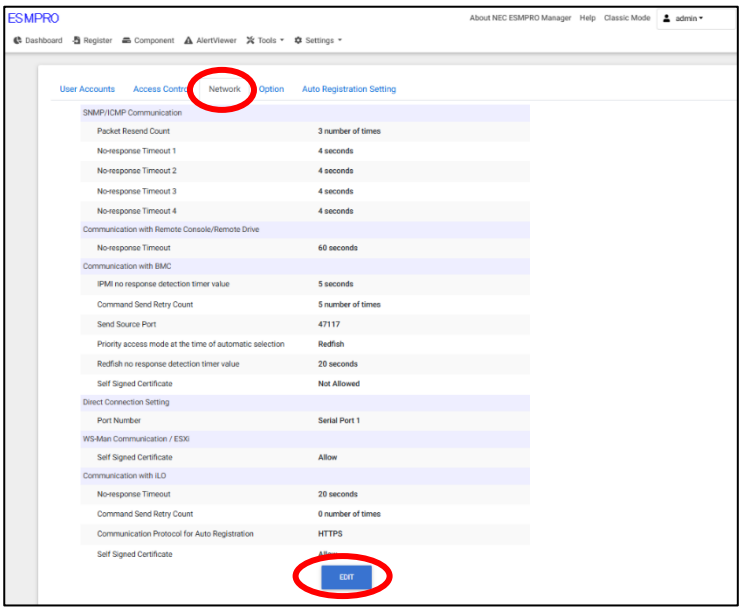
CHECK:

- The communication protocol used between NEC ESMPRO Manager and iLO is HTTPS by default.
  The communication protocol can be changed by Communication Protocol settings of "Communication with iLO"at "Environment Setting"- "Network".

(1) Click "Environment" from "Settings" menu.



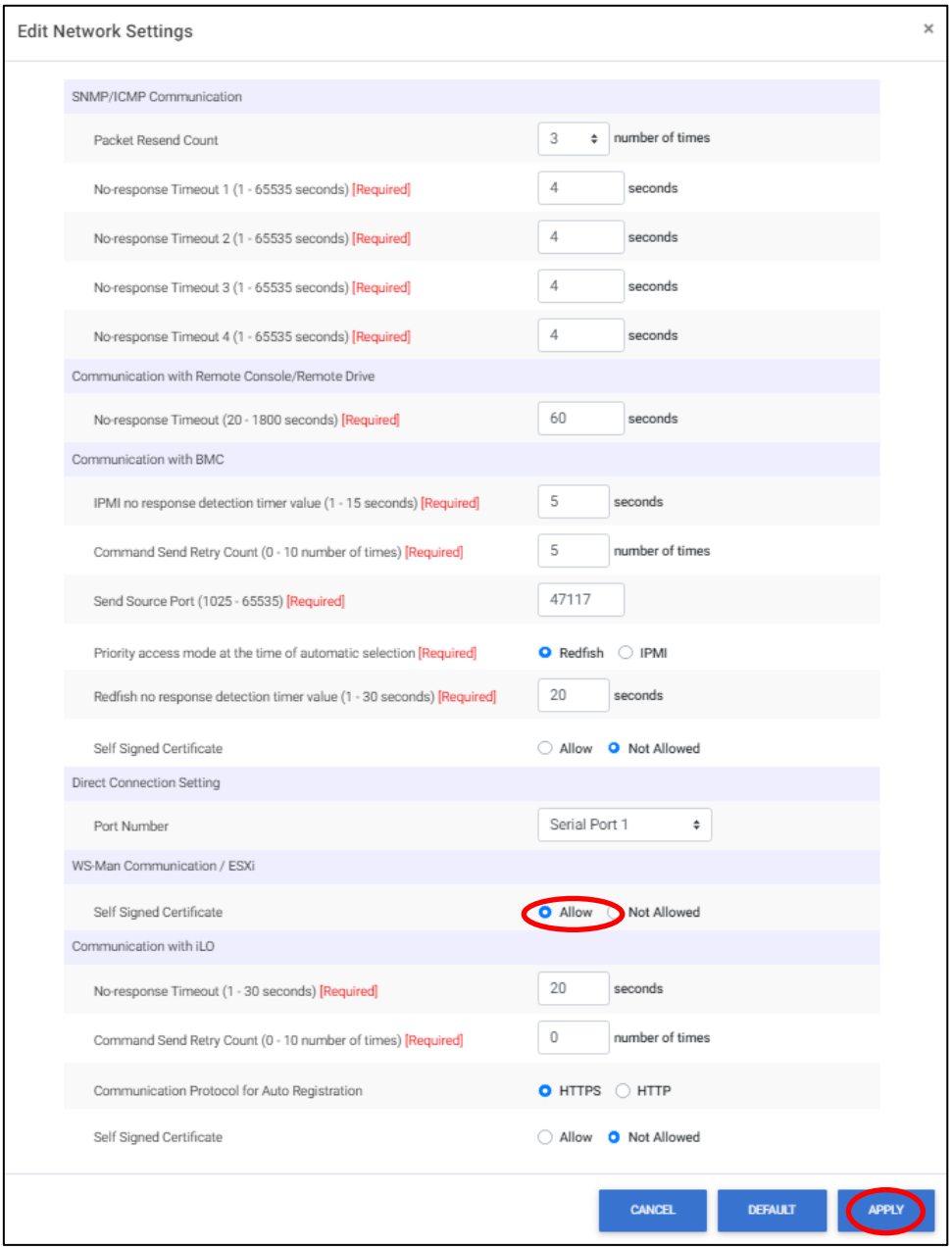
(2) Click "Network" and click "Edit".



(3) Set "Self Signed Certificate" of "Communication with iLO" to "Allow".

When using ESXi or WS-Man communication in the following environment, "Self-signature proof" of " WS-Man Communication / ESXi"
Set it to "Allow".

- If the managed is a VMware ESXi server.
- When the management side is configured to use HTTPS for communication between NEC ESMPRO ServerAgentService and NEC ESMPRO Manager, and when using self-signing



3.3.2 Register the Managed Component

Use either of following two methods to register the managed component.

Manual Registration

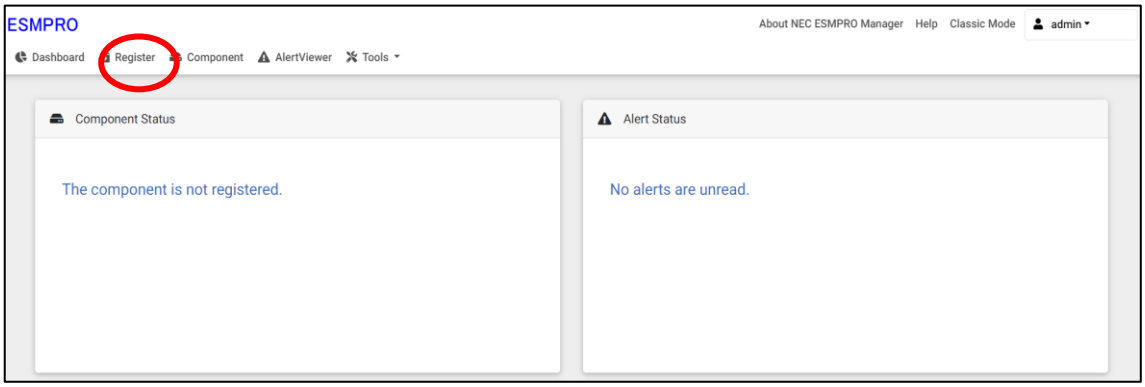
This method requires the operator to directly enter the managed component's information such as the IP address of iLO and to perform "Check Connection".

Auto Registration

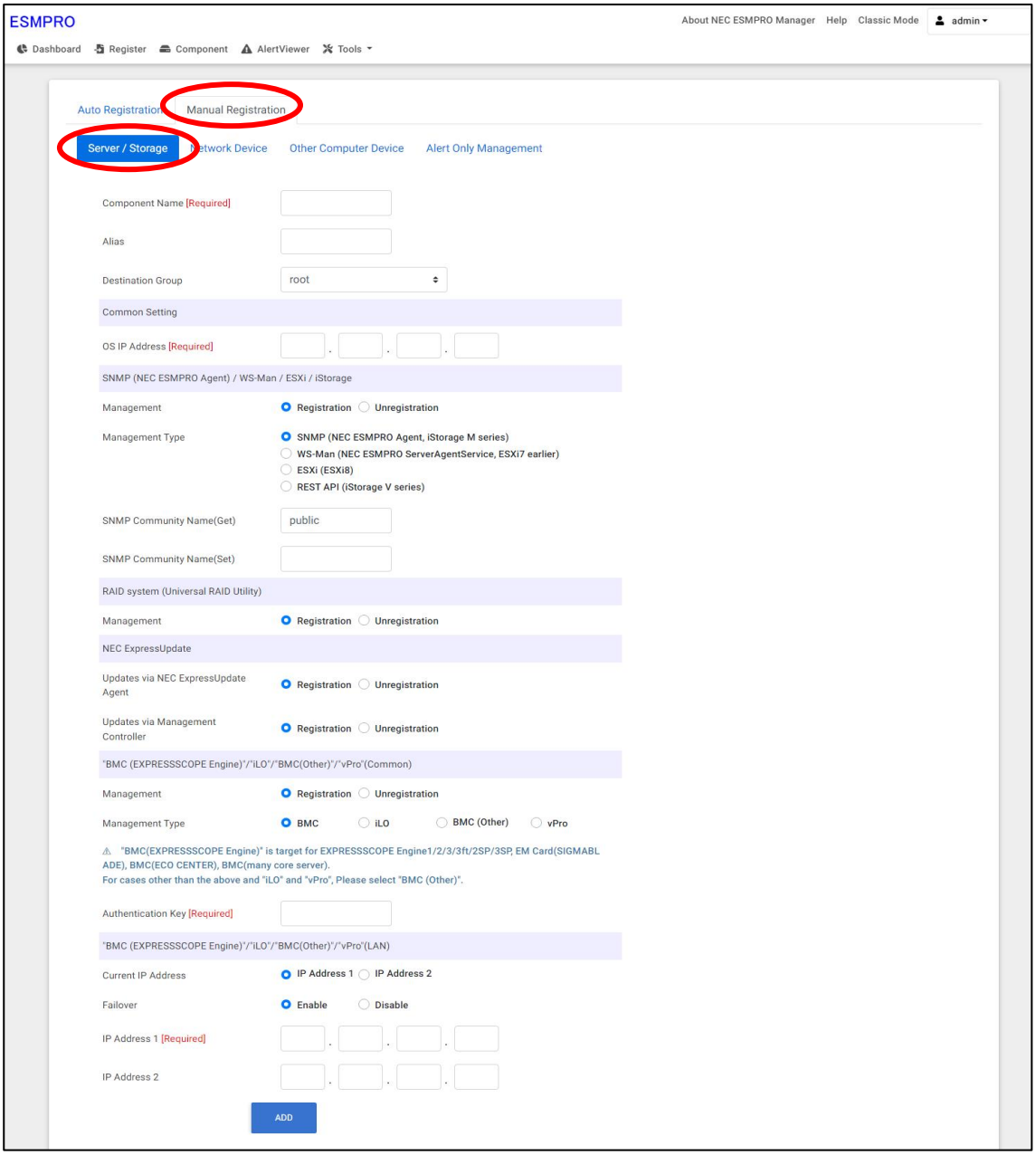
This method automatically searches the network for managed components and iLO that are not registered yet on the NEC ESMPRO Manager and registers them.

3.3.2.1 Manual Registration

(1) Click "Register".



(2) Click the "Server / Storage" of "Manual Registration".



(3) Input the following items.

Name	Value
Component Name	Specify the name of the managed component on NEC ESMPRO Manager. Assign a name different from other managed component names. Do not enter a name including blank characters. Uppercase characters are distinguished from lowercase characters.
Alias	Specify the information about the managed component. Do not enter a name including blank characters. Only blank characters cannot be entered. Also, please do not enter a name containing blank characters. The blank characters will be removed if there are half-width blank characters before or after the string. Uppercase characters are distinguished from lowercase characters. Optional.
Destination Group	Specify the group to which the managed component will belong. See "1.3.2 Add component to Group" for the information about creating group.
Common Setting	
OS IP Address	Specify the OS IP Address of the managed component.
SNMP (NEC ESMPRO Agent) / WS-Man / ESXi / iStorage	
Management	Select "Registration" to manage the system of the component.
Management Type	Select a management type of the managed component. - SNMP *1 NEC ESMPRO Agent is installed on the managed component. - WS-Man *1, *2 VMware ESXi7 is installed on the managed component. NEC ESMPRO ServerAgentService is installed on the managed component. - ESXi *1, *2 The operating system of the managed component is VMware ESXi8.
User Name Password	Enter the user name and password for communication with WS-Man or ESXi. - NEC ESMPRO ServerAgentService (Windows) is installed. Enter Username(Local User Accounts)/Password of Windows system Administrator - NEC ESMPRO ServerAgentService (Linux) is installed. Enter root/Password of Linux operating system - The operating system of the managed component is VMware ESXi. Enter Username/Password of VMware ESXi Administrator
Communication Protocol	This is displayed only when WS-Man is selected as the management target. Select protocol HTTP/HTTPS for connection WS-Man service. - NEC ESMPRO ServerAgentService (Windows) is installed. If you want to use HTTPS for WS-Man communication with ESMPRO/ServerAgentService, refer to Chapter 2, Installation 3.3 HTTPS Setting in the ESMPRO/ServerAgentService Installation Guide (Windows). - NEC ESMPRO ServerAgentService (Linux) is installed. Select HTTPS. - The operating system of the managed component is VMware ESXi7. Select HTTPS.
Port Number	Enter port number where WS-Man service listens for connection. *2

	- NEC ESMPRO ServerAgentService (Windows) is installed. If you want to use HTTP, enter 5985. If you want to use HTTPS, enter 5986. - NEC ESMPRO ServerAgentService (Linux) is installed. Enter 5986. - The operating system of the managed component is VMware ESXi7. Enter 443.
RAID system management	
Management	If the managed component is NEC ESMPRO ServerAgentService, Select "Unregistration". If the operating system of the managed component is VMware ESXi7 , refer to "10.3.2.1 Manual Registration". If the managed component is a VMware ESXi8, please select " Unregistration ".
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select "Unregistration". The managed component in which iLO is integrated does not support updating via NEC ExpressUpdate Agent.
Updates via Management Controller	Select "Unregistration". The managed component in which iLO is integrated does not support updating via Management Controller.
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (Common)	
Management	Select "Registration".
Management Type	Select "iLO".
User Name	Enter the user name and password for communication with the iLO, *3
Password	
Communication Protocol	Select protocol used by communication with iLO.
Port Number	Select port number used by communication with iLO. *4
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (LAN)	
IP Address 1	Enter the IP address of iLO.

CHECK:

- *1 If a self-signed certificate is installed on the managed server for HTTPS communication, a setting to allow it is required. Refer to "1.1 Setup Flow" for detailed information.

CHECK:

- *2 Regarding a port number for WS-Man communication, refer to "Appendix C. Port number for WS-Man communication".

CHECK:

- *3 Set a user name and a password of following user account. Please refer to "iLO5 user's guide" or "iLO6 user's guide" for details about a user account of iLO.
  -- Administrator of the default user
  -- Additional user with all user privileges.

  If a user account of other than the above is used, there is a possibility that you can't use some function for managing iLO.

CHECK:

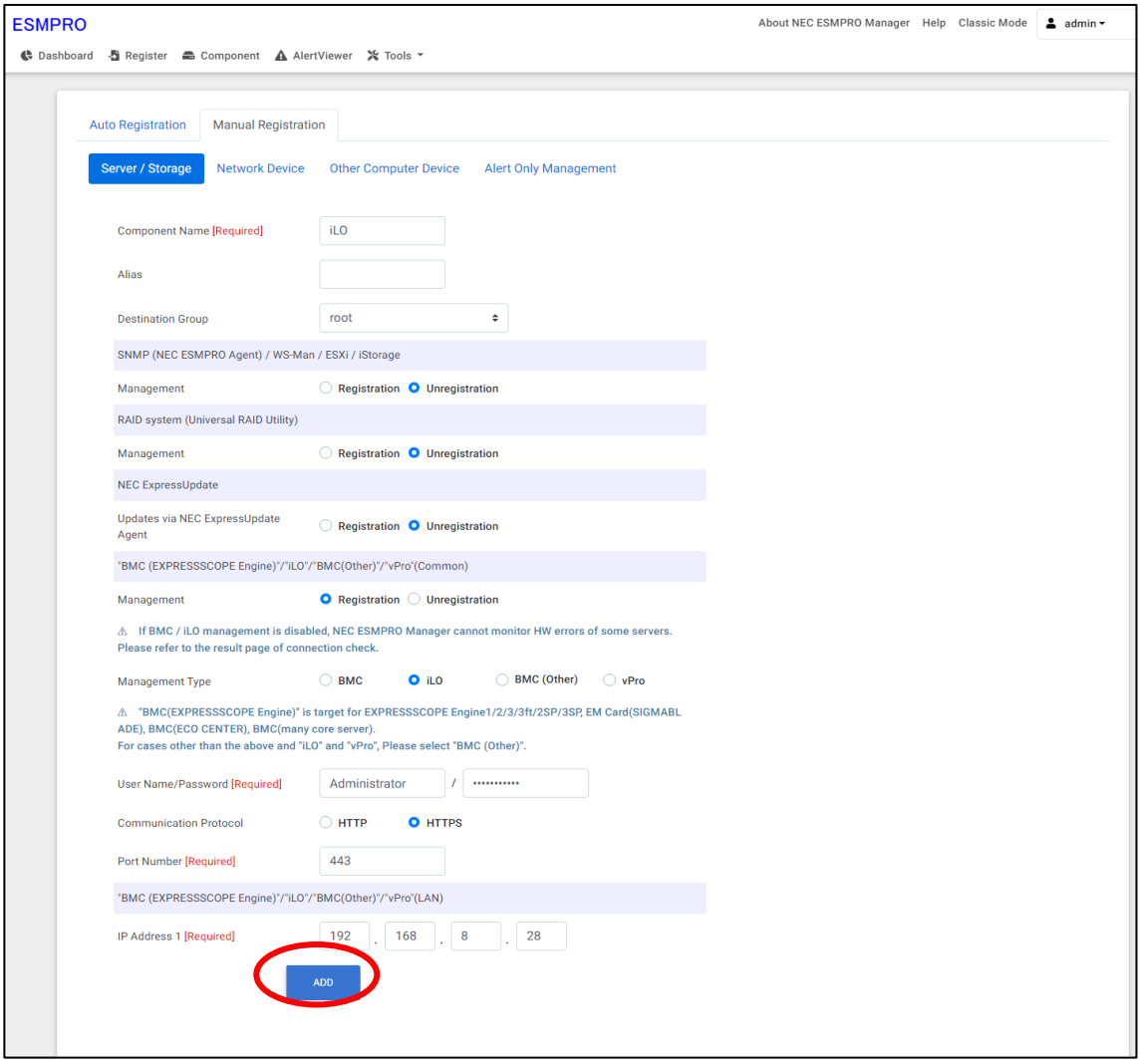
- *4 Set the port number of iLO Web Server. The default value of iLO Web Server is

80 for HTTP or 443 for HTTPS. If the default value is changed, you need to set the port number after the change. Please refer to "iLO5 user's guide" or "iLO6 user's guide" for details.

IMPORTANT:

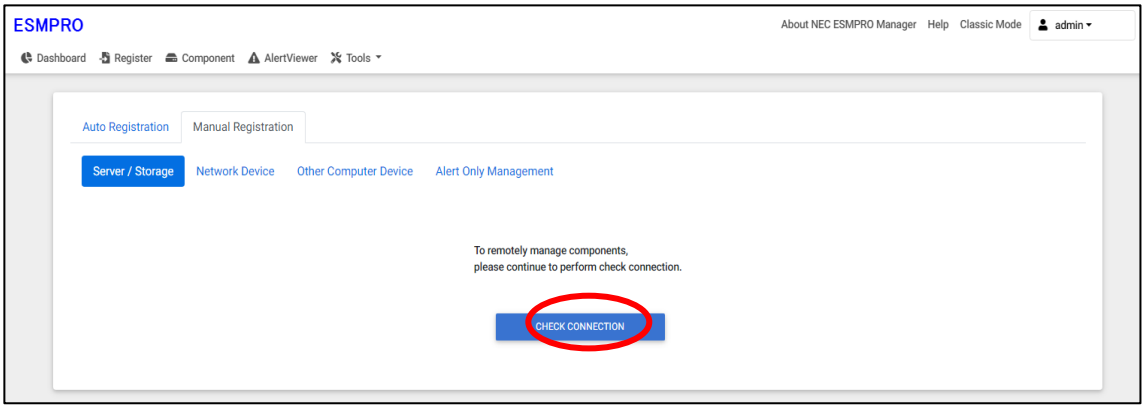
- If iLO management is disabled, NEC ESMPRO Manager may not be able to monitor HW status. Detailed information is shown in the connection check result screen.

(4) Click "ADD".

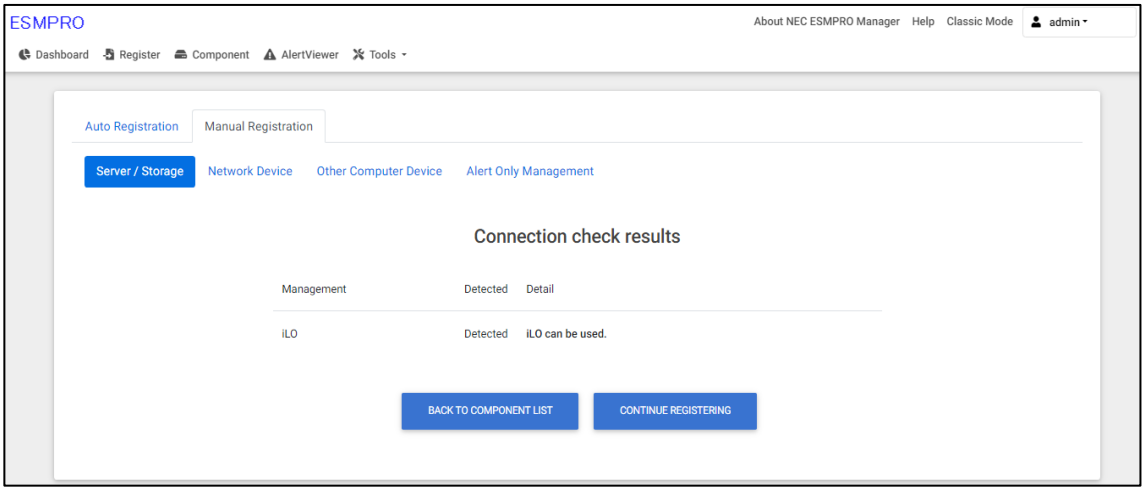


(5) "CHECK CONNECTION" screen is displayed.

Click "CHECK CONNECTION" to collect the managed component information for the management.



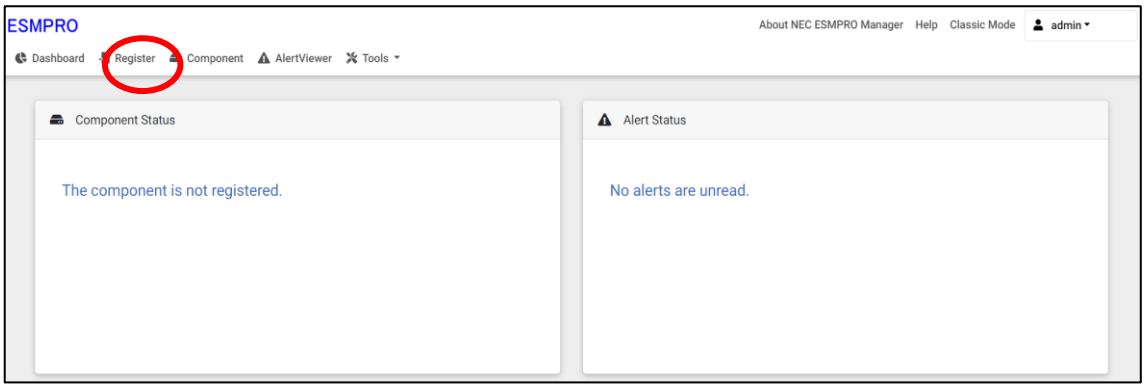
(6) If the "CHECK CONNECTION" is completed, "Connection check results" screen will be displayed.



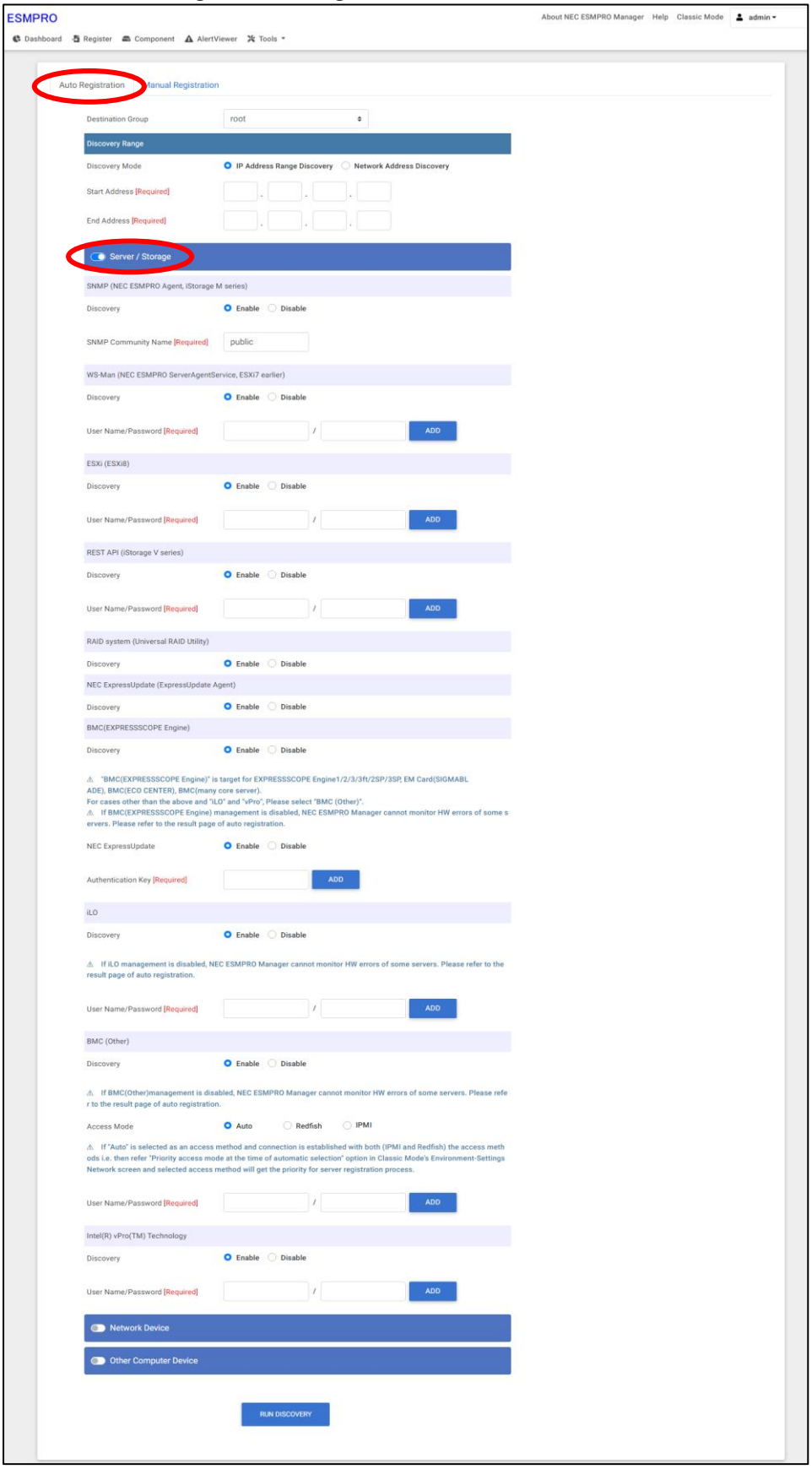
Detected	Detail
Detected	The feature was detected. NEC ESMPRO Manager can use the feature to manage the component.
Not Detected	The feature was not detected. NEC ESMPRO Manager cannot use the feature to manage the component. Check parameters corresponding to the feature.

3.3.2.2 Auto Registration

（1） Click "Register".



(2) Click the "Server / Storage"of "Auto Registration".



(3) Input the following items to search managed components based on iLO.

Name	Value
Destination Group	Specify the group to which the managed component will belong. See "1.3.2 Add component to Group" for the information about creating group.
Discovery Range	
Discovery Mode	With "IP Address Range Search" selected, the NEC ESMPRO Manager searches for the managed components using the IP address range. With "Network Address Search" selected, the NEC ESMPRO Manager searches for the managed components using the specified network address.
Start Address End Address	When you select "IP Address Range Search" for "Search Mode", specify the start IP address and end IP address of the range in which managed components are to be searched for.
Network Address Network Mask	When you select "Network Address Search" for "Search Mode", specify the network address and network mask of the managed component to be searched for.
SNMP (NEC ESMPRO Agent, iStorage M series)	
Discovery	When you discover only the components in which iLO is integrated, this item should be "Disable".
WS-Man(NEC ESMPRO ServerAgentService, ESXi7)	
Discovery	When you discover components installed NEC ESMPRO ServerAgentService or ESXi7 , select "Enable". *1, *4
User Name/Password	Enter username and password for WS-Man communication. The account must be a system administrator of the managed operating system. Click "Add" button and you can add a pair of username and password up to 5. *2 - NEC ESMPRO ServerAgentService (Windows) is installed. Enter Username(Local User Accounts)/Password of Windows system Administrator - NEC ESMPRO ServerAgentService (Linux) is installed. Enter root/Password of Linux operating system - The operating system of the managed component is VMware ESXi7. Enter Username/Password of VMware ESXi Administrator
ESXi (ESXi8)	
Discovery	Select "Enable" to manage ESXi (ESXi8) of the component. *1,*2
User Name/Password	Enter username and password for ESXi (ESXi8) communication. The account must be a system administrator of the managed operating system. Click "Add" button and you can add a pair of username and password up to 5. *3 Enter Username/Password of VMware ESXi Administrator
REST API(iStorage V series)	
Discovery	Select "Disable" .
RAID system management	
Management	If the operating system of the managed component is ESXi7 , refer to "10.3.2.2 Auto Registration". If the managed component is a VMware ESXi8, please select " Unregistration ".
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	When you discover only the components in which iLO is integrated, this item should be "Disable".
BMC (EXPRESSSCOPE Engine)	
Discovery	When you discover only the components in which iLO is integrated, this

	item should be "Disable".
iLO	
Discovery	Select "Enable"
User Name/Password	Enter username and password for communication with the iLO, Clicking "Add"button, you can enter up to 5 pairs of username and password. *2, *3
BMC (Other)	
Discovery	When you discover only the components in which iLO is integrated, this item should be "Disable".
Intel(R) vPro(TM) Technology	
Discovery	When you discover only the components in which iLO is integrated, this item should be "Disable".

CHECK:

- *1 If a self-signed certificate is installed on the managed server for HTTPS communication, a setting to allow it is required. Refer to "1.1 Setup Flow" for detailed information.

CHECK:

- *2 On "Settings" - "Environment" - "Auto Registration Setting List" screen, you can manage a list of username/password and authentication key. All entries in the list are used for auto registration every time.

CHECK:

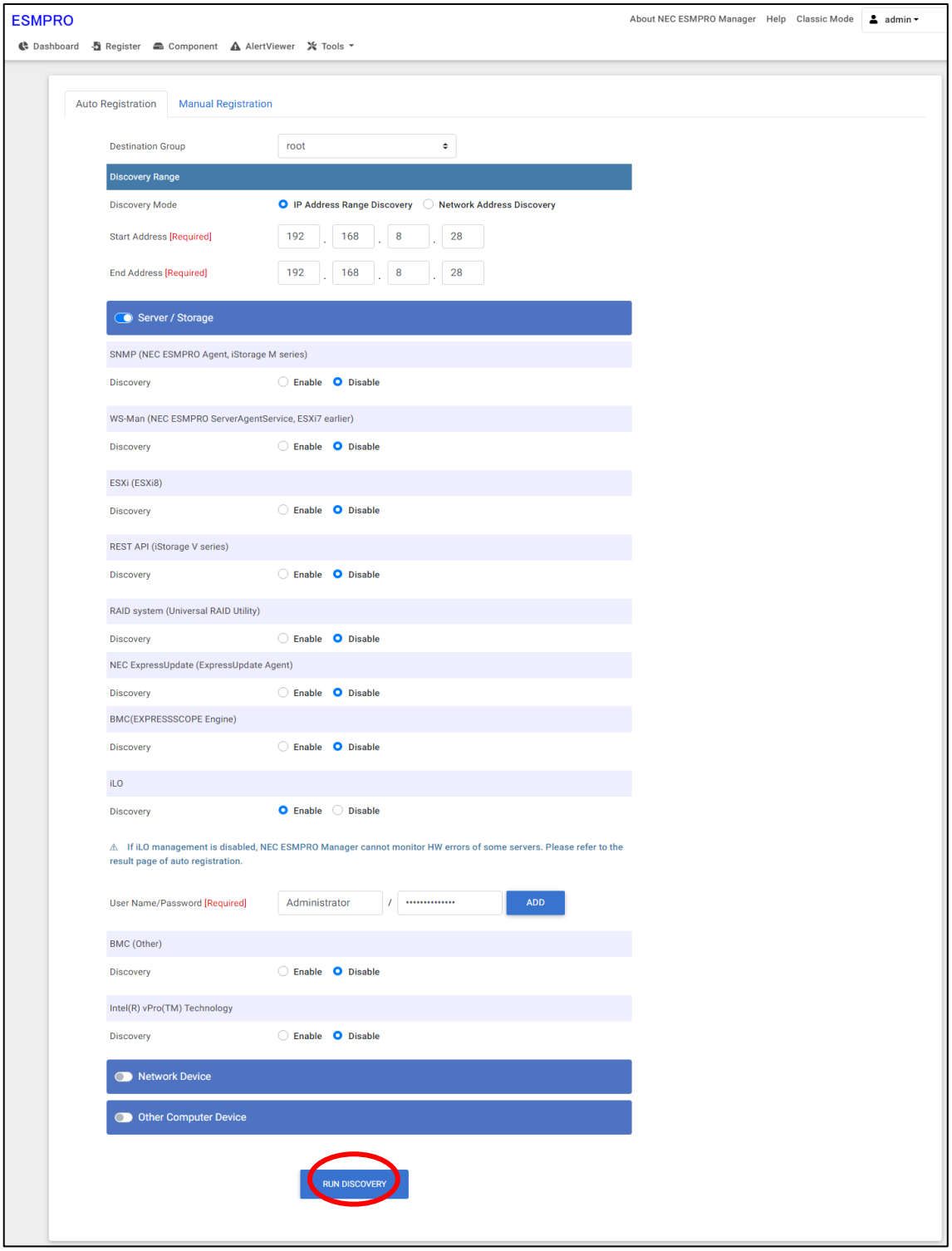
- *3 Set a user name and a password of following user account. Please refer to "iLO5 user's guide" or "iLO6 user's guide" for details about a user account of iLO.
  -- Administrator of the default user
  -- Additional user with all user privileges.

  If a user account of other than the above is used, there is a possibility that you can't use some function for managing iLO.

CHECK:

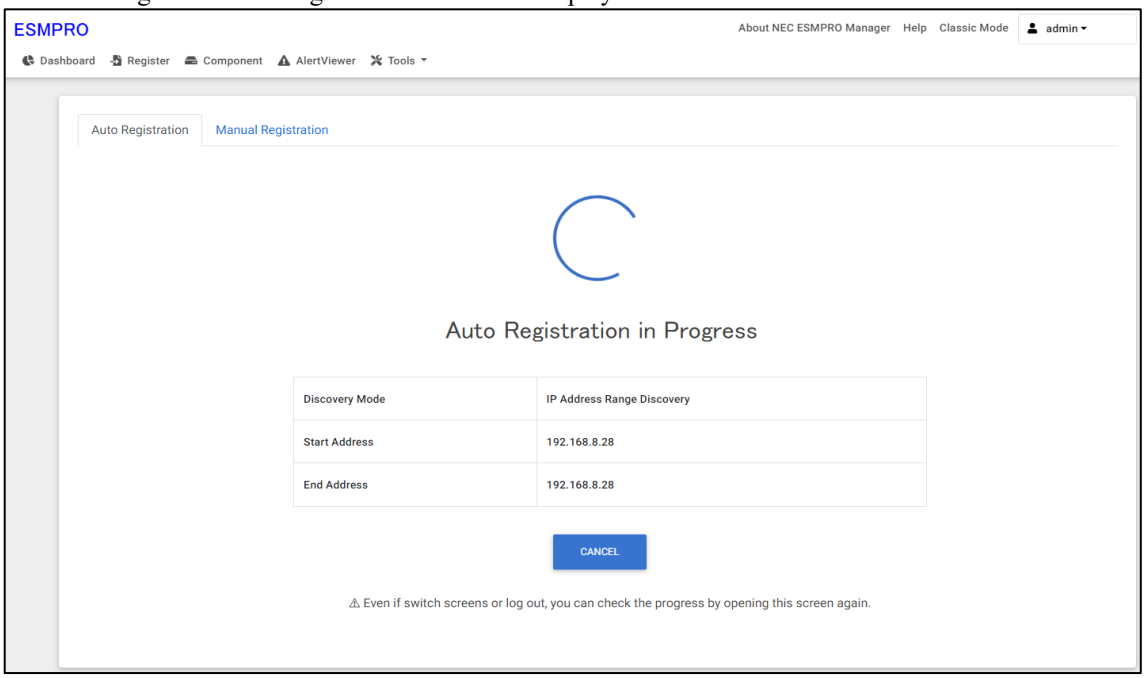
- *4 If you want to use HTTPS for WS-MAN communication with ESMPRO/ServerAgentService, refer to Chapter 2, Installation 3.3 HTTPS Setting in the ESMPRO/ServerAgentService Installation Guide (Windows).

(4) Click "RUN DISCOVERY" and the discovery for the managed components will start.

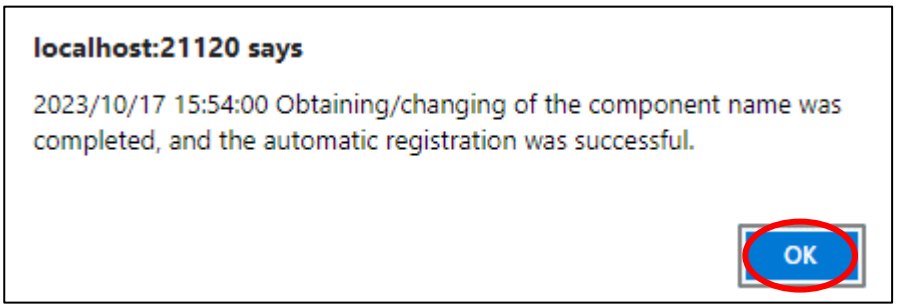


CHECK:
When you click the "RUN DISCOVERY", you may see a message "The search cannot be started. ". If you have enabled "WS-Man Discovery", please check whether a "Self Signed Certificate" is allowed in section "Chapter2　Environment setting".

When you click the "RUN DISCOVERY", the discovery for components will begin and the "Auto Registration in Progress" screen will be displayed.

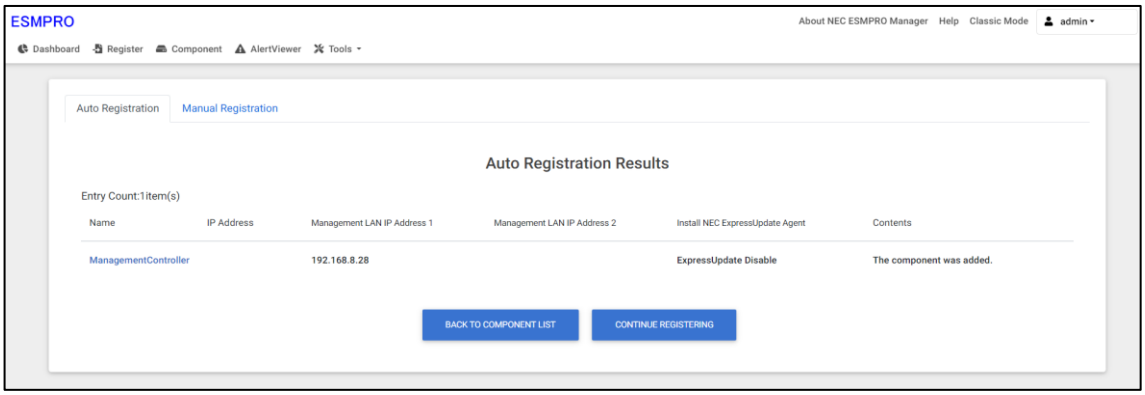


(5) If the auto registration is completed, following message will be displayed. Click "OK".



(6) The components registered will be displayed on the "Auto Registration Results" screen.

Clicking the "Name" to open the Classic mode where you can confirm the registered information.



Name	Description
Name	Component name
IP address	IP address
Management LAN IP Address 1	IP address of BMC（EXPRESSSCOPE Engine)/iLO/BMC(Other)/vPro
Management LAN IP Address 2	It is not displayed.
Install NEC ExpressUpdate Agent	・ExpressUpdate is enable When "NEC ExpressUpdate(ExpressUpdate Agent)" is enabled, and a component that can be installed with ExpressUpdate Agent is discovered. ・ExpressUpdate is disable - "NEC ExpressUpdate(ExpressUpdate Agent)" is disable - "NEC ExpressUpdate(ExpressUpdate Agent)" is enabled, but there is not component that can be installed with ExpressUpdate Agent.
Contents	・A component has been added. This message will be displayed if the component is successfully registered. ・Management Controller management cannot be used. Hardware monitoring function is unavailable. This message will be displayed when BMC (EXPRESSSCOPE engine)/iLO/BMC (other)/vPro cannot be discovered for a component registered by an OS IP address. If you want to register the Management Controller management function, click the "Name". The connection settings screen in Classic mode will be displayed, so you can perform the registration here.

TIPS:

- If the system management cannot discover the managed component name, the "Name" of "Component List" will be "ManagementController".
  The following components will be named "ManagementController + number".
  If you want to change the name, click the "Name" in the "Component List" to launch Classic mode, and then click "Setting" -> "Connection Setting" ->"Edit" to change component name.

3.3.2.3 Auto Registration Setting

Before executing auto registration, User Name/Password and Authentication Key can be registered up to 5. For more details, please refer to "1.3.3.3 Auto Registration Setting".

Chapter4 Setup for Managed Component of BMC (Other)

This chapter explains the setup procedure for the NEC ESMPRO Manager to manage the BMC (Other) component.

In addition to supporting the traditional IPMI access method to BMC (and other) components, Redfish is now available as an option.

Check:
- Please refer to "Appendix D List of Managed Components: BMC (and other) Components" for devices that can be accessed via Redfish.

Check:
- If BMC (and other) components were registered in the old ESMPRO/ServerManager and then updated, the access method will be set to IPMI.

4.1 Setup Flow

Setup by the following setup procedure:

(1) Connect the management PC on which NEC ESMPRO Manager is installed and the managed component on the same network.

(2) Configure BMC on the managed component to enable ESMPRO Management.

(3) Register the managed component on NEC ESMPRO Manager.

4.2 Configure BMC on Managed Component

Configure BMC (Other) of the managed component via Embedded Management Software.
After starting a web browser on the management PC, input URL in order to start Embedded Management Software.

In the case that the IP address of BMC (Other) is 192.168.1.1 and the setting of HTTPS is enable.

```
https://192.168.1.1/
```

CHECK:

- Please set "Platform Events" and "Trap settings" so that NEC ESMPRO Manager receive alerts from the BMC.

4.3 Register a managed component on NEC ESMPRO Manager

In order to register the managed component on the NEC ESMPRO Manager, login to the NEC ESMPRO Manager and perform the following procedure:
If necessary, see “1.3.2 Add component to Group” and add the group to which the managed component will belong.

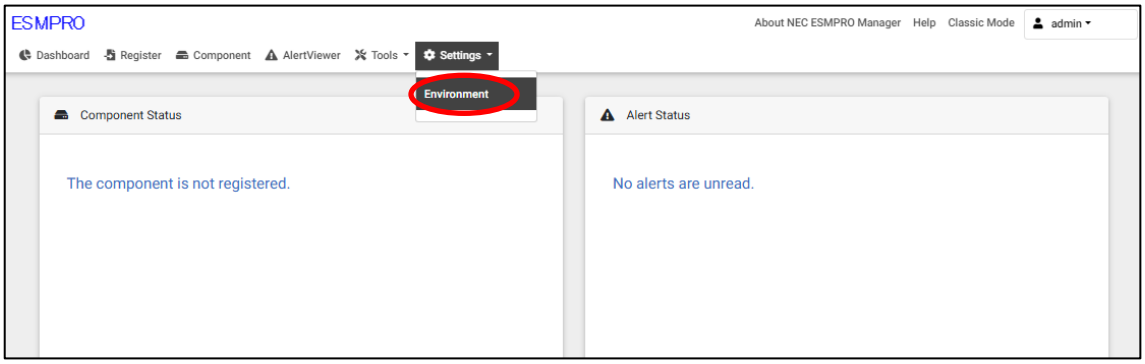
4.3.1 Environment setting

4.3.1.1 The setting of "Self-Signed Certification"

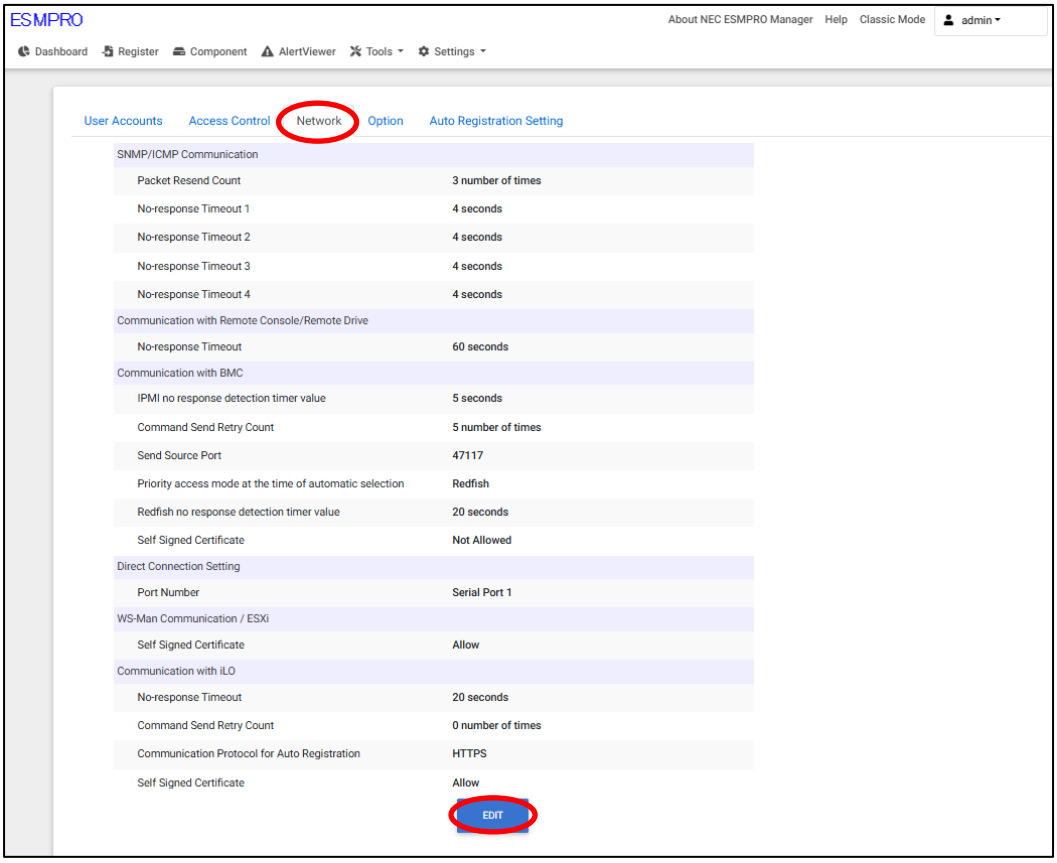
If NEC ESMPRO Manager manages BMC(Other) components, in following cases, "Self-Signed Certification" should be accepted by NEC ESMPRO Manager in "Environment Setting". Otherwise NEC ESMPRO Manager cannot manage BMC(Other) components.

- NEC ESMPRO Manager communicates with BMC(Other) components by Redfish and using "Self-Signed Certificate".

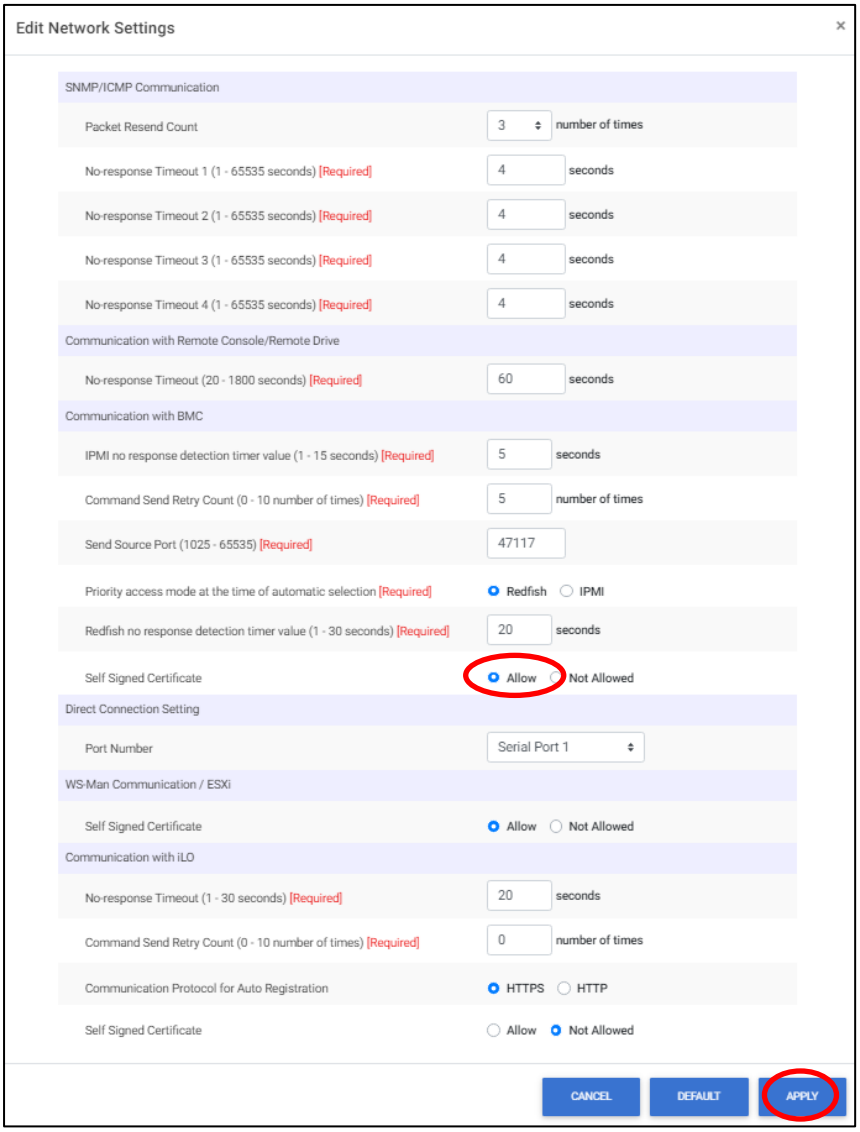
(1) Click "Environment" from "Settings" menu.



(2) Click "Network" and click "Edit".



(3) Set "Self Signed Certificate" of "Communication with BMC" to "Allow".



4.3.1.2 Set the priority access method when "Auto"

You can set the priority access method when "Auto" is selected as the access method to be used for discover of BMC (other) management in an environment where both Redfish and IPMI are available.

4.3.2 Register the Managed Component

Use either of following two methods to register the managed component.

Manual Registration

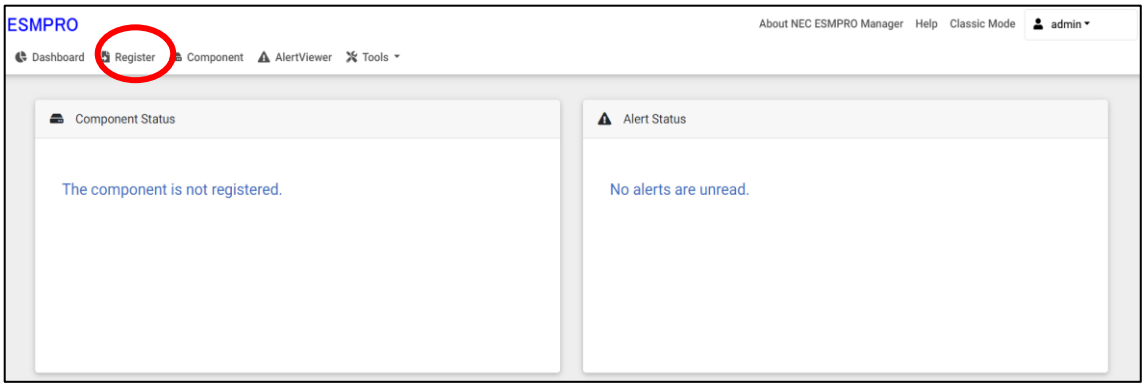
This method requires the operator to directly enter the managed component's information such as the IP address of BMC (Other) and to perform "Check Connection".

Auto Registration

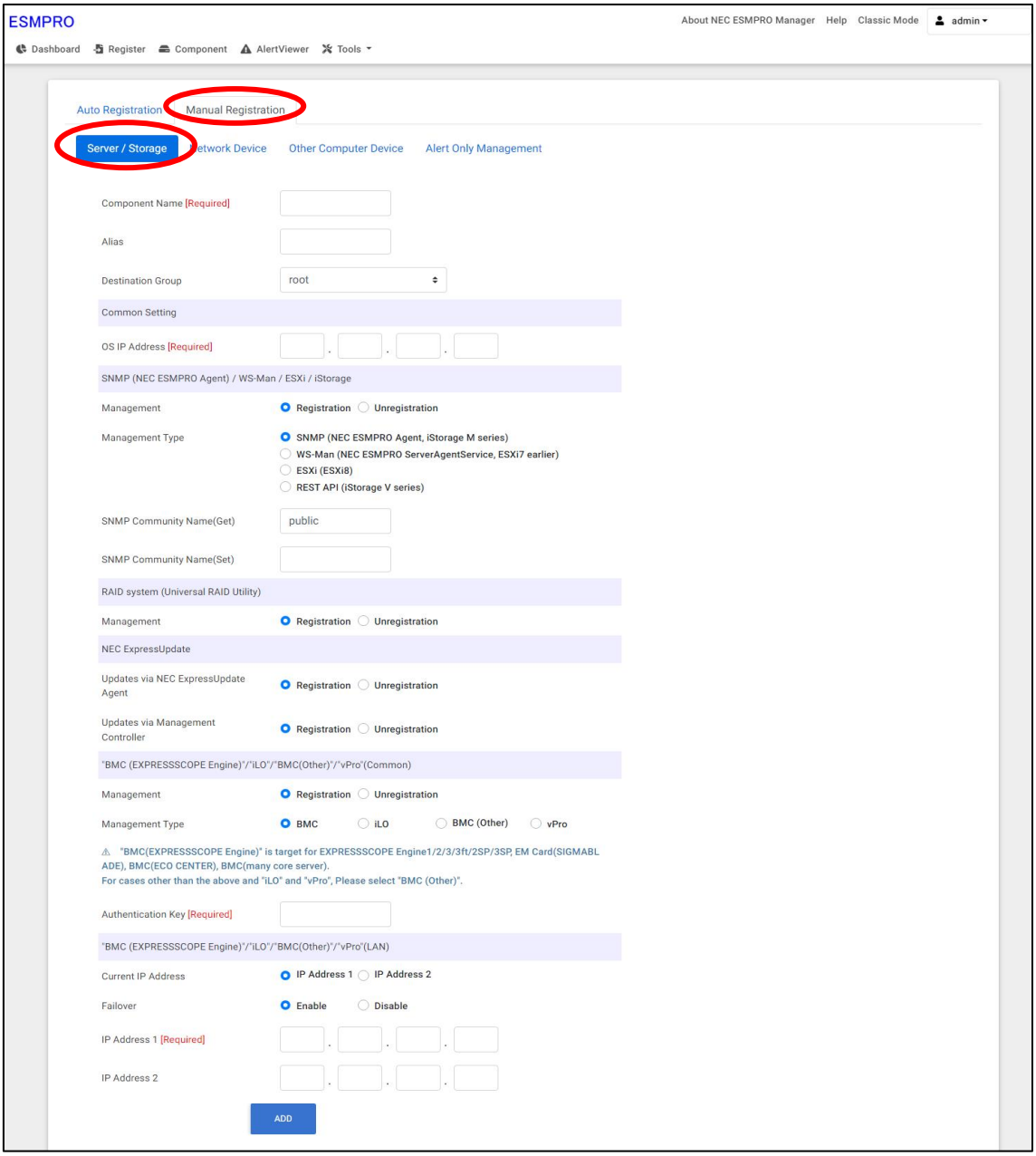
This method automatically searches the network for managed components and BMC (Other) that are not registered yet on the NEC ESMPRO Manager and registers them.

4.3.2.1 Manual Registration

(1) Click “Register”.



(2) Click the “Server / Storage” of “Manual Registration” tab.



(3) Input the following items.

Name	Value
Component Name	Specify the name of the managed component on NEC ESMPRO Manager. Assign a name different from other managed component names. Do not enter a name including blank characters. Uppercase characters are distinguished from lowercase characters.
Alias	Specify the information about the managed component. Do not enter a name including blank characters. Only blank characters cannot be entered. Also, please do not enter a name containing blank characters. The blank characters will be removed if there are half-width blank characters before or after the string. Uppercase characters are distinguished from lowercase characters. Optional.
Destination Group	Specify the group to which the managed component will belong. See "1.3.2 Add component to Group" for the information about creating group.
Common Setting	
OS IP Address	Specify the OS IP Address of the managed component.
SNMP (NEC ESMPRO Agent) / WS-Man / ESXi / iStorage	
Management	Select "Registration" to manage the system of the component.
Management Type	Select a management type of the managed component. - WS-Man *1, *2 VMware ESXi7 is installed on the managed component. NEC ESMPRO ServerAgentService is installed on the managed component. - ESXi *1, *2 The operating system of the managed component is VMware ESXi8.
User Name Password	Enter the user name and password for communication with WS-Man or ESXi. - NEC ESMPRO ServerAgentService (Windows) is installed. Enter User name(Local User Accounts)/Password of Windows system Administrator. - NEC ESMPRO ServerAgentService (Linux) is installed. Enter root/Password of Linux operating system. - The operating system of the managed component is VMware ESXi. Enter Username/Password of VMware ESXi Administrator.
Communication Protocol	This is displayed only when WS-Man is selected as the management target. Select protocol HTTP/HTTPS for connection WS-Man service. - NEC ESMPRO ServerAgentService (Windows) is installed. If you want to use HTTPS for WS-Man communication with ESMPRO/ServerAgentService, refer to Chapter 2, Installation 3.3 HTTPS Setting in the ESMPRO/ServerAgentService Installation Guide (Windows). - NEC ESMPRO ServerAgentService (Linux) is installed. Select HTTPS. - The operating system of the managed component is VMware ESXi7. Select HTTPS.

Port Number	Enter port number where WS-Man service listens for connection. *2 - NEC ESMPRO ServerAgentService (Windows) is installed. If you want to use HTTP, enter 5985. If you want to use HTTPS, enter 5986. - NEC ESMPRO ServerAgentService (Linux) is installed. Enter 5986. - The operating system of the managed component is VMware ESXi7. Enter 443.
RAID system management	
Management	Select "Registration" to manage the RAID system of the component. - The operating system of the managed component is VMware ESXi7. WS-Man management must be enabled in addition to this setting. -If the managed component is a VMware ESXi8, please select " Unregistration ".
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select "Registration" to manage the component using NEC ExpressUpdate.
Updates via Management Controller	Select “Unregistration”. The managed component in which BMC (Other) is integrated does not support updating via Management Controller.
"BMC (EXPRESSSCOPE Engine)"/"iLO"/"BMC(Other)"/"vPro"(Common)	
Management	Select "Registration".
Management Type	Select "BMC (Other)".
Access Mode	Select "Access Mode" used by communication with BMC(Other). *4 ・Auto If "Auto" is selected as an access method and connection is established with both (IPMI and Redfish) the access methods i.e. then refer "Priority access mode at the time of automatic selection" option in Classic Mode's Environment-Settings Network screen and selected access method will get the priority for server registration process. ・Redfish Specify Redfish as the "Access Mode" for BMC (other). ・IPMI Specify IPMI as the "Access Mode" for BMC (other).
Port Number	Specify the Connection Port Number used by Redfish. If you select "Auto" or "Redfish" as the access method, port number settings are Mandatory.
User Name	Enter the user name and password for communication with the BMC (Other), *3
Password	
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (LAN)	
IP Address 1	Enter the IP address of BMC (Other).

CHECK:

- *1 If a self-signed certificate is installed on the managed server for HTTPS communication, a setting to allow it is required. Refer to “1.1 Setup Flow” for detailed information.

CHECK:

- *2 Regarding a port number for WS-Man communication, refer to “Appendix C. Port number for WS-Man communication”.

CHECK:

- *3 Set a user name and a password of following user account. Please refer to "BMC/CMC Management Console User's Guide" for details about a user account of BMC (Other).
  -- Administrator of the default user
  -- Additional user with all user privileges.

  If a user account of other than the above is used, there is a possibility that you can't use some function for managing BMC (Other).

CHECK:

- *4 When using "Redfish" as the access method for BMC (other) and using self-signed certificates, it is necessary to refer to "4.3.1 Environment setting" in ESMPRO/ServerManager to allow self-signed certificates for communication between the BMC (other) component and ESMPRO/ServerManager.

IMPORTANT:

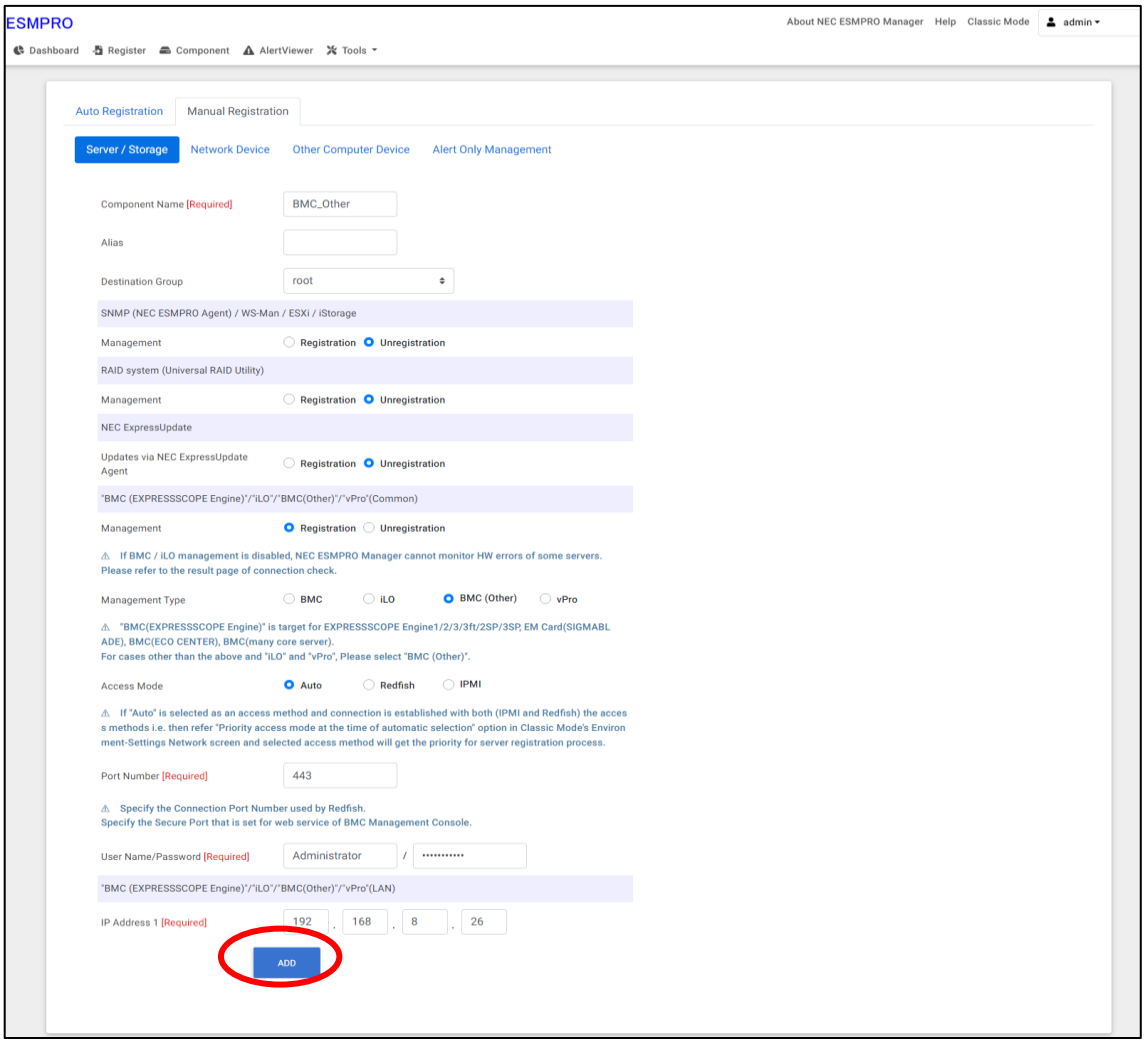
- If BMC (Other) management is disabled, NEC ESMPRO Manager may not be able to monitor HW status. Detailed information is shown in the connection check result screen.

IMPORTANT:

- When the access method for BMC (other) is Redfish, the remote console function and console log settings cannot be used. Other than that, there is no difference in functionality between IPMI and Redfish.

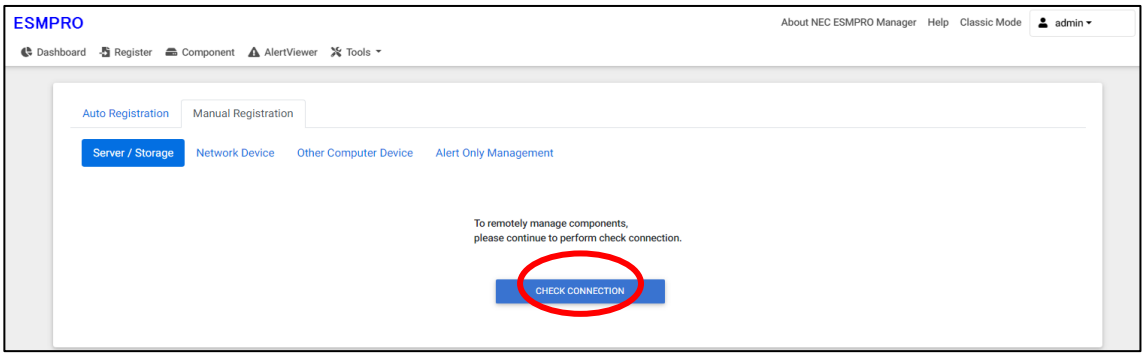
(4) Click "ADD".

If there is an error in the input content, correct the input content following the message.

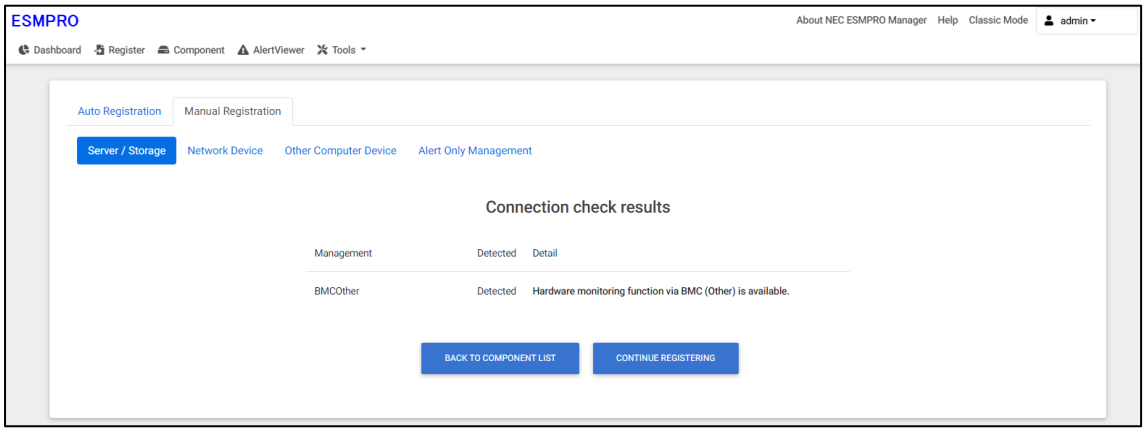

ESMPRO
About NEC ESMPRO Manager
Help
Classic Mode
admin
Dashboard
Register
Component
AlertViewer
Tools
Auto Registration
Manual Registration
Server / Storage
Network Device
Other Computer Device
Alert Only Management
Component Name [Required]
BMC_Other
Alias
Destination Group
root
SNMP (NEC ESMPRO Agent) / WS-Man / ESXi / iStorage
Management
Registration
Unregistration
RAID system (Universal RAID Utility)
Management
Registration
Unregistration
NEC ExpressUpdate
Updates via NEC ExpressUpdate Agent
Registration
Unregistration
"BMC (EXPRESSSCOPE Engine)"/"iLO"/"BMC(Other)"/"vPro"(Common)
Management
Registration
Unregistration
If BMC / iLO management is disabled, NEC ESMPRO Manager cannot monitor HW errors of some servers.
Please refer to the result page of connection check.
Management Type
BMC
iLO
BMC (Other)
vPro
"BMC(EXPRESSSCOPE Engine)" is target for EXPRESSSCOPE Engine1/2/3/3ft/2SP/3SP, EM Card(SIGMABLADE), BMC(ECO CENTER), BMC(many core server).
For cases other than the above and "iLO" and "vPro", Please select "BMC (Other)".
Access Mode
Auto
Redfish
IPMI
If "Auto" is selected as an access method and connection is established with both (IPMI and Redfish) the access methods i.e. then refer "Priority access mode at the time of automatic selection" option in Classic Mode's Environment-Settings Network screen and selected access method will get the priority for server registration process.
Port Number [Required]
443
Specify the Connection Port Number used by Redfish.
Specify the Secure Port that is set for web service of BMC Management Console.
User Name/Password [Required]
Administrator
/
"BMC (EXPRESSSCOPE Engine)"/"iLO"/"BMC(Other)"/"vPro"(LAN)
IP Address 1 [Required]
192
168
8
26
ADD

(5) “CHECK CONNECTION” screen is displayed.

Click "Check Connection" to collect the managed component information for the management.



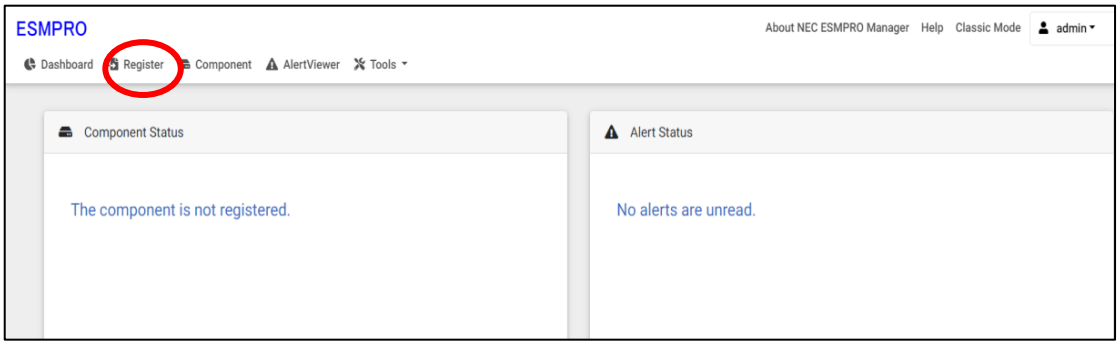
(6) If the "CHECK CONNECTION" is completed, “Connection check results” screen will be displayed.



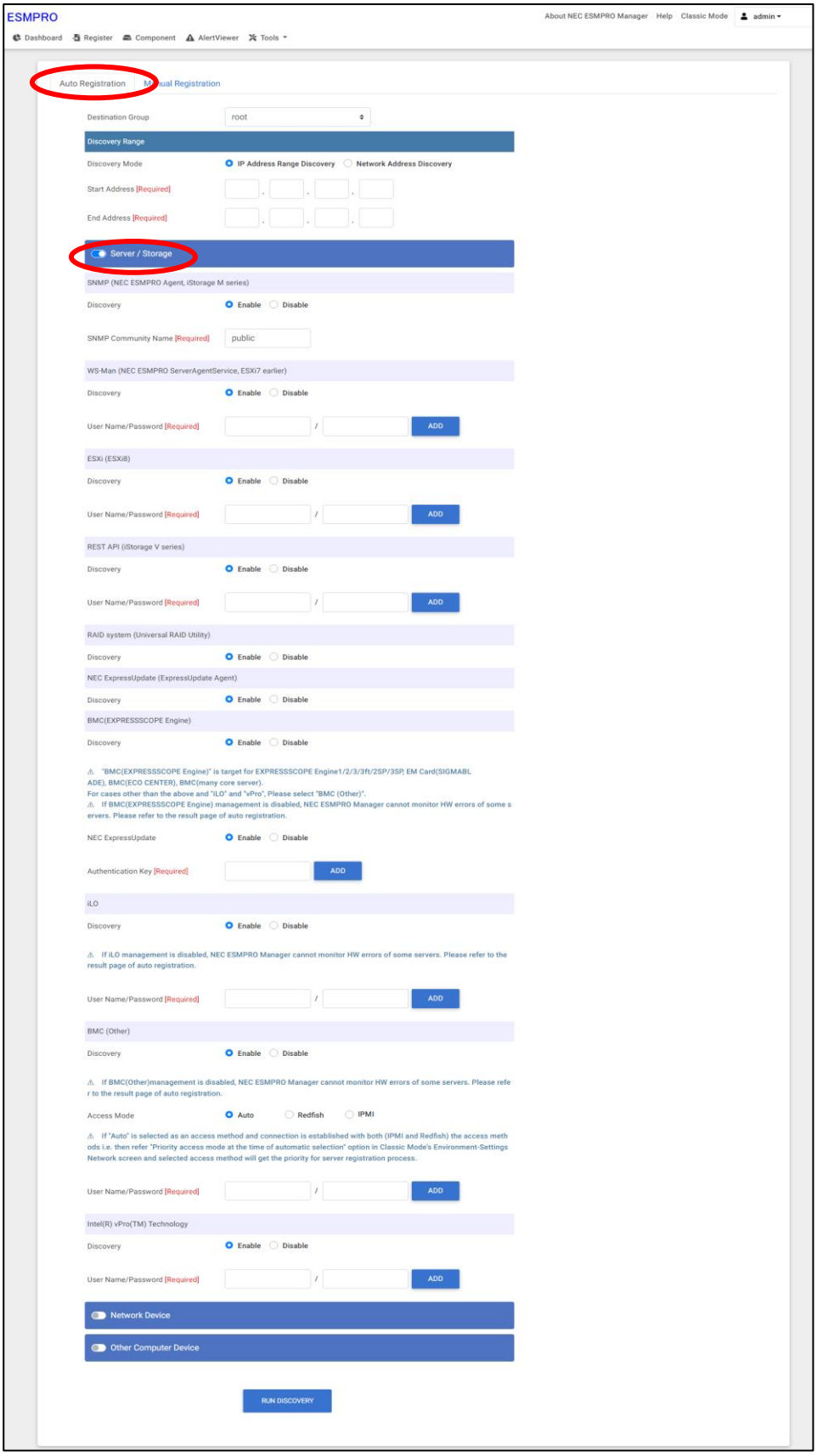
Detected	Detail
Detected	The feature was detected. NEC ESMPRO Manager can use the feature to manage the component.
Not Detected	The feature was not detected. NEC ESMPRO Manager cannot use the feature to manage the component. Check parameters corresponding to the feature. Click the "Name" of the component that could not be registered in the "Component List". The connection settings screen in Classic mode will be displayed. Please check that there are no errors in the entered items. For more details, please refer to the online help for NEC ESMPRO Manager.

4.3.2.2 Auto Registration

(1) Click “Register”.



(2) Click the “Server / Storage” of "Auto Registration".



(3) Input the following items to search managed components of BMC (Other).

Name	Value
Destination Group	Specify the group to which the managed component will belong.
Discovery Range	
Discovery Mode	With "IP Address Range Search" selected, the NEC ESMPRO Manager searches for the managed components using the IP address range. With "Network Address Search" selected, the NEC ESMPRO Manager searches for the managed components using the specified network address.
Start Address End Address	When you select "IP Address Range Search" for "Search Mode", specify the start IP address and end IP address of the range in which managed components are to be searched for.
Network Address Network Mask	When you select "Network Address Search" for "Search Mode", specify the network address and network mask of the managed component to be searched for.
SNMP (NEC ESMPRO Agent, iStorage M series)	
Discovery	When you discover only the components in which BMC (Other) is integrated, this item should be “Disable”.
WS-Man(NEC ESMPRO ServerAgentService, ESXi7)	
Discovery	When you discover components installed NEC ESMPRO ServerAgentService or VMware ESXi6 and later, select “Enable”. *1, *5
User Name/Password	Enter username and password for WS-Man communication. The account must be a system administrator of the managed operating system. Click “Add” button and you can add a pair of username and password up to 5. *2 - NEC ESMPRO ServerAgentService (Windows) is installed. Enter Username(Local User Accounts)/Password of Windows system Administrator - NEC ESMPRO ServerAgentService (Linux) is installed. Enter root/Password of Linux operating system - The operating system of the managed component is VMware ESXi. Enter Username/Password of VMware ESXi Administrator
ESXi (ESXi8)	
Discovery	Select "Enable" to manage ESXi (ESXi8) of the component. *1
User Name/Password	Enter username and password for ESXi (ESXi8) communication. The account must be a system administrator of the managed operating system. Click "Add" button and you can add a pair of username and password up to 5. *2 Enter Username/Password of VMware ESXi Administrator
REST API(iStorage V series)	
Discovery	Select "Disable" .
RAID system management	
Management	Select "Enable" to manage the RAID system of the component. If the operating system of the managed component is VMware ESXi, WS-Man management must be enabled in addition to this setting.
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select "Enable" to manage the component using NEC ExpressUpdate.
BMC (EXPRESSSCOPE Engine)	
Discovery	When you discover only the components of BMC (Other), this item should be “Disable”.
iLO	
Discovery	When you discover only the components of BMC (Other), this item should

	be “Disable”.
BMC (Other)	
Discovery	Select “Enable”
Access Mode	Select "Access Mode" used by communication with BMC(Other). *4 ・Auto If "Auto" is selected as an access method and connection is established with both (IPMI and Redfish) the access methods i.e. then refer "Priority access mode at the time of automatic selection" option in Classic Mode's Environment-Settings Network screen and selected access method will get the priority for server registration process. ・Redfish Specify Redfish as the "Access Mode" for BMC (other). ・IPMI Specify IPMI as the "Access Mode" for BMC (other).
User Name/Password	Enter username and password for communication with the BMC (Other), Clicking “Add” button, you can enter up to 5 pairs of username and password. *2, *3
Intel(R) vPro(TM) Technology	
Discovery	When you discover only the components of BMC (Other), this item should be “Disable”.

CHECK:

- *1 If a self-signed certificate is installed on the managed server for HTTPS communication, a setting to allow it is required. Refer to “1.1 Setup Flow” for detailed information.

CHECK:

- *2 On "Settings" - “Environment” - “Auto Registration Setting List” screen, you can manage a list of username/password and authentication key. All entries in the list are used for auto registration every time.

CHECK:

- *3 Set a user name and a password of following user account. Please refer to "BMC/CMC Management Console User's Guide" for details about a user account of BMC (Other).
  -- Administrator of the default user
  -- Additional user with all user privileges.
  If a user account of other than the above is used, there is a possibility that you can't use some function for managing BMC (Other).

CHECK:

- *4 When using "Redfish" as the access method for BMC (other) and using self-signed certificates, it is necessary to refer to "4.3.1 Environment setting" in ESMPRO/ServerManager to allow self-signed certificates for communication between the BMC (other) component and ESMPRO/ServerManager.

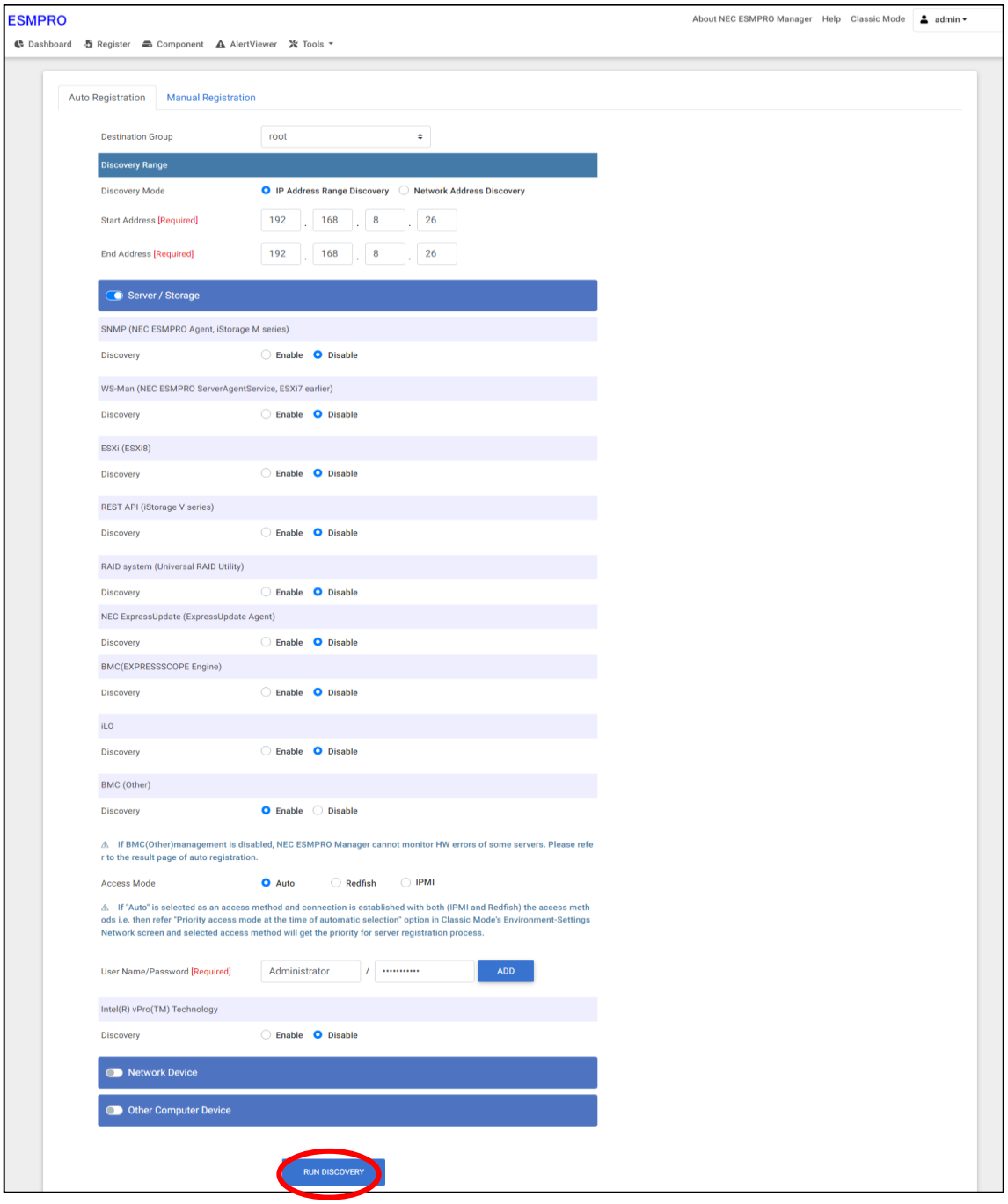
CHECK:

- *5 If you want to use HTTPS for WS-MAN communication with ESMPRO/ServerAgentService, refer to Chapter 2, Installation 3.3 HTTPS Setting in the ESMPRO/ServerAgentService Installation Guide (Windows).

IMPORTANT:

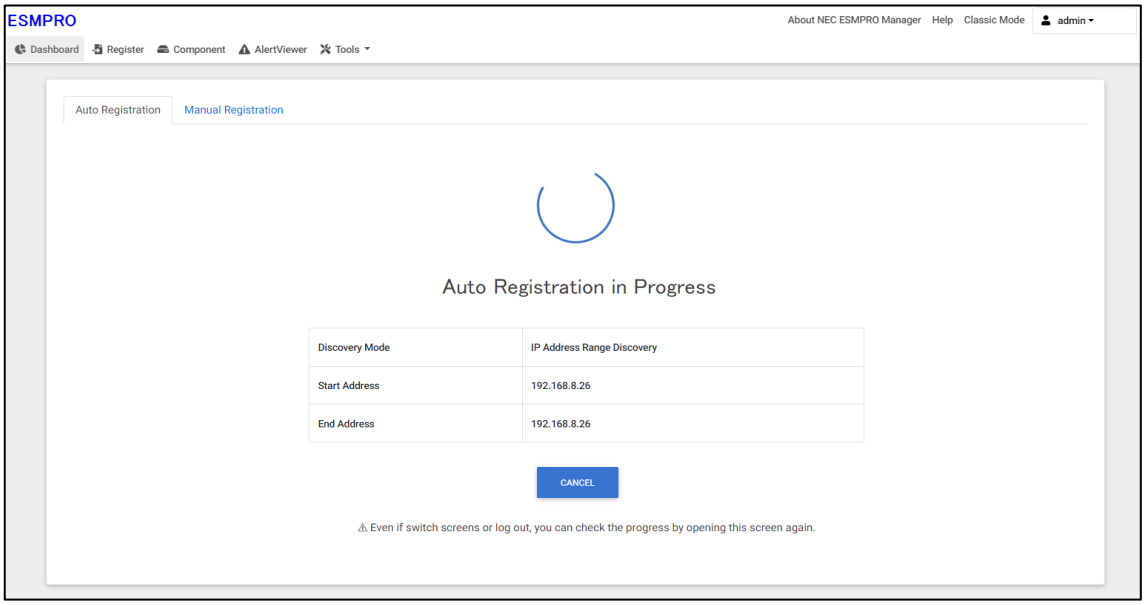
- When the access method for BMC (other) is Redfish, the remote console function and console log settings cannot be used. Other than that, there is no difference in functionality between IPMI and Redfish.

(4) Click “RUN DISCOVERY” and the discovery for the managed components will start.

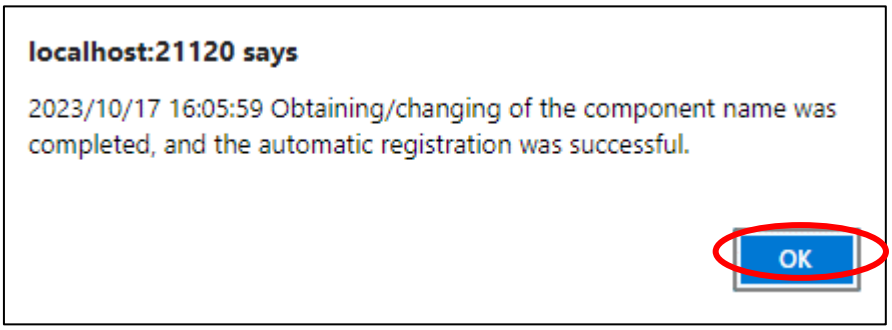


CHECK:
When you click the "RUN DISCOVERY", you may see a message "The search cannot be started.". If you have enabled "WS-Man Discovery", please check whether a "Self Signed Certificate" is allowed in section "1.3.1 Environment setting".

When you click the "RUN DISCOVERY", the discovery for components will begin and the "Auto Registration in Progress" screen will be displayed.

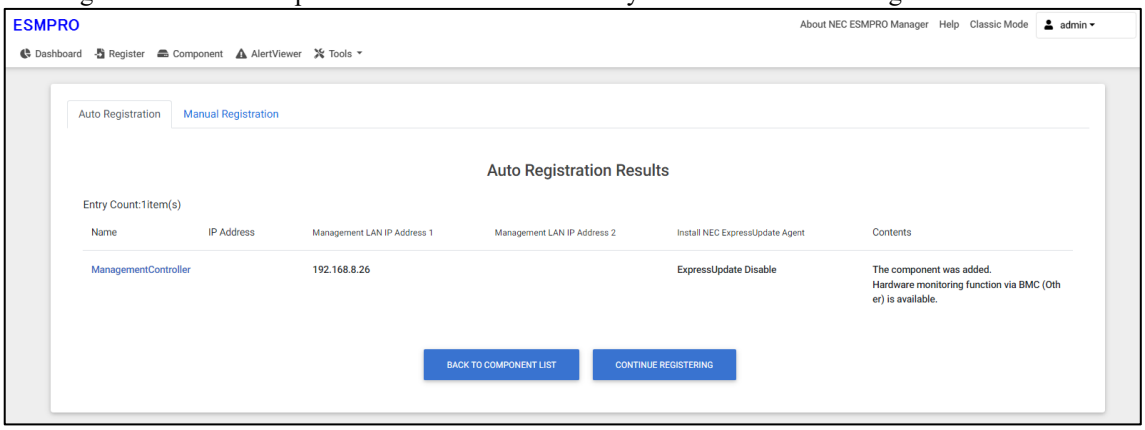


(5) If the auto registration is completed, following message will be displayed. Click “OK”.



(6) The components registered will be displayed on the “Auto Registration Results” screen.

Clicking the “Name” to open the Classic mode where you can confirm the registered information.



Name	Description
Name	Component name
IP address	IP address
Management LAN IP Address 1	IP address of BMC(EXPRESSSCOPE Engine)/iLO/BMC(Other)/vPro
Management LAN IP Address 2	It is not displayed.
Install NEC ExpressUpdate Agent	・ExpressUpdate is enable When "NEC ExpressUpdate(ExpressUpdate Agent)" is enabled, and a component that can be installed with ExpressUpdate Agent is discovered. ・ExpressUpdate is disable - "NEC ExpressUpdate(ExpressUpdate Agent)" is disable - "NEC ExpressUpdate(ExpressUpdate Agent)" is enabled, but there is not component that can be installed with ExpressUpdate Agent.
Contents	・The component has been added. This message is displayed when a component has been successfully registered. ・The hardware status monitoring function via BMC (other) is available. This message will be displayed if BMC (other) is successfully registered. ・Management Controller management cannot be used. Hardware monitoring function is unavailable. This message will be displayed when BMC (EXPRESSSCOPE engine)/iLO/BMC (other)/vPro cannot be discovered for a component registered by an OS IP address. If you want to register the Management Controller management function, click the "Name". The connection settings screen in Classic mode will be displayed, so you can perform the registration here.

TIPS:

- If the system management cannot discover the managed component name, the "Name" of "Component List" will be "ManagementController".
  The following components will be named "ManagementController + number".
  If you want to change the name, click the "Name" in the "Component List" to launch Classic mode, and then click "Setting" -> "Connection Setting" ->"Edit" to change component name.

4.3.2.3 Auto Registration Setting

Before executing auto registration, User Name/Password and Authentication Key can be registered up to 5. For more details, please refer to "1.3.3.3 Auto Registration Setting".

Chapter5 EM Card and Chassis Management

5.1 Overview

The NEC ESMPRO Manager has following functions by communication with the EM card in a blade enclosure,

Information Collection

NEC ESMPRO Manager collects the status and the information of the blade enclosure as follows.

-- Blade / EM Card / Switch Module List
If the slot state of CPU blade, EM card or switch module is changed, NEC ESMPRO Manager collects current slot state.

-- Chassis Information
NEC ESMPRO Manager collects the blade enclosure name, the name and ID of the rack in which the blade enclosure is installed.

-- EM Card / Switch Module Status
NEC ESMPRO Manager obtains the STATUS Lamp of the EM card and the switch module.

Component Monitoring

NEC ESMPRO Manager always monitors the slot state in the blade enclosure and the STATUS Lamp of the EM card and the Switch Module. When some slot state change or failure occurs, NEC ESMPRO Manager notifies the operator.

CPU Blade Auto Setting

When NEC ESMPRO Manager detects new CPU blade installed on the blade enclosure, the NEC ESMPRO Manager configures BMC on the CPU blade (managed component) through the EM card to control the managed component remotely. NEC ESMPRO Manager also registers the managed component for its own, and execute the "Check Connection".

5.2 System Requirements

NEC ESMPRO Manager can manage the following EM card.

Hardware

EM card that is listed "Appendix D. Managed Components Summary".

- **Communication Medium**
  TCP/IP network

CHECK:

- NEC ESMPRO Agent Extension and NEC DianaScope Agent cannot be installed on EM card.

5.3 Setup for EM Card

5.3.1 Setup Flow

Perform the following setup procedure:

(1) Connect the NEC ESMPRO Manager server and the EM card.

(2) Setup EM card for communication with NEC ESMPRO Manager.

(3) Register the EM card on NEC ESMPRO Manager.

5.3.2 Setup EM Card for communication with NEC ESMPRO Manager Setup the EM Card as follows. See Users Guide that attached to EM Card for detail.

(1) Set the IP address of the EM Card.

CHECK:

- The IP address set on the EM card should be the value that can be divided by 4. If the IP address be set other value, NEC ESMPRO Manager will fail "Check Connection". NEC ESMPRO Manager communicates to the EM card with the "fixed IP address".

(2) Setup EM Card for communication with NEC ESMPRO Manager (DianaScope support).
Use setdsl command for SIGMABLADE-M.
Use SET DSGPASSWORD and SET DSGSTATE command for SIGMABLADE-H.

5.3.3 Register EM Card on NEC ESMPRO Manager

You can register the EM card with similar way of registering the ordinary managed component.
Use either of the two methods to register EM card.
If necessary, see “1.3.2 Add component to Group” and add the group to which the managed component will belong.

Manual Registration

This method requires the operator to directly enter the EM card's information such as the IP address and to perform "Check Connection".

Auto Registration

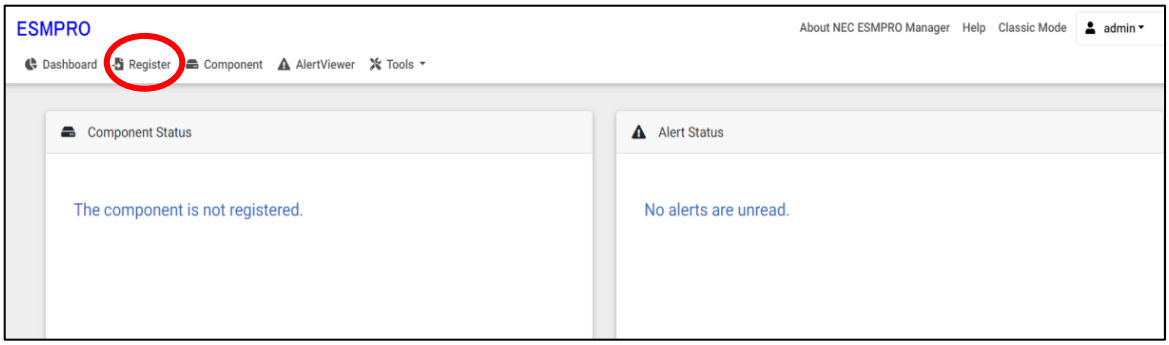
This method automatically searches the network for managed components and EM card that are not registered yet on the NEC ESMPRO Manager, and registers them.

TIPS:

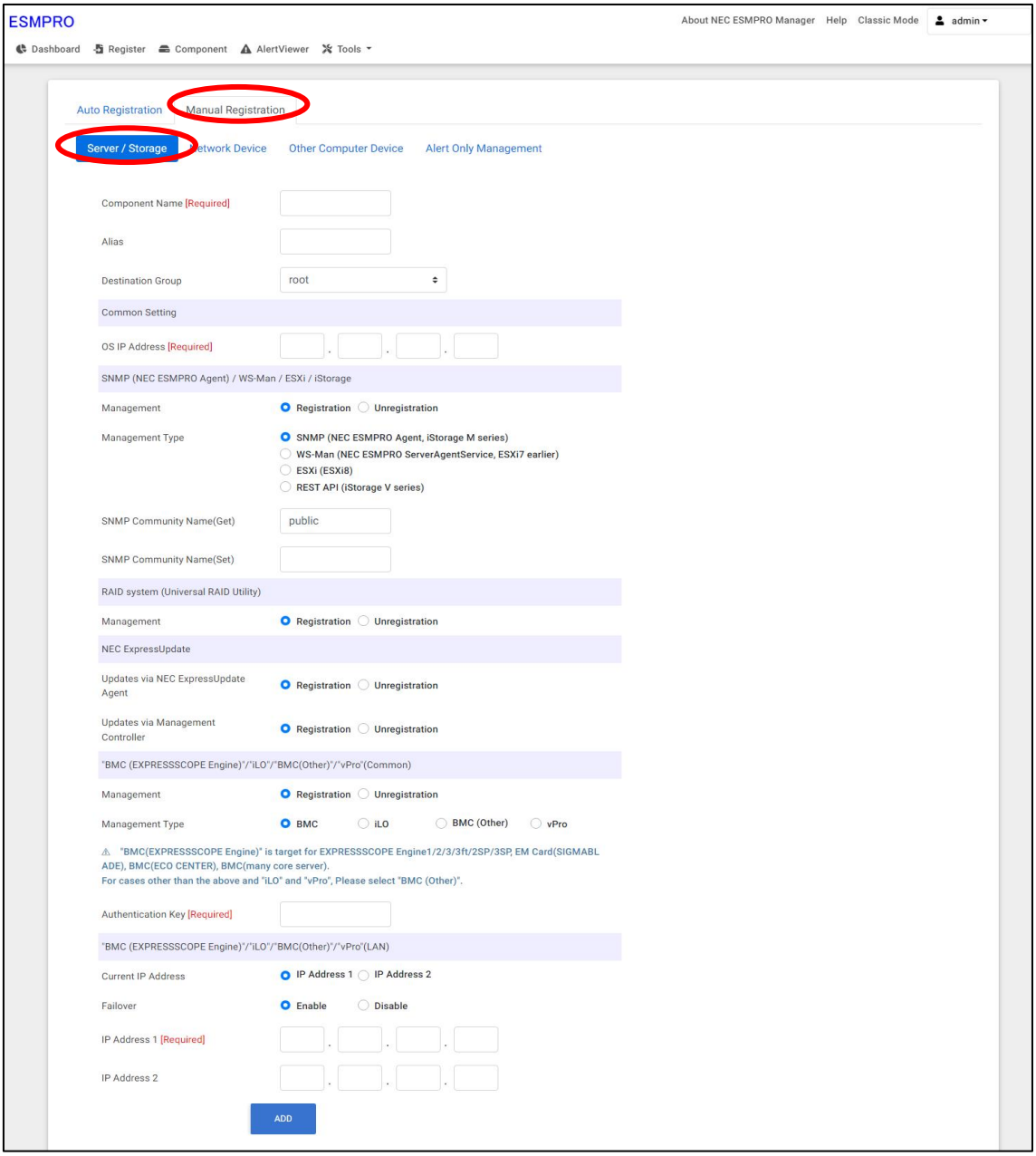
- NEC ESMPRO Manager distinguishes the EM card from ordinary managed component by "Check Connection".
  After "Check Connection" of the EM card is completed, Information of the blade enclosure (chassis) is displayed on the "Chassis List" on the NEC ESMPRO Manager.
  The chassis name on the NEC ESMPRO Manager is set to the first 16 characters of the blade enclosure name. If the same name is already registered, some number is added to the name.
  You can change the chassis name on "Chassis Information".

5.3.3.1 Manual Registration

(1) Click “Register”.



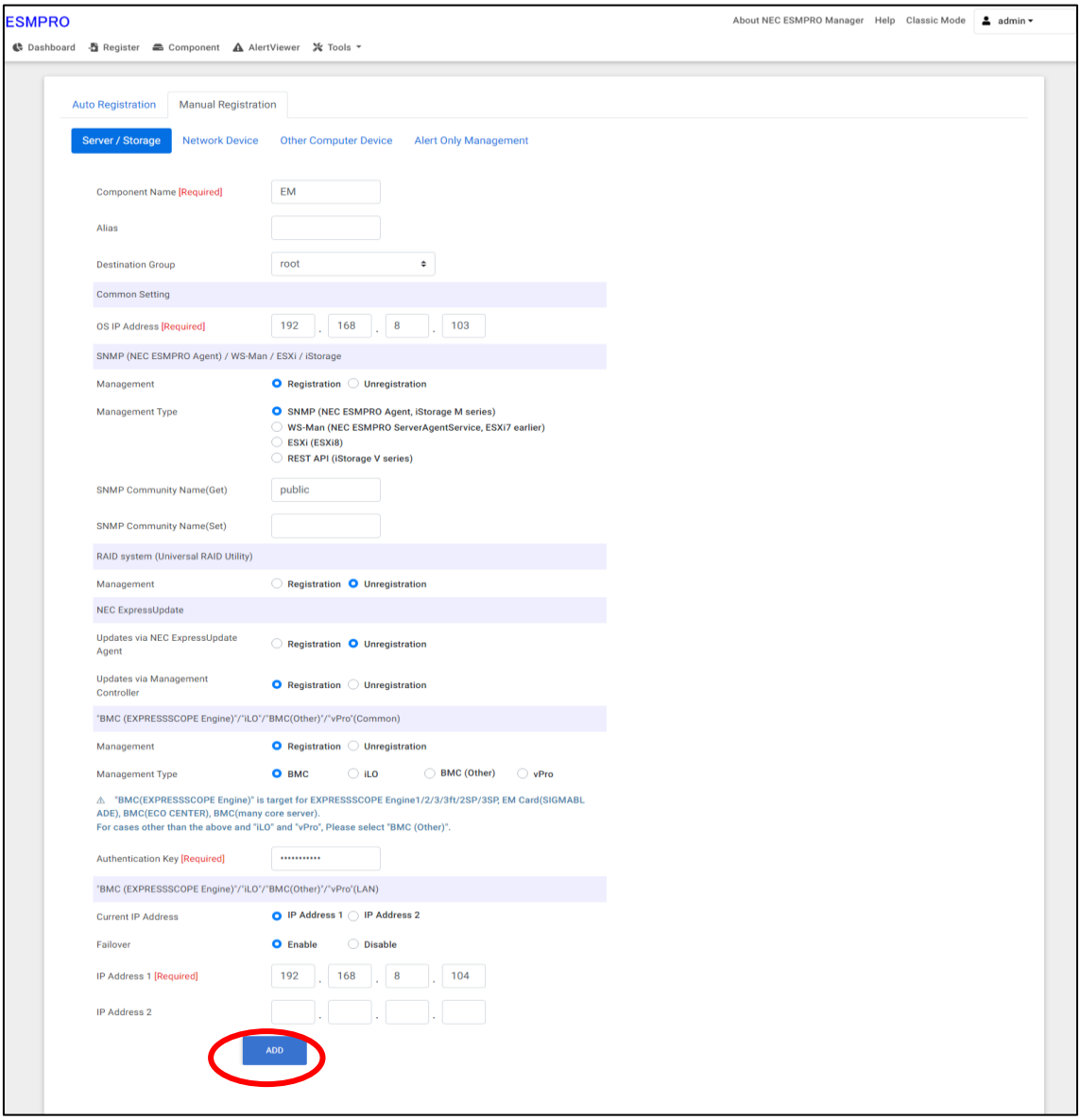
(2) Click the “Server / Storage” of “Manual Registration”.



(3) Input the following items on the "Manual Registration"-" Full Management" view.

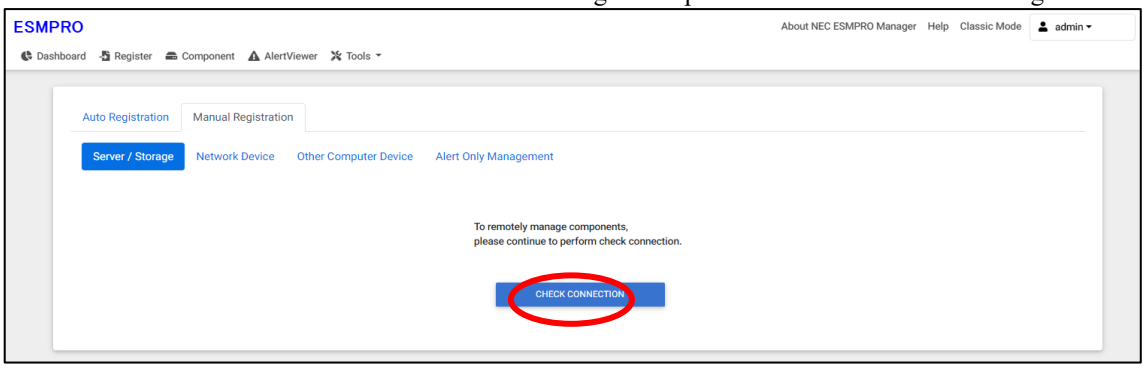
Name	Value
Component Name	Specify the name of the EM card on NEC ESMPRO Manager. Assign a name different from other managed component names. Do not enter a name including blank characters. Uppercase characters are distinguished from lowercase characters.
Alias	Specify the information about the EM card. Do not enter a name including blank characters. Only blank characters cannot be entered. Also, please do not enter a name containing blank characters. The blank characters will be removed if there are half-width blank characters before or after the string. Uppercase characters are distinguished from lowercase characters. Optional.
Group	Specify the group to which the EM card will belong. See "1.3.2 Add component to Group" for the information about creating group.
Common Setting	
OS IP Address	Specify the Address of the EM card.
SNMP (NEC ESMPRO Agent) / WS-Man / ESXi / iStorage	
Management	Select "Registration" to manage the EM card.
Management Type	Select “SNMP”
SNMP Community Name(Get)	SNMP Community Name which is specified at the EM card. The default value is “public”.
SNMP Community Name(Set)	SNMP Community Name which is specified at the EM card. The default value is “public”.
RAID system management	
Management	Select “Unregistration”.
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select “Unregistration”.
Updates via Management Controller	Select “Unregistration”.
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (Common)	
Management	Select "Registration".
Management Type	Select "BMC".
Authentication Key	Enter the "authentication key" for the EM card.
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (LAN)	
Current IP Address	Select IP Address 1
Failover	Select “Disable”.
IP Address 1	Enter the IP address that is specified on LAN1 of the BMC configuration for the managed component. If the managed component is a fault tolerant server, you should enter the IP address of the management LAN port for the CPU/IO module 0 to the form. If the managed component is a server which has EXPRESSSCOPE Engine SP3(2BMC model), you should enter the IP address of the management LAN port for the Master BMC to the form.
IP Address 2	This field can be blank.

(4) Click "ADD".

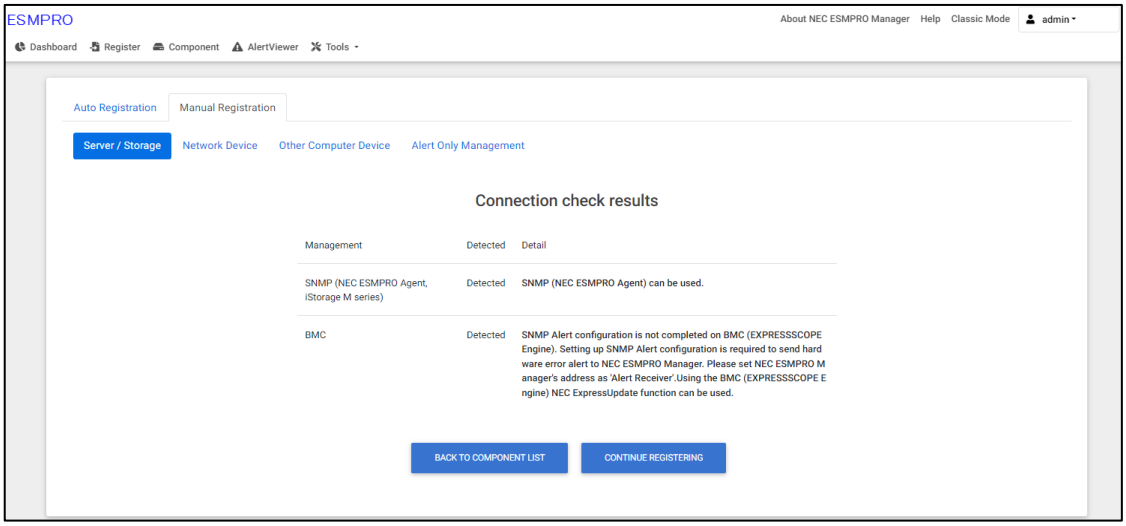


(5) "CHECK CONNECTION" screen is displayed.

Click "CHECK CONNECTION" to collect the managed component information for the management.



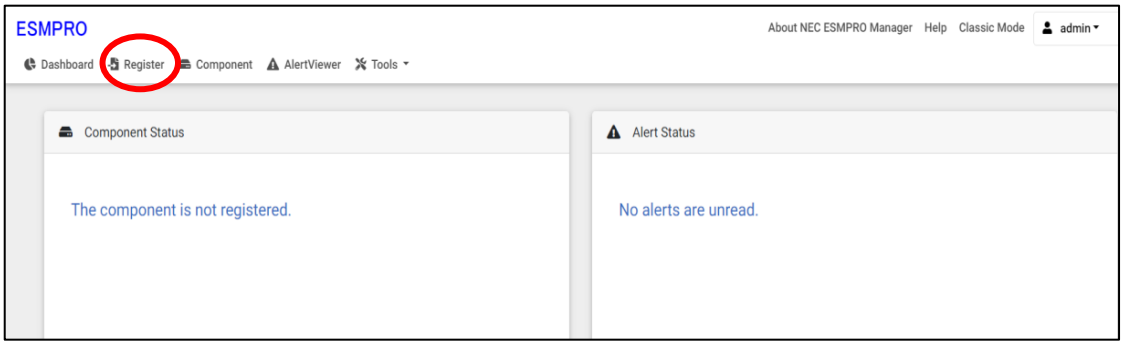
(6) ”Connection check results” screen will be displayed.



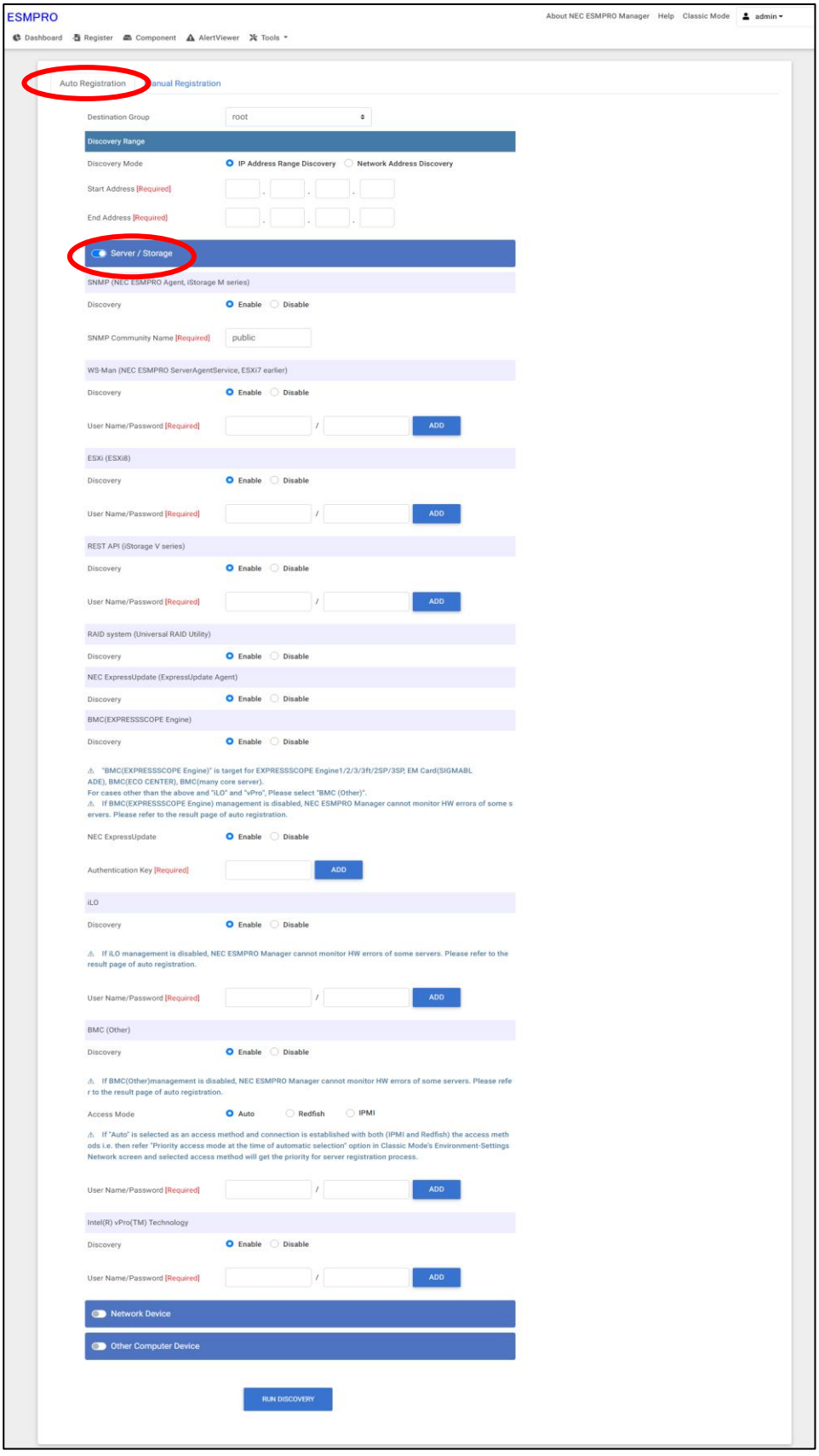
Detected	Detail
Detected	The feature was detected. NEC ESMPRO Manager can use the feature to manage the component.
Not Detected	The feature was not detected. NEC ESMPRO Manager cannot use the feature to manage the component. Check parameters corresponding to the feature. Click the "Name" of the component that could not be registered in the "Component List". The connection settings screen in Classic mode will be displayed. Please check that there are no errors in the entered items. For more details, please refer to the online help for NEC ESMPRO Manager.

5.3.3.2 Auto Registration

(1) Click “Register”.



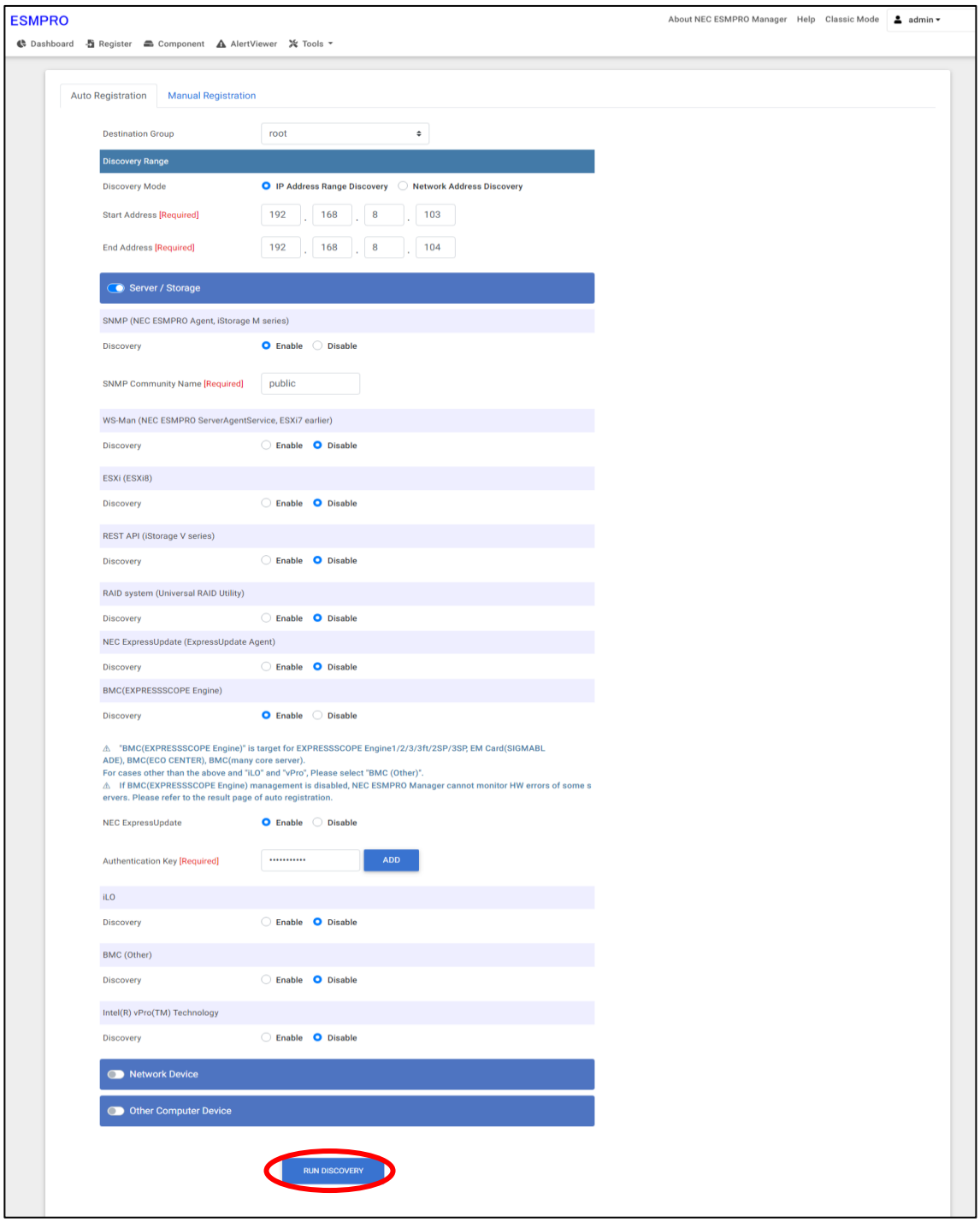
(2) Click the “Server / Storage” of "Auto Registration".



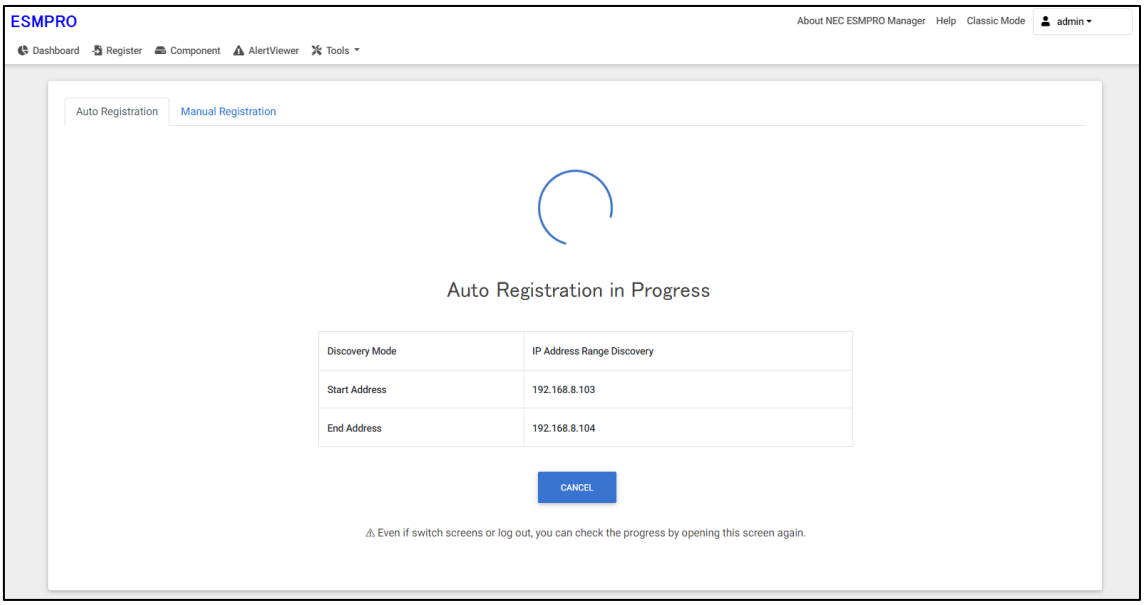
(3) Input the following items to search managed components of EM card.

Name	Value
Destination Group	Specify the group to which the EM card will belong. See "1.3.2 Add component to Group" for the information about creating group.
Discovery Range	
Discovery Mode	With "IP Address Range Search" selected, the NEC ESMPRO Manager searches for the managed components using the IP address range. With "Network Address Search" selected, the NEC ESMPRO Manager searches for the managed components using the specified network address.
Start Address End Address	When you select "IP Address Range Search" for "Search Mode", specify the start IP address and end IP address of the range in which managed components are to be searched for.
Network Address Network Mask	When you select "Network Address Search" for "Search Mode", specify the network address and network mask of the managed component to be searched for.
SNMP (NEC ESMPRO Agent, iStorage M series)	
Discovery	Select “Enable”.
SNMP Community Name	SNMP Community Name which is specified at SNMP Agent running on the EM card.
WS-Man(NEC ESMPRO ServerAgentService, ESXi7)	
Discovery	Select “Disable”
ESXi (ESXi8)	
Discovery	Select “Disable”
REST API (iStorage V series)	
Discovery	Select “Disable”
RAID system management	
Management	Select “Disable”
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select “Disable”
BMC (EXPRESSSCOPE Engine)	
Discovery	Select "Enable".
Features NEC ExpressUpdate	Select “Disable”
Authentication Key	Enter the password that you set in EM card.
iLO	
Discovery	Select “Disable”.
BMC (Other)	
Discovery	Select “Disable”.
Intel(R) vPro(TM) Technology	
Discovery	Select “Disable”.

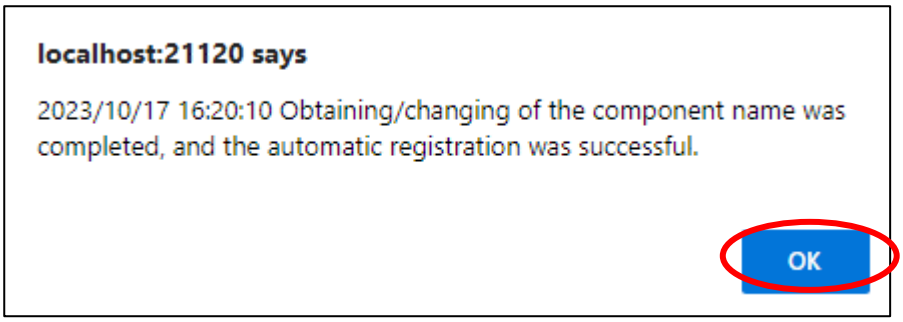
(4) Click “RUN DISCOVERY” and the discovery for the managed components will start.



When you click the "RUN DISCOVERY", the discovery for components will begin and the "Auto Registration in Progress" screen will be displayed.

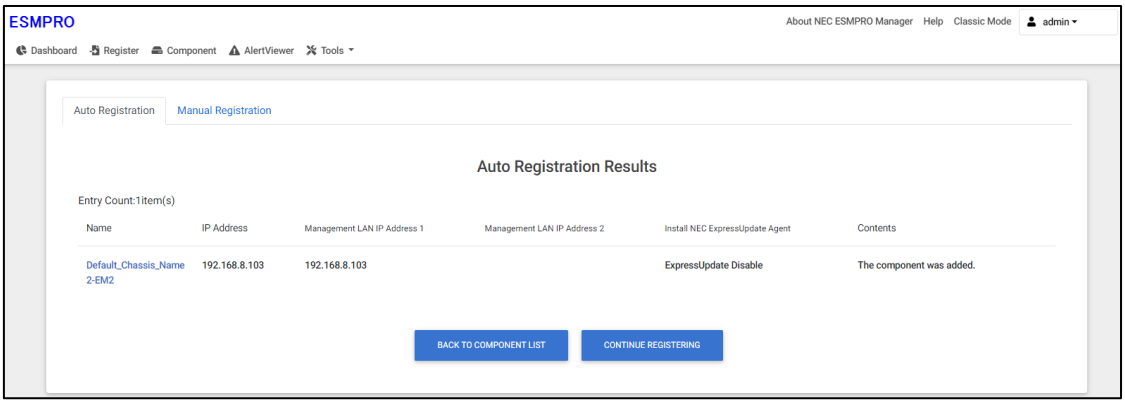


(5) If the auto registration is completed, following message will be displayed. Click “OK”.



(6) The components registered will be displayed on the “Auto Registration Results” screen.

Clicking the “Name” to open the Classic mode where you can confirm the registered information.



Name	Description
Name	Component name
IP address	IP address
Management LAN IP Address 1	IP address of EM Card or Chassis.
Management LAN IP Address 2	It is not displayed.
Install NEC ExpressUpdate Agent	・ExpressUpdate is enable When "NEC ExpressUpdate(ExpressUpdate Agent)" is enabled, and a component that can be installed with ExpressUpdate Agent is discovered. ・ExpressUpdate is disable - "NEC ExpressUpdate(ExpressUpdate Agent)" is disable - "NEC ExpressUpdate(ExpressUpdate Agent)" is enabled, but there is not component that can be installed with ExpressUpdate Agent.
Contents	・A component has been added. This message will be displayed if the component is successfully registered. ・Management Controller management cannot be used. Hardware monitoring function is unavailable. This message will be displayed when BMC (EXPRESSSCOPE engine)/iLO/BMC (other)/vPro cannot be discovered for a component registered by an OS IP address. If you want to register the Management Controller management function, click the "Name". The connection settings screen in Classic mode will be displayed, so you can perform the registration here.

TIPS:

- When the EM card is registered by auto registration, the EM card name is set to blade enclosure + "-EM" + EM card number. If you want to change the EM card name, click “Component List” – “name” to start classic mode and click “Setting” - “Connection Setting”. Click “edit” to change EM card name.

5.4 Operation of EM card

You can open the screen to check the STATUS lamp and to turn UID lamp on as follows.

(1) Click "Chassis" from the tree view.

(2) Click the EM card name on the "Component List".

(3) Click the EM card parts on the "Chassis MAP" screen.

5.5 CPU Blade Auto Registration

NEC ESMPRO Manager monitors blade slot state of the blade enclosure on which the EM card is installed. If NEC ESMPRO Manager detects new CPU blade installed on the chassis, NEC ESMPRO Manager configures BMC on the CPU blade (managed component) through the EM card. To control the managed component, NEC ESMPRO Manager also registers the managed component and executes "Check Connection".

You should set the item for the BMC configuration and component registration on the NEC ESMPRO Manager on the "Chassis Properties" - "CPU Blade Auto Setting".

See the online help of the NEC ESMPRO Manager for the details of the items.

Chapter6 Setup for the NEC iStorage M Series

6.1 Setup Flow

Setup by the following setup procedure:

(1) Connect the NEC ESMPRO Manager server and the iStorage.

(2) Install WebSAM iStorageManager on the management server where NEC ESMPRO Manager has been installed.

IMPORTANT:

- If you choose to install a separately provided WebSAM iStorageManager please note that after installing WebSAM iStorageManager, you should install the iStorage (M series) NEC ESMPRO Manager relative module. And the supported version of WebSAM iStorageManager is Ver12.3 or above.

※To launch the iSM client (Web GUI) from the WebSAM iStorageManager link, a license for WebSAM iStorageManager is required. Please refer to the "ESMPRO Installation Tool User's Guide" for information about license management.

(3) Register Storage (iStorage) on WebSAM iStorageManager.

Please click “iSMsetenv” on the NEC ESMPRO Manager to set storage information.
Please refer to the online help for "iSMsetenv" in iStorageManager. Additionally, "iSMsetenv" can only be launched from the browser on the server where NEC ESMPRO Manager and WebSAM iStorageManager are installed.

*If you are using Firefox, please configure the settings to launch the " iSMsetenv " tool. Here are the steps:

1. Enter "about:config" in the address bar of Firefox.
   You may see a warning screen when making advanced configuration changes, but there is no problem, so click "Accept the risk and Continue" to proceed.
2. Enter "negotiate" in the filter field.
3. Double-click "network.negotiate-auth.trusted-uris".
4. Enter the IP address or hostname of NEC ESMPRO Manager.
   If you are using "localhost" as the hostname, enter "localhost".

(4) Register the managed component on NEC ESMPRO Manager.

6.2 Register the Managed Component

To register the managed component on the NEC ESMPRO Manager, login to the NEC ESMPRO Manager and perform steps in the following order.
If necessary, see “1.3.2 Add component to Group” and add the group to which the managed component will belong.

6.2.1 Register NEC Storage on NEC ESMPRO Manager

Use either of the two methods to register NEC Storage.

Manual Registration

This method requires the operator to directly enter the NEC Storage's information such as the "Floating IP Address" and to perform "Check Connection".

Auto Registration

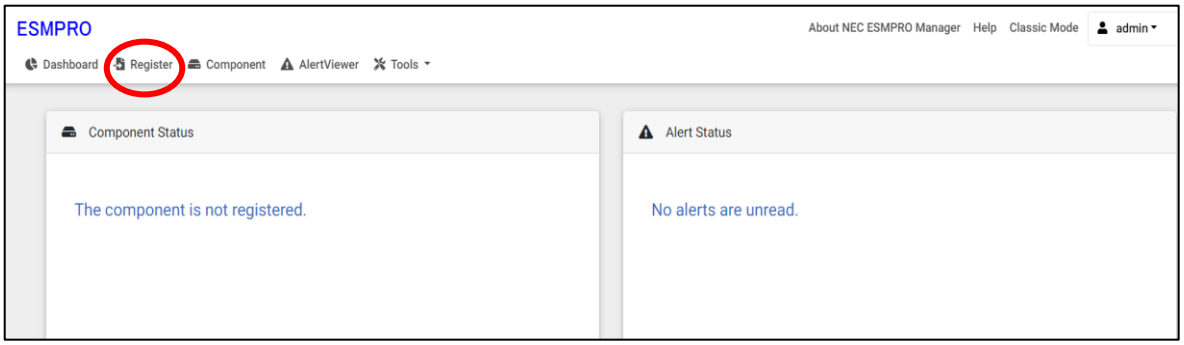
This method automatically searches the network for managed components and NEC Storage, and registers them.

TIPS:

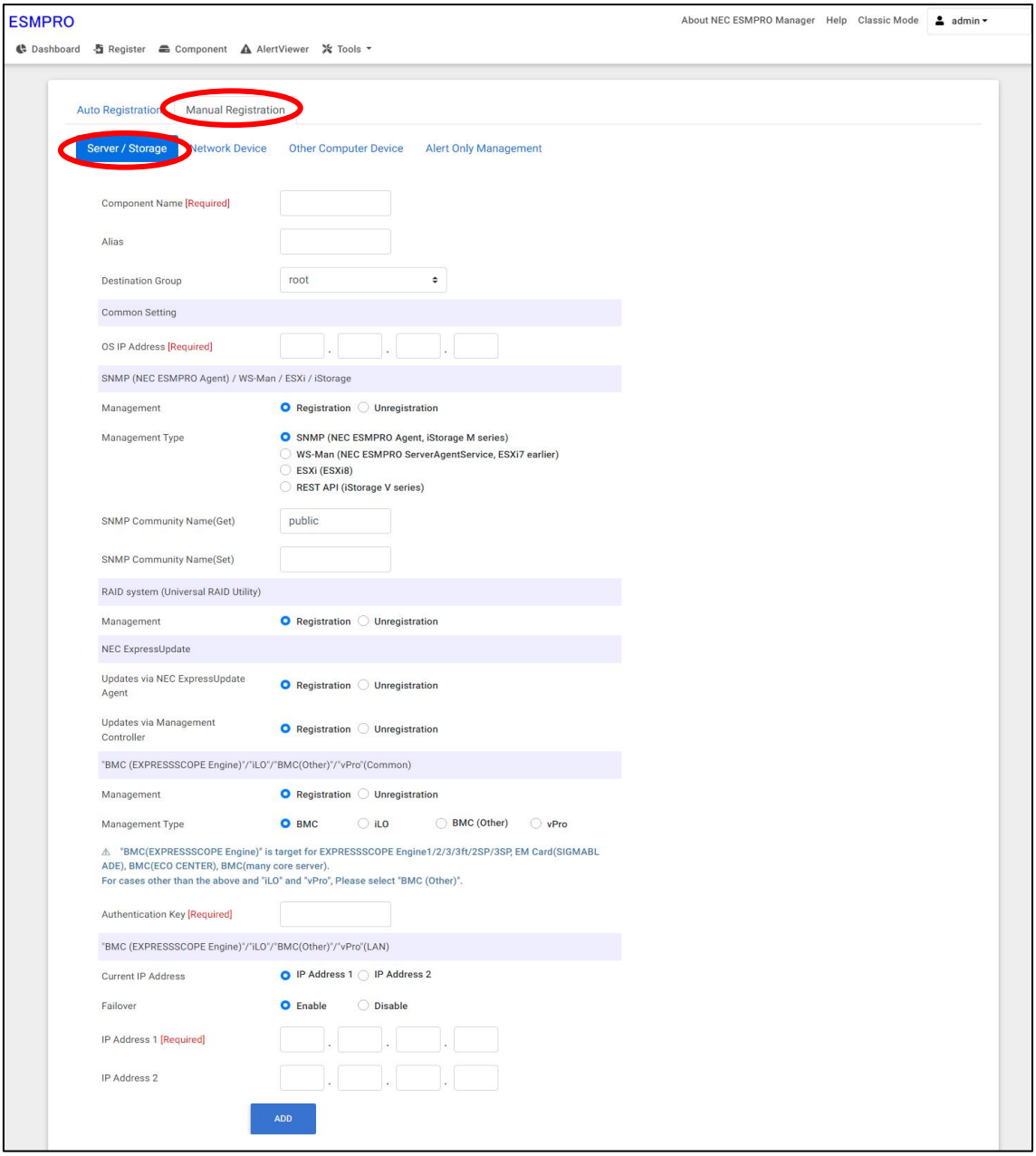
- NEC ESMPRO Manager distinguishes the NEC Storage from ordinary managed component by "Check Connection".
- The managed component name on the NEC ESMPRO Manager is set to the disk array name that is set in iSMClient. You can change the managed component name on "Connection Setting".

6.2.1.1 Manual Registration

(1) Click “Register”.



(2) Click the “Server / Storage” of “Manual Registration”.

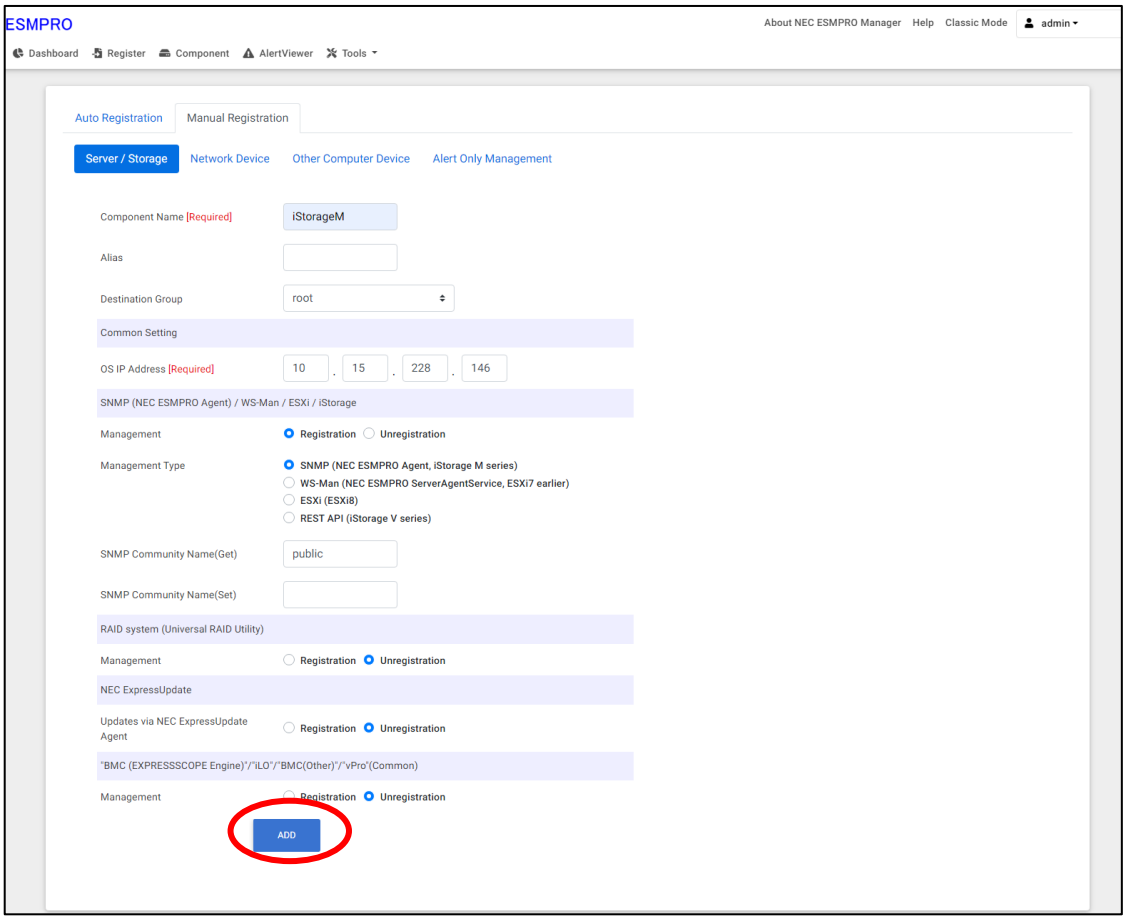


(3) Input the following items on the "Manual Registration"-"Full Management" view.

Name	Value
Component Name	Specify the NEC Storage name on the NEC ESMPRO Manager.Assign a name different from other managed component names. Do not enter a name including blank characters. Uppercase characters are distinguished from lowercase characters.
Alias	Specify the information about the NEC Storage. Do not enter a name including blank characters. Only blank spaces cannot be entered. Also, do not enter a name containing a blank character. The space character will be removed if the half space is contained before and after the string. Uppercase characters are distinguished from lowercase characters. Optional.
Destination Group	Specify the group to which the NEC Storage will belong. When you add the group to which the managed component will belong, see “1.3.2 Add component to Group” for the information.
Common Setting	
OS IP Address	Enter the Fixed IP address of "Floating IP Address" of the NEC Storage.
SNMP (NEC ESMPRO Agent) / WS-Man / ESXi / iStorage	
Management	Select "Registration".
Management Type	Select “SNMP” NEC ESMPRO Agent or iStorage M series is installed on the managed component. - WS-Man *1, *2 NEC ESMPRO ServerAgentService or ESXi7 is installed on the managed component. The operating system of the managed component is VMware ESXi. - ESXi (ESXi8) - REST API(iStorage V series)
SNMP Community Name(Get)	Enter the "SNMP community name" specified on iSMClient.
SNMP Community Name(Set)	Enter the "SNMP community name" specified on iSMClient.
RAID system(Universal RAID Utility)	
Management	Select “Unregistration”.
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select “Unregistration”.
Updates via Management Controller	Select “Unregistration”.
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (Common)	
Management	Select "Unregistration".

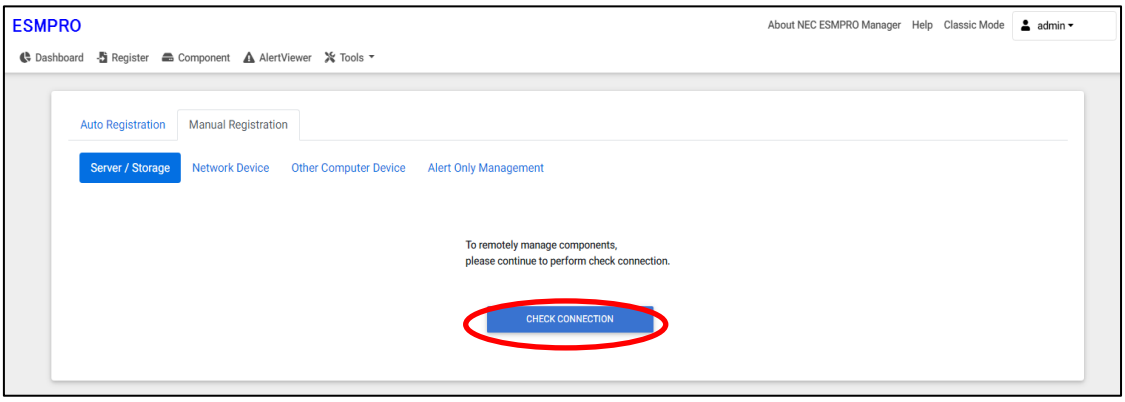
(4) Click "ADD".

If there is an error in the input content, correct the input content following the message.

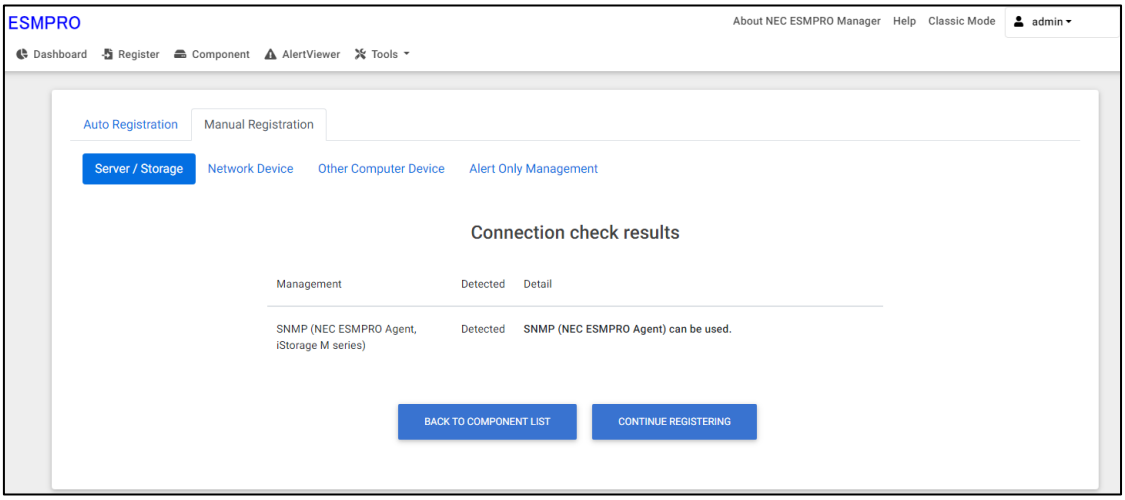


(5) “CHECK CONNECTION” screen is displayed.

Click “CHECK CONNECTION” to start it.



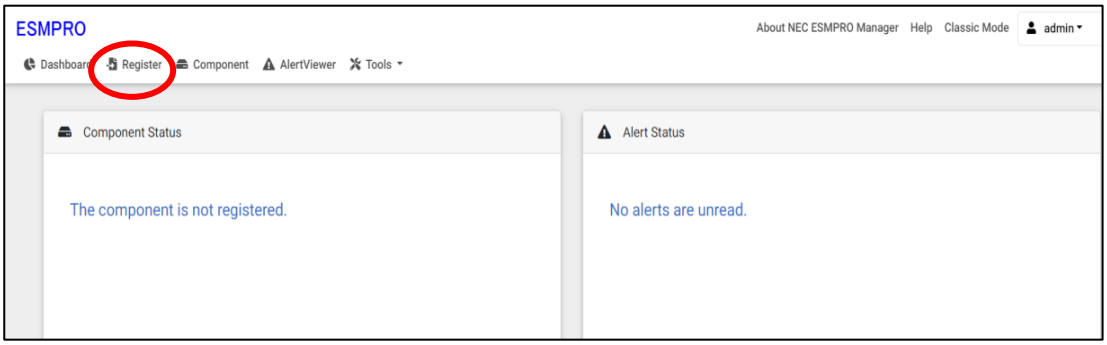
(6) If the "CHECK CONNECTION" is completed, “Connection check results” screen will be displayed.



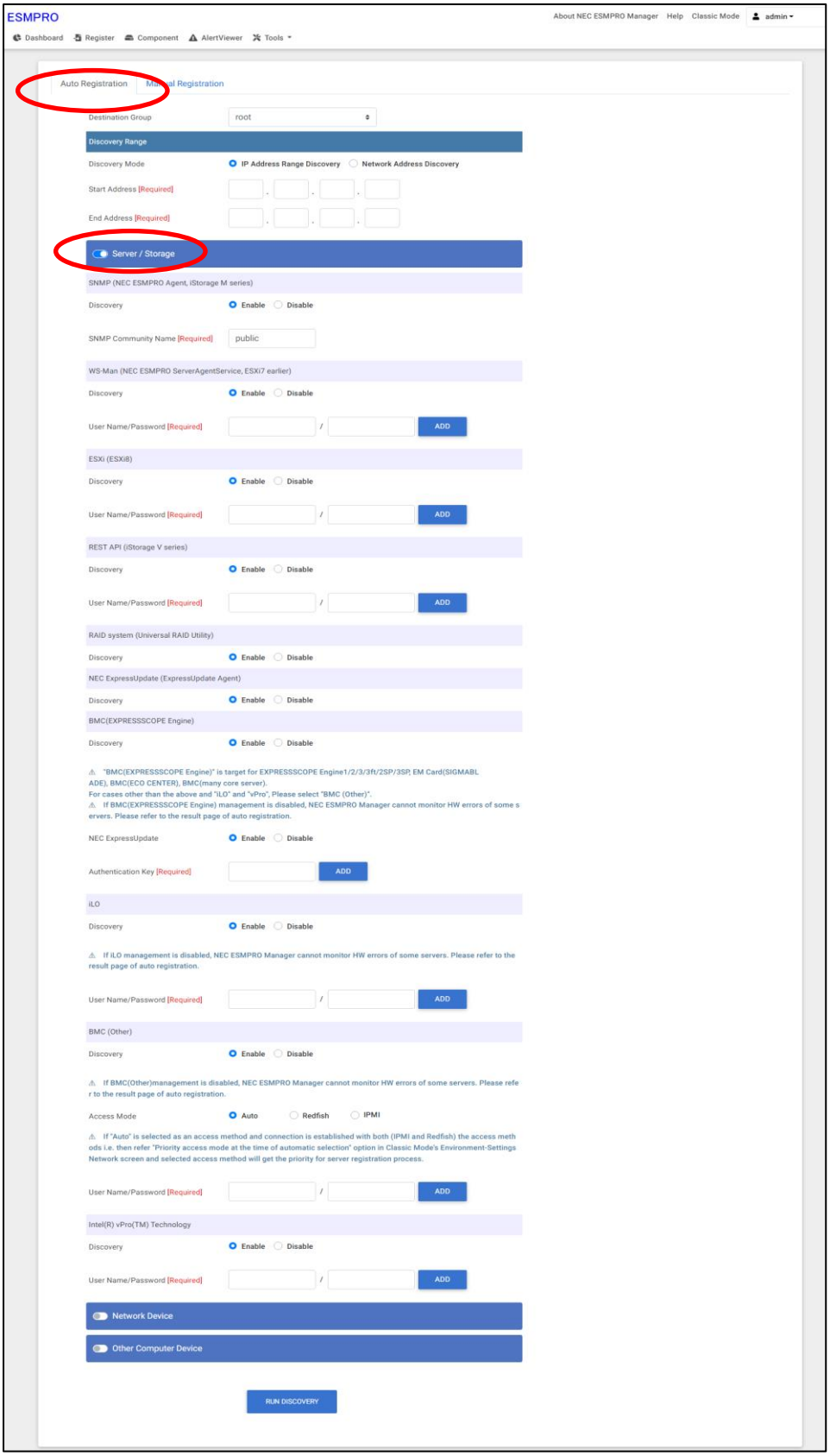
Detected	Detail
Detected	The feature was detected. NEC ESMPRO Manager can use the feature to manage the component.
Not Detected	The feature was not detected. NEC ESMPRO Manager cannot use the feature to manage the component. Check parameters corresponding to the feature. Click the "Name" of the component that could not be registered in the "Component List". The connection settings screen in Classic mode will be displayed. Please check that there are no errors in the entered items. For more details, please refer to the online help for NEC ESMPRO Manager.

6.2.1.2 Auto Registration

(1) Click "Register".



(2) Click the “Server / Storage” of "Auto Registration".

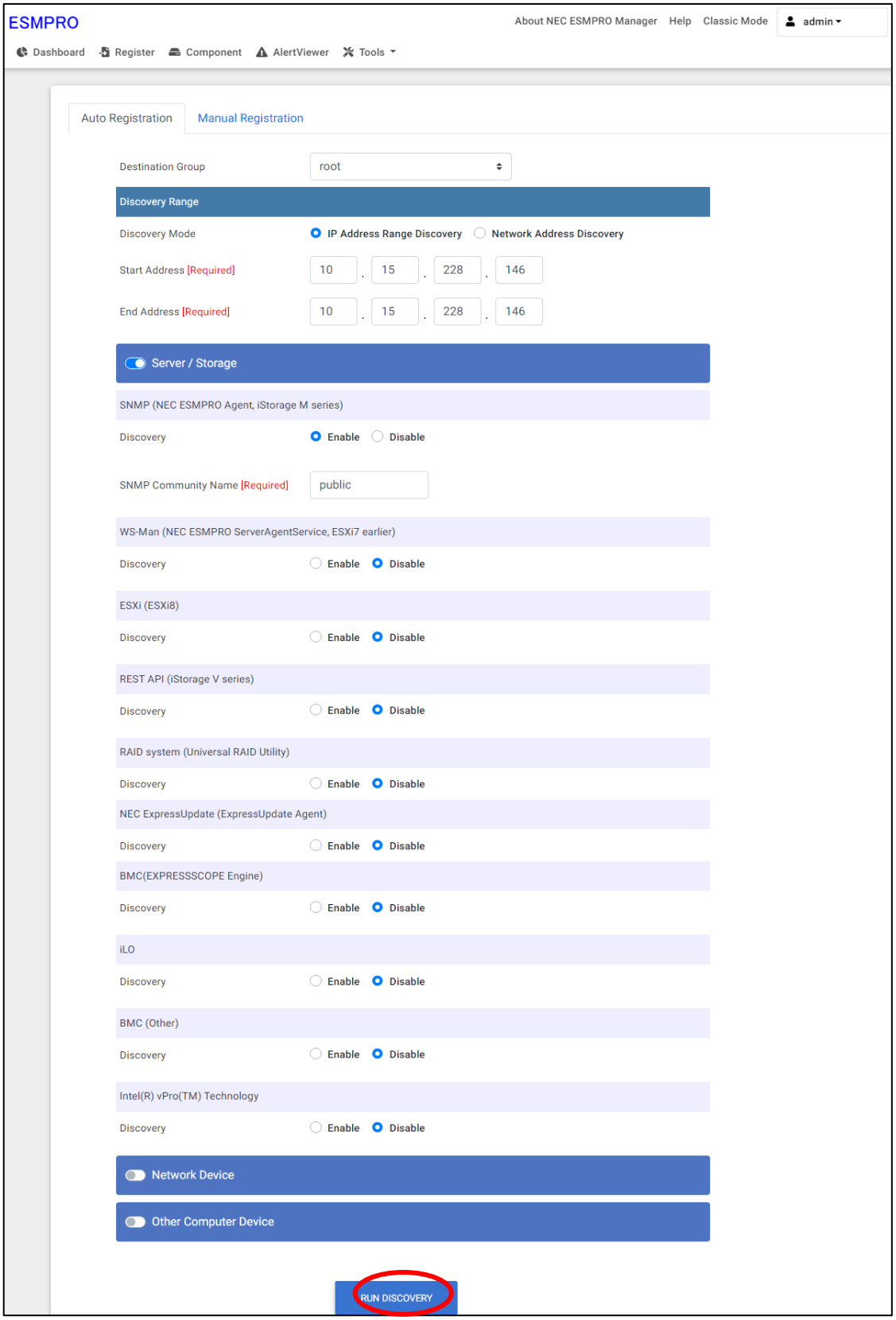


(3) Select "Search Mode" on the "Auto Registration" view and enter following information.

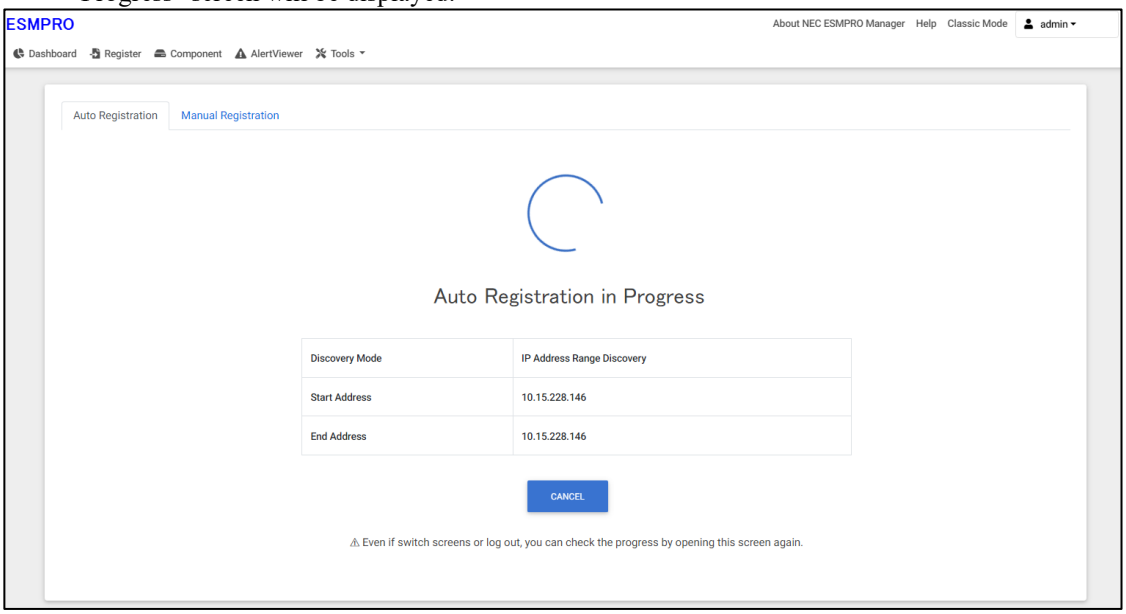
Name	Value
Destination Group	Specify the group to which the NEC Storage will belong. When you add the group to which the managed component will belong, see “1.3.2 Add component to Group” for the information.
Discovery Range	
Discovery Mode	With "IP Address Range Search" selected, the NEC ESMPRO Manager searches for the managed components using the IP address range. With "Network Address Search" selected, the NEC ESMPRO Manager searches for the managed components using the specified network address.
Start Address End Address	When you select "IP Address Range Search" for "Search Mode", specify the start IP address and end IP address of the range which includes the NEC Storage’s floating IP address.
Network Address Network Mask	When you select "Network Address Search" for "Search Mode", specify the network address and network which includes NES Storage’s floating IP address.
SNMP (NEC ESMPRO Agent, iStorage M series)	
Discovery	Select “Enable”.
SNMP Community Name	"SNMP Community Name" is the "SNMP Community Name" specified on iSMClient.
WS-Man(NEC ESMPRO ServerAgentService, ESXi7)	
Discovery	Select “Disable”
ESXi (ESXi8)	
Discovery	Select “Enable” to manage ESXi (ESXi8) of the component. *1,*2
User Name/Password	Enter username and password for ESXi (ESXi8) communication. The account must be a system administrator of the managed operating system. Click “Add” button and you can add a pair of username and password up to 5. *3 - NEC ESMPRO ServerAgentService (Windows) is installed. Enter Username(Local User Accounts)/Password of Windows system Administrator (does not use a user object in Active Directory Domain Services) - NEC ESMPRO ServerAgentService (Linux) is installed. Enter root/Password of Linux operating system - The operating system of the managed component is VMware ESXi. Enter Username/Password of VMware ESXi Administrator
REST API(iStorage V series)	
Discovery	Select “Enable” to manage REST API(iStorage V series) of the component. *1,*2
User Name/Password	Enter username and password for REST API(iStorage V series) communication. The account must be a system administrator of the managed operating system. Click “Add” button and you can add a pair of username and password up to 5. *3 - NEC ESMPRO ServerAgentService (Windows) is installed. Enter Username(Local User Accounts)/Password of Windows system Administrator (does not use a user object in Active Directory Domain Services) - NEC ESMPRO ServerAgentService (Linux) is installed. Enter root/Password of Linux operating system - The operating system of the managed component is VMware ESXi. Enter Username/Password of VMware ESXi Administrator
RAID system management	

Management	Select “Disable”
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select “Disable”
BMC (EXPRESSSCOPE Engine)	
Discovery	Select "Disable".
iLO	
Discovery	Select “Disable”.
BMC (Other)	
Discovery	Select “Disable”.
Intel(R) vPro(TM) Technology	
Discovery	Select “Disable”.

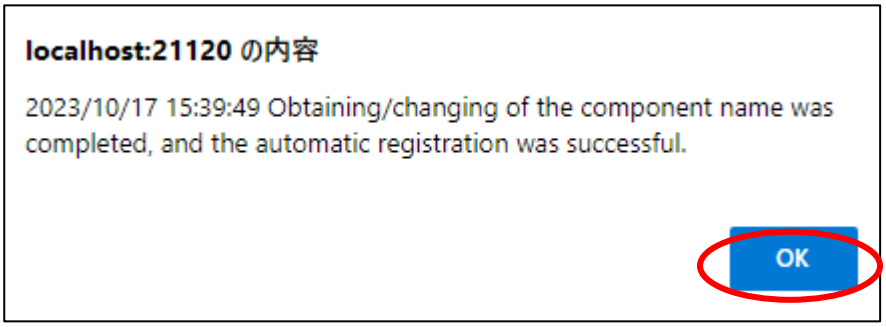
(4) Click "RUN DISCOVERY".



Click "RUN DISCOVERY" to discovery the managed components, and the “Auto Registration in Progress” screen will be displayed.

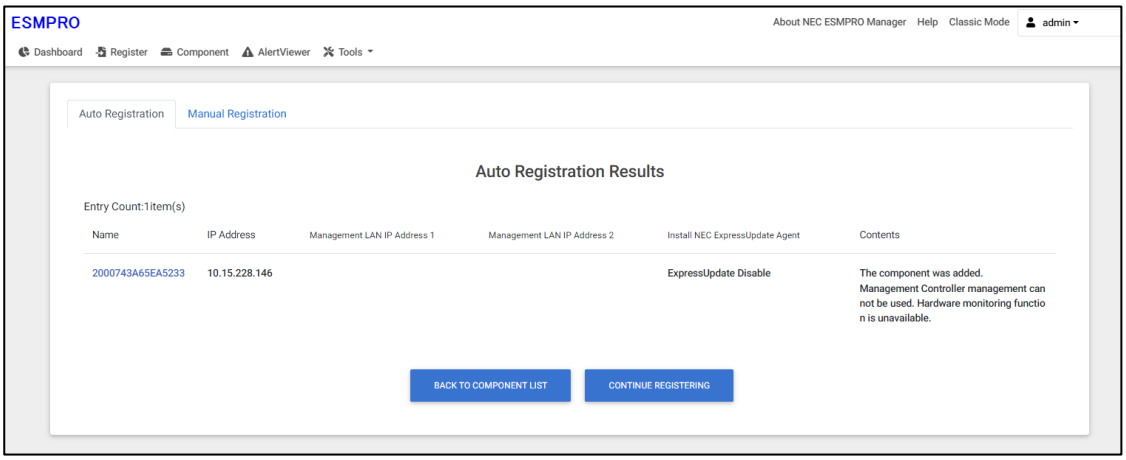


(5) If the "Auto Registration" is completed, following message will be displayed. Click “OK”.



(6) The components registered will be displayed on the “Auto Registration Results” screen.

Clicking the "Name" to open the Classic mode, where you can confirm the registered information.



Name	Description
Name	Component name
IP address	IP address
Management LAN IP Address 1	IP address of BMC（EXPRESSSCOPE Engine）/iLO/BMC（Other）/vPro)
Management LAN IP Address 2	It is not displayed.
Install NEC ExpressUpdate Agent	・ExpressUpdate is disable This function is not supported.
Contents	・The component has been added. This message is displayed when a component has been successfully registered.

TIPS:

- Refer to the " iStorageManager Manual Guide" (IS901) for the overview of iStorage and iSM client and the related manuals of iStorage and iSM client.

Chapter7 Setup for the NEC iStorage V Series

7.1 Setup Flow

Setup by the following setup procedure:

(1) Connect the NEC ESMPRO Manager server and the iStorage.

(2) Perform the necessary setup to register the iStorage V series.

Refer to the "iStorage(V series) ESMPRO integration module" and configure it to be monitored from the ESMPRO/ServerManager. ESMPRO integration is a function that enables monitoring of the iStorage V series from ESMPRO/ServerManager.

(3) Register the managed component on NEC ESMPRO Manager.

7.2 Register the Managed Component

To register the managed component on the NEC ESMPRO Manager, login to the NEC ESMPRO Manager and perform steps in the following order.
If necessary, see “1.3.2 Add component to Group” and add the group to which the managed component will belong.

7.2.1 Register iStorage on NEC ESMPRO Manager

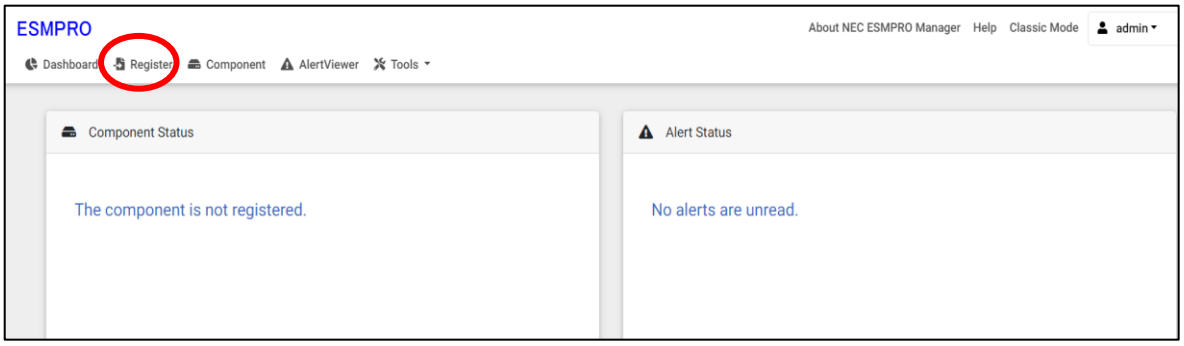
Use either of the two methods to register NEC Storage.

Manual Registration
This method requires the operator to directly enter the NEC Storage's information such as the "Floating IP Address" and to perform "Check Connection".

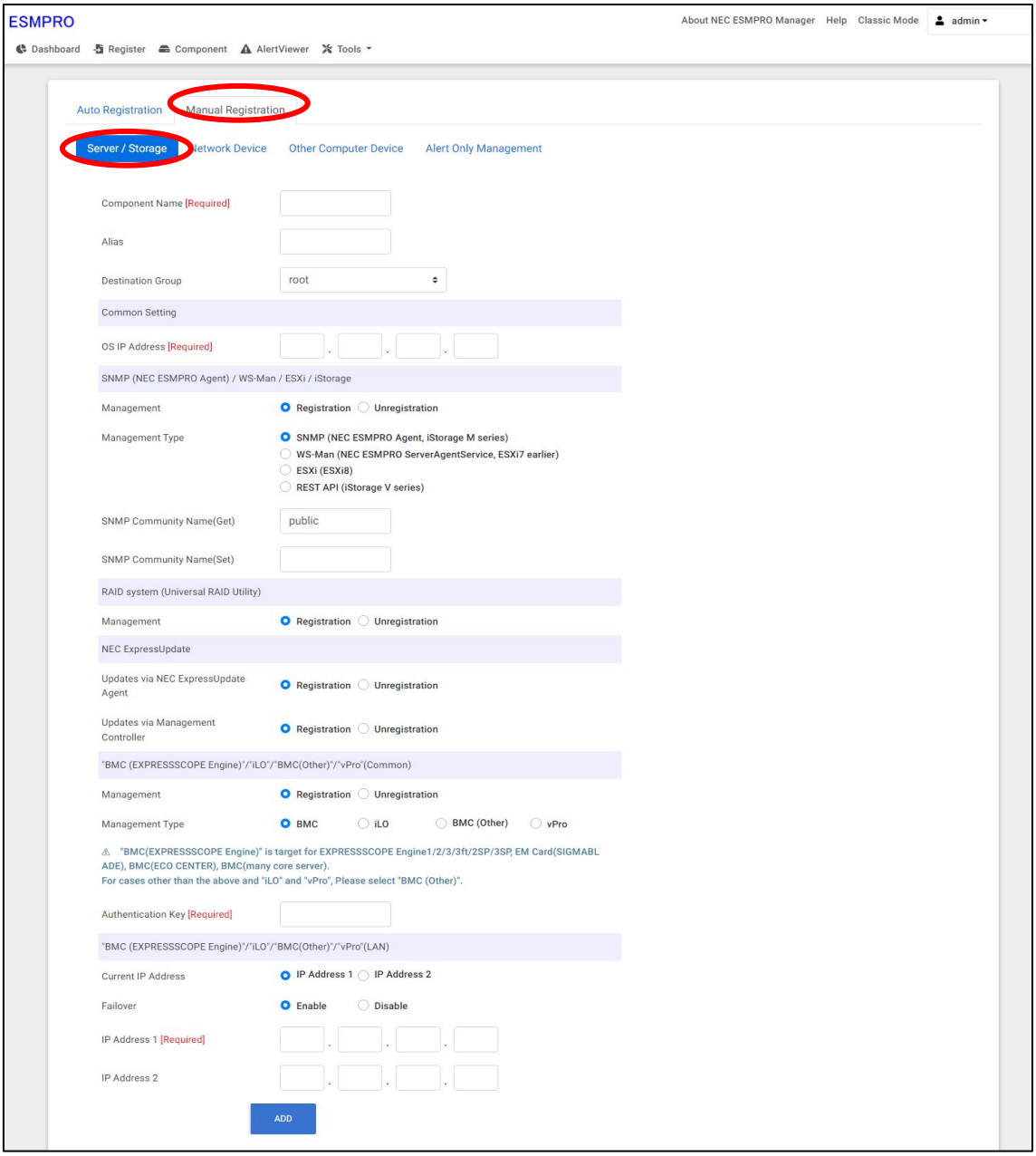
Auto Registration
This method automatically searches the network for managed components and NEC Storage, and registers them.

7.2.1.1 Manual Registration

(1) Click “Register”.



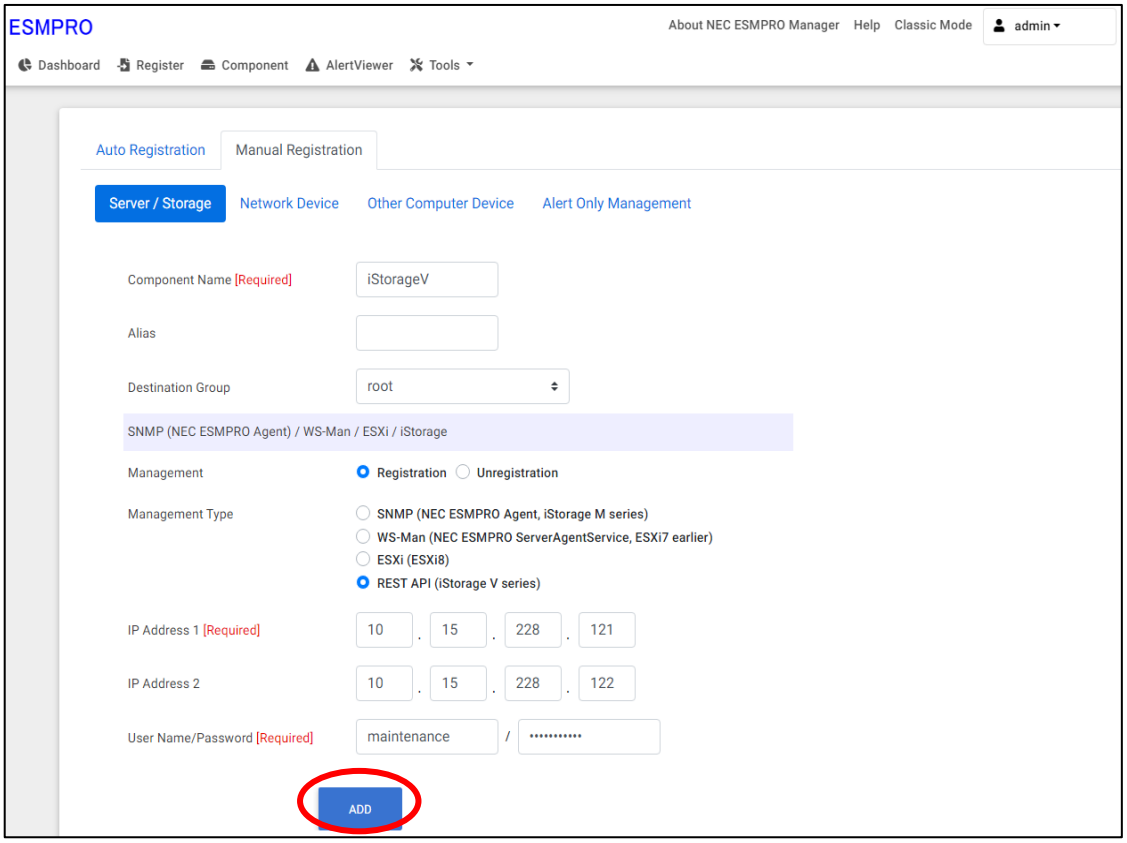
(2) Click the “Server / Storage” of “Manual Registration”.



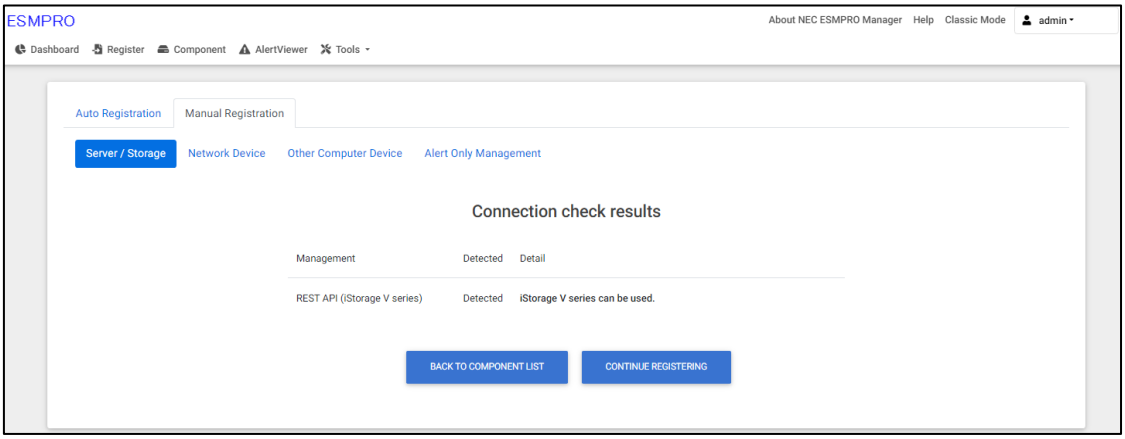
(3) Input the following items on the "Manual Registration"-"Full Management" view.

Name	Value
Component Name	Specify the NEC Storage name on the NEC ESMPRO Manager.Assign a name different from other managed component names. Do not enter a name including blank characters. Uppercase characters are distinguished from lowercase characters.
Alias	Specify the information about the NEC Storage. Do not enter a name including blank characters. Only blank spaces cannot be entered. Also, do not enter a name containing a blank character. The space character will be removed if the half space is contained before and after the string. Uppercase characters are distinguished from lowercase characters. Optional.
Destination Group	Specify the group to which the NEC Storage will belong. When you add the group to which the managed component will belong, see “1.3.2 Add component to Group” for the information.
SNMP (NEC ESMPRO Agent) / WS-Man / ESXi / iStorage	
Management	Select "Registration".
Management Type	Select “REST API (iStorage V series)”
IP Address 1	IP address of component CTL1
IP Address 2	IP address of component CTL2
User Name	Enter username and password for getting iStorage V series information by REST API.
Password	

(4) Click "ADD".
If there is an error in the input content, correct the input content following the message.



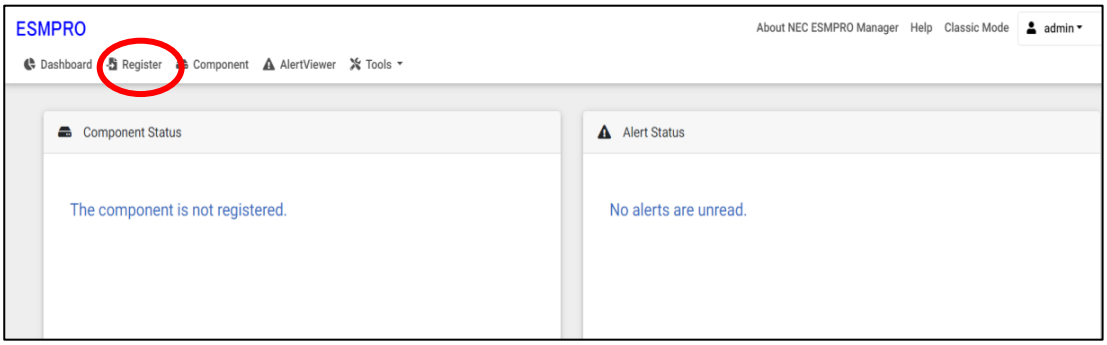
(5) If the "CHECK CONNECTION" is completed, “Connection check results” screen will be displayed.



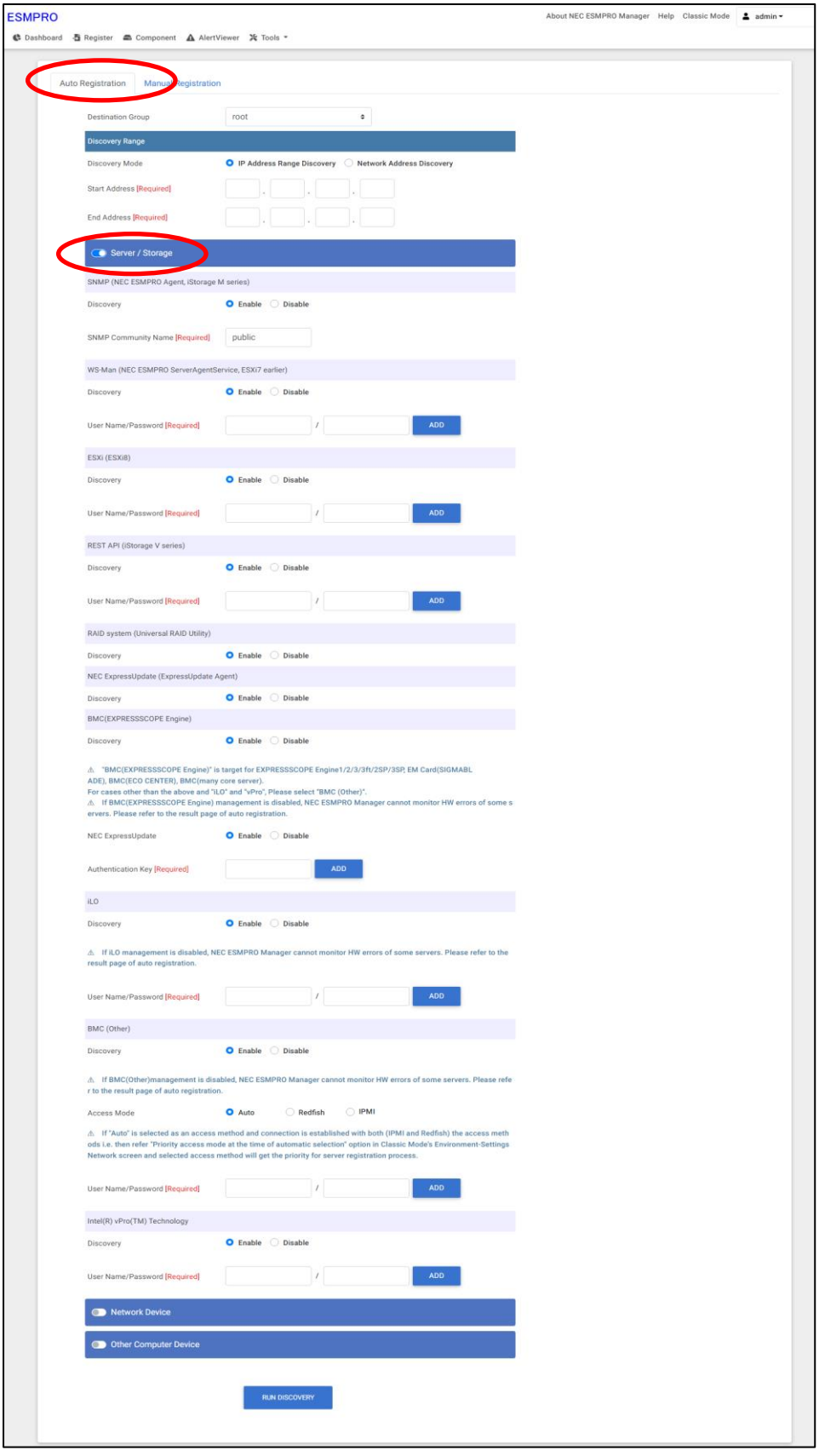
Detected	Detail
Detected	The feature was detected. NEC ESMPRO Manager can use the feature to manage the component.
Not Detected	The feature was not detected. NEC ESMPRO Manager cannot use the feature to manage the component. Clicking on " CONTINUE REGISTERING" to confirm the inputted items. Please check that there are no errors in the entered items.

7.2.1.2 Auto Registration

(1) Click "Register".



(2) Click the “Server / Storage” of "Auto Registration".



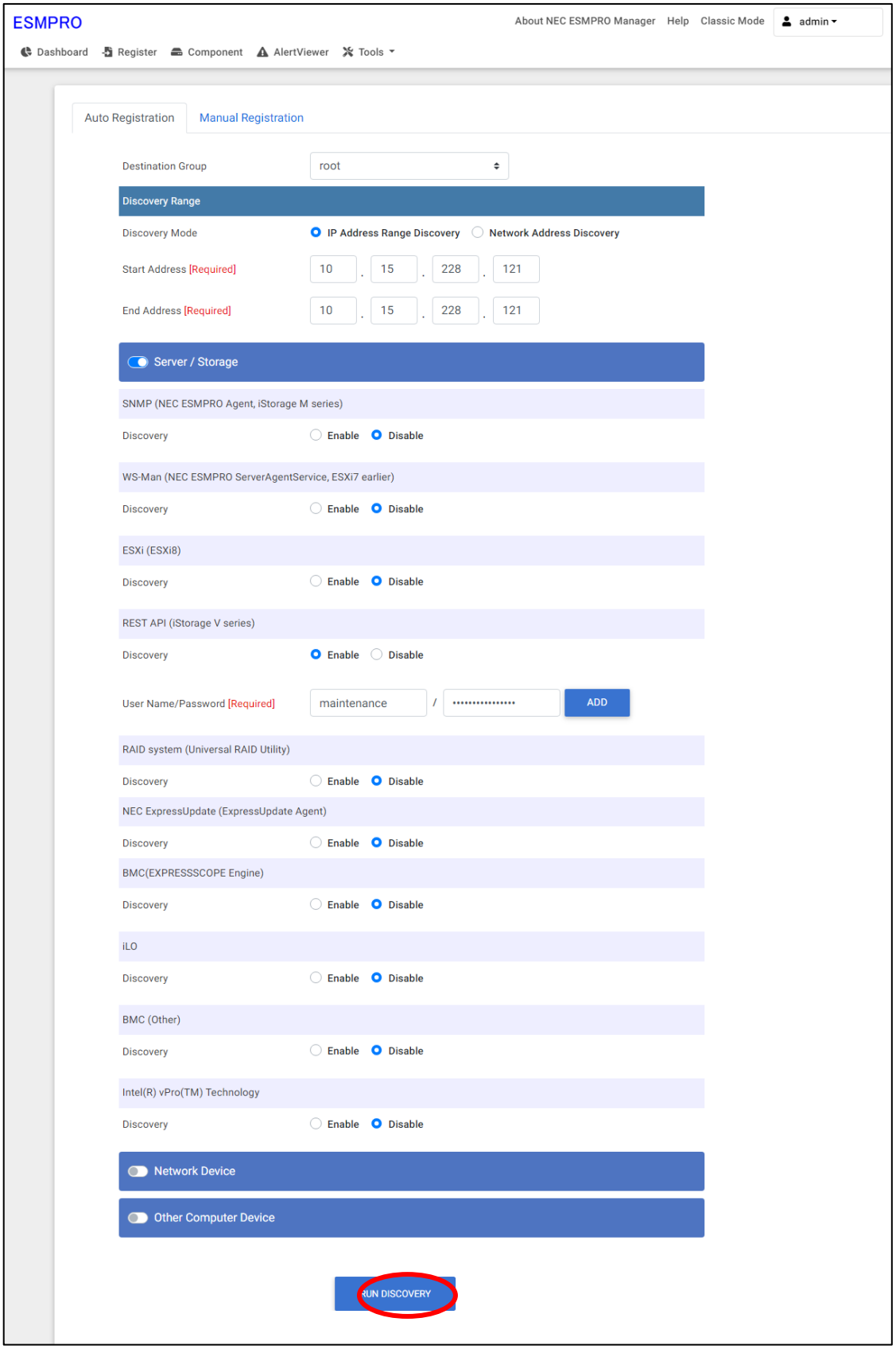
(3) Select "Search Mode" on the "Auto Registration" view and enter following information.

Name	Value
Destination Group	Specify the group to which the NEC Storage will belong. When you add the group to which the managed component will belong, see “1.3.2 Add component to Group” for the information.
Discovery Range	
Discovery Mode	With "IP Address Range Search" selected, the NEC ESMPRO Manager searches for the managed components using the IP address range. With "Network Address Search" selected, the NEC ESMPRO Manager searches for the managed components using the specified network address.
Start Address End Address	When you select "IP Address Range Search" for "Search Mode", specify the start IP address and end IP address of the range which includes the NEC Storage’s floating IP address.
Network Address Network Mask	When you select "Network Address Search" for "Search Mode", specify the network address and network which includes NES Storage’s floating IP address.
SNMP (NEC ESMPRO Agent, iStorage M series)	
Discovery	Select “Disable”
WS-Man(NEC ESMPRO ServerAgentService, ESXi7)	
Discovery	Select “Disable”
ESXi (ESXi8)	
Discovery	Select “Disable”
REST API(iStorage V series)	
Discovery	Select “Enable” to manage REST API(iStorage V series) of the component. *1
User Name/Password	Enter username and password for getting iStorage V series information by REST API. Click “Add” button and you can add a pair of username and password up to 5. *1
RAID system management	
Management	Select “Disable”
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select “Disable”
BMC (EXPRESSSCOPE Engine)	
Discovery	Select "Disable".
iLO	
Discovery	Select “Disable”.
BMC (Other)	
Discovery	Select “Disable”.
Intel(R) vPro(TM) Technology	
Discovery	Select “Disable”.

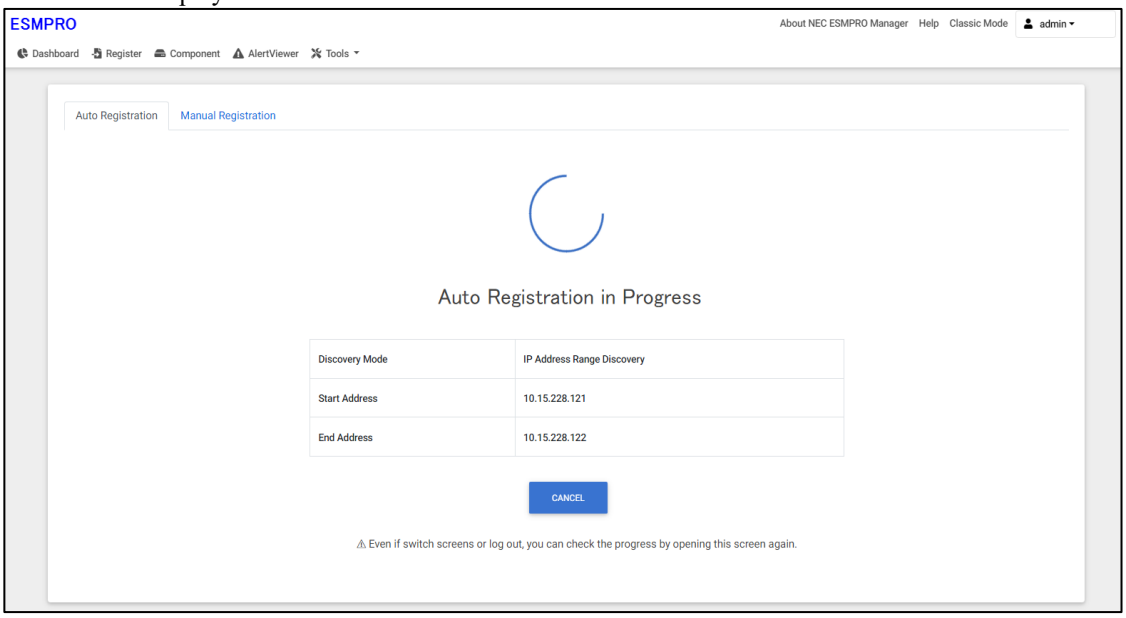
CHECK:

- *1 On "Settings" - "Environment" - "Auto Registration Setting List" screen, you can manage a list of username/password and authentication key. All entries in the list are used for auto registration every time.

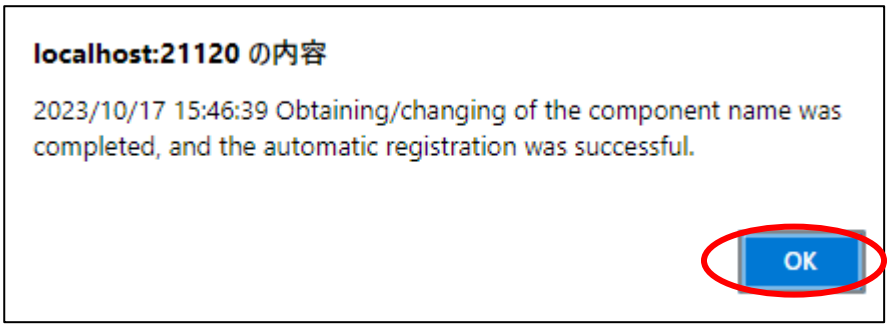
(4) Click "RUN DISCOVERY".



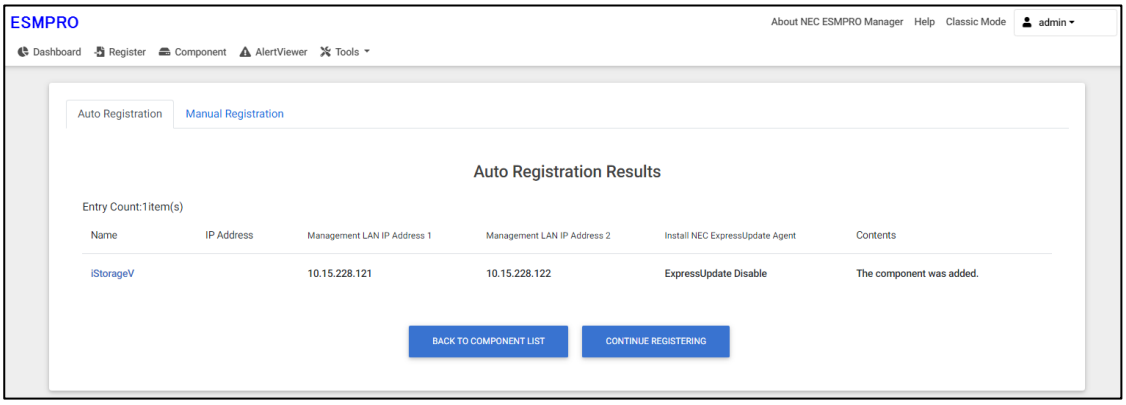
Click "RUN DISCOVERY" to discovery the managed components, and the “Auto Registration in Progress” screen will be displayed.



(5) If the "Auto Registration" is completed, following message will be displayed. Click “OK”.



(6) The components registered will be displayed on the “Auto Registration Results” screen.



Name	Description
Name	Component name
IP address	It is not displayed.
Management LAN IP Address 1	IP address of controller1(CTL1)
Management LAN IP Address 2	IP address of controller2(CTL1)
Install NEC ExpressUpdate Agent	・ExpressUpdate is disable This function is not supported.
Contents	・The component has been added. This message is displayed when a component has been successfully registered.

TIPS:

- When “Auto Register” ,the "Name" of "Component List" will be " iStorageV".
  The following components will be named " iStorageV + number".
  If you want to change the name, click the "Name" in the "Component List" to launch Classic mode, and then click "Setting" -> "Connection Setting" ->"Edit" to change component name.

7.2.1.3 Auto Registration Setting

Before executing auto registration, User Name/Password and Authentication Key can be registered up to 5. For more details, please refer to "1.3.3.3 Auto Registration Setting".

Chapter8 Setup for the Managed Component based on vPro

8.1 Setup Flow

Setup by the following setup procedures:

(1) Connect the management PC on which NEC ESMPRO Manager is installed and the managed component based on vPro on the same network.

(2) Configure iAMT on the managed component based on vPro.

(3) Register the managed component based on vPro on NEC ESMPRO Manager.

8.2 Configure iAMT on the Managed Component

Turn the managed component on.
Press <Ctrl+P> immediately after the component based on vPro displays the message prompting you to press the key.
Main menu of the iAMT configuration is displayed.
Please enter the password to configure the iAMT.

TIPS:

- The NEC ESMPRO Manager can manage the vPro including the iAMT firmware version 6.0 and later.
- The default user name and password are both "admin".
- The iAMT configuration method may depend on the iAMT firmware version.
  Refer to the website for detail configuration information and configure iAMT.
  The following is an example of the website.
  Please note that this URL is subject to change without notice.
  http://software.intel.com/en-us/articles/intel-active-management-technology-intel-amt-software-development-kit-sdk-start-here-guide/
  "Performing Manual Setup (from Release 6.0)" or "Manually Configuring an Intel AMT 7.0" of "AMT7.0 Start Here Guide"

8.3 Register the managed component on NEC ESMPRO Manager

To register the managed component on the NEC ESMPRO Manager, login to the NEC ESMPRO Manager and perform steps in the following order.
If necessary, see “1.3.2 Add component to Group” and add the group to which the managed component will belong.

8.3.1 Register the Managed Component

Use either of following two methods to register the managed component.

Manual Registration

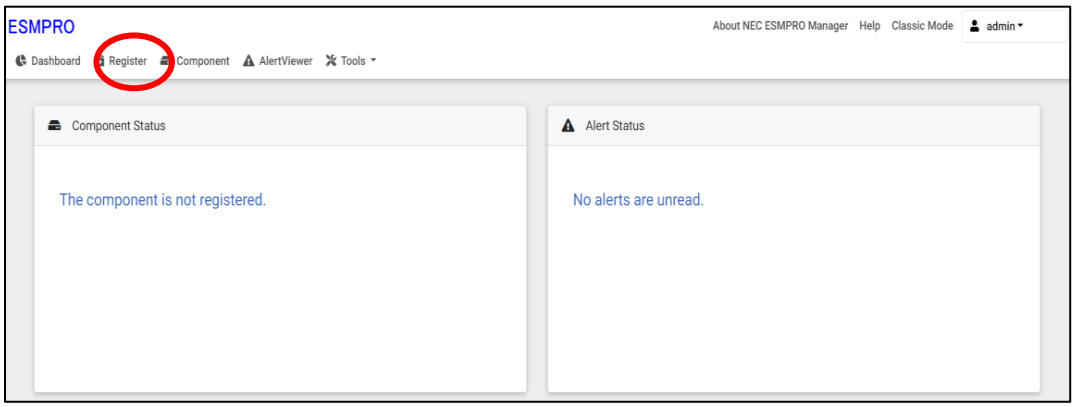
This method requires the operator to directly enter the managed component's information such as the IP address of the vPro and to perform "Check Connection".

Auto Registration

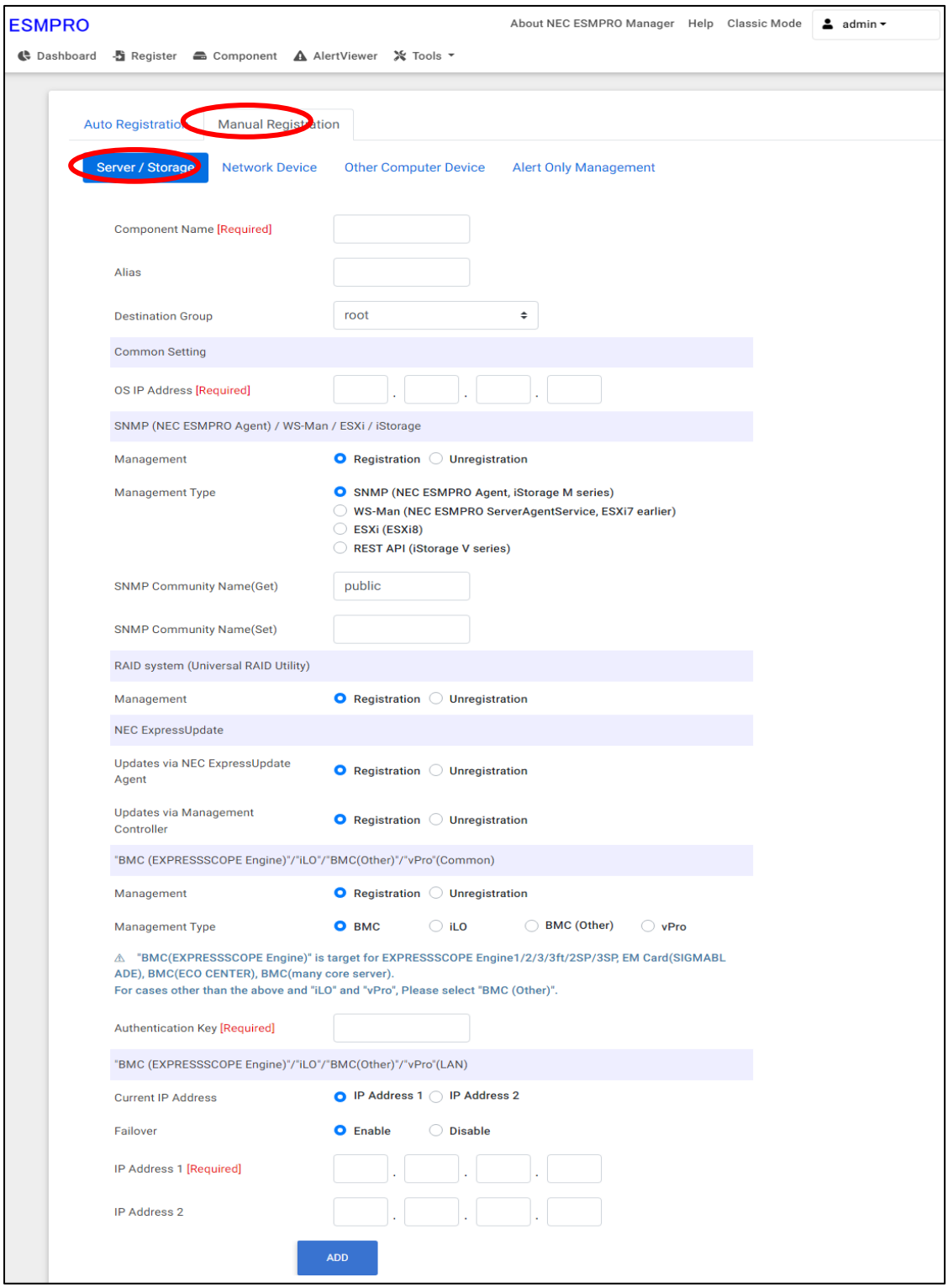
This method automatically searches the network for managed components that are not registered yet on the NEC ESMPRO Manager and registers them.

8.3.1.1 Manual Registration

(1) Click “Register”.



(2) Click the “Server / Storage” of “Manual Registration”.



(3) Input the following items.

Name	Value
Component Name	Specify the name of the managed component on NEC ESMPRO Manager. Assign a name different from other managed component names. Do not enter a name including blank characters. Uppercase characters are distinguished from lowercase characters.
Alias	Specify the information about the managed component. Do not enter a name including blank characters. Only blank characters cannot be entered. Also, please do not enter a name containing blank characters. The blank characters will be removed if there are half-width blank characters before or after the string. Uppercase characters are distinguished from lowercase characters. Optional.
Destination Group	Specify the group to which the managed component will belong. See "1.3.2 Add component to Group" for the information about creating group.
Common Setting	
OS IP Address	Specify the OS IP Address of the managed component.
SNMP (NEC ESMPRO Agent) / WS-Man / ESXi / iStorage	
Management	Select "Registration" to manage the system of the component.
Management Type	Select a management type of the managed component. - SNMP *1 NEC ESMPRO Agent or iStorage M series is installed on the managed component. - WS-Man *1, *2 NEC ESMPRO ServerAgentService or ESXi7 is installed on the managed component. The operating system of the managed component is VMware ESXi. - ESXi (ESXi8) - REST API(iStorage V series)
SNMP Community Name(Get)	SNMP Community Name which is specified at SNMP Agent running on the managed component. It is necessary to get the information, configure, monitor via SNMP
SNMP Community Name(Set)	When you want to set SNMP Community names for Get and Set separately on the managed component, specify the SNMP Community name for Set in this field by alphanumeric characters. If it is not specified, SNMP Community name for Get will be used.
User Name	Enter the password for communication with WS-Man service. - NEC ESMPRO ServerAgentService (Windows) is installed. Enter Username(Local User Accounts)/Password of Windows system Administrator - NEC ESMPRO ServerAgentService (Linux) is installed. Enter root/Password of Linux operating system
Password	
Communication Protocol	This is displayed only when WS-Man is selected as the management target. Select protocol HTTP/HTTPS for connection WS-Man service. *2 - NEC ESMPRO ServerAgentService (Windows) is installed. If you want to use HTTPS for WS-Man communication with ESMPRO/ServerAgentService, refer to Chapter 2, Installation 3.3 HTTPS Setting in the ESMPRO/ServerAgentService Installation Guide (Windows). - NEC ESMPRO ServerAgentService (Linux) is installed. Select HTTPS.
Port Number	Enter port number where WS-Man service listens for connection. *3

	- NEC ESMPRO ServerAgentService (Windows) is installed. If you want to use HTTP, enter 5985. If you want to use HTTPS, enter 5986. - NEC ESMPRO ServerAgentService (Linux) is installed. Enter 5986
RAID system(Universal RAID Utility)	
Management	Select "Registration" to manage the RAID system of the component.
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select "Registration" to manage the component using NEC ExpressUpdate.
Updates via Management Controller	Select "Registration" to manage the component using Management Controller
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (Common)	
Management	Select "Registration" otherwise NEC ESMPRO Manager may not monitor HW status.
Management Type	Select "vPro".
User Name	Enter the user name for communication with the vPro,
Password	Enter the password for communication with the vPro,
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (LAN)	
IP Address 1	Enter the IP address that is specified on LAN of the iAMT configuration for the managed component.

CHECK:

- *1 If NEC ESMPRO Manager is installed on Linux system, “SNMP” and VMware ESXi server management are not supported.

CHECK:

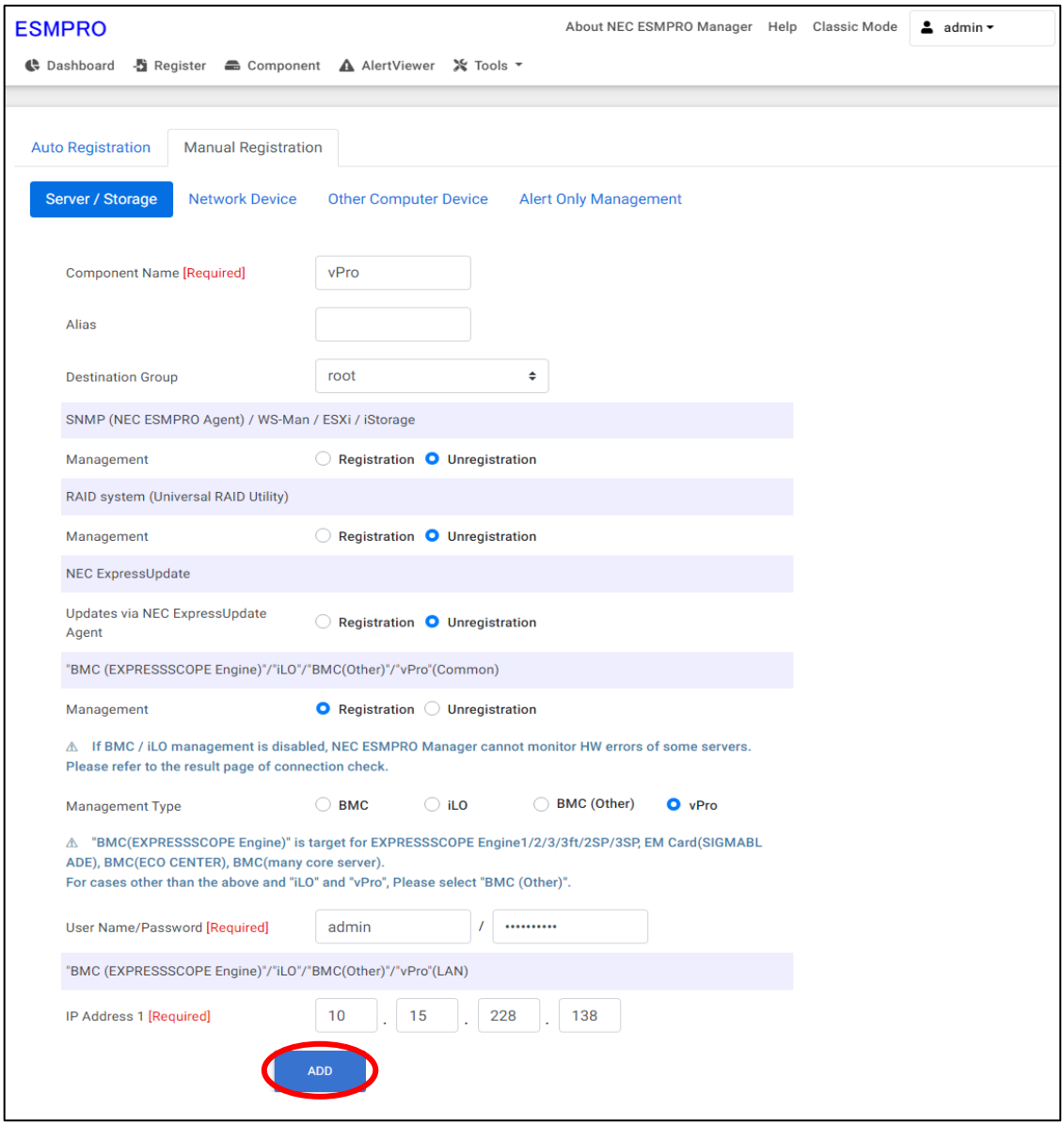
- *2 If a self-signed certificate is installed on the managed server for HTTPS communication, a setting to allow it is required. Refer to “1.1 Setup Flow” for detailed information.

CHECK:

- *3 Regarding a port number for WS-Man communication, refer to “Appendix C. Port number for WS-Man communication”.

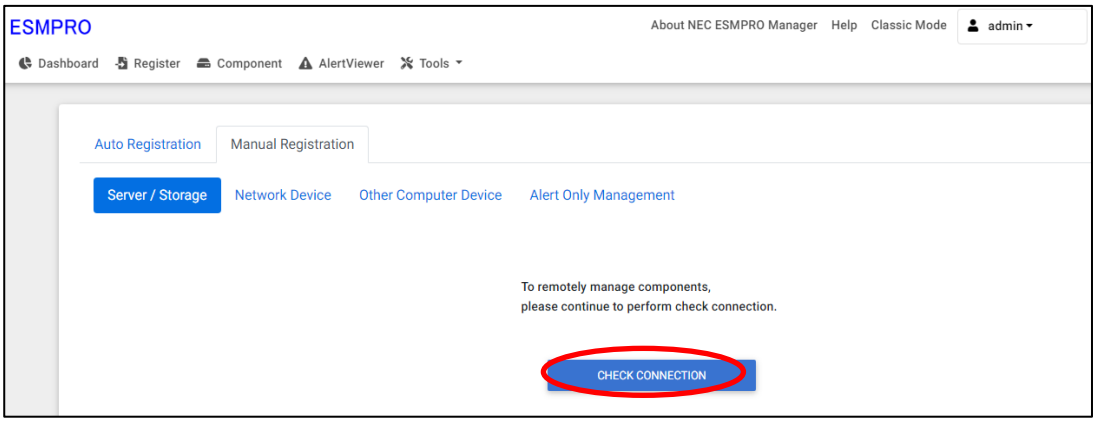
(4) Click "ADD".

If there is an error in the input content, correct the input content following the message.

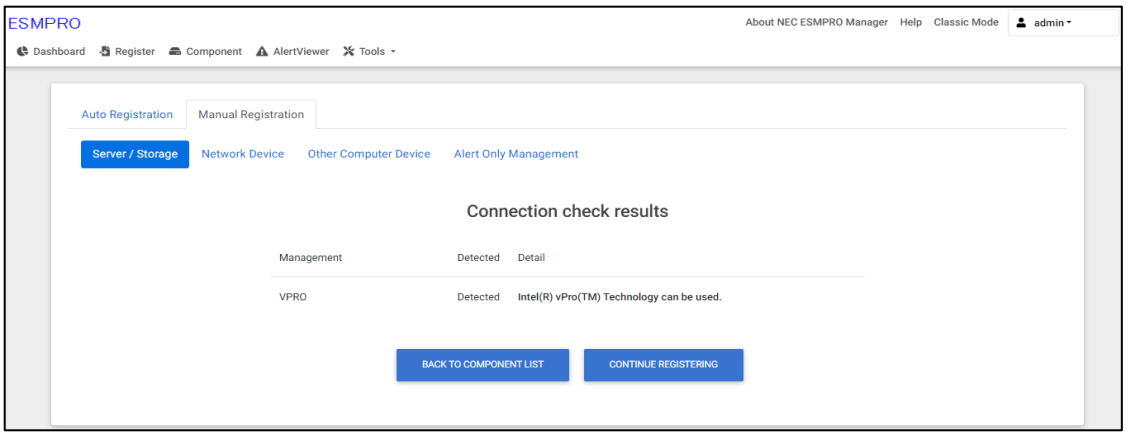


(5) “CHECK CONNECTION” screen is displayed.

Click “CHECK CONNECTION” to start it.



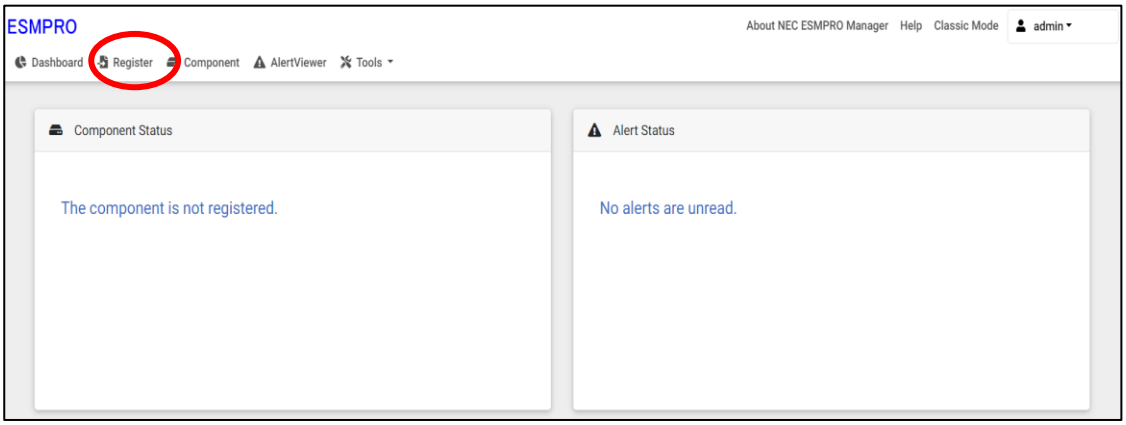
(6) If the "CHECK CONNECTION" is completed, “Connection check results” screen will be displayed.



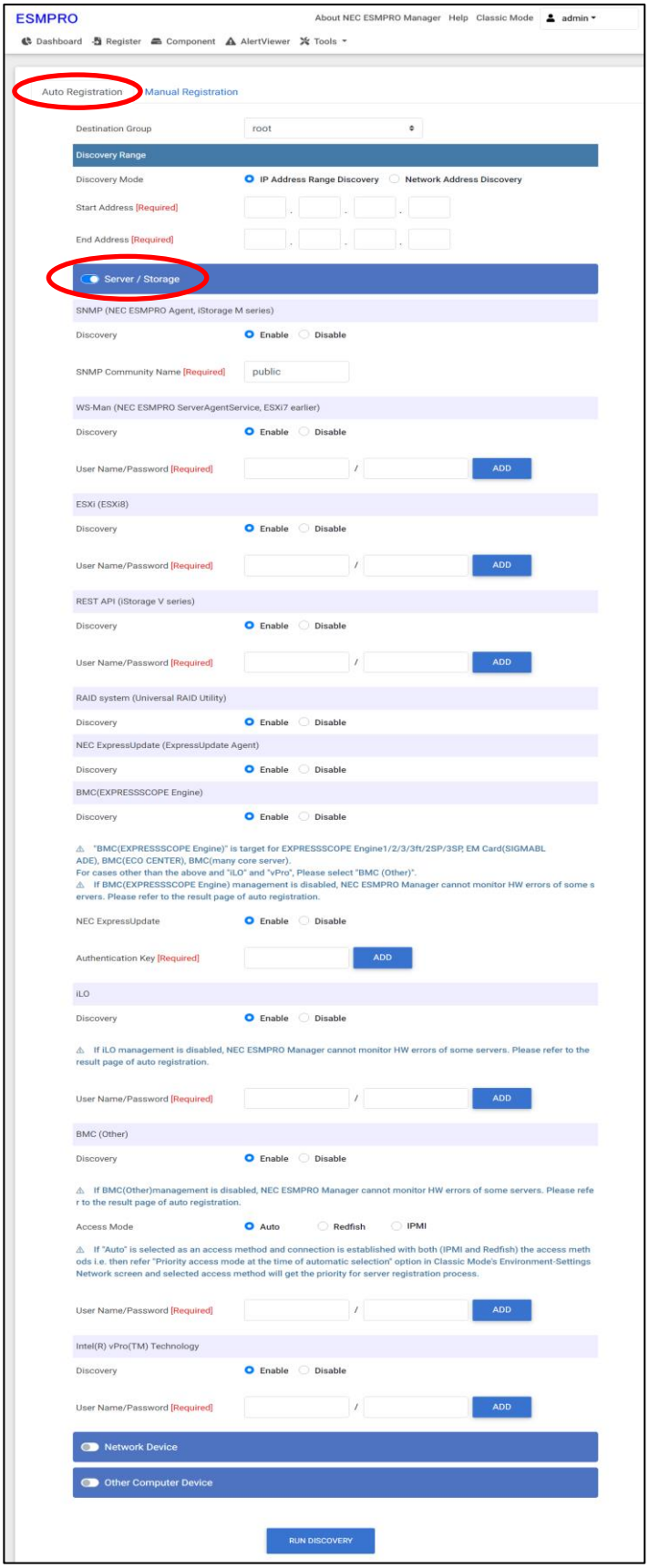
Detected	Detail
Detected	The feature was detected. NEC ESMPRO Manager can use the feature to manage the component.
Not Detected	The feature was not detected. NEC ESMPRO Manager cannot use the feature to manage the component. Check parameters corresponding to the feature. Click the "Name" of the component that could not be registered in the "Component List". The connection settings screen in Classic mode will be displayed. Please check that there are no errors in the entered items. For more details, please refer to the online help for NEC ESMPRO Manager.

8.3.1.2 Auto Registration

(1) Click "Register".



(2) Click the “Server / Storage” of "Auto Registration".



(3) Input the following items to search managed components based on vPro.

Name	Value
Destination Group	Specify the group to which the managed component will belong. See "1.3.2 Add component to Group" for the information about creating group.
Discovery Range	
Discovery Mode	With "IP Address Range Search" selected, the NEC ESMPRO Manager searches for the managed components using the IP address range. With "Network Address Search" selected, the NEC ESMPRO Manager searches for the managed components using the specified network address.
Start Address End Address	When you select "IP Address Range Search" for "Search Mode", specify the start IP address and end IP address of the range in which managed components are to be searched for.
Network Address Network Mask	When you select "Network Address Search" for "Search Mode", specify the network address and network mask of the managed component to be searched for.
SNMP (NEC ESMPRO Agent, iStorage M series)	
Discovery	Select “Enable” to manage the system of the component.*1
SNMP Community Name	SNMP Community Name which is specified at SNMP Agent running on the managed component. It is necessary to get the information, configure, monitor via SNMP
WS-Man(NEC ESMPRO ServerAgentService, ESXi7)	
Discovery	Select “Enable” to manage the system of the component. *1,*2, *4
User Name/Password	Enter username and password for WS-Man communication. The account must be a system administrator of the managed operating system. Click “Add” button and you can add a pair of username and password up to 5. *3 - NEC ESMPRO ServerAgentService (Windows) is installed. Enter Username(Local User Accounts)/Password of Windows system Administrator - NEC ESMPRO ServerAgentService (Linux) is installed. Enter root/Password of Linux operating system
ESXi (ESXi8)	
Discovery	Select "Disable"
REST API(iStorage V series)	
Discovery	Select "Disable"
RAID system management	
Management	Select "Enable" to manage the RAID system of the component.
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select "Enable" to manage the component using NEC ExpressUpdate.
BMC (EXPRESSSCOPE Engine)	
Discovery	Select "Disable"
iLO	
Discovery	Select “Disable”
BMC (Other)	
Discovery	Select “Disable”
Intel(R) vPro(TM) Technology	
Discovery	Select “Enable”
User Name/Password	Enter username and password for communication with the vPro, Clicking “Add” button, you can enter up to 5 pairs of username and password. *3

CHECK:

- *1 If NEC ESMPRO Manager is installed on Linux system, “SNMP” and VMware ESXi management are not supported.

CHECK:

- *2 If a self-signed certificate is installed on the managed server for HTTPS communication, a setting to allow it is required. Refer to “1.1 Setup Flow” for detailed information.

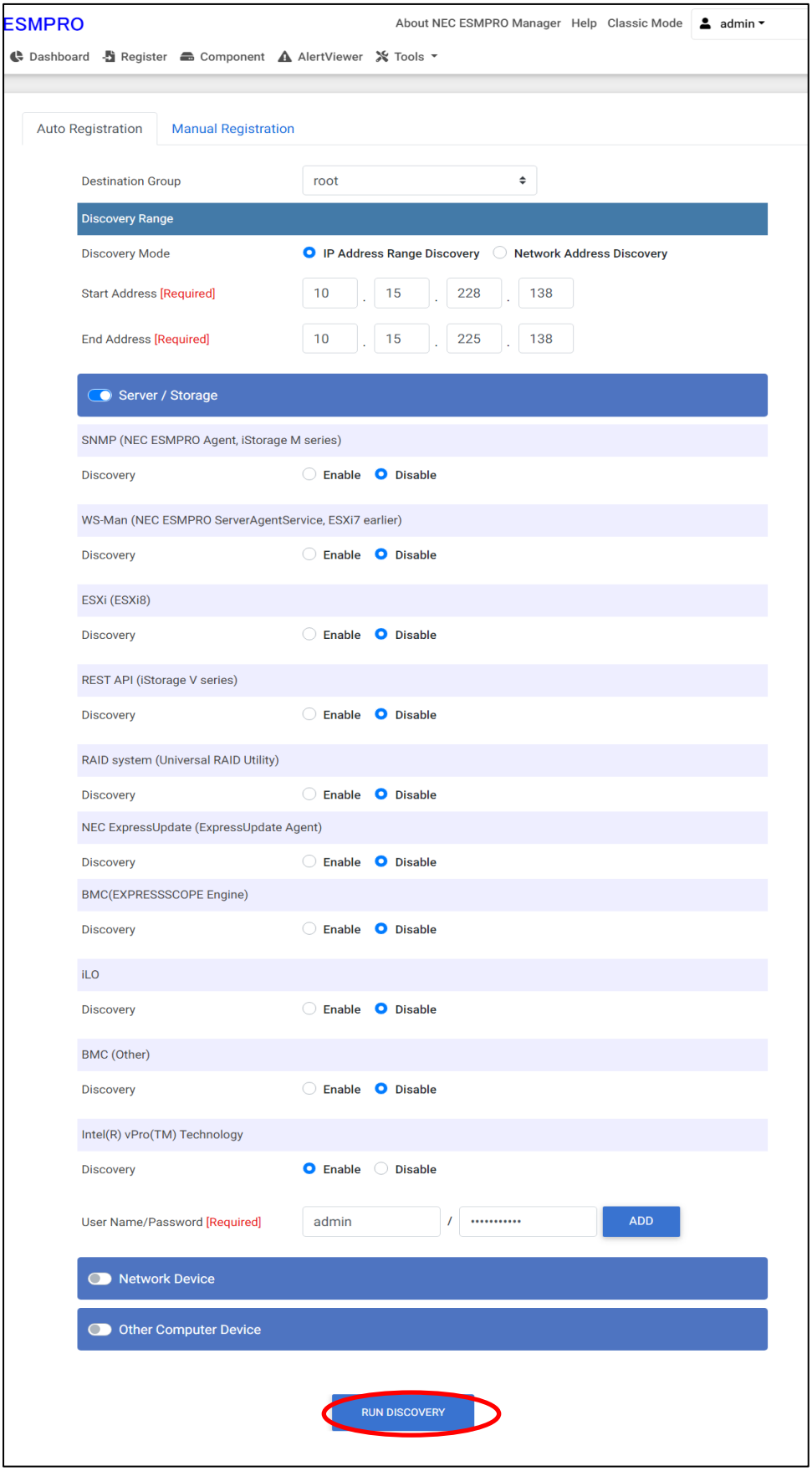
CHECK:

- *3 On "Settings" - “Environment” - “Auto Registration Setting List” screen, you can manage a list of username/password and authentication key. All entries in the list are used for auto registration every time.

CHECK:

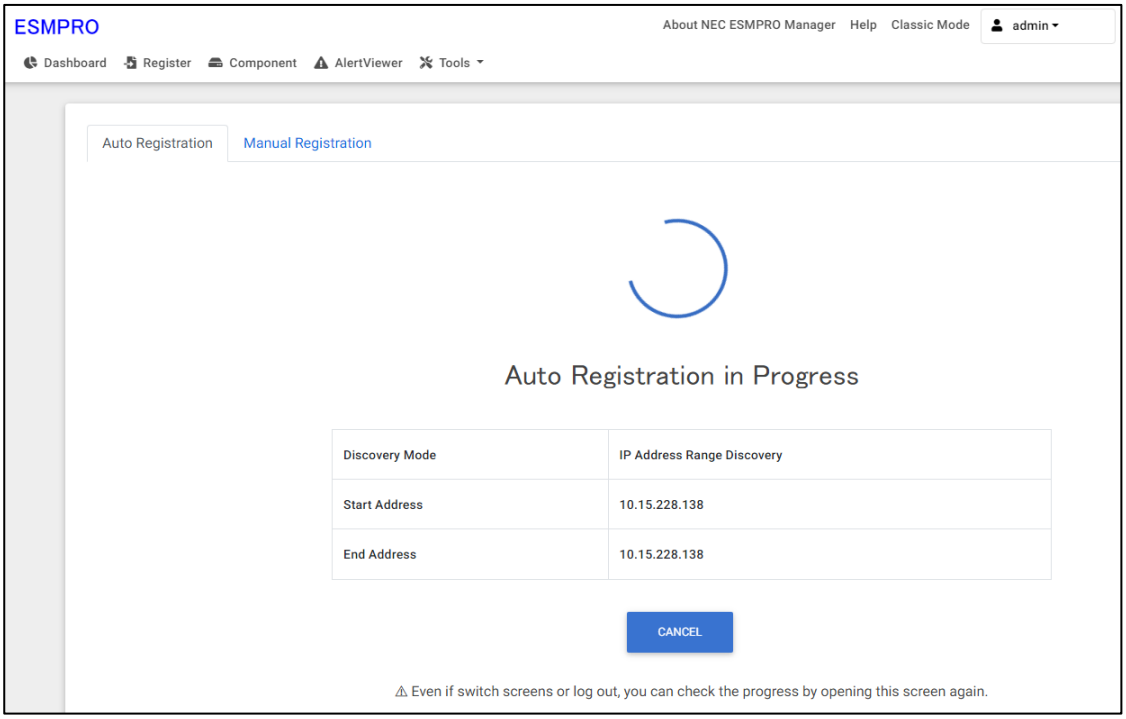
- *4 If you want to use HTTPS for WS-MAN communication with ESMPRO/ServerAgentService, refer to Chapter 2, Installation 3.3 HTTPS Setting in the ESMPRO/ServerAgentService Installation Guide (Windows).

(4) Click "RUN DISCOVERY".

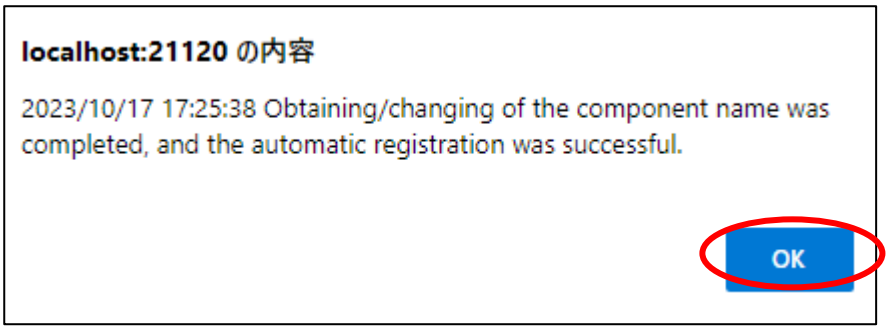


CHECK:
When you click the "RUN DISCOVERY", you may see a message "The search cannot be started.". If you have enabled "WS-Man Discovery", please check whether a "Self Signed Certificate" is allowed in section "1.3.1 Environment setting".

When you click the "RUN DISCOVERY", the discovery for components will begin and the "Auto Registration in Progress" screen will be displayed.

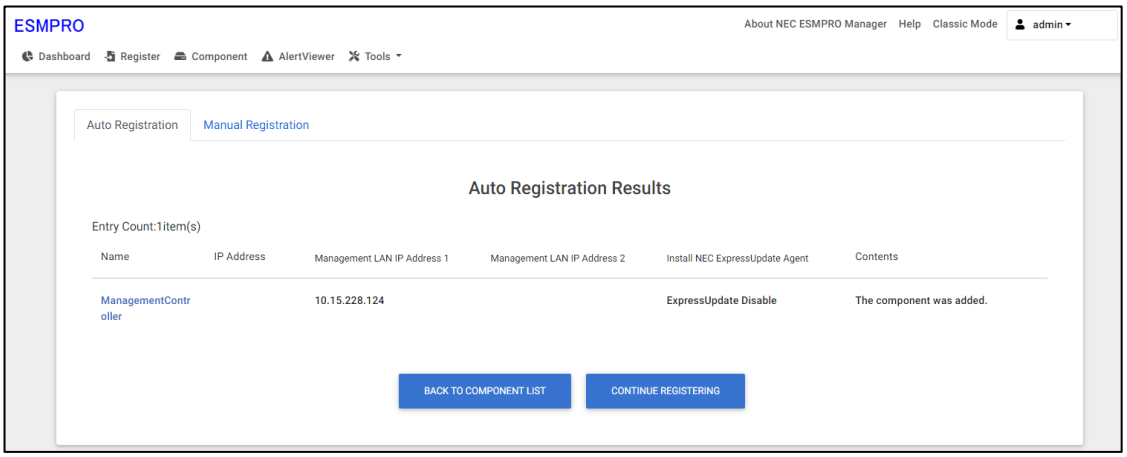


(5) If the "Auto Registration" is completed, following message will be displayed. Click “OK”.



(6) The components registered will be displayed on “Auto Registration Results”.

Clicking the “name” will open the Classic mode, where you can confirm the registered information.



Name	Description
Name	Component name
IP address	IP address
Management LAN IP Address 1	IP address of BMC（EXPRESSSCOPE Engine）/iLO/BMC（Other）/vPro)
Management LAN IP Address 2	It is not displayed.
Install NEC ExpressUpdate Agent	・ExpressUpdate is enable When "NEC ExpressUpdate(ExpressUpdate Agent)" is enabled, and a component that can be installed with ExpressUpdate Agent is discovered. ・ExpressUpdate is disable - "NEC ExpressUpdate(ExpressUpdate Agent)" is disable - "NEC ExpressUpdate(ExpressUpdate Agent)" is enabled, but there is not component that can be installed with ExpressUpdate Agent.
Contents	・A component has been added. This message will be displayed if the component is successfully registered. ・Management Controller management cannot be used. Hardware monitoring function is unavailable. This message will be displayed when BMC (EXPRESSSCOPE engine)/iLO/BMC (other)/vPro cannot be discovered for a component registered by an OS IP address. If you want to register the Management Controller management function, click the "Name". The connection settings screen in Classic mode will be displayed, so you can perform the registration here.

TIPS:

・ If the system management cannot discover the managed component name, the "Name" of "Component List" will be "ManagementController".
The following components will be named "ManagementController + number".
If you want to change the name, click the "Name" in the "Component List" to launch Classic mode, and then click "Setting" -> "Connection Setting" ->"Edit" to change component name.

8.3.1.3 Auto Registration Setting

Before executing auto registration, User Name/Password and Authentication Key can be registered up to 5. For more details, please refer to "1.3.3.3 Auto Registration Setting".

Chapter9 Setup for NEC Scalable Modular Server DX2000

9.1 Overview

The NEC ESMPRO Manager can manage following modules of NEC Scalable Modular Server DX2000:

Server Module

NEC ESMPRO Manager manages each server module on the enclosure as same as the server which has integrates EXPRESSSCOPE Engine 3.

CSC Module

NEC ESMPRO Manager collects the following information of the enclosure by managing the CSC module.

-- STATUS lamp:
You can monitor the status of the whole enclosure.

-- Constitution information:
You can monitor each sensor status (fan, voltage, temperature, etc.) in the enclosure.

-- Power measurement:
You can measure the power consumption of the whole enclosure.

Network Switch Module

NEC ESMPRO Manager collects the following information of the Network Switch by managing the Network Switch module.

-- Constitution information:
You can monitor each sensor status (voltage, temperature.) in the Network Switch.

-- Power measurement:
You can measure the power consumption of the Network Switch.

CHECK:

- When registering CSC Module, Network Switch Module is registered automatically. Network Switch Module can not be registered individually.
- Network Switch Module and CSC Module are deleted together as related component. When Network Switch Module is registered, it is not possible to delete Network Switch Module and CSC Module separately.

9.2 Setup Flow

Setup by the following setup procedures:

(1) Connect the management PC on which NEC ESMPRO Manager is installed and the managed component on the same network.

(2) Configure BMC on the managed component to enable ESMPRO Management.

(3) Register the managed component on NEC ESMPRO Manager.

CHECK:

- Refer to “Chapter1 Setup for Managed Component in which EXPRESSSCOPE Engine 3 is integrated”.
- You can configure CSC module only with EXPRESSSCOPE Engine 3 Web Console. Refer “1.2.1Configuration with EXPRESSSCOPE Engine 3 WebConsole” and the user’s guide for the NEC Scalable Modular Server DX2000.

Chapter10 Setup for the VMware ESXi server

10.1 Setup Flow

Setup by the following setup procedures:

(1) Connect the management PC on which NEC ESMPRO Manager is installed and the VMware ESXi server as a managed component on the same network.

IMPORTANT:

- Regarding making the WBEM service effective.
  On a new install of VMware ESXi, WBEM services may be disabled by default. You can check the status of the WBEM service with the following command:
  # esxcli system wbem get
  Enable: false Disabled Enable: true Enabled
  So you will need to use the following command to enable WBEM services.
  # esxcli system wbem set --enable true
  (*)If you installed SMI-S provider, WBEM services are enabled. So you don't need to use this command.
  (*)This command is not required on FT server. Regarding the settings for WBEM(WS-MAN) service on FT server, refer to “7. NEC ESMPRO” of Chapter 3 in Maintenance Guide (VMware) for FT server.

- Set-up for sfcbd service restart
  sfcbd service starts in the state to which CIM Indication can't be transmitted.
  We confirmed that this issue is improved by restarting sfcbd service.
  To manage the RAID System by NEC ESMPRO Manager, please insert the following line just before the line ”exit 0”in the /etc/rc.local.d/local.sh.
  /etc/init.d/sfcbd-watchdog restart
  Sfcbd service will restarts automatically.

- Notes on Service Location Protocol Service Disabled Service
  For the release of VMware ESXi 7.0 Update 2c or later, the SLP service is disabled by default.
  If the SLP service is disabled, new VMware ESXi server cannot be monitored and connected.
  If NEC ESMPRO Manager registers VMware ESXi server and performs connection checks as a monitored server, the SLP service must be running and firewall settings.
  To perform monitoring registration and connection checking of new VMware ESXi server, follow these steps:
  1. Start SLP service on an ESXi host.
  Configure firewalls and enable SLP services and start SLP services.
  Perform the Solution "To remove the perform the perform the following steps:" of the following knowledge information.
  How to Disable/Enable the SLP Service on VMware ESXi.
  https://kb.vmware.com/s/article/76372
  2. Register a new ESXi server as a monitored server with NEC ESMPRO Manager and perform connection checks.

(2) Configure the management controller on VMware ESXi server if you want to manage the management controller.

(3) Register VMware ESXi server as a managed component on NEC ESMPRO Manager.

10.2 Configure the management controller on the Managed Component

Configure the management controller on the VMware ESXi server if you want to manage the management controller.

In case that VMware ESXi server in which EXPRESSSCOPE ENGINE3 is integrated:
See 1.2Configure BMC on Managed Component.

In case that VMware ESXi server in which a BMC excluding EXPRESSSCOPE ENGINE3 is integrated:
See 2.2Configure BMC on Managed Component (for LAN connection).

TIPS:

- To check the BMC type of the managed component, see Appendix D. Managed Components Summary

In case that VMware ESXi server in which iLO is integrated:
See 3.2 Configure iLO on Managed Component.

10.3 Register the managed component on NEC ESMPRO Manager

To register the managed component on the NEC ESMPRO Manager, login to the NEC ESMPRO Manager and perform in the following order:
If necessary, see “1.3.2 Add component to Group” and add the group to which the managed component will belong.

10.3.1 Set the Environment

When using VMware ESXi in the following environment, set the “Self Signed Certificate” to “ Allowed” on “Network” tab of “Environment”.

Please refer to "1.3.1 Environment setting" for the detail.

10.3.2 Register the Managed Component

Use either of following two methods to register the managed component.

Manual Registration

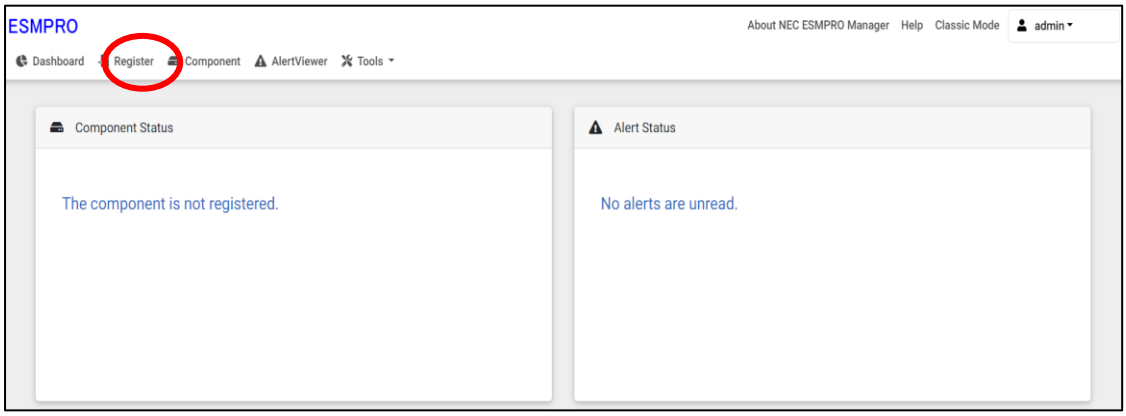
This method requires the operator to directly enter the VMware ESXi server’s information such as the IP address.

Auto Registration

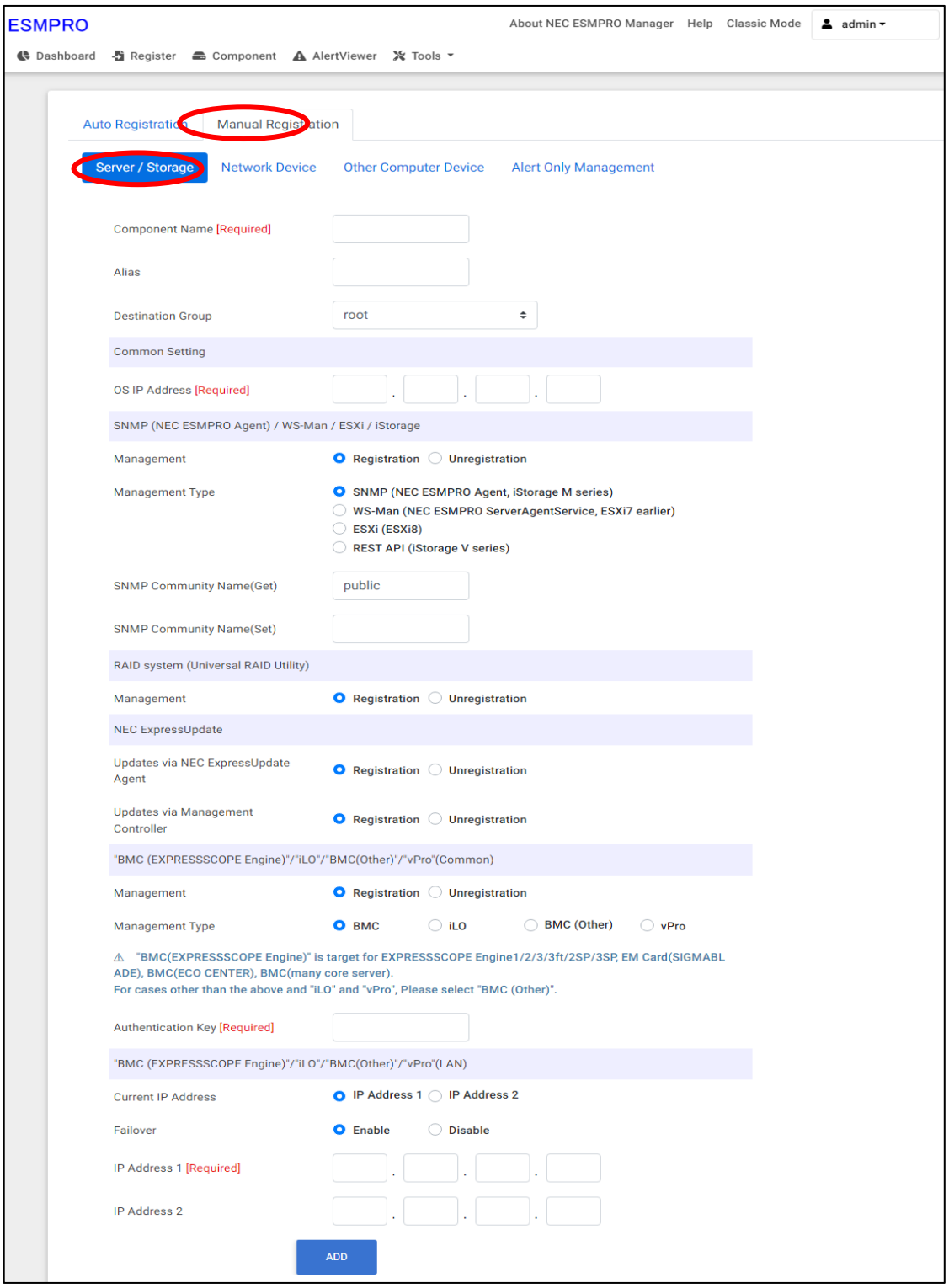
This method automatically searches the network for VMware ESXi servers and managed components that are not registered yet on the NEC ESMPRO Manager and registers them.

10.3.2.1 Manual Registration

(1) Click “Register”.



(2) Click the “Server / Storage” of “Manual Registration” tab.



(3) Input the following items.

Name	Value
Component Name	Specify the name of the managed component on NEC ESMPRO Manager. Assign a name different from other managed component names. Do not enter a name including blank characters. Uppercase characters are distinguished from lowercase characters.
Alias	Specify the information about the managed component. Do not enter a name including blank characters. Only blank characters cannot be entered. Also, please do not enter a name containing blank characters. The blank characters will be removed if there are half-width blank characters before or after the string. Uppercase characters are distinguished from lowercase characters. Optional.
Destination Group	Specify the group to which the managed component will belong. See "1.3.2 Add component to Group" for the information about creating group.
Common Setting	
OS IP Address	Specify the OS IP Address of the managed component.
SNMP (NEC ESMPRO Agent) / WS-Man / ESXi / iStorage	
Management	Select "Registration" to manage the system of the component.
Management Type	Select WS-Man *1.
User Name/Password	Enter an administrative user's account of VMware ESXi server.
Communication Protocol	This is displayed only when WS-Man is selected as the management target. Select protocol HTTP/HTTPS for connection WS-Man service. *1 - NEC ESMPRO ServerAgentService (Windows) is installed. If you want to use HTTPS for WS-Man communication with ESMPRO/ServerAgentService, refer to Chapter 2, Installation 3.3 HTTPS Setting in the ESMPRO/ServerAgentService Installation Guide (Windows). - NEC ESMPRO ServerAgentService (Linux) is installed. Select HTTPS. - The operating system of the managed component is VMware ESXi7. Select HTTPS.
Port Number	Enter port number where WS-Man service listens for connection. *2 - NEC ESMPRO ServerAgentService (Windows) is installed. If you want to use HTTP, enter 5985. If you want to use HTTPS, enter 5986. - NEC ESMPRO ServerAgentService (Linux) is installed. Enter 5986. - The operating system of the managed component is VMware ESXi7. Enter 443.
RAID system management	
Management	Select "Registration" to manage the RAID system of the component. If the operating system of the managed component is VMware ESXi,

	WS-Man management must be enabled in addition to this setting.
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select "Registration" to manage the component using NEC ExpressUpdate.
Updates via Management Controller	Select "Registration" to manage the component using Management Controller
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (Common)	
Management	Select "Registration" otherwise NEC ESMPRO Manager may not monitor HW status.
Management Type	In the case of VMware ESXi server integrated BMC: Select "BMC". In the case of VMware ESXi server integrated iLO: Select "iLO". In the case of VMware ESXi server integrated BMC other than "BMC (EXPRESSSCOPE Engine)": Select "BMC (Other)".
Authentication Key	If select “BMC (EXPRESSSCOPE Engine)” in “Management Type”, this item will be displayed. Enter the "authentication key" that you set in “1.2 Configure BMC on Managed Component”.
User Name Password	If select “iLO” or “BMC (Other)” in “Management Type”, this item will be displayed. If select “iLO” in “Management Type”, enter the user name and password for communication with the iLO, *3 If select “BMC (Other)” in “Management Type”, enter the user name and password for communication with the BMC (Other). *4
Access Mode	Select "Access Mode" used by communication with BMC(Other). *5 ・Auto If "Auto" is selected as an access method and connection is established with both (IPMI and Redfish) the access methods i.e. then refer "Priority access mode at the time of automatic selection" option in Classic Mode's Environment-Settings Network screen and selected access method will get the priority for server registration process. ・Redfish Specify Redfish as the "Access Mode" for BMC (other). ・IPMI Specify IPMI as the "Access Mode" for BMC (other).
Port Number	Specify the Connection Port Number used by Redfish. If you select "Auto" or "Redfish" as the access method, port number settings are Mandatory..
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (LAN)	
Current IP Address	If you set both “IP Address1” and “IP Address2”, specify which IP address you want to use for connection.
Failover	This setting is valid only when both “IP Address1” and “IP Address2” are set. Determine whether to enable/disable the “Failover” feature.
IP Address 1	Enter the IP address that is specified on LAN1 of the BMC configuration for the managed component. If the managed component is a fault tolerant server, you should enter the IP address of the management LAN port for the CPU/IO module 0 to the form. If the managed component is a server which has EXPRESSSCOPE

	Engine SP3(2BMC model), you should enter the IP address of the management LAN port for the Master BMC to the form.
IP Address 2	No input is required.

CHECK:

- *1 If a self-signed certificate is installed on the managed server for HTTPS communication, a setting to allow it is required. Refer to “1.1 Setup Flow” for detailed information.

CHECK:

- *2 Regarding a port number for WS-Man communication, refer to “Appendix C. Port number for WS-Man communication”.

CHECK:

- *3 Set a user name and a password of following user account. Please refer to "iLO5 user’s guide" or "iLO6 user’s guide" for details about a user account of iLO.
  -- Administrator of the default user
  -- Additional user with all user privileges.

  If a user account of other than the above is used, there is a possibility that you can't use some function for managing iLO.

CHECK:

- *4 Set a user name and a password of following user account. Please refer to "BMC/CMC Management Console User's Guide" for details about a user account of BMC (Other).
  -- Administrator of the default user
  -- Additional user with all user privileges.

  If a user account of other than the above is used, there is a possibility that you can't use some function for managing BMC (Other).

CHECK:

- *5 When using "Redfish" as the access method for BMC (other) and using self-signed certificates, it is necessary to refer to "4.3.1 Environment setting" in ESMPRO/ServerManager to allow self-signed certificates for communication between the BMC (other) component and ESMPRO/ServerManager.

IMPORTANT:

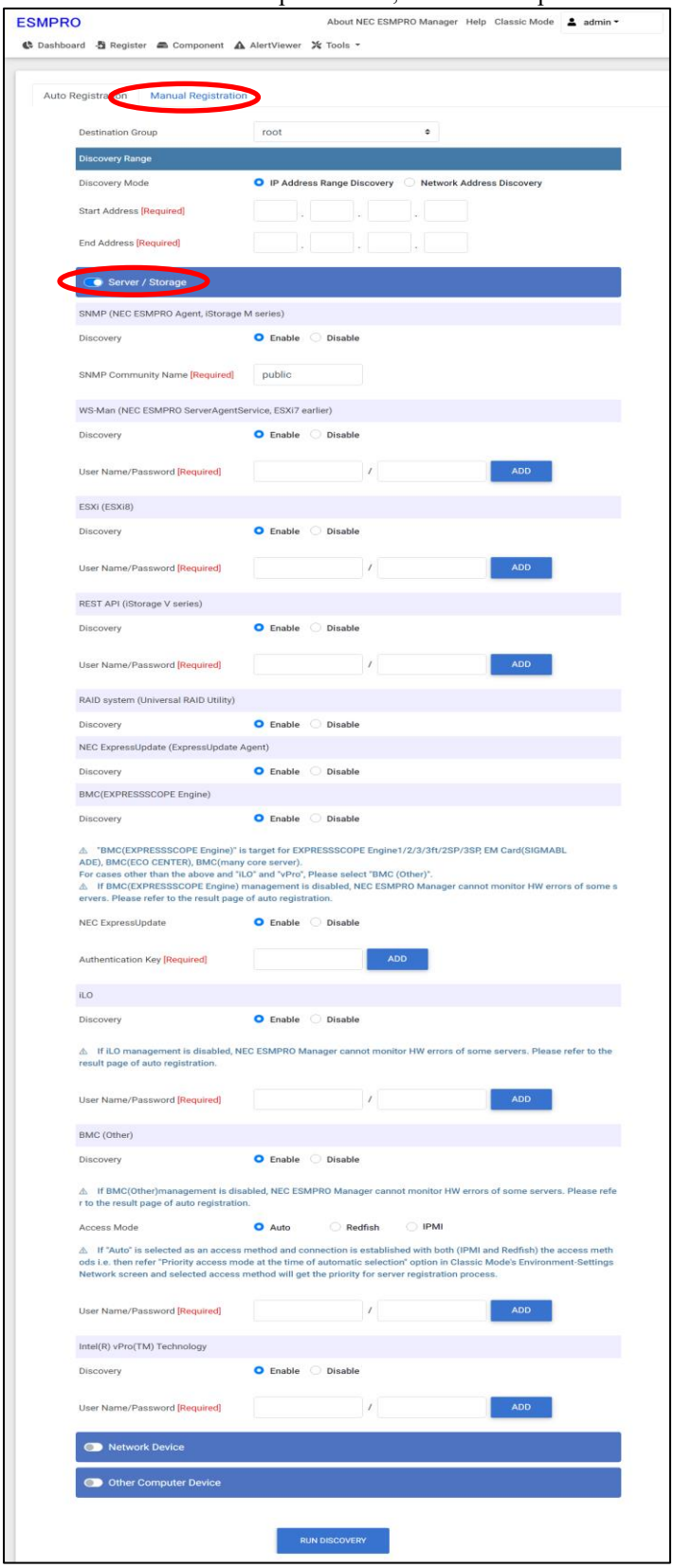
- If BMC(EXPRESSSCOPE Engine) management and iLO management and BMC (Other) management are disabled, NEC ESMPRO Manager cannot monitor HW status. Detailed information is shown in the connection check result screen.

IMPORTANT:

- When the access method for BMC (other) is Redfish, the remote console function and console log settings cannot be used. Other than that, there is no difference in functionality between IPMI and Redfish.

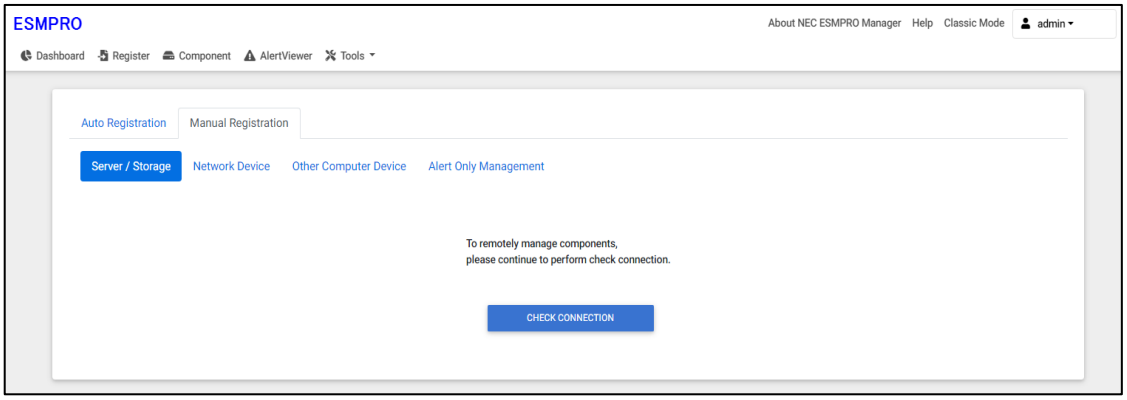
(4) Click “ADD”.

If there is an error in the input content, correct the input content following the message.

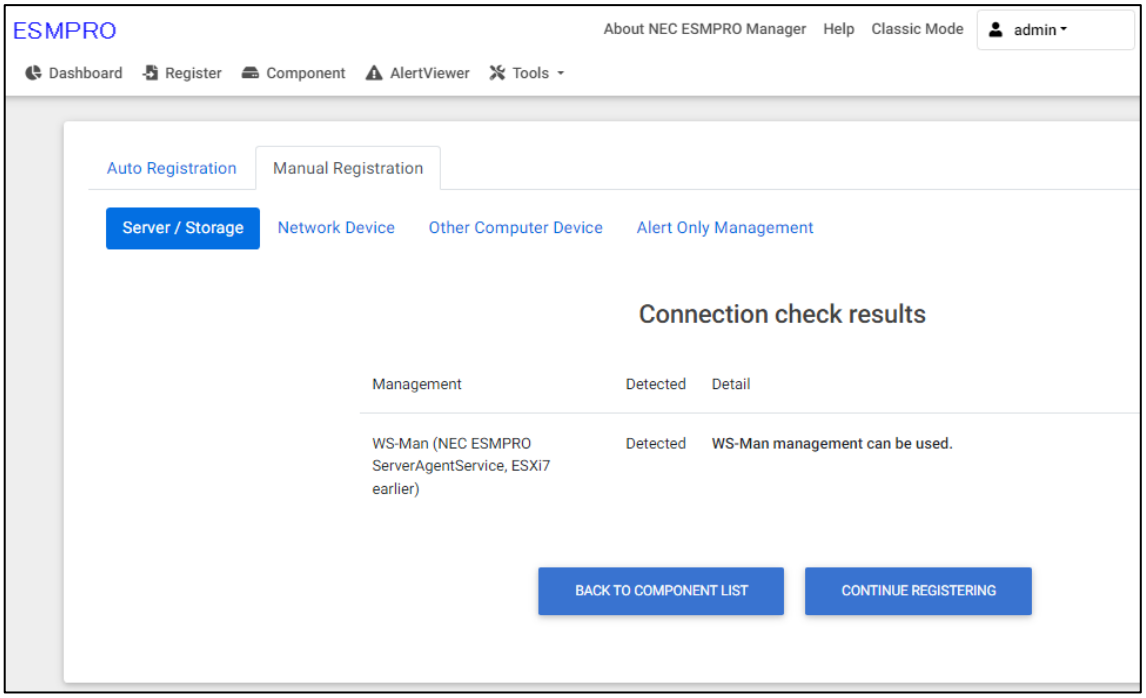


(5) ”CHECK CONNECTION” is displayed.

Click “CHECK CONNECTION” to start it.



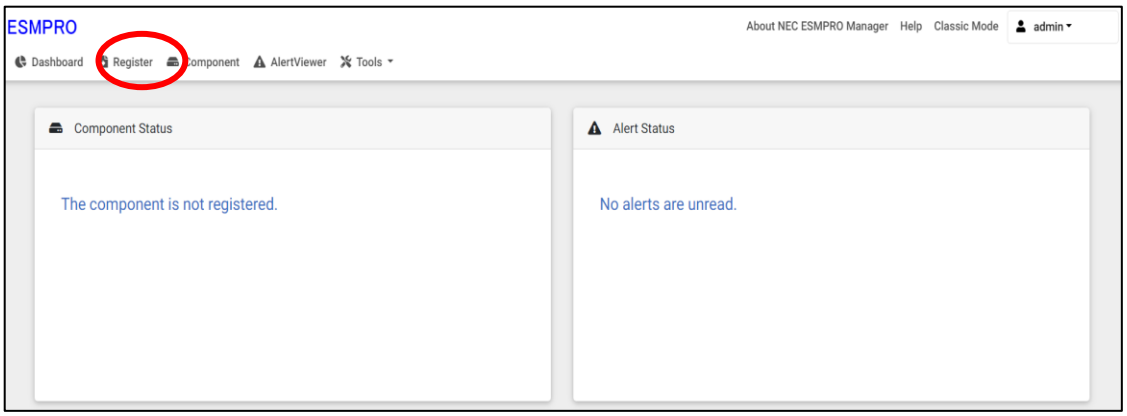
(6) If the "CHECK CONNECTION" is completed, “Connection check results” screen will be displayed.



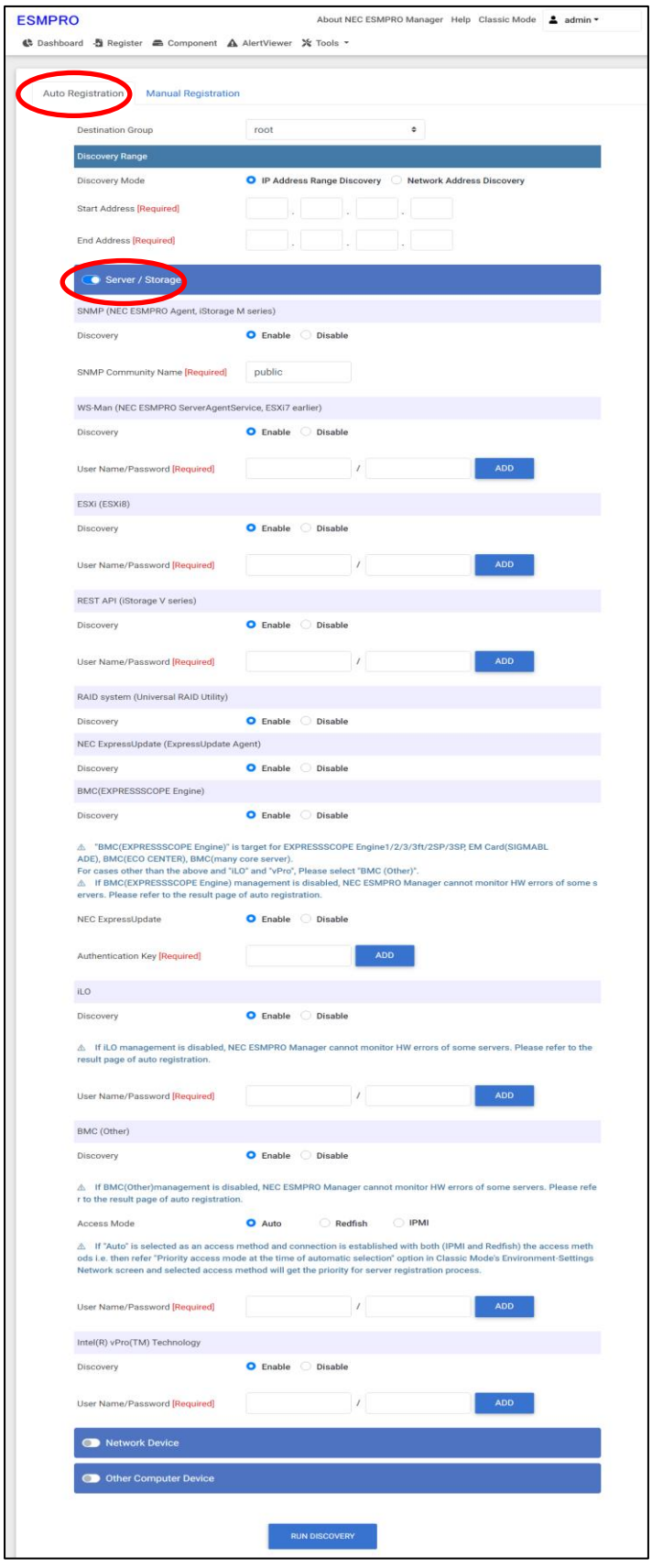
Detected	Detail
Detected	The feature was detected. NEC ESMPRO Manager can use the feature to manage the component.
Not Detected	The feature was not detected. NEC ESMPRO Manager cannot use the feature to manage the component. Check parameters corresponding to the feature. Click the "Name" of the component that could not be registered in the "Component List". The connection settings screen in Classic mode will be displayed. Please check that there are no errors in the entered items. For more details, please refer to the online help for NEC ESMPRO Manager.

10.3.2.2 Auto Registration

(1) Click "Register".



(2) Click the “Server / Storage” of "Auto Registration".



(3) Input the following items to search VMware ESXi servers.

Name	Value
Destination Group	Specify the group to which the managed component will belong. When you add the group to which the managed component will belong, See "1.3.2 Add component to Group" for the information about creating group.
Discovery Range	
Discovery Mode	With "IP Address Range Search" selected, the NEC ESMPRO Manager searches for the managed components using the IP address range. With "Network Address Search" selected, the NEC ESMPRO Manager searches for the managed components using the specified network address.
Start Address End Address	When you select "IP Address Range Search" for "Search Mode", specify the start IP address and end IP address of the range in which managed components are to be searched for.
Network Address Network Mask	When you select "Network Address Search" for "Search Mode", specify the network address and network mask of the managed component to be searched for.
SNMP (NEC ESMPRO Agent, iStorage M series)	
Discovery	Select “Disable”
WS-Man(NEC ESMPRO ServerAgentService, ESXi7)	
Discovery	Select “Enable”. *1
User Name/Password	Enter an administrative user’s account of VMware ESXi server. Click “Add” button and you can add a pair of username and password up to 5. *2
ESXi (ESXi8)	
Discovery	Select “Enable”. *1
User Name/Password	Enter username and password for ESXi (ESXi8) communication. The account must be a system administrator of the managed operating system. Click “Add” button and you can add a pair of username and password up to 5. *2
REST API(iStorage V series)	
Discovery	Select "Disable".
RAID system management	
Management	Select "Enable" to manage the RAID system of the component. WS-Man management must be enabled in addition to this setting. Select "Disable" when the operating system of the managed component is VMware ESXi8.
NEC ExpressUpdate	
Updates via NEC ExpressUpdate Agent	Select "Disable".
BMC (EXPRESSSCOPE Engine)	
Discovery	If you search for VMware ESXi server in which BMC is integrated, select "Enable" otherwise NEC ESMPRO Manager cannot monitor HW status.
Features NEC ExpressUpdate	Select "Enable" to feature NEC ExpressUpdate.
Authentication Key	Enter the "authentication key" that you set in “1.2 Configure BMC on Managed Component”. *2 *3
iLO	
Discovery	If you search for VMware ESXi server in which iLO is integrated, select “Enable” otherwise NEC ESMPRO Manager cannot monitor HW status.
User Name/Password	Enter username and password for communication with the iLO,

	Clicking “Add” button, you can enter up to 5 pairs of username and password. *5
BMC (Other)	
Discovery	If you search for VMware ESXi server in which BMC other than "BMC (EXPRESSSCOPE Engine)" is integrated, select “Enable” otherwise NEC ESMPRO Manager cannot monitor HW status.
Access Mode	Select "Access Mode" used by communication with BMC(Other). *7 ・Auto If "Auto" is selected as an access method and connection is established with both (IPMI and Redfish) the access methods i.e. then refer "Priority access mode at the time of automatic selection" option in Classic Mode's Environment-Settings Network screen and selected access method will get the priority for server registration process. ・Redfish Specify Redfish as the "Access Mode" for BMC (other). ・IPMI Specify IPMI as the "Access Mode" for BMC (other).
User Name/Password	Enter username and password for communication with the BMC (Other). Clicking “Add” button, you can enter up to 5 pairs of username and password. *6
Intel(R) vPro(TM) Technology	
Discovery	Select “Disable”

CHECK:

- *1 If a self-signed certificate is installed on the managed server for HTTPS communication, a setting to allow it is required. Refer to “1.1 Setup Flow” for detailed information.

CHECK:

- *2 On "Settings" - “Environment” - “Auto Registration Setting List” screen, you can manage a list of username/password and authentication key. All entries in the list are used for auto registration every time.

CHECK:

- *3 If you register the "Management Controller" management for a fault tolerant server, you should specify the search range which includes BMC IP addresses of CPU/IO module 0 and 1.
- *4 If you register the "Management Controller" management for a server which has EXPRESSSCOPE Engine SP3(2BMC model), you should specify the search range which includes both BMC IP addresses of Master and Standby.

CHECK:

- *5 Set a user name and a password of following user account. Please refer to "iLO5 user’s guide" or "iLO6 user’s guide" for details about a user account of iLO.
  -- Administrator of the default user
  -- Additional user with all user privileges.

  If a user account of other than the above is used, there is a possibility that you can't use some function for managing iLO.

CHECK:

- *6 Set a user name and a password of following user account. Please refer to

"BMC/CMC Management Console User's Guide" for details about a user account of BMC (Other).
-- Administrator of the default user
-- Additional user with all user privileges.

If a user account of other than the above is used, there is a possibility that you can't use some function for managing BMC (Other).

CHECK:

- *7 When using "Redfish" as the access method for BMC (other) and using self-signed certificates, it is necessary to refer to "4.3.1 Environment setting" in ESMPRO/ServerManager to allow self-signed certificates for communication between the BMC (other) component and ESMPRO/ServerManager.

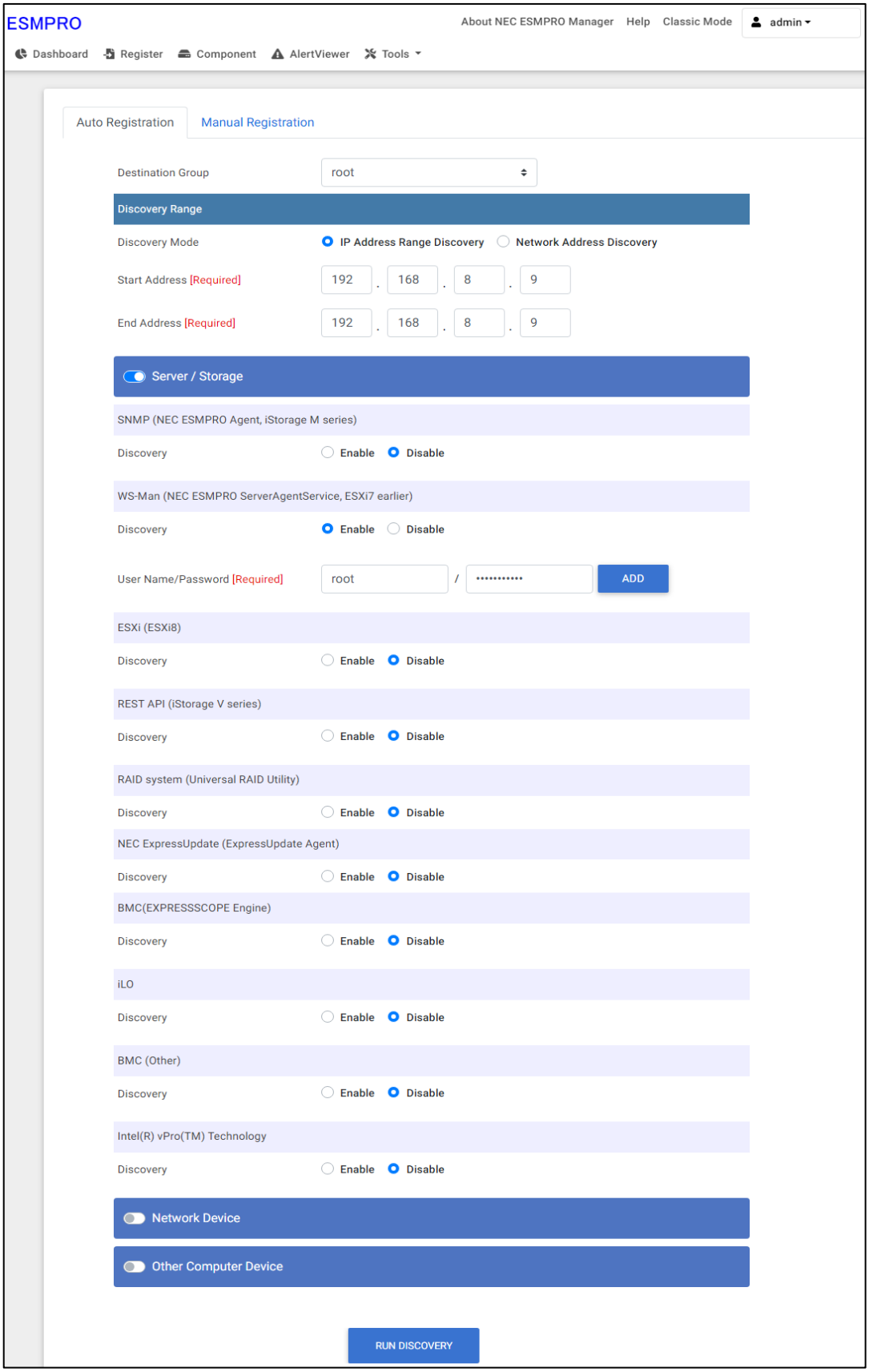
IMPORTANT:

- If BMC(EXPRESSSCOPE Engine) management and iLO management and BMC (Other) management are disabled, NEC ESMPRO Manager may not be able to monitor HW status. Detailed information is shown in the connection check result screen.

IMPORTANT:

- When the access method for BMC (other) is Redfish, the remote console function and console log settings cannot be used. Other than that, there is no difference in functionality between IPMI and Redfish.

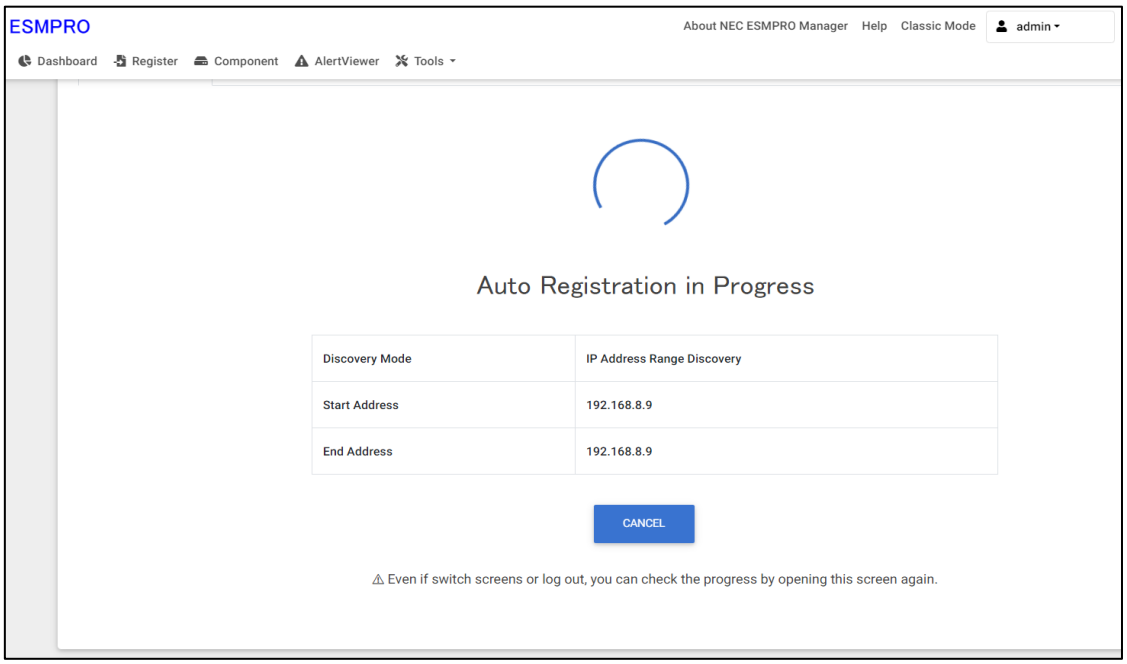
(4) Click "RUN DISCOVERY".



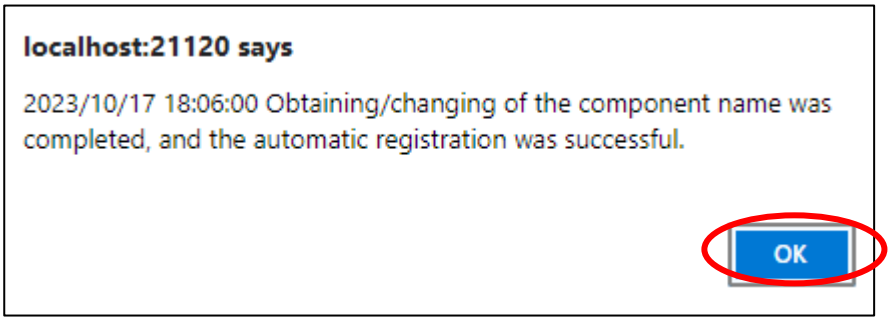
CHECK:

- When you click the "RUN DISCOVERY", you may see a message "The search cannot be started.". If you have enabled "WS-Man Discovery", please check whether a "Self Signed Certificate" is allowed in section "1.3.1 Environment setting".

When you click the "RUN DISCOVERY", the discovery for components will begin and the "Auto Registration in Progress" screen will be displayed.

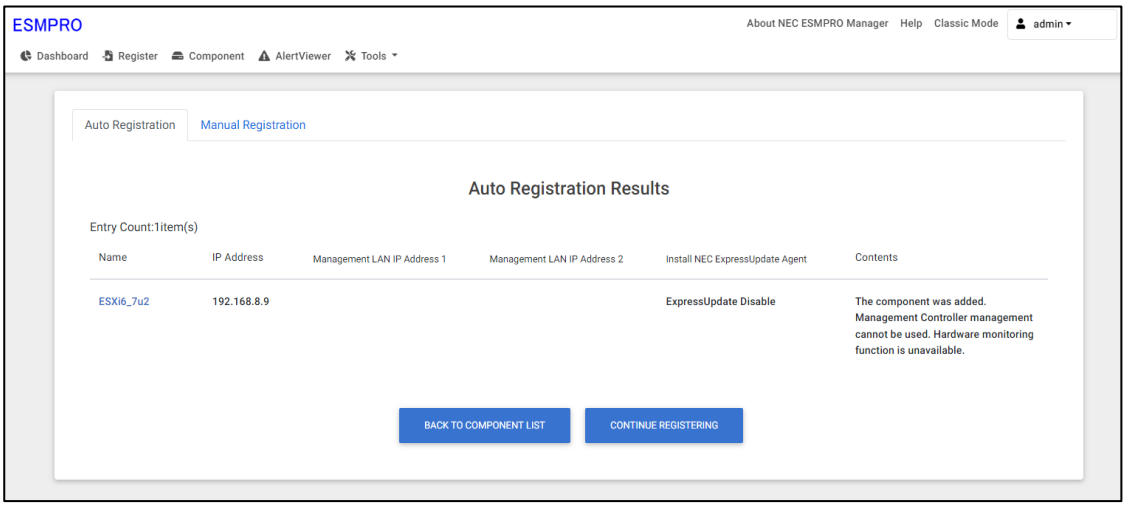


(5) When the "Auto Registration" is completed, following message will be displayed. Click “OK”.



(6) Component registered is displayed on “Auto Registration Results”.

Clicking the “name” will open the Classic mode, where you can confirm the registered information.



Name	Description
Name	Component name
IP address	IP address
Management LAN IP Address 1	IP address of BMC（EXPRESSSCOPE Engine）/iLO/BMC（Other）/vPro)
Management LAN IP Address 2	IP address of BMC（EXPRESSSCOP Engine）(LAN port2 is supported.)
Install NEC ExpressUpdate Agent	・ExpressUpdate is enable When "NEC ExpressUpdate(ExpressUpdate Agent)" is enabled, and a component that can be installed with ExpressUpdate Agent is discovered. ・ExpressUpdate is disable - "NEC ExpressUpdate(ExpressUpdate Agent)" is disable - "NEC ExpressUpdate(ExpressUpdate Agent)" is enabled, but there is not component that can be installed with ExpressUpdate Agent.
Contents	・A component has been added. This message will be displayed if the component is successfully registered. ・Management Controller management cannot be used. Hardware monitoring function is unavailable. This message will be displayed when BMC (EXPRESSSCOPE engine)/iLO/BMC (other)/vPro cannot be discovered for a component registered by an OS IP address. If you want to register the Management Controller management function, click the "Name". The connection settings screen in Classic mode will be displayed, so you can perform the registration here.

10.4 Upgrading to VMware ESXi 8.0

10.4.1 Changing the Managed device

Change to ESXi management from WS-Man management when being upgraded by VMware ESXi8.

(1) In the ESXi management, it does not use when setting the following to manage WS-Man in NEC ESMPRO Manager.

- Enable the WBEM service.
- Configure the sfcbd service to restart automatically when VMware ESXi boots.
- Enable the Service Location Protocol service.

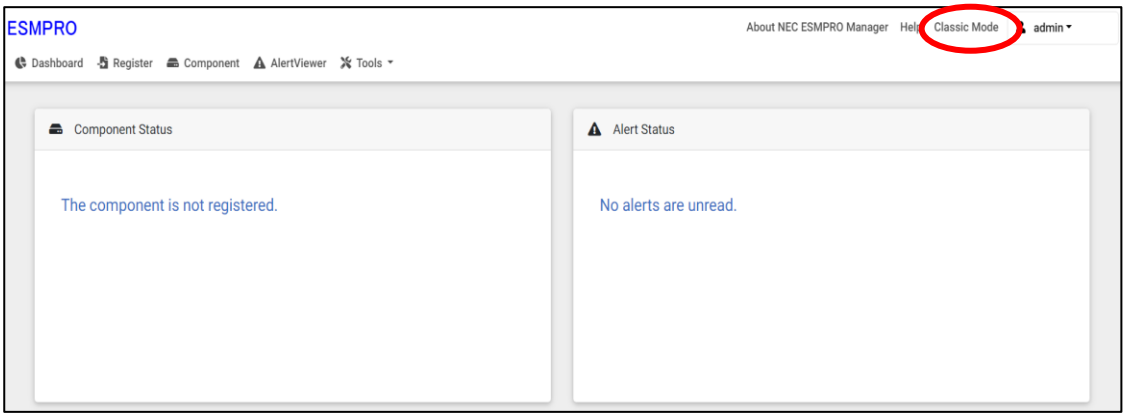
Therefore, the following configure when not using except NEC ESMPRO Manager.

- Disable the WBEM service.
  Execute following command to disable the WBEM service.
  # esxcli system wbem set --enable false

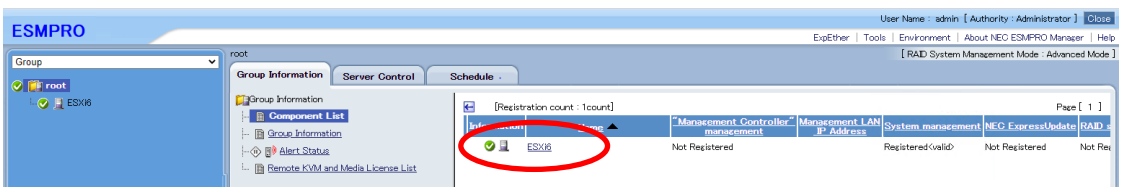
- Do not automatically restart the sfcbd service when VMware ESXi boots.
  Delete the following line added to /etc/rc.local.d/local.sh.
  /etc/init.d/sfcbd-watchdog restart

- Disable the Service Location Protocol service.
  Perform the Solution "To implement the workaround perform the following steps:" of the following knowledge information.
  How to Disable/Enable the SLP Service on VMware ESXi (76372)
  https://kb.vmware.com/s/article/76372

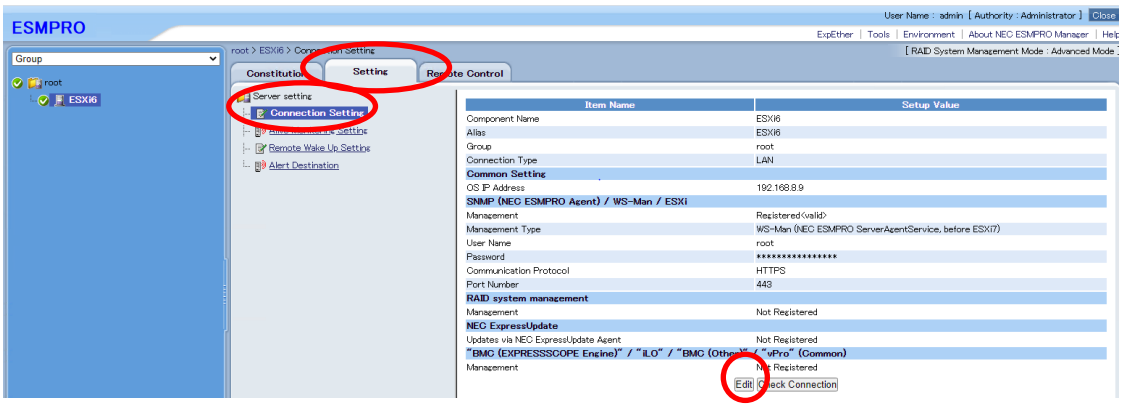
(2) Click “Classic Mode”



(3) Click the component of the VMware ESXi 7 or earlier server



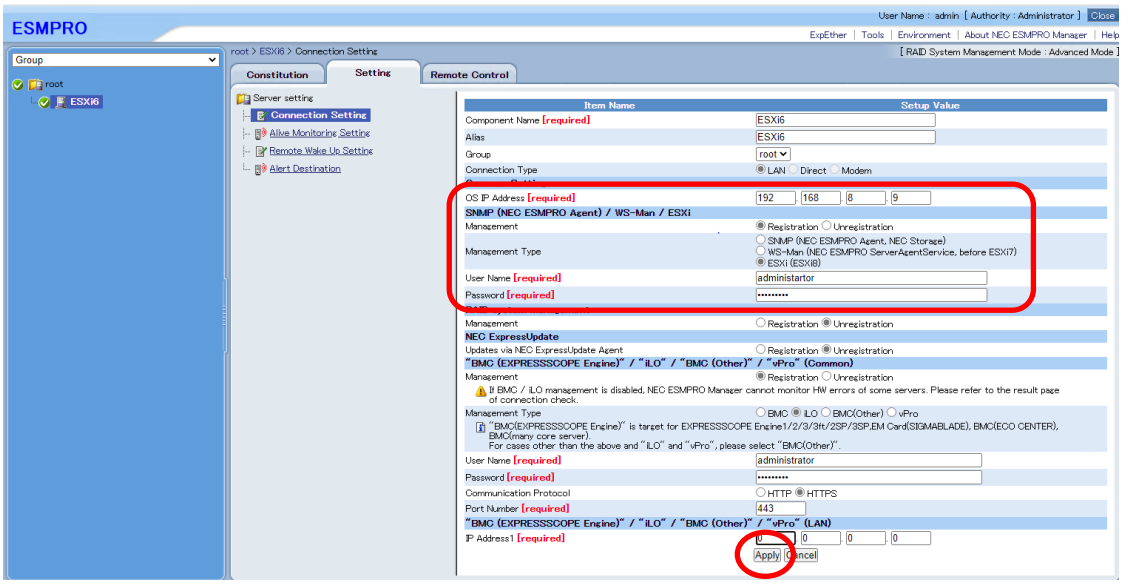
(4) Click "Connection Setting" from "Setting" tab of the managed component.
"Connection Setting" view is displayed. Click "Edit".



(5) Change into ESXi management from WS-Man management.

Name	Value
SNMP (NEC ESMPRO Agent) / WS-Man / ESXi	
Management Type	Change to ESXi from WS-Man.
User Name/Password	Enter an administrative user's account of VMware ESXi server.
Communication Protocol	This is displayed only when WS-Man is selected as the management target. Select protocol HTTP/HTTPS for connection WS-Man service. *1 - NEC ESMPRO ServerAgentService (Windows) is installed. If you want to use HTTPS for WS-Man communication with ESMPRO/ServerAgentService, refer to Chapter 2, Installation 3.3 HTTPS Setting in the ESMPRO/ServerAgentService Installation Guide (Windows). - NEC ESMPRO ServerAgentService (Linux) is installed. Select HTTPS. - The operating system of the managed component is VMware ESXi7. Select HTTPS.
Port Number	Enter port number where WS-Man service listens for connection. *2 - NEC ESMPRO ServerAgentService (Windows) is installed. If you want to use HTTP, enter 5985. If you want to use HTTPS, enter 5986. - NEC ESMPRO ServerAgentService (Linux) is installed. Enter 5986. - The operating system of the managed component is VMware ESXi7. Enter 443.
RAID system management	
Management	In case of Registration, choose Unregistration.

(6) Click "Apply".


ESMPRO
User Name : admin [Authority : Administrator]
Close
ExpEther | Tools | Environment | About NEC ESMPRO Manager | Help
[RAID System Management Mode : Advanced Mode]
Group
root
ESXi6
root > ESXi6 > Connection Setting
Constitution
Setting
Remote Control
Server setting
Connection Setting
Alive Monitoring Setting
Remote Wake Up Setting
Alert Destination
Item Name
Setup Value
Component Name [required]
ESXi6
Alias
ESXi6
Group
root
Connection Type
LAN Direct Modem
OS IP Address [required]
192 168 8 9
SNMP (NEC ESMPRO Agent) / WS-Man / ESXi
Management
Registration Unregistration
Management Type
SNMP (NEC ESMPRO Agent, NEC Storage)
WS-Man (NEC ESMPRO ServerAgentService, before ESXi7)
ESXi (ESXi8)
User Name [required]
administator
Password [required]
Management
Registration Unregistration
NEC ExpressUpdate
Updates via NEC ExpressUpdate Agent
Registration Unregistration
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (Common)
Management
Registration Unregistration
If BMC / iLO management is disabled, NEC ESMPRO Manager cannot monitor HW errors of some servers. Please refer to the result page of connection check.
Management Type
BMC LO BMC(Other) vPro
"BMC(EXPRESSSCOPE Engine)" is target for EXPRESSSCOPE Engine1/2/3/3ft/2SP/3SP,EM Card(SIGMABLADE), BMC(ECO CENTER), BMC(many core server)
For cases other than the above and "iLO" and "vPro", please select "BMC(Other)".
User Name [required]
administrator
Password [required]
Communication Protocol
HTTP HTTPS
Port Number [required]
443
"BMC (EXPRESSSCOPE Engine)" / "iLO" / "BMC (Other)" / "vPro" (LAN)
IP Address1 [required]
0 0 0 0
Apply
Cancel

(7) Click the “Connection Setting” from “Setting” tab of the managed component.
Click “Check Connection” to collect the VMware ESXi server information for the management.

When the “Check Connection” is completed, the NEC ESMPRO Manager starts to control the VMware ESXi server.

Detected	Detail
Detected	The feature was detected. NEC ESMPRO Manager can use the feature to manage the component.
Not Detected	The feature was not detected. NEC ESMPRO Manager cannot use the feature to manage the component. Check parameters corresponding to the feature.

Chapter11 Setup for the Alert only Component

NEC ESMPRO Manager ver.6.02 or later can receive SNMP Trap from registered component as “Alert Only Management”.
This chapter explains the setup procedure for the NEC ESMPRO Manager to manage the Alert only Component

11.1 Setup Flow

Perform the following setup procedure:

(1) Connect the management PC on which NEC ESMPRO Manager is installed and the managed SNMP Trap component on the same network.

(2) Configure SNMP Trap on the managed Alert only component by NEC ESMPRO Manager to enable SNMP Trap.
* Please refer to procedure manual of component to enable SNMP Trap.

(3) Register the managed component on NEC ESMPRO Manager.

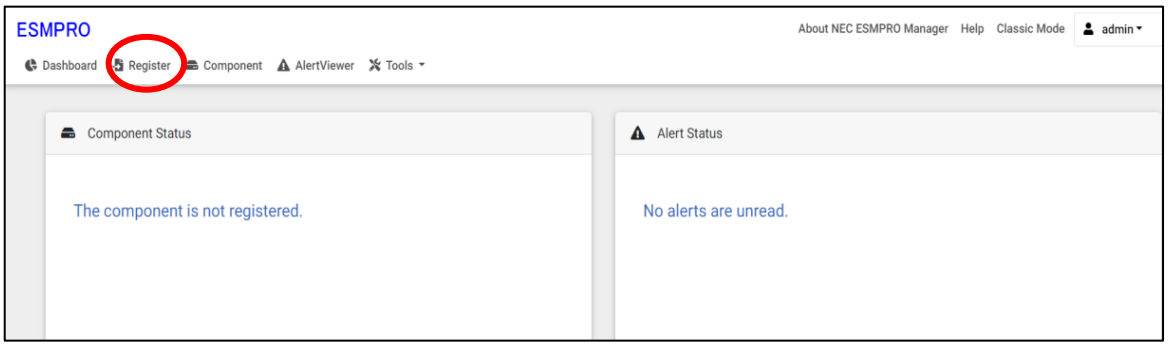
11.2 Register a managed component on NEC ESMPRO Manager

To register the managed component on the NEC ESMPRO Manager, login to the NEC ESMPRO Manager and perform in the following order:
If necessary, see “1.3.2 Add component to Group” and add the group to which the managed component will belong.

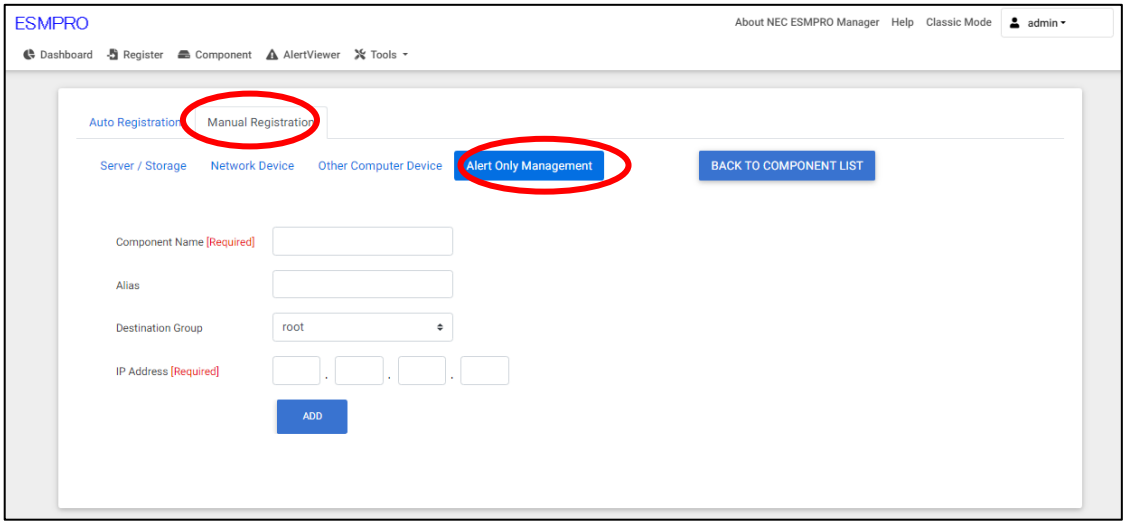
CHECK:

- Alert Only Management can be registered from “Manual Registration”. Cannot be registered from “Auto Registration”.

(1) Click "Register".



(2) Click the “Alert Only Management” of “Manual Registration” tab.

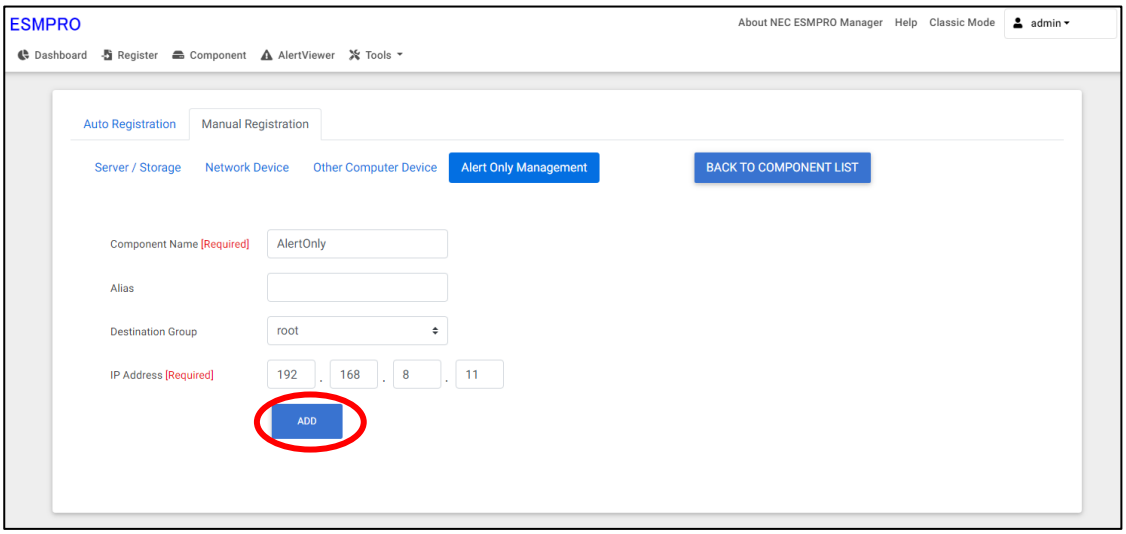


(3) Click the managed component's "Group name".

Name	Value
Component Name	Specify the name of the managed component on NEC ESMPRO Manager. Assign a name different from other managed component names. Do not enter a name including blank characters. Uppercase characters are distinguished from lowercase characters.
Alias	Specify the information about the managed component. Do not enter a name including blank characters. Only blank characters cannot be entered. Also, please do not enter a name containing blank characters. The blank characters will be removed if there are half-width blank characters before or after the string. Uppercase characters are distinguished from lowercase characters. Optional.
Destination Group	Specify the group to which the managed component will belong.
Common Setting	
IP Address	Specify the OS IP Address of the managed component.

(4) Click “ADD”.

If there is an error in the input content, correct the input content following the message.
If the registration is successful, "Alert Only Management registration was successful." will be displayed.



(5) Component registered is displayed in“Component List“.

Chapter12 Setup for ExpEther

NEC ESMPRO Manager ver.6.15 or later can manage ExpEther.

12.1 Notes of before setup

NEC ESMPRO Manager cooperates with ExpEther Manager to manage ExpEther.
ExpEther must have its host's serial number in own EEPROM so that NEC ESMPRO Manager can manage ExpEther. So User should set host's serial number to the EEPROM on ExpEther board by using ExpEtherConfigTool.

For the ExpEtherConfig Tool, see the user's guide of ExpEther IO Expansion Unit (40G).

12.2 Setup Flow

Perform the following setup procedure:

(1) Install ExpEther Manager on the server which is connected to the same network as NEC ESMPRO Manager.

For the installation of ExpEther Manager, see the user's guide of ExpEther IO Expansion Unit (40G).

(2) Register the ExpEther Manager on NEC ESMPRO Manager by using "Discovery ExpEther Manager API".

Perform "Discovery ExpEther Manager API" after performing “Login API”.
Refer to “NEC ESMPRO Manager Ver.7 RESTful API Reference” for details of API.
When executing "Diascovery ExpEther Manager API", you can use a sample script which is mentioned in “Appendix E. Means to perform REST API using a sample script”.

Chapter13 Setup for Managed Component of Network Device

This chapter explains the setup procedure for the NEC ESMPRO Manager to manage the Network Device.

13.1 Setup Flow

Setup by the following setup procedure:

(1) Connect the management PC on which NEC ESMPRO Manager is installed and the Network Device on the same network.

(2) Perform the necessary setup for registering the Network Device.

Enable SNMP communication for the Network Device that support SNMPv1 MIB2.

(3) Register the Network Device in NEC ESMPRO Manager.

13.2 Register a managed component on NEC ESMPRO Manager

In order to register the managed component on the NEC ESMPRO Manager, login to the NEC ESMPRO Manager and perform the following procedure:
If necessary, see “1.3.2 Add component to Group” and add the group to which the managed component will belong.

13.2.1 Register the Network Device

Use either of following two methods to register the managed component.

Manual Registration

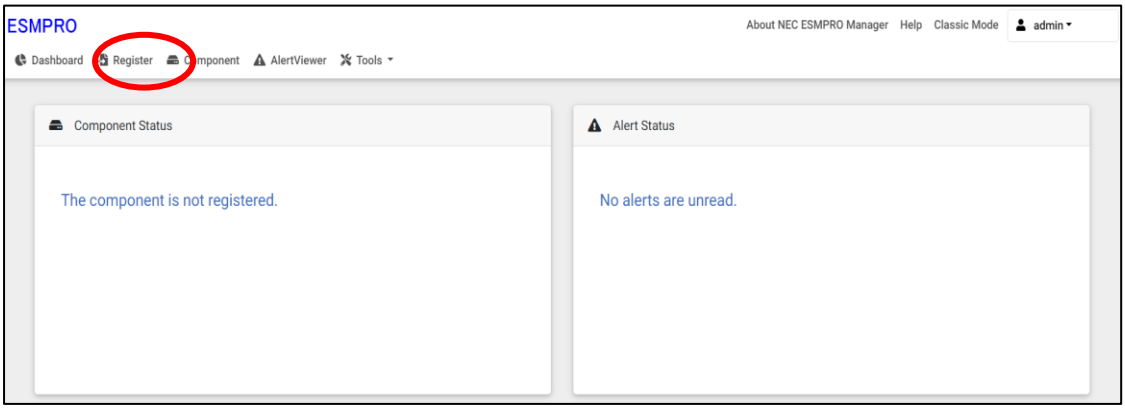
This method requires the operator to directly enter the managed component's information such as the IP address of Network Device.

Auto Registration

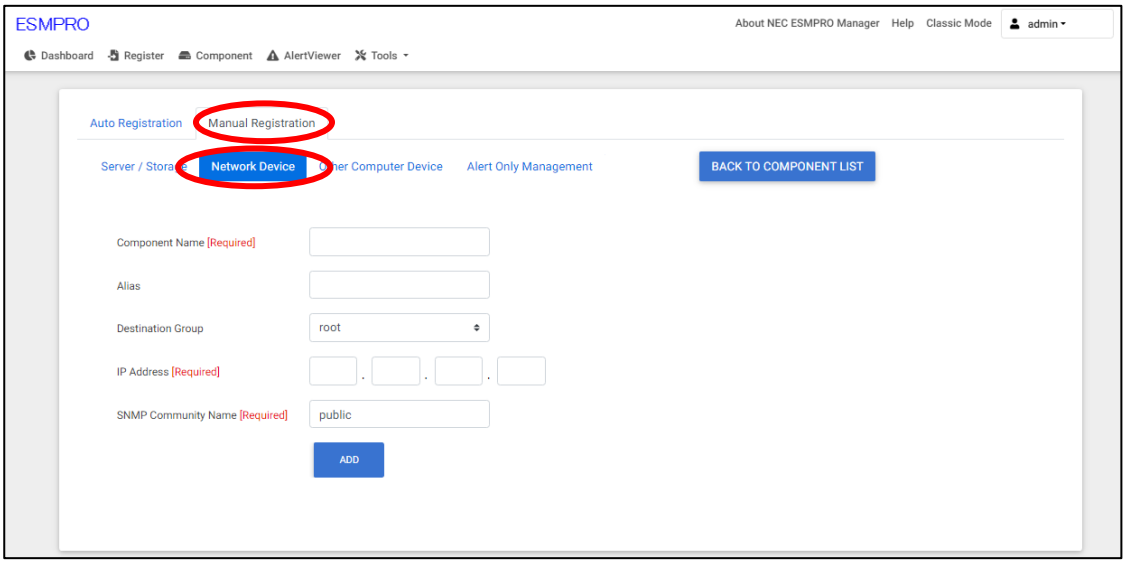
This method automatically searches the network for managed components and Network Device that are not registered yet in the NEC ESMPRO Manager and registers them.

13.2.1.1 Manual Registration

(1) Click “Register”.



(2) Click the “Network Device” of “Manual Registration” tab.

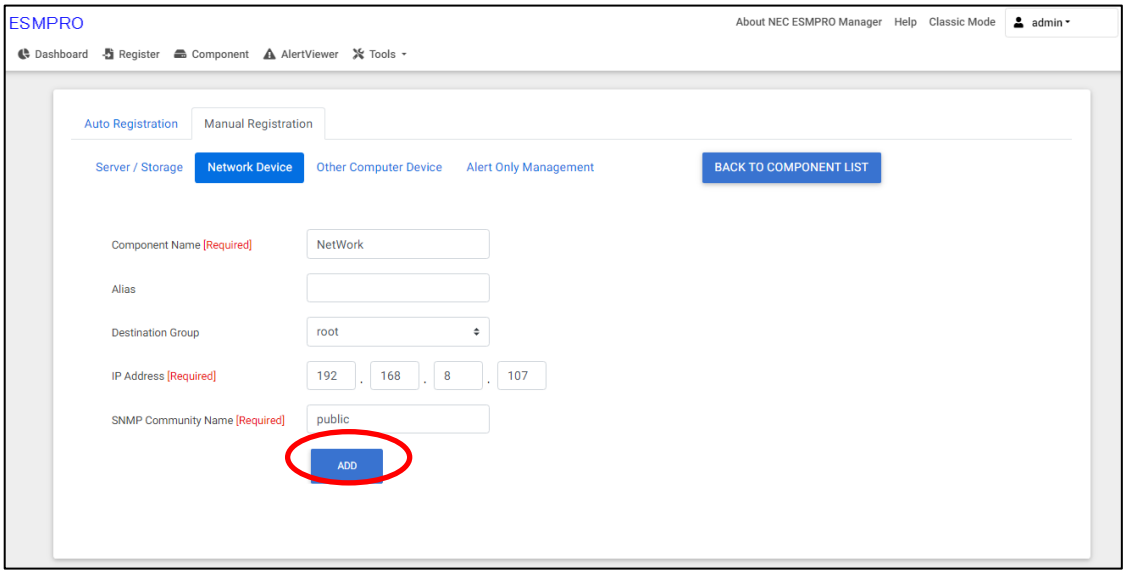


(3) Input the following items.

Name	Value
Component Name	Specify the name of the managed component on NEC ESMPRO Manager. Assign a name different from Network Device names. Do not enter a name including blank characters. Uppercase characters are distinguished from lowercase characters.
Alias	Specify the information about the managed component. Do not enter a name including blank characters. Only blank characters cannot be entered. Also, please do not enter a name containing blank characters. The blank characters will be removed if there are half-width blank characters before or after the string. Uppercase characters are distinguished from lowercase characters. Optional.
Destination Group	Specify the group to which the managed component will belong. When you add the group to which the managed component will belong, See "1.3.2 Add component to Group" for the information about creating group.
IP Address	Enter IP Address of the Network Device.
SNMP Community Name	SNMP Community Name which is specified at SNMP Agent running on the managed component.

(4) Click "ADD".

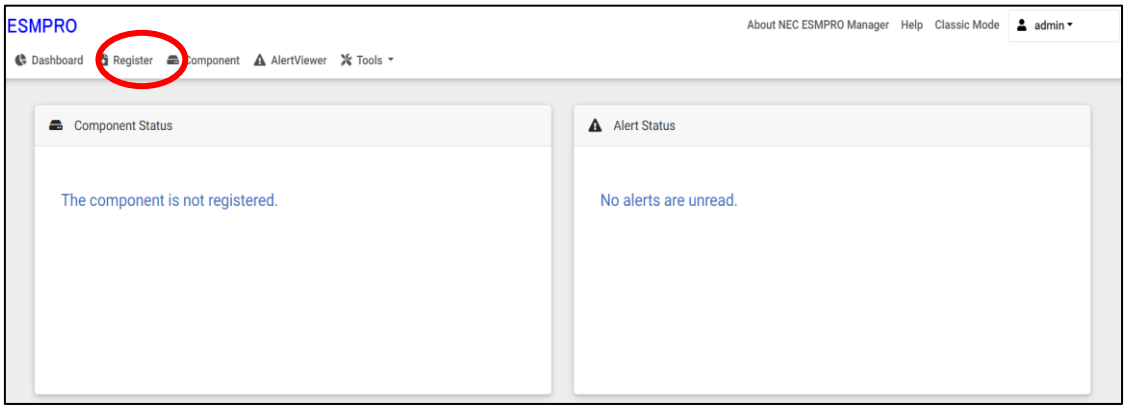
If the registration is successful, "Network device registration was successful." will be displayed.
If the registration fails, "Failed to register network device." will be displayed. Please ensure that the entered information is correct.



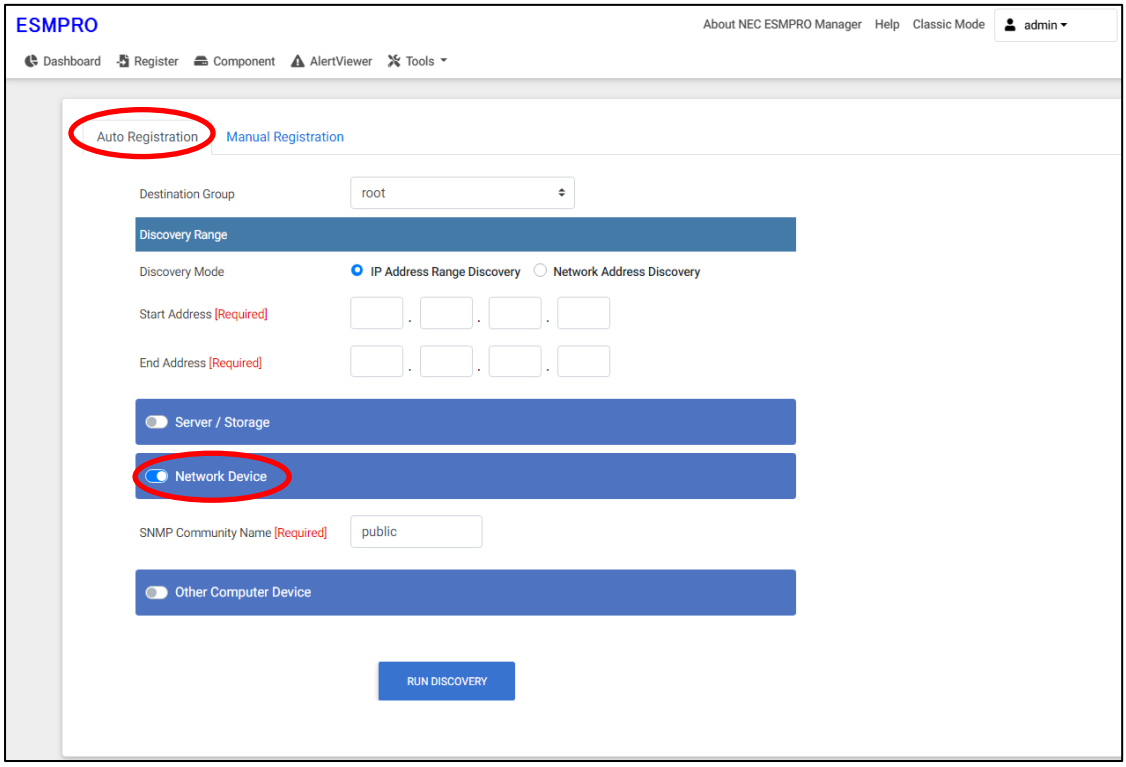
(5) The Network Device registered is displayed in “Component List”

13.2.1.2 Auto Registration

(1) Click "Register".



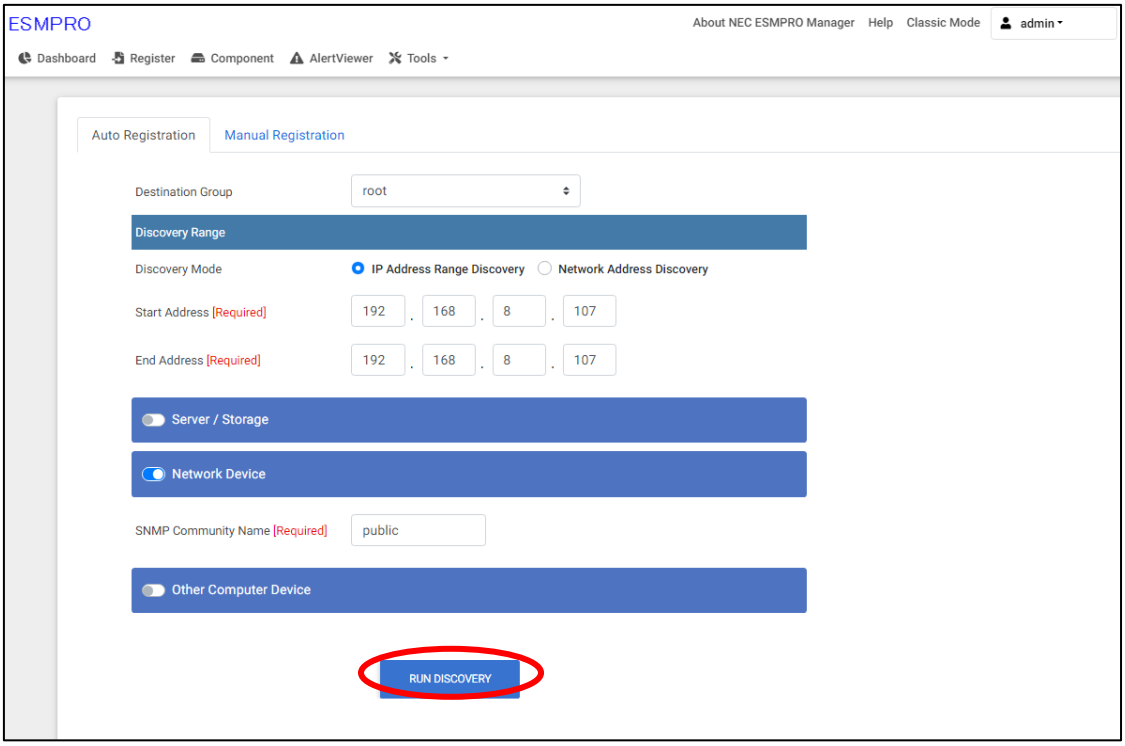
(2) Click the “Network Device” of "Auto Registration".



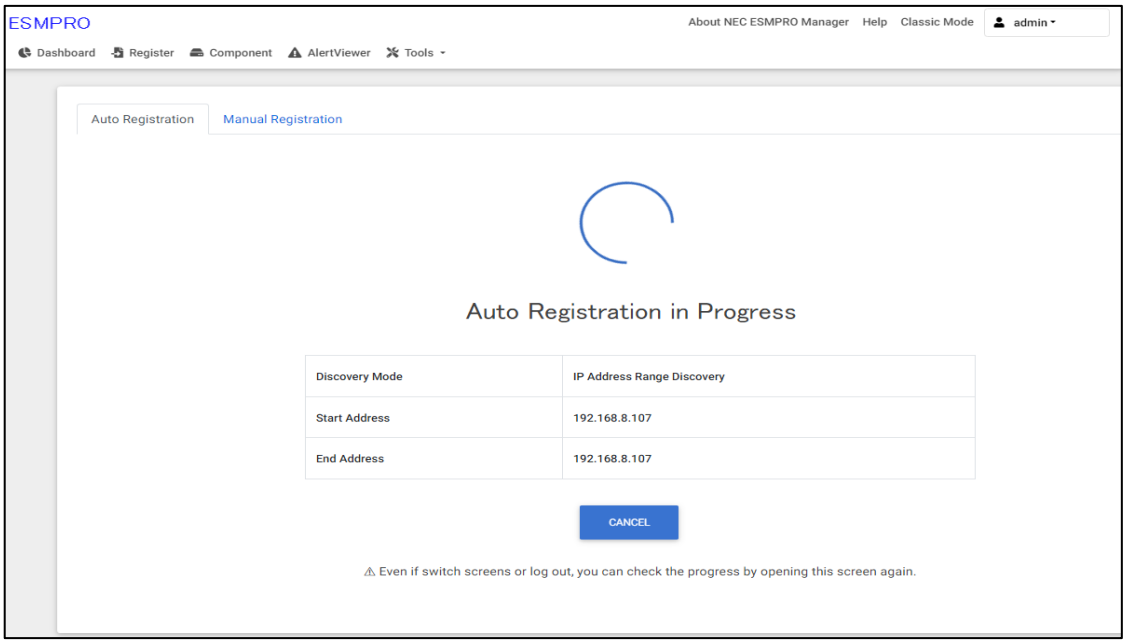
(3) Input the following items to search managed components based on Network Device.

Name	Value
Destination Group	Specify the group to which the managed component will belong. When you add the group to which the managed component will belong, see “1.3.2 Add component to Group” for the information.
Discovery Range	
Discovery Mode	With "IP Address Range Search" selected, the NEC ESMPRO Manager searches for the managed components using the IP address range. With "Network Address Search" selected, the NEC ESMPRO Manager searches for the managed components using the specified network address.
Start Address End Address	When you select "IP Address Range Search" for "Search Mode", specify the start IP address and end IP address of the range in which managed components are to be searched for.
Network Address Network Mask	When you select "Network Address Search" for "Search Mode", specify the network address and network mask of the managed component to be searched for.
Network Device	
SNMP Community Name	SNMP Community Name which is specified at SNMP Agent running on the managed component.

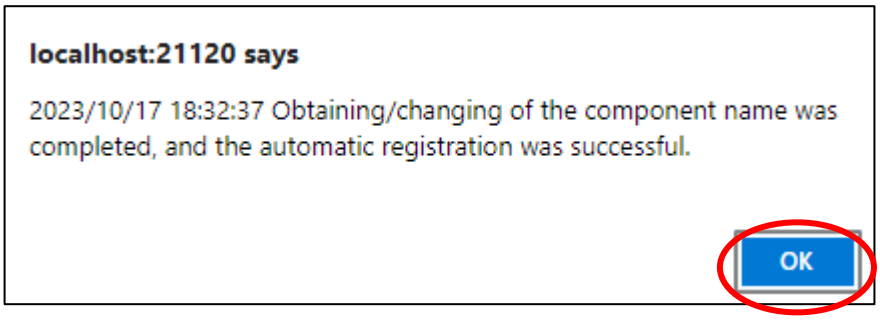
(4) Click "RUN DISCOVERY".



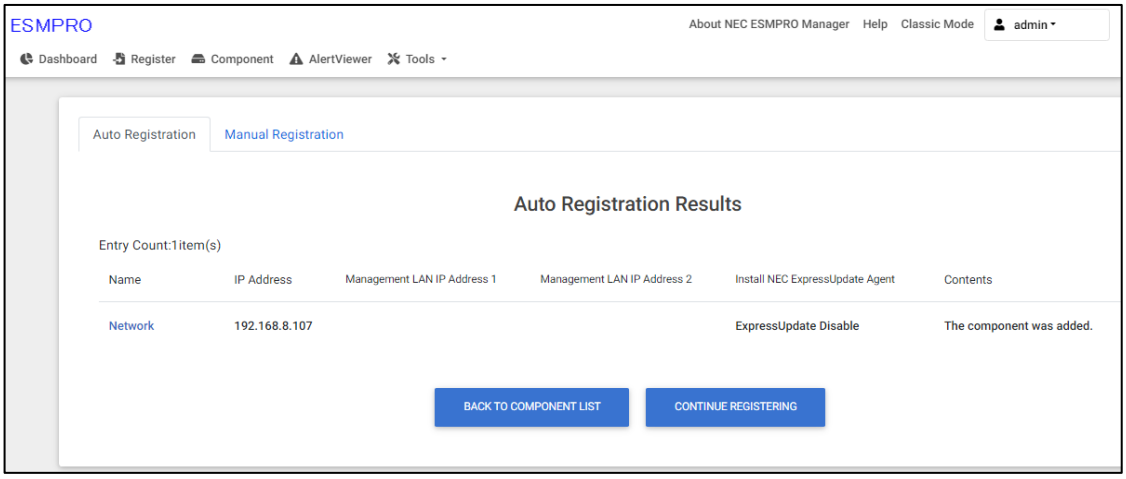
Click "RUN DISCOVERY" and then the search for the managed components will start.
The screen “Auto Registration in Progress” is displayed.



(5) When the "Auto Registration" is completed, following message will be displayed. Click “OK”.



(6) Component registered is displayed on “Auto Registration Results”.



Name	Value
Name	Component name
IP address	IP address
Management LAN IP Address 1	It is not displayed.
Management LAN IP Address 2	It is not displayed.
Install NEC ExpressUpdate Agent	・ExpressUpdate is disable This function is not supported.
Contents	・The component has been added. This message is displayed when a component has been successfully registered.

TIPS:

- If the system management cannot discover the managed component name, the "Name" of "Component List" will be "ManagementController".
  The following components will be named "ManagementController + number".
  If you want to change the name, click the "Name" in the "Component List" to launch Classic mode, and then click "Setting" -> "Connection Setting" ->"Edit" to change component name.

Chapter14 Setup for Managed Component of Other Computer Device

This chapter explains the setup procedure for the NEC ESMPRO Manager to manage the Other Computer Device component.

14.1 Setup Flow

Setup by the following setup procedure:

(1) Change account of ESMPRO/SM Task Service according to the following procedure for managing Other Computer Device.

1. Launch “Services” from “Administrative Tools” of “Control Panel”.
2. Stop ESMPRO/SM Web Service.
3. Stop ESMPRO/SM Task Service.
4. Double-click ESMPRO/SM Task Service and the property screen is displayed.
5. Select “This account” instead of “Local System account” on “LogOn” tab.
6. Enter “account” and “Password” with administrator privileges, and click “OK”.
7. Start ESMPRO/SM Task Service.
8. Start ESMPRO/SM Web Service.

(2) Connect the management PC on which NEC ESMPRO Manager is installed and the Network Device on the same network.

(3) Perform the necessary setup to register the Other Computer Device.

The following settings are required according to OS of Other Computer Device.

・Windows Server 2016 / 2019 / 2022,Windows 10 / 11

- Please Setting category of network to domain or private network.

- If windows firewall is enabled, the communication will be interrupted, so you won’t be able to manage it correctly. Open following port that is not opened.

Function	PC for management		protocol/ direction	Other Computer Device	
	Component	Port		Port	Component
Detail display, remote control	NEC ESMPRO Manager	Unknown	TCP → ←	5985	WinRM Service

- Run PowerShell with ”Run as Administrator”, execute the following command in Windows 2016.
  Set-WSManQuickConfig –Force

・Red Hat Enterprise Linux

- For Red Hat Enterprise Linux 9, it is necessary to enable SSH login for the root account.
- Open the following port if it is not opened.

Function	PC for management		protocol/ direction	Other Computer Device	
	Component	Port		Port	Component
Detail display, remote control	NEC ESMPRO Manager	Unknown	TCP → ←	22	SSH

(4) Register the Other Computer Device in NEC ESMPRO Manager.

14.2 Register Other Computer Device on NEC ESMPRO Manager

In order to register the managed component on the NEC ESMPRO Manager, login to the NEC ESMPRO Manager and perform the following procedure:
If necessary, see “1.3.2 Add component to Group” and add the group to which the managed component will belong.

14.2.1 Register the Other Computer Device

Use either of following two methods to register the managed component.

Manual Registration

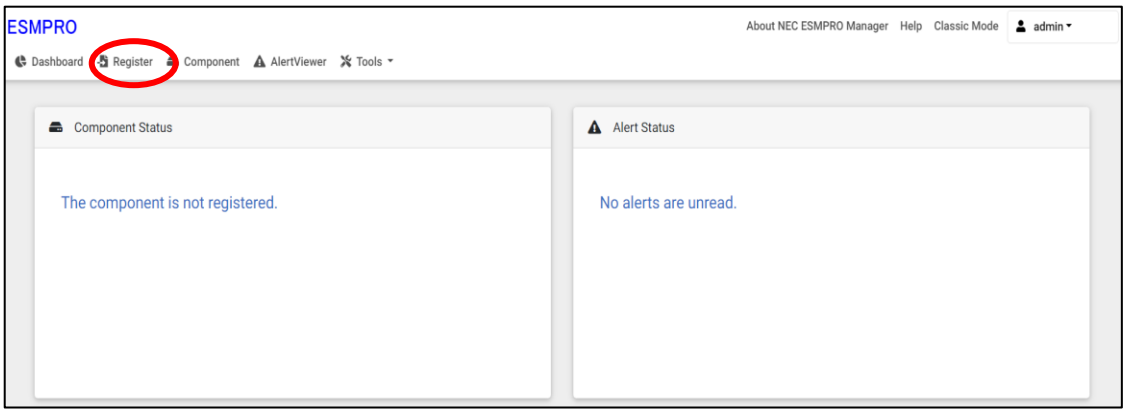
This method requires the operator to directly enter the managed component's information such as the IP address of Other Computer Device.

Auto Registration

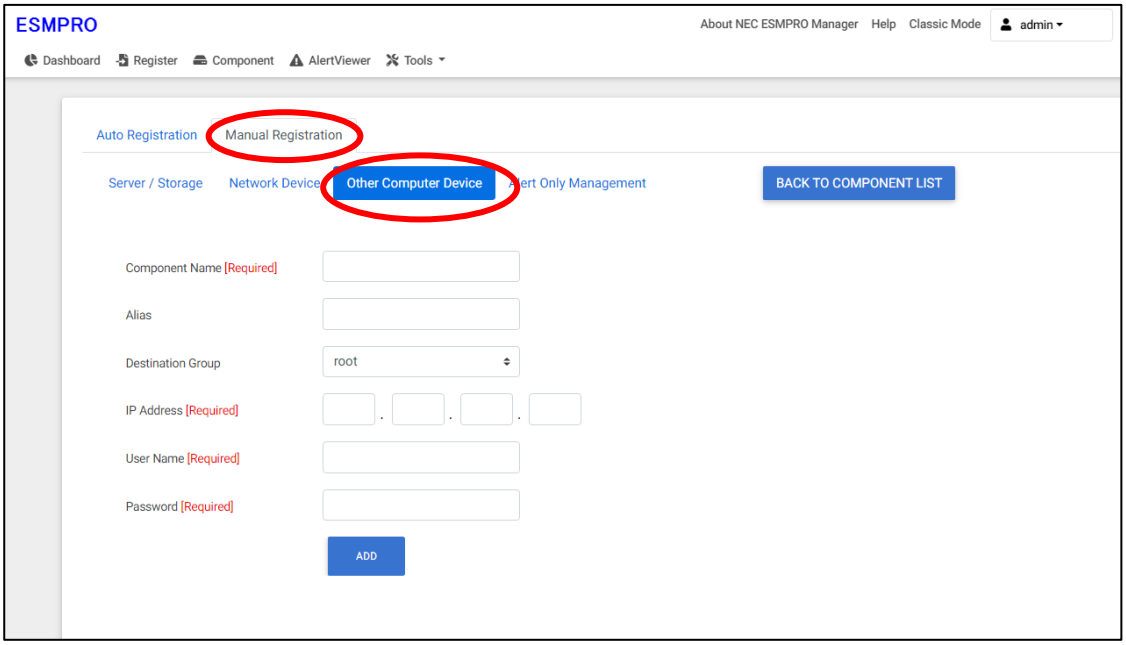
This method automatically searches the network for managed components and Other Computer Device that are not registered yet on the NEC ESMPRO Manager and registers them.

14.2.1.1 Manual Registration

(1) Click “Register”.



(2) Click the “Other Computer Device” of “Manual Registration” tab.

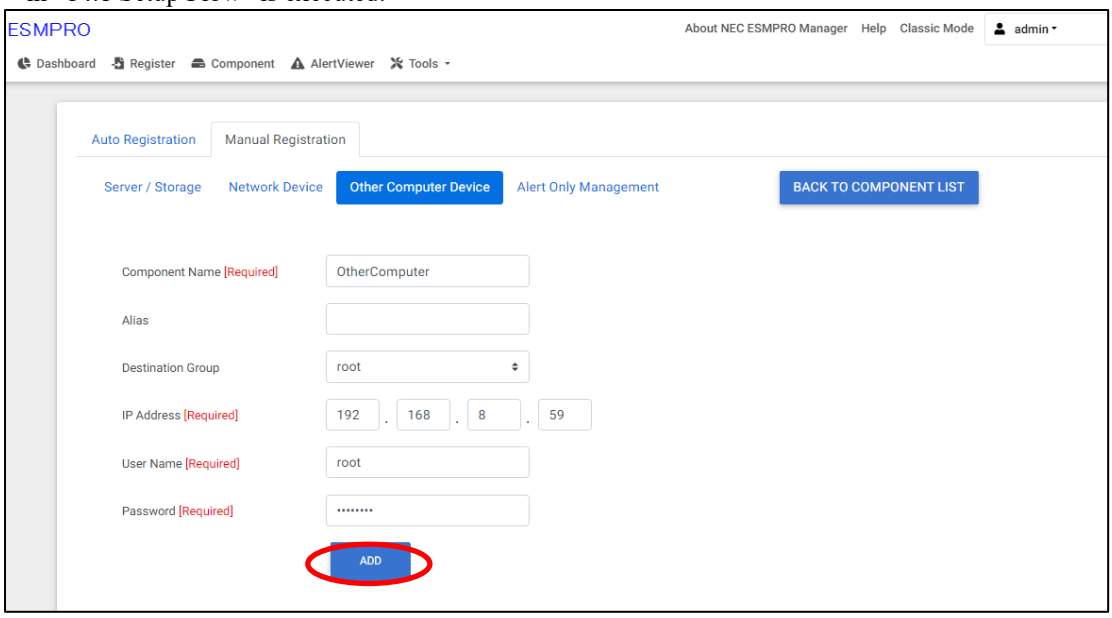


(3) Input the following items.

Name	Value
Component Name	Specify the name of the managed component on NEC ESMPRO Manager. Assign a name different from Other Computer Device names. Do not enter a name including blank characters. Uppercase characters are distinguished from lowercase characters.
Alias	Specify the information about the managed component. Do not enter a name including blank characters. Only blank characters cannot be entered. Also, please do not enter a name containing blank characters. The blank characters will be removed if there are half-width blank characters before or after the string. Uppercase characters are distinguished from lowercase characters. Optional.
Destination Group	Specify the group to which the managed component will belong. When you add the group to which the managed component will belong, See "1.3.2 Add component to Group" for the information about creating group.
IP Address	Enter IP Address of the Other Computer Device.
User Name Password	Enter the user name and password for communication with Other Computer Device. - Windows Enter Username/Password of Windows system Administrator. - Linux Enter root/Password of Linux operating system.

(4) Click "ADD".

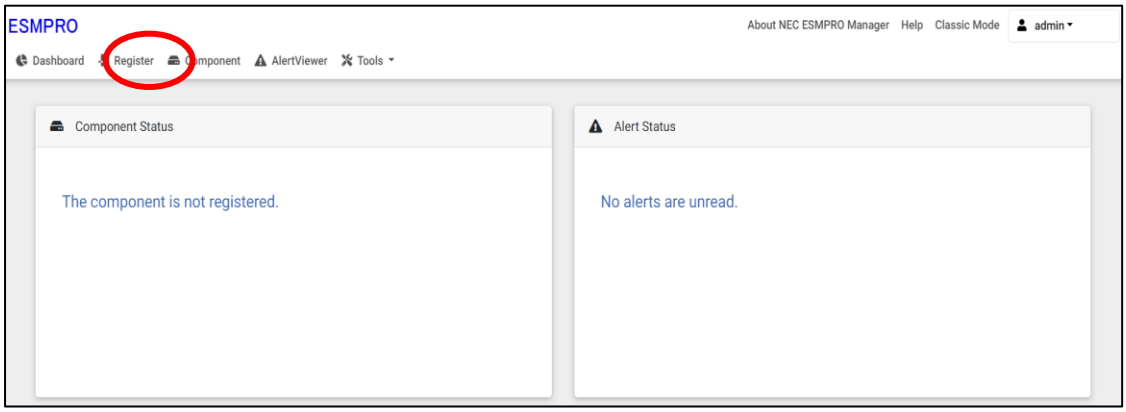
If the registration is successful, "Other Computer Device registration was successful." will be displayed. If the registration fails, "Failed to register Other Computer Device. Please check the input information or the ESMPRO/SM Task Service logon account" will be displayed. Please ensure that the entered information is correct. If “Failed to register Other Computer Device” is displayed, please check whether procedure2 in ”14.1 Setup Flow” is executed.



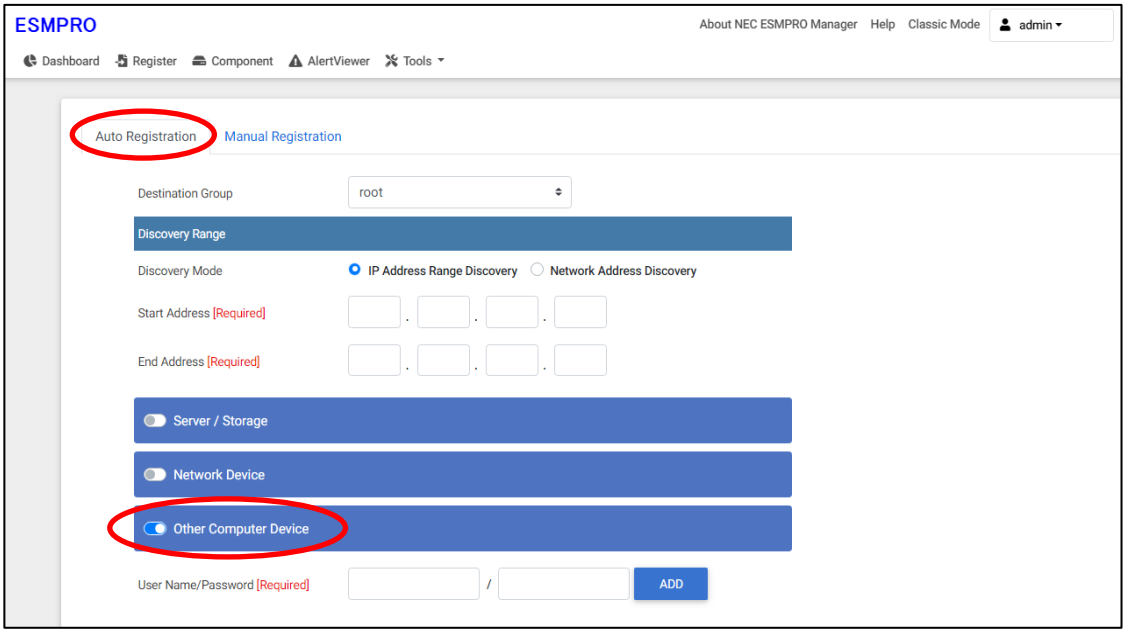
(5) The Other Computer Device registered will be displayed in “Component List”.

14.2.1.2 Auto Registration

(1) Click "Register".



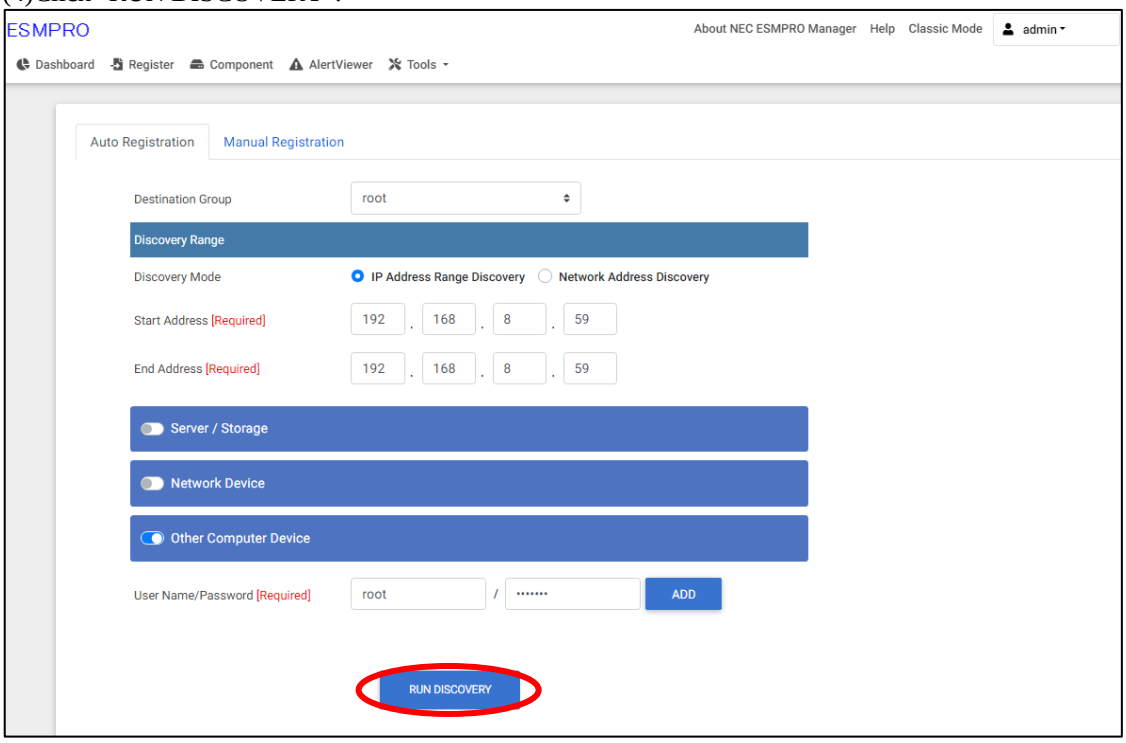
(2) Click the “Other Computer Device” of "Auto Registration".



(3) Input the following items to search managed components based on Other Computer Device.

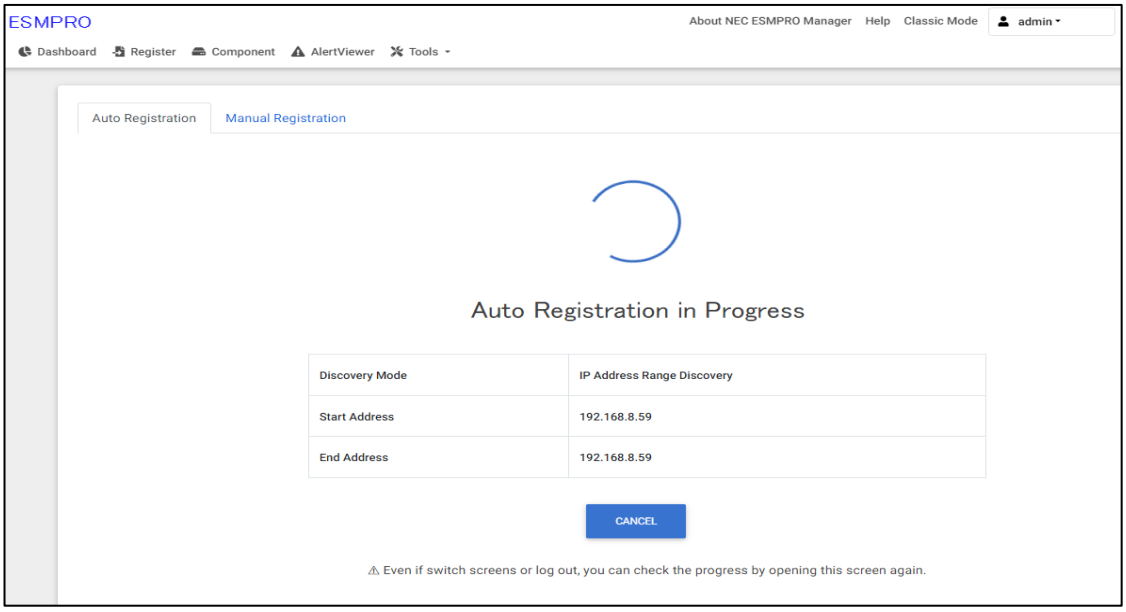
Name	Value
Destination Group	Specify the group to which the managed component will belong. When you add the group to which the managed component will belong, see “1.3.2 Add component to Group” for the information.
Discovery Range	
Discovery Mode	With "IP Address Range Discovery" selected, the NEC ESMPRO Manager searches for the managed components using the IP address range. With "Network Address Discovery" selected, the NEC ESMPRO Manager searches for the managed components using the specified network address.
Start Address End Address	When you select "IP Address Range Discovery" for "Discovery Mode", specify the start IP address and end IP address of the range in which managed components are to be searched for.
Network Address Network Mask	When you select "Network Address Discovery" for "Discovery Mode", specify the network address and network mask of the managed component to be searched for.
Network Device	
User Name/ Password	Enter the user name and password for communication with Other Computer Device. - Windows Enter Username/Password of Windows system Administrator. - Linux Enter root/Password of Linux operating system.

(4)Click "RUN DISCOVERY".

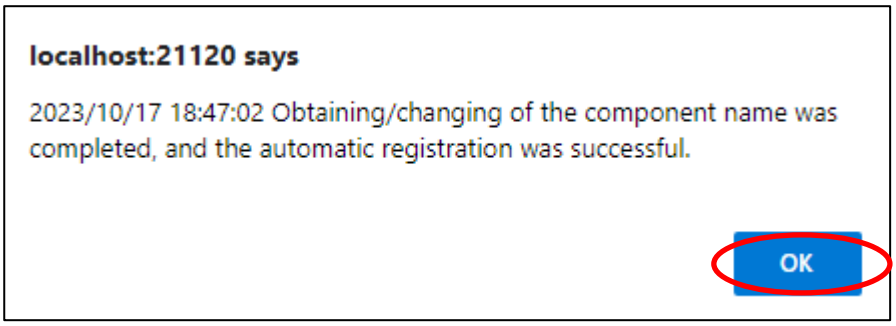


Click "RUN DISCOVERY" and then the discovery for the managed components will start.

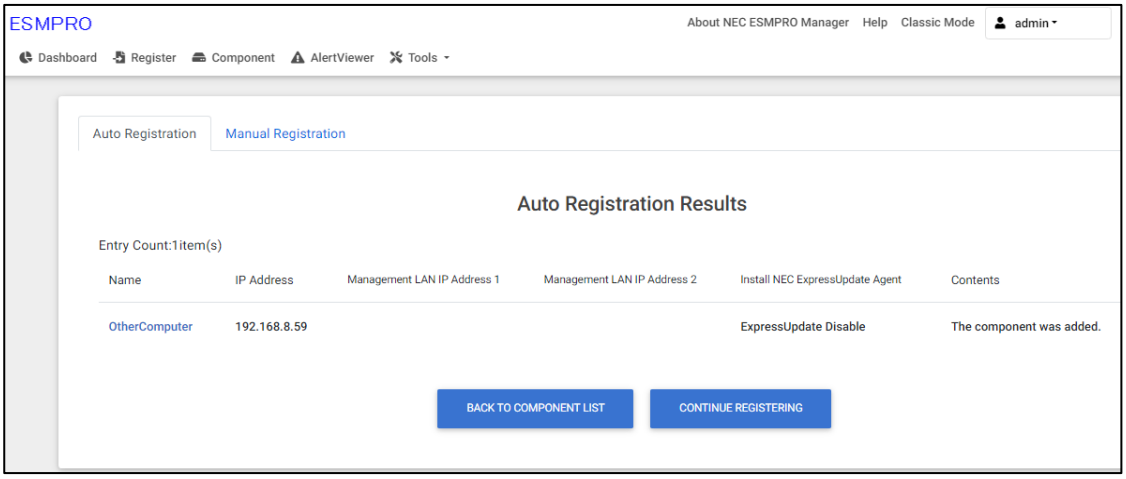
“Auto Registration in Progress” screen will be displayed.



(5) When the "Auto Registration" is completed, following message will be displayed. Click “OK”.



(6) Component registered is displayed on “Auto Registration Results”



Name	Description
Name	Component name
IP address	IP address
Management LAN IP Address 1	It is not displayed.
Management LAN IP Address 2	It is not displayed.
Install NEC ExpressUpdate Agent	・ExpressUpdate is disable This function is not supported.
Contents	・The component has been added. This message is displayed when a component has been successfully registered.

TIPS:

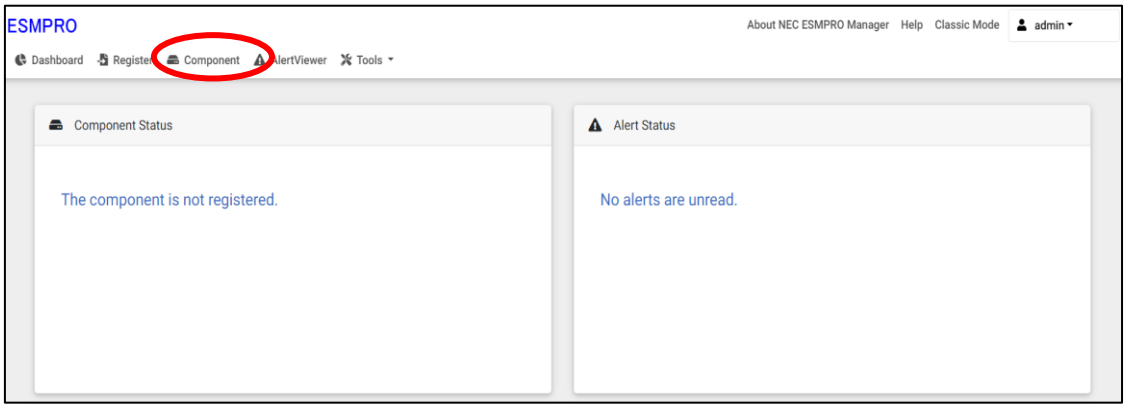
- In Auto Registration, If the system management cannot discover the managed component name, the "Name" of "Component List" will be "OtherComputer". The following components will be named "OtherComputer + number".
- If you want to change the name, click the "Name" in the "Component List" to launch Classic mode, and then click "Setting" -> "Connection Setting" ->"Edit" to change component name.

Chapter15 Operating groups

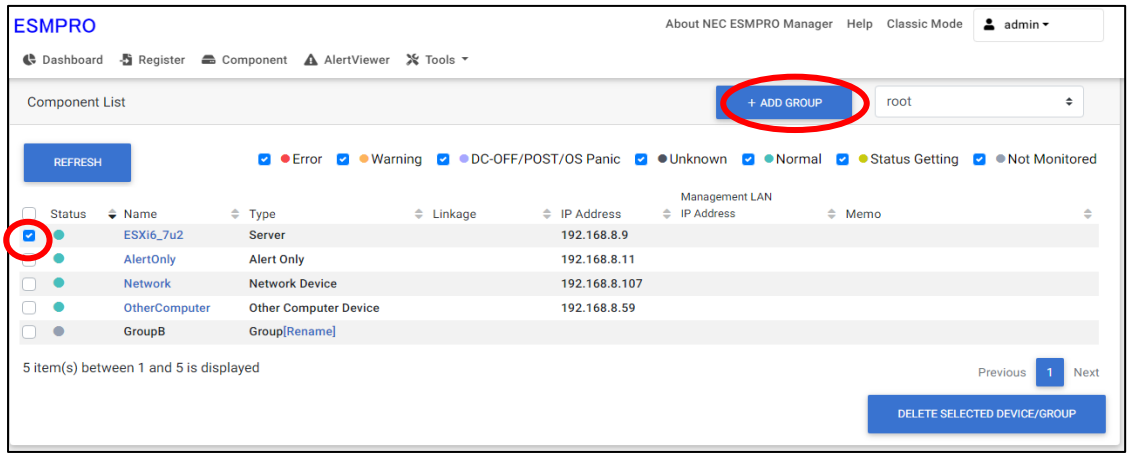
This chapter explains the procedure for the NEC ESMPRO Manager to add group or change name or delete name.
See “1.3.2.1 Creating group” to create group.

15.1 Adding group

(1) Click “Component”.

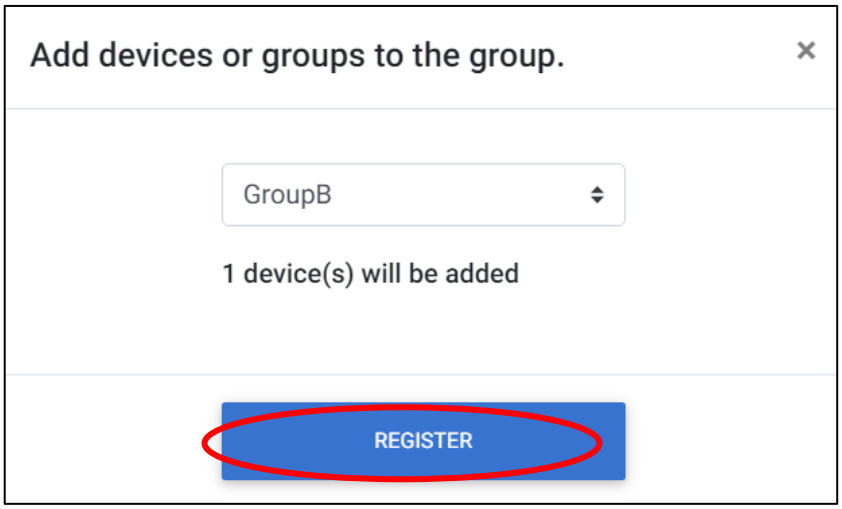


(2) Click “checkbox” of component listed on “Component List”, and click “+ ADD GROUP”.

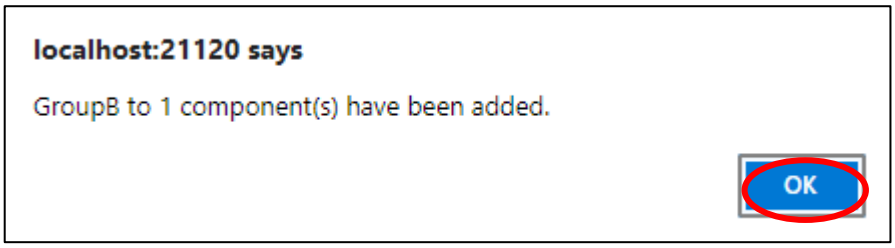


(3) Select group from group list, and click “REGISTER".

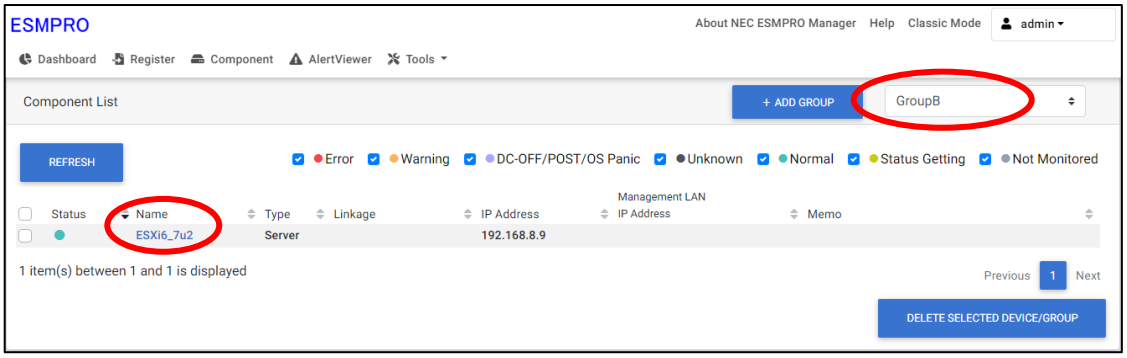
If you want create a new group for component here, click “+ ADD New Group” and enter group name.



(4) The following message will be displayed, and click “OK”.

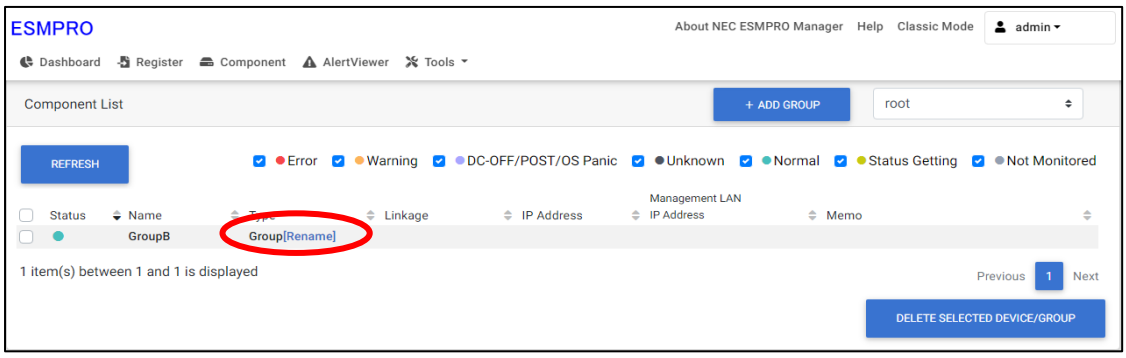


(5) If you select a group that contains a component from the group list, the component or group will be displayed in the “Component List”.

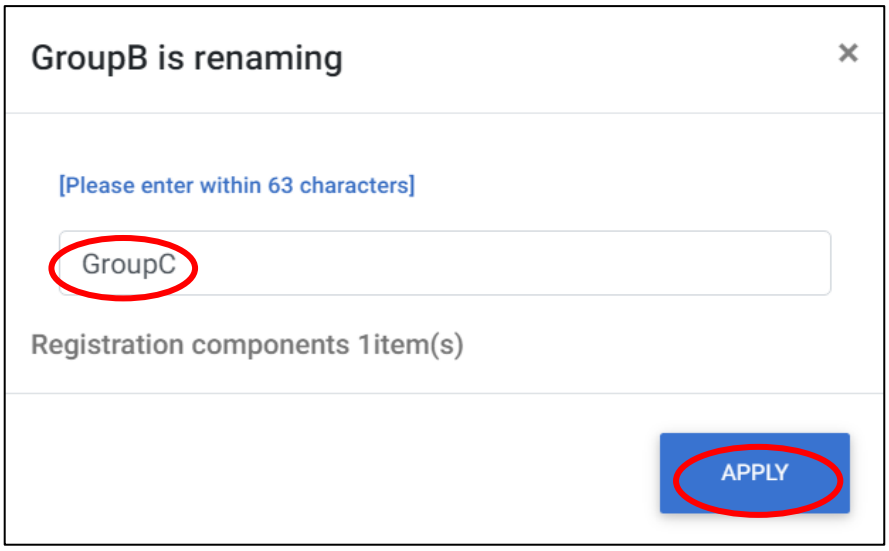


15.2 Changing group name

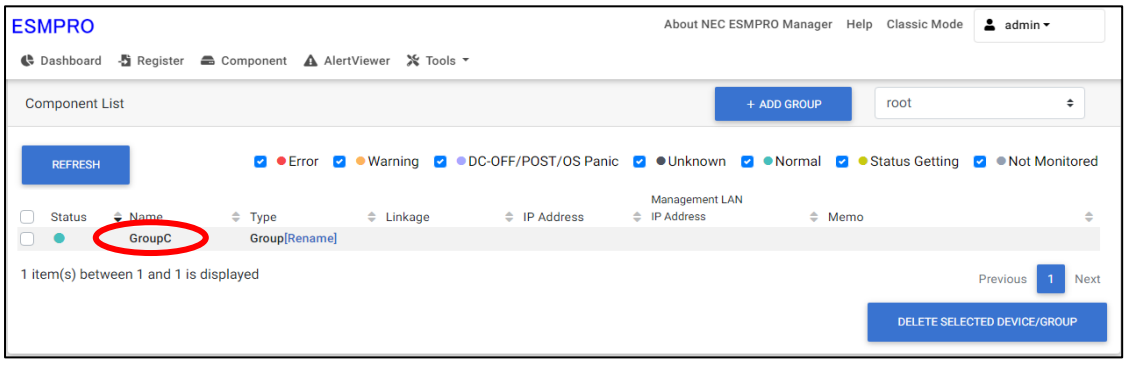
(1) In ”Component List”, click “Rename” on the right of the group under the “Type” column.



(2) Enter a new group name, and click ”APPLY”.



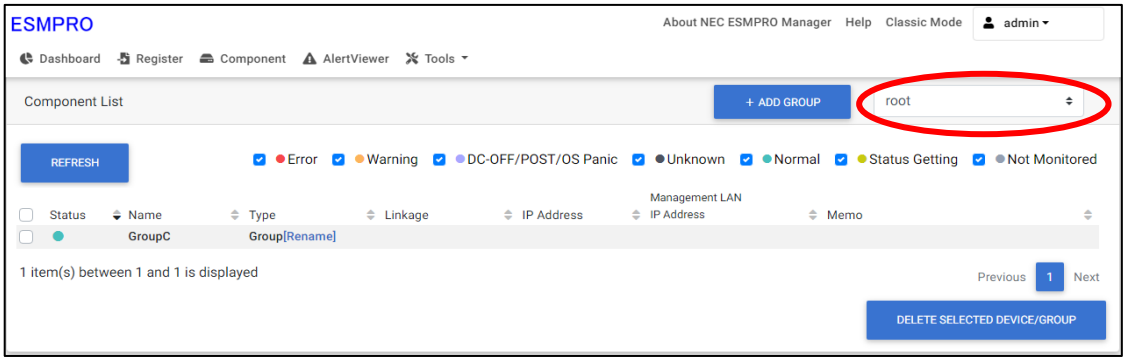
(3) Check the group name changed on “Component List”.



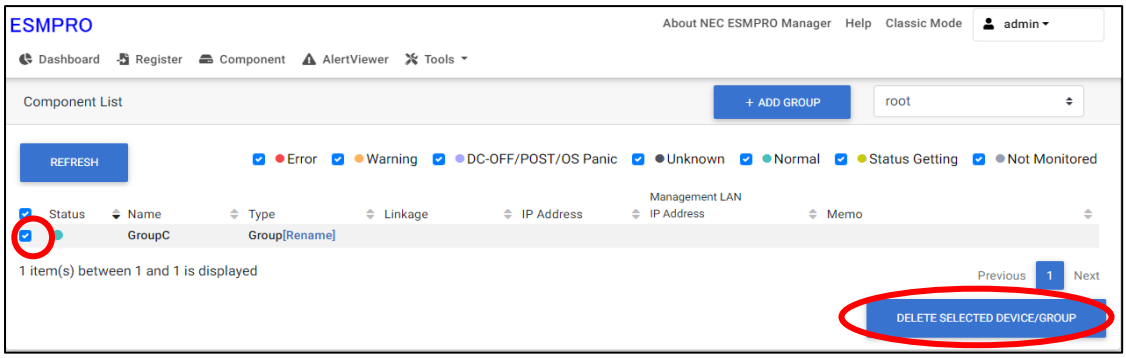
15.3 Removing groups

If you delete a group, all components and sub-groups under this group will also be deleted.

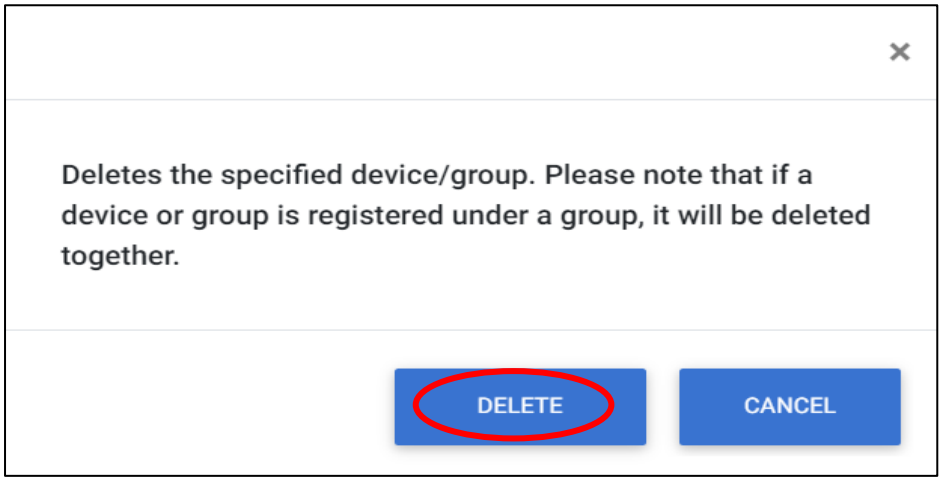
(1) Select a group which target groups belong to.



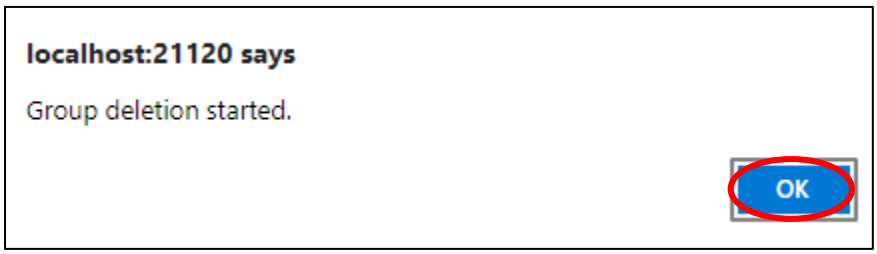
(2) Check target groups, click “DELETE SELECTED DEVICE/GROUP”.
You can check the components/groups displayed on the screen by clicking the checkbox located to the left of the status column.



(3) Click “DELETE” and you can remove checked groups from NEC ESMPRO Manager.



If delete start,"Group deletion started." message is displayed and click "OK".



TIPS:

- Removing components and removing groups cannot be executed at the same time.

CHECK :

- Deleting a group is executed sequentially, so the deleted group may still be displayed in the Component List after deletion. Please do not rename the deleted group. If you attempt to rename a deleted group, a name change screen without group name will be displayed. In this case, please click 'x' to exit.

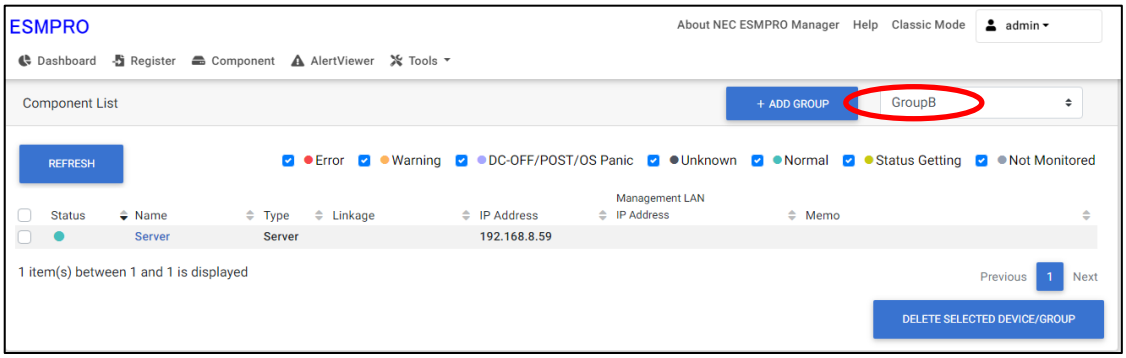
- When you click "DELETE" on the "DELETE SELECTED DEVICE/GROUP" screen, if you logout from NEC ESMPRO Manager before the message "Group deletion started" is displayed, the deletion process may be interrupted and some of groups may not be deleted. In this case, please execute the operation from step (1) for the groups that were not deleted.

Chapter16 Removing components

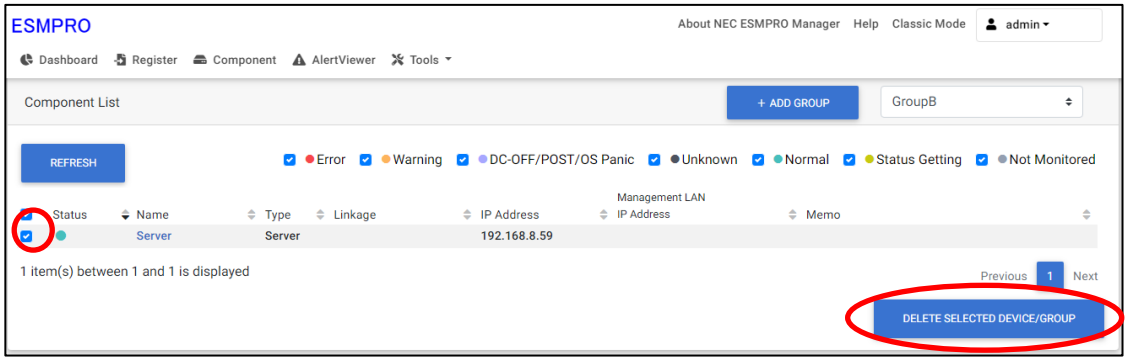
This chapter explains the procedure for the NEC ESMPRO Manager to remove components.

16.1 Removing components

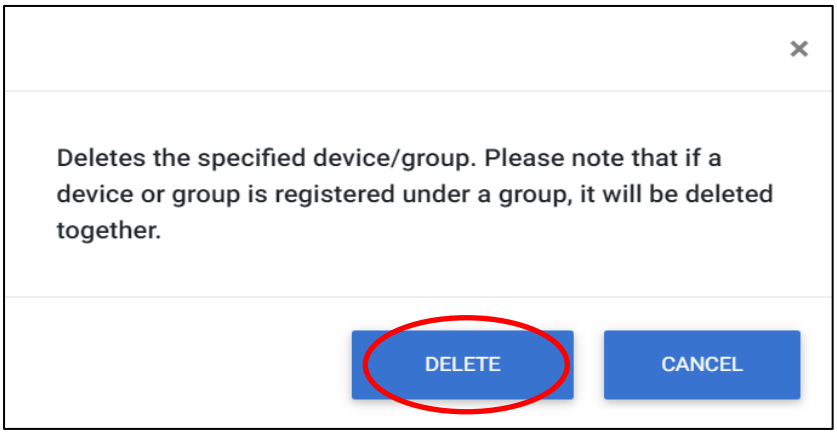
(1) Select a group which target components belong to.



(2) Check target groups, click “DELETE SELECTED DEVICE/GROUP”.
You can check the components/groups displayed on the screen by clicking the checkbox located to the left of the status column.



(3) Click “DELETE” and “Deleting components.Please wait a minutes.” will be displayed. If the deletion finish, “The deletion process is complete.” will be displayed, and click “OK”.



TIPS:

- Removing components and removing groups cannot be executed at the same time.

TIPS:

- If a remote batch scheduled is set on the server, the message “The remote batch is set on the specified component. Are you sure you want to delete it?” will be displayed. If you do not want to delete it, please click “Cancel”.

Appendix A. How to setup for the managed component that does not has local console

Even if a managed component does not have local consoles like a keyboard, you can operate BIOS setup and DOS tools of the managed component using NEC ESMPRO Manager. Here procedure of the minimum in order to use the remote control for the managed component is shown.

1. Install NEC ESMPRO Manager and set the Environment.
2. Configure BMC on a managed component.
3. Register a managed component on NEC ESMPRO Manager.
4. Open the remote console.

1. Install NEC ESMPRO Manager and set the Environment.

(1) Install NEC ESMPRO Manager on a management PC.
Refer to NEC ESMPRO Manager Ver.7 Installation Guide.

(2) Confirm that you can login to the NEC ESMPRO Manager.

(3) When you use LAN connection, connect the NEC ESMPRO Manager server and the managed component on the network.

(4) Install NEC ESMPRO BMC Configuration on any PC.

2. Configure BMC on a managed component.

(1) Configure BMC of the managed component.
When you use LAN connection, refer to 2.2.2”Configuration with NEC EXPRESSBUILDER DOS based with remote console feature (for LAN connection)”.

3. Register a managed component on NEC ESMPRO Manager.

(1) After login to NEC ESMPRO Manager, register Add a new group that the managed component will belong.
Refer to 2.3.1”Add Group to which the managed component will belong”.

(2) Register the managed component.
For LAN connection, refer to 2.3.2.2”Auto Registration”.

4. Open the remote console.

(1) Select the managed component on NEC ESMPRO Manager and click remote console tab to open the remote console.

(2) Select the managed component on NEC ESMPRO Manager and click remote control tab.
Reboot the managed component using some remote control command.
When the managed component is booted using NEC EXPRESSBUILDER CD-ROM, the main menu of NEC EXPRESSBUILDER will be displayed on the remote console of NEC ESMPRO Manager.

TIPS:

- If you use DOS based tool on the managed component, execute a remote control command with checking the check box of “Utility Boot” on remote control tab.
  If the anything is not displayed on the remote console.
  For LAN connection input ESC+{ key on the remote console.

Appendix B. How to setup for using NEC ESMPRO Agent Extension or NEC DianaScope Agent on the managed component that is set LAN teaming

Please setup NEC ESMPRO Manager with the procedure below using NEC ESMPRO Agent Extension, or NEC DianaScope Agent ver.2.00.00 and above.
The operation for NEC ESMPRO Agent Extension is explained.

How to setup is depended on the type of the managed component on which NEC ESMPRO Agent Extension has been installed.
- On the managed component that BMC uses standard LAN port.
- On the managed component that BMC uses Management LAN port.

Please see the appropriate explanation.

B.1 On the managed component that BMC uses standard LAN port

CHECK:
- DO NOT refer this description for the managed component in which EXPRESSSCOPE Engine series is integrated.

Refer to “NEC ESMPRO Manager Ver.6 Installation Guide” about the setting of LAN Teaming that is available for NEC ESMPRO Manager.

If OS on the managed component is Linux, how to setup the NEC ESMPRO Manager is not depended on LAN teaming.

If OS on the managed component is Windows, please setup the NEC ESMPRO Manager with the procedure below.

1. Invalidate BMC IP address synchronization function of NEC DianaScope Agent.
2. Set BMC configuration by using the NEC DianaScope Agent.
3 Select IP address for NEC DianaScope Agent.
4. Register the managed component on the NEC DianaScope Agent.

1. Invalidate BMC IP address synchronization function of the NEC DianaScope Agent.

(1) Click “NEC DianaScope Agent” - “NEC DianaScope Agent” from the start menu on Windows.

(2) Click “synchronization” on the dialog box of the NEC DianaScope Agent.

(3) Set the BMC IP address synchronization to disable.

2. Set BMC configuration by using the NEC DianaScope Agent.

(1) See 2.2.1"Configuration with NEC ESMPRO Agent Extension ver1.xx (for LAN connection)" and set BMC configuration information.
Note the followings:
- Set LAN1 IP address to same value of the teaming-set IP address.
- Even if the configuration of LAN2 for the BMC on the managed component is available, do not set LAN2 in the BMC configuration information. (If LAN2 IP address for BMC is already set, change it to "0.0.0.0".)

CHECK:
- Even if the BMC configuration has been already set, confirm the LAN1 IP address and register it again after invalidating BMC IP address synchronization function.

3 Select IP address for NEC DianaScope Agent.

(1) Select "Select IP address for Agent" on NEC DianaScope Agent.

(2) Enter the teaming address for LAN1.

4. Register the managed component on the NEC ESMPRO Manager.

(1) See 2.3"Register a managed component on NEC ESMPRO Manager (for LAN connection)" and register the managed component.

CHECK:
- Confirm the IP address of the managed component even if the "Check Connection" for the managed component has been completed. If the IP address is different from the teaming-set IP address that is set in the procedure "2. Set BMC configuration through NEC DianaScope Agent", edit it and perform "Check Connection" again.

B.2 On the managed component that BMC uses Management LAN port

Please setup the NEC ESMPRO Manager with the procedure below. This procedure does not depend on OS of the managed component.

1. Set IP address that NEC ESMPRO Agent Extension uses on NEC ESMPRO Agent Extension.
2. Register the managed component on the NEC ESMPRO Manager.

1. Set IP address that NEC ESMRPO Agent Extension uses on NEC ESMPRO Agent Extension.

(1) Click “Set Agent IP address” of NEC ESMPRO Agent Extension and set the IP address that is used for Teaming on any LAN.

2. Register the managed component on the NEC ESMPRO Manager.

(1) See 2.3”Register a managed component on NEC ESMPRO Manager (for LAN connection)” and register the managed component.

CHECK:
- If the “Check Connection” for the managed component has been completed, perform “Check Connection” again after performing “Set IP address that NEC ESMPRO Agent Extension uses on NEC ESMPRO Agent Extension”.

Appendix C. Port number for WS-Man communication

A port number where WS-Man service listens for connection is as follow.

(1) Windows system
WS-Man service listens for HTTPS connection at port 5986, for HTTP connection at port 5985.

(2) Linux system
WS-Man service listens for HTTPS connection at port 5986. Linux system does not support HTTP connection.

(3) VMware ESXi system
WS-Man service listens for HTTPS connection at port 443. VMware ESXi system does not support HTTP connection.

Appendix D. Managed Components Summary

Component which is installed BMC/iLO/BMC(Other)

The NEC ESMPRO Manager has following functions for BMC conforming to management components.

- Remote console
- Information collection
- Power control
- Component monitoring
- Remote batch
- Operation through the command line

Some available functions are dependent on the product type of the managed component. See the following managed component list.
The notes and restrictions of each component product are also explained in the user's guide provided with the managed component. See the user's guide.

<Explanation of the managed components list>

Product Name:	Indicates the name of the product that NEC ESMPRO Manager can control.	
MC Type:	"BMC":	means that the managed component pre-contains BMC other than EXPRESSSCOPE Engine or EXPRESSSCOPE Engine 2 or EXPRESSSCOPE Engine 3 or EMS (Embedded Management Software).
	"BMC (EE)":	means that the managed component pre-contains EXPRESSSCOPE Engine or EXPRESSSCOPE Engine 2.
	"BMC (EE3)":	means that the managed component pre-contains EXPRESSSCOPE Engine 3.
	"iLO":	means that the managed component pre-contains iLO.
	"BMC(Other)":	means that the managed component pre-contains EMS.
Standard LAN2:	"Supported" means that MC and system BIOS on the managed component can communicate the NEC ESMPRO Manager via standard LAN port 2. (Advanced Remote Management Card, the function which is equal to Advanced Remote Management Card or EXPRESSSCOPE Engine series uses a dedicated LAN port, not use standard LAN port on the managed component.)	
Management LAN Port:	"Use" means that MC on the managed component uses a Management LAN Port. "-" means that BMC on the managed component uses a standard LAN Port.	
Remote Console:	"Supported" means that the managed component supports the Remote Console function.	
Scheduled Running:	"Supported" means that the managed component supports the scheduled running function.	
Power option setting:	"Supported" means that the managed component supports the "Power Restore Delay" function.	
SOL:	"Supported" means that the managed component supports the SOL (Serial over LAN. A kind of the system actualizing remote console function.)	
force network-boot:	"Supported" means that the managed component supports the "force network-boot" function, by which NEC ESMPRO Manager can indicate the managed component to force a network boot regardless of the boot order in Bios Setup menu. * It can operator the command line interface of NEC ESMPRO Manager.	

Electric Power Management	“Supported” means that the managed component supports the “Electric Power Management” function.
ECO Setting	“Supported” means that the managed component supports the “ECO Setting” function.
Redfish	“Supported” means that the connection method to the component supports Redfish.
Notes:	Refer the note number of the section “Notes for Each Managed Component”.

Component which is installed BMC

Express5800/100 series (Tower/Rack Server)

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
110Ek	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
110El	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
110GR-1d	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
110Rb-1h	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
110Rc-1h	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
110Rh-1	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
110Ri-1	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
120Eh	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
120Ei	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
120Gc	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
120Gd	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
120Li	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
120Lj	BMC(EE)	-	use	supported	supported	supported	supported	supported	-	supported	2-(a)
120Rg-1	BMC(EE)	-	use	supported	supported	supported	supported	supported	-	supported	
120Rh-1	BMC(EE)	-	use	supported	supported	supported	supported	supported	-	supported	
120Ri-2	BMC(EE)	-	use	supported	supported	supported	supported	supported	-	supported	
120Rj-2	BMC(EE)	-	use	supported	supported	supported	supported	supported	-	supported	
140Rf-4	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
R110a-1	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
R110b-1	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
R110c-1	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
R110d-1E	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R110d-1M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R110e-1E	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R110e-1M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R110f-1E	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R110h-1	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R110i-1	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120a-1	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120a-2	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120b-1	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120b-2	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120d-1E	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120d-2E	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120d-1M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120d-2M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120e-1E	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120e-2E	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120e-1M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120e-2M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120f-1M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120f-2M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120g-1M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120g-2M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120f-1E	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120f-2E	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R120g-1E	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
R120g-2E	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R140a-4	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
R140b-4	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
E120d-1	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
E120d-M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
E120e-M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
E120f-M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
E120g-M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
T110a	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
T110b	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
T110c	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
T110d	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
T110e-M	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
T110f-E	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
T110f-S	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
T110h	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
T110h-S	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
T120a-E	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
T120a-M	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
T120b-M	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
T120d	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
T120e	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
T120f	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
T120g	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
T110i	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
T110i-S	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)

Express5800/Blade Server

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
120Bb-6	BMC(EE)	-	supported	supported	supported	supported	supported	-	-	supported	3-(a)
120Bb-d6	BMC(EE)	-	supported	supported	supported	supported	supported	-	-	supported	3-(a)
120Bb-m6	BMC(EE)	-	supported	supported	supported	supported	supported	-	-	supported	3-(a)
140Ba-10	BMC(EE)	-	supported	supported	supported	supported	supported	-	-	supported	3-(a)
B110d	BMC(EE3)	-	supported	supported	supported	supported	supported	supported	-	supported	3-(b)
B120a	BMC(EE)	-	supported	supported	supported	supported	supported	supported	-	supported	3-(a)
B120a-d	BMC(EE)	-	supported	supported	supported	supported	supported	supported	-	supported	3-(a)
B120b	BMC(EE)	-	supported	supported	supported	supported	supported	supported	-	supported	3-(a)
B120b-d	BMC(EE)	-	supported	supported	supported	supported	supported	supported	-	supported	3-(a)
B120b-Lw	BMC(EE)	-	supported	supported	supported	supported	supported	supported	-	supported	3-(a)
B120b-h	BMC(EE)	-	supported	supported	supported	supported	supported	supported	-	supported	3-(a)
B120d	BMC(EE3)	-	supported	supported	supported	supported	supported	supported	-	supported	3-(b)
B120e	BMC(EE3)	-	supported	supported	supported	supported	supported	supported	-	supported	3-(b)
B120f	BMC(EE3)	-	supported	supported	supported	supported	supported	supported	-	supported	3-(b)
B120d-h	BMC(EE3)	-	supported	supported	supported	supported	supported	supported	-	supported	3-(b)
B120e-h	BMC(EE3)	-	supported	supported	supported	supported	supported	supported	-	supported	3-(b)
B120f-h	BMC(EE3)	-	supported	supported	supported	supported	supported	supported	-	supported	3-(b)
B140a-T	BMC(EE)	-	supported	supported	supported	supported	supported	-	-	supported	3-(a)

Express5800/ECO CENTER (Energy Efficient Server)

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
E110b-M	BMC(EE)	-	supported	supported	supported	supported	supported	supported	-	supported	
E110d-1	BMC(EE3)	-	supported	supported	supported	supported	supported	supported	supported	supported	
E120a [NE1100-001Y, NE1100-002Y, NE1100-001PY]	BMC	-	supported	supported	-	-	supported	supported	-	-	2-(e), 2-(f)
E120b-1	BMC(EE)	-	supported	supported	supported	supported	supported	-	-	supported	
E120b-M [NE1200-001Y, NE1200-002Y, NE1200-003Y]	BMC	-	supported	supported	-	-	supported	supported	-	-	2-(e), 2-(f)

Fault tolerant server

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
R320c-E4	BMC (EE3)	-	use	-	supported	supported	-	-	-	supported	
R320c-M4	BMC (EE3)	-	use	-	supported	supported	-	-	-	supported	
R320d-M4	BMC (EE3)	-	use	-	supported	supported	-	-	-	supported	
R320e-E4	BMC (EE3)	-	use	-	supported	supported	-	-	-	supported	
R320e-M4	BMC (EE3)	-	use	-	supported	supported	-	-	-	supported	
R320f-E4	BMC (EE3)	-	use	-	supported	supported	-	-	-	supported	
R320f-M4	BMC (EE3)	-	use	-	supported	supported	-	-	-	supported	
R320g-M4	BMC (EE3)	-	use	-	supported	supported	-	-	-	supported	
R320g-E4	BMC (EE3)	-	use	-	supported	supported	-	-	-	supported	
R310g-E4	BMC (EE3)	-	use	-	supported	supported	-	-	-	supported	
R320h-M4	BMC (EE3)	-	use	-	supported	supported	-	-	-	supported	
R320h-E4	BMC (EE3)	-	use	-	supported	supported	-	-	-	supported	
R32Ba-E2	iLO	-	use	-	-	-	-	supported	-	-	2-(h)

Express5800/iModel (Data Center Server)

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
i110Rh-1	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
i110Ri-1	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
i120Ra-e1	BMC(EE)	-	use	supported	supported	supported	supported	-	supported	supported	
iR110a-1	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
iR110a-1H	BMC(EE)	-	use	supported	supported	supported	supported	-	supported	supported	
iR120a-1E	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)

Express5800/ Low cost entry model (G Model)

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
GT110d	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
GT110e	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
GT110f	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
GT110d-S	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
GT110e-S	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
GT110f-S	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
GT110h	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
GT110i	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
GT120a	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
GT120b	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	

Express5800/office rack server

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
R110a-1H	BMC(EE)	-	use	supported	supported	supported	supported	-	supported	supported	

Express5800/The highly parallel computing server

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
HR120a-1	BMC	-	use	supported	-	-	supported	supported	-	-	1-(a),1-(b),2-(c),2-(d),2-(i)
HR120b-1	BMC	-	use	supported	-	-	supported	supported	-	-	1-(a),1-(b),2-(c),2-(d),2-(i)
HR110c-M	BMC	-	use	supported	-	-	supported	supported	-	-	1-(a),1-(b),2-(c),2-(d),2-(i)

NEC Scalable Modular Server

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
DX2000 (Server module)	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	1-(a),1-(b)
DX2000 (CSC module)	BMC (EE3)	-	use	-	-	-	-	supported	-	-	1-(a),1-(b),2-(b),2-(c),2-(i),2-(j)

Express5800/Scalable HA Server (Expandable Enterprise Server)

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
A1020a	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A1020b	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A1080a-D	BMC	-	use	supported	supported	-	supported	supported	supported	-	2-(d),2-(g)
A1080a-E	BMC	-	use	supported	supported	-	supported	supported	supported	-	2-(d),2-(g)
A1080a-S	BMC	-	use	supported	supported	-	supported	supported	supported	-	2-(d),2-(g)
A1040a	BMC	-	use	supported	supported	-	supported	supported	supported	-	2-(d),2-(g)
A1040b	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A2010b	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A2020b	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A2040b	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R140e-4	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A1040c	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A2010c	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A2020c	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A2040c	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
R140f-4	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A1040d	BMC(EE3)		use	supported	supported	supported	supported	supported	supported	supported	
A2010d	BMC(EE3)		use	supported	supported	supported	supported	supported	supported	supported	
A2020d	BMC(EE3)		use	supported	supported	supported	supported	supported	supported	supported	
A2040d	BMC(EE3)		use	supported	supported	supported	supported	supported	supported	supported	
R140g-4	BMC(EE3)		use	supported	supported	supported	supported	supported	supported	supported	
A1040e	BMC(EE3)		use	supported	supported	supported	supported	supported	supported	supported	
A2040e	BMC(EE3)		use	supported	supported	supported	supported	supported	supported	supported	
R140h-4	BMC(EE3)		use	supported	supported	supported	supported	supported	supported	supported	

Express5800/many core server

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
HR120a-1	BMC	-	use	supported	-	-	supported	supported	-	-	2-(c),2-(d),2-(h)
HR120b-1	BMC	-	use	supported	-	-	supported	supported	-	-	2-(c),2-(d),2-(h)
HR110c-M	BMC	-	use	supported	-	-	supported	supported	-	-	2-(c),2-(d),2-(h)

Express5800/Appliance server

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
CS300e	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
CS300f	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
CS300g	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
CS400g	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
CS400h	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
CS500e	BMC(EE)	-	use	supported	supported	supported	supported	supported	-	supported	
CS500f	BMC(EE)	-	use	supported	supported	supported	supported	supported	-	supported	
FW300e	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	

FW500e	BMC(EE)	-	use	supported	supported	supported	supported	supported	-	supported	
LB300e	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
LB300f	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
LB300g	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
LB400g	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
LB400h	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
MW300e	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
MW300f	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
MW300g	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
MW400g	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
MW400h	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
MW500e	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
MW500f	BMC(EE)	-	use	supported	supported	supported	supported	supported	-	supported	
SG300e	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
VC300e	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
VC300f	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
VC300g	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	
VC400g	BMC(EE)	-	use	supporte	supporte	supporte	supporte	supported	supported	supported	

				d	d	d	d				
VC400h	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	

Express5800/Off-continuity asset inheritance(600 series)

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
640xi [N8610-746, N8610-749]	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
650xi [N8610-756, N8610-759]	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
670xi [N8610-778]	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
680xi [N8610-788]	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
690xi [N8610-798]	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
V608-H [N8610-1012, N8610-1022, **N8610-1032]**	**BMC(EE3)**	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**2-(a)**
V608-L [N8610-1011, N8610-1021, **N8610-1031]**	**BMC(EE3)**	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**2-(a)**
V618-H [N8610-905, N8610-906, N8610-915, N8610-916, N8610-1005, **N8610-1006]**	**BMC(EE)**	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**2-(a)**
V618-H [N8610-1025, N8610-1026, N8610-1035, **N8610-1036]**	**BMC(EE3)**	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**2-(a)**
V618-L [N8610-903, N8610-904, N8610-913, N8610-914, N8610-1003, **N8610-1004]**	**BMC(EE)**	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**2-(a)**
V618-L [N8610-1023, N8610-1024, N8610-1033, **N8610-1034]**	**BMC(EE3)**	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**		**2-(a)**

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
V628-H [N8610-908, N8610-918, N8610-1008]	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
V628-H [N8610-1028, N8610-1038]	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
V628-L [N8610-907, N8610-917, N8610-1007]	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
V628-L [N8610-1027, N8610-1037]	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
V640xi	BMC(EE)	-	use	supported	supported	supported	supported	supported	-	supported	2-(a)
V650xi	BMC(EE)	-	use	supported	supported	supported	supported	supported	-	supported	2-(a)
V670xi	BMC(EE)	-	use	supported	supported	supported	supported	supported	-	supported	2-(a)
V680xi	BMC(EE)	-	use	supported	supported	supported	supported	supported	-	supported	2-(a)
V690xi	BMC(EE)	-	use	supported	supported	supported	supported	supported	-	supported	2-(a)

iStorage NS series

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
NS47P	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
NS48P	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
NS49P	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
NS100Tb	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
NS100Td	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
NS100Tg	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
NS100Th	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)
NS150h	BMC(EE)	-	use	supported	supported	supported	supported	-	-	supported	2-(a)
NS300Ra	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
NS300Rb	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
NS300Rd	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
NS300Rg	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
NS300Rh	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
NS300Ta	BMC(EE)	-	use	supported	supported	supported	supported	supported	supported	supported	
NS300Tc	BMC(EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	2-(a)

NS300Tf	**BMC(EE3)**	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**2-(a)**
NS460	**BMC(EE)**	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**-**	**-**	**supported**	
NS470	**BMC(EE)**	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**-**	**supported**	
NS480	**BMC(EE)**	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	
NS500Ba	BMC(EE)	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**-**	**supported**	3-(a)
NS500Ra	BMC(EE)	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	
NS500Rb	BMC(EE)	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	
NS500Rc	BMC(EE3)	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	
NS500Rd	BMC(EE3)	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	
NS500Rf	BMC(EE3)	**-**	**use**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	**supported**	

NX7700x/Enterprise Server

Product name	MC Type	Standard LAN2		Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
A2010M-60	BMC (EE3)	-		use	supported	supported	supported	supported	supported	supported	supported	
A2010M-30	BMC (EE3)	-		use	supported	supported	supported	supported	supported	supported	supported	
A2010M-15	BMC (EE3)	-		use	supported	supported	supported	supported	supported	supported	supported	
A2010L-60	BMC (EE3)	-		use	supported	supported	supported	supported	supported	supported	supported	
A3012M-4	BMC (EE3)	-		use	supported	supported	supported	supported	supported	supported	supported	
A3012L-2	BMC (EE3)	-		use	supported	supported	supported	supported	supported	supported	supported	
A3012L-1	BMC (EE3)	-		use	supported	supported	supported	supported	supported	supported	supported	
A3010M-4	BMC (EE3)	-		use	supported	supported	supported	supported	supported	supported	supported	
A3010E-2	BMC (EE3)	-		use	supported	supported	supported	supported	supported	supported	supported	

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
A4010E-2	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A4012M-4	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A4012L-2	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A4012L-1	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A4010M-4	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A4012L-2D	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A4012L-1D	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A5012M-4	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A5012L-2	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A5010M-4	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A5012L-2D	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A5012L-1D	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
A5012M-4 v2	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A5012L-2 v2	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A5010M-4 v2	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A5012L-2D v2	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	
A5012L-1D v2	BMC (EE3)	-	use	supported	supported	supported	supported	supported	supported	supported	

NEC Scalable Modular Server

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
DX2000 (server module)	BMC(EE3)	—	use	supported	supported	supported	supported	supported	supported	supported	
DX2000 (CSC module)	BMC(EE3)	—	use		—	—	—	supported	—	—	2-(b),2-(c), 2-(h),2-(i)

Component in which iLO is integrated

Express5800/100 series (Tower/Rack Server)

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
R120h-1M	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120h-2M	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120i-1M	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120i-2M	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120h-1E	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120h-2E	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
T120h	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R110j-1	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120h-1M(2nd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120h-2M(2nd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120h-1E(2nd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120h-2E(2nd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
T120h(2nd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120h-1M(3rd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120h-2M(3rd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R110j-1(2nd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R110j-1M	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R110k-1	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120h-1E(3rd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120h-2E(3rd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
T120h(3rd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120j-1M	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120j-2M	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R110k-1M	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
T110k-M	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R110m-1	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120j-1M(2nd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
R120j-2M(2nd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)

R110k-1M(2nd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
T110k-M(2nd-Gen)	iLO	-	use	-	-	-	-	supported	-	-	2-(h)

iStorage NS series

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
NS500Ri	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
NS500Rj	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
NS300Ri	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
NS300Rj	iLO	-	use	-	-	-	-	supported	-	-	2-(h)

NX7700x/Enterprise Server

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Notes
A5010E-2	iLO	-	use	-	-	-	-	supported	-	-	2-(h)
A5010E-2 v2	iLO		use	-	-	-	-	supported	-	-	2-(h)
A6010E-2	iLO		use	-	-	-	-	supported	-	-	2-(h)
A7010E-2c	iLO		use	-	-	-	-	supported	-	-	2-(h)
A7010E-2	iLO		use	-	-	-	-	supported	-	-	2-(h)
A7012M-2	iLO		use	-	-	-	-	supported	-	-	2-(h)

CHECK:

- The component in which iLO is integrated is displayed in the screen of [Server Control], but you can't use the following function for the component.
  - [Remote Power Control] - [Power Cycle] and [OS Shutdown] *1

  *1 When the component is registered with WS-Man management, you can use the function of [OS Shutdown].
- Other company's iLO devices not made by NEC are not supported.

Component of BMC(Other)

Express5800/100 series (Tower/Rack Server)

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Redfish	Notes
D120h (Server module)	BMC(Other)	-	use	supported	-	supported	supported	supported	supported	-	-	
D120h (CMC module)	BMC(Other)	-	use	-	-	-	-	-	-	-	-	
T110j	BMC(Other)	-	use	supported	-	supported	supported	supported	supported	-	-	
T110j-S	BMC(Other)	-	use	supported	-	supported	supported	supported	supported	-	-	
T110j(2nd-Gen)	BMC(Other)	-	use	supported	-	supported	supported	supported	supported	-	-	
T110j-S(2nd-Gen)	BMC(Other)	-	use	supported	-	supported	supported	supported	supported	-	-	
T110k	BMC(Other)	-	use	supported	-	supported	supported	supported	supported	-	supported	
T110k-S	BMC(Other)	-	use	supported	-	supported	supported	supported	supported	-	supported	
GT110j	BMC(Other)	-	use	supported	-	supported	supported	supported	supported	-		
T110m	BMC(Other)	-	use	supported	-	supported	supported	supported	supported	-	supported	
T110m-S	BMC(Other)	-	use	supported	-	supported	supported	supported	supported	-	supported	

iStorage NS series

Product name	MC Type	Standard LAN2	Management LAN Port	Remote Console	Scheduled running	Power option setting	SOL	Electric Power Management	ECO Setting	force network boot	Redfish	Notes
NS100Ti	BMC(Other)	-	use	supported	-	supported	supported	supported	supported	-	-	
NS100Tj	BMC(Other)	-	use	supported	-	supported	supported	supported	supported	-	-	
NS100Tk	BMC(Other)	-	use	supported	-	supported	supported	supported	supported	-	supported	
NS100Tm	BMC(Other)	-	use	supported	-	supported	supported	supported	supported	-	supported	

<Notes for Each Managed Component>

This section explains the functional difference and notes of each managed component.
If note number for the managed component is displayed on the column "notes" of "Managed Components List", refer the notes of the note number.

1. About the connection type or the connection port.
2. About function
   2-(a) This product has no function to identify the chassis like UID lamp, however "Identify Chassis" command of the NEC ESMPRO Manager is executer successfully.
   2-(b) This product does not support remote console function.
   2-(c) NEC ESMPRO Agent Extension or NEC DianaScope Agent cannot be installed on this product. Some functions of NEC ESMPRO Manager are not supported for the product if the functions need to communicate with NEC ESMPRO Agent Extension or NEC DianaScope Agent.
   2-(d) BMC on this product cannot be configured using either NEC ESMPRO Agent Extension, NEC DianaScope Agent or NEC ESMPRO Manager PXE Service. Please refer to the user's guide that is attached in this product for BMC configuration.
   2-(e) The power measurement for the server 1 reads a total of the server 1 and the server 2. The power measurement for the server 2 always reads 0.
   2-(f) Please execute "check connection" for the managed component when BMC FW is updated on the managed component. If "check connection" is not executed, the remote console function may not run normally.
   2-(g) If the managed component is Dual Server System, the power measurement for each server reads a total of the server 1 and the server 2.
   2-(h) NEC ExpressUpdate Agent cannot be installed on this product. NEC ExpressUpdate of NEC ESMPRO Manager is not support for the product.
   2-(i) Power consumption value of the whole enclosure is shown when power measurement is executed to CSC module.
   When not wanting to do electric power measurement of the whole enclosure, Please set "Display Nominal Value" to the Power Measurement.

3. About the operation
   3-(a) Please do not change the delay time on the Power Restore Delay function for this product. This product is turned on after the waiting time ((slot number - 1) * 2sec). If the delay time is changed from 0 sec (the default value), the waiting time is not set correct value.
   3-(b) NEC ESMPRO Manager does not change the power restore delay time for this product even if you order NEC ESMPRO manager to set the delay time. Because the waiting time ((slot number - 1) * 2sec) should be guaranteed before this product is turned on.

EM Card

NEC ESMPRO Manager can get a blade enclosure information by communication with the following EM Card in the blade enclosure.

--EM Card [N8405-019A]
--EM Card [N8405-27]
--EM Card [N8405-043]

Power Bay

NEC ESMPRO Manager can manage the following Power Bay remotely.

--EcoPowerGateway [N8142-36F]

Component based on vPro

NEC ESMPRO Manager can manage Express5800/Workstation based on the vPro including the iAMT firmware version 6.0 and later.

Storage

- **iStorage(M series)**

iStorage(M series) supported by iStorage (M series) NEC ESMPRO Manager relative module is described.

Details, Alive Monitoring and Configuring the iSM Server can be used.

Storage Details	:	Alive Monitoring Status, NEC Storage state, Disk Array Name, Monitoring, Resource State, Model Name, Version Information, Serial Number, IP Address, WebSAM iStorageManager
Storage Alive Monitoring	:	Watch Status, Register Alert Upon No Response, Polling Interval, Max Retries on Error (0 – 100 number of times)
Configuring the iSM Server	:	Launch tool for Configuring the iSM Server

* It is necessary that WebSAM iStorageManager 12.3 or later is installed on the server where NEC ESMPRO Manager is installed.
* For launching iSM client(Web GUI) from WebSAM iStorageManager link, license of WebSAM iStorageManager is required. Refer to the "ESMPRO Installation Tool User's Guide" for information about License management.

Note: After installation of WebSAM iStorageManager, if you execute following steps, Storage monitoring become disable.

- Re-installation of NEC ESMPRO Manager
- VersionUp for NEC ESMPRO Manager
- Uninstall iStorage (M series) NEC ESMPRO Manager relative module

In the case, re-install iStorage (M series) NEC ESMPRO Manager relative module.

- **iStorage(V series)**

iStorage(V series) is described.

Details, Edit, Alive Monitoring and Storage System Management can be used.

Storage Details	:	Alive Monitoring Status, NEC Storage state, Disk Array Name, Monitoring, Resource State, Model Name, Version Information, Serial Number, IP Address, WebSAM iStorageManager
Edit	:	Component Name, Alias, IP Address 1, IP Address 2, User Name, Password
Storage Alive Monitoring	:	Watch Status, Register Alert Upon No Response, Polling Interval, Max Retries on Error (0 – 100 number of times)

Network Device

Network Devices that support SNMPv1 MIB-2, UNIVERGE IX serials, and UNIVERGE QX serials will be managed.
Detail, Edit, and Alive Monitoring can be used.

Detail	:	See ”Detail” below about item displayed.
Edit	:	Component Name, Alias, IP Address, SNMP Community Name
Alive Monitoring	:	Watch Status, Register Alert Upon No Response, Polling Interval, Max Retries on Error (0 – 100 number of times)

Following items are displayed in“Detail”.

Item	UNIVERGE IX series	UNIVERGE QX series	Network device
Machine Name	supported	supported	supported
Model Name	supported	supported	-
FW Version	supported	supported	-
Startup Time	supported	supported	supported
Location	supported	supported	supported
IP Address	supported	supported	supported
Description	supported	supported	supported
Temperature(C)	supported	-	-
Voltage(mV)	supported	-	-
Power Unit 1	supported	supported	-
Power Unit 2	supported	supported	-
Fan1	supported	supported	-
Fan2	supported	supported	-
Alive Monitoring Status	supported	supported	supported
CPU Usage(%)	-	supported	-
Memory Percent Used(%)	supported	supported	-
Interface	supported	supported	supported
Connection Status	supported	supported	supported
Type	supported	supported	supported
Network speed(Mbps)	supported	supported	supported
Status Change Time	supported	supported	supported

supported：Display available. －：Display unavailable.

Note: It is different that displayed items according to device type.
Note: About the display for interface of UNIVERGE IX series on NEC ESMPRO Manager, port of SW-HUB is “interfaceName -x” (x is sequential number from 1).
Refer to examples of UNIVERGE IX series manual about interfaceName.

The information displayed on the "Connection Status" of the “Interface” is determined by the combination of the current status of the interface (ifOperStatus) and the configuration information of the interface (ifAdminStatus) and please refer to status below. If the status displayed on NEC ESMPRO Manager is not the intended status, please change the interface configuration on the Network Device.

The information displayed on the”Connection Status”of the “Interface”.

		ifAdminStatus			
		Up (1)	**Down (2)**	**Testing (3)**	Others
ifOper Status	**Up (1)**	Normal	Not Monitored	Normal	Not Monitored
	Down (2)	Error	Not Monitored	Normal	Not Monitored
	Testing (3)	Warning	Not Monitored	Normal	Not Monitored
	Unknown (4)	Warning	Unknown	Unknown	Not Monitored
	Dormant (5)	Normal	Not Monitored	Normal	Not Monitored
	NotPresent (6)	Warning	Not Monitored	Normal	Not Monitored
	LowerLayerDown (7)	Warning	Not Monitored	Warning	Not Monitored
	Others	Not Monitored	Not Monitored	Not Monitored	Not Monitored

Models supported by NEC ESMPRO Manager are following.

TIPS:

- If you want to register the model that is not supported by UNIVERGE IX series or UNIVERGE QX series, Model Name will not be displayed. Addition, the general traps sent by the device cannot be received by default.
- Stack connection of QX series is not supported.

UNIVERGE IX series

IX1010	IX1011	IX1020	IX1035	IX1035I
IX1036	IX1036I	IX1050	IX2003	IX2004
IX2005	IX2010	IX2015	IX2025	IX2105
IX2106	IX2200	IX2207	IX2215	IX2216
IX2235	IX2310	IX3010	IX3015	IX3110
IX3315				

UNIVERGE QX-S series

QX-S1008GT-2G	QX-S1008GT-2G-PW	QX-S1016GT-4G	QX-S1016GT-4G-PW
QX-S1024GT-4G	QX-S1024GT-4G-PW	QX-S1048GT-4G	QX-S1108GT-2G
QX-S1108GT-2G-PW	QX-S1116GT-4G	QX-S1116GT-4G-PW	QX-S1124GT-4G
QX-S1124GT-4G-PW	QX-S1148GT-4G	QX-S2008	QX-S2017
QX-S2026	QX-S2108	QX-S2109T-PW	QX-S2110P-I
QX-S3020TP	QX-S3026	QX-S3026C-BS	QX-S3026C-PW
QX-S3026E	QX-S3026T	QX-S3050	QX-S3109T-BS
QX-S3109TP	QX-S3117T-BS	QX-S3118TP	QX-S3126C-BS
QX-S3126T-BS	QX-S3126TP	QX-S3209TP	QX-S3209TP-PW
QX-S3218TP	QX-S3218TP-PW	QX-S3226TP	QX-S3226TP-PW
QX-S3309TP	QX-S3318TP	QX-S3318TP-PW	QX-S3326TP
QX-S3326TP-PW	QX-S3408FT-2G	QX-S3408FT-2G-PW	QX-S3416FT-2G
QX-S3416FT-4G-PW	QX-S3424FT-4G	QX-S3424FT-4G-PW	QX-S3448FT-4G
QX-S3526	QX-S3528P	QX-S3552P	QX-S3628P
QX-S3628TP-BS	QX-S3652P	QX-S3652P-BS	QX-S3652P-BS-PW
QX-S3710P	QX-S3828TP	QX-S3828TP-BS	QX-S3852TP
QX-S3852TP-BS	QX-S4009P	QX-S4009P-PW	QX-S4020P
QX-S4028P	QX-S4028P-PW	QX-S4052P	QX-S4108GT-2G
QX-S4108GT-2G-I	QX-S4108GT-2G-PW	QX-S4108GT-2G-PW-I	QX-S4116GT-4G
QX-S4116GT-4G-PW	QX-S4124GT-4G	QX-S4124GT-4G-PW	QX-S4148GT-4G
QX-S4148GT-4G-PW	QX-S4308XT-2X	QX-S4308XT-2X-PW	QX-S4312XT-4X-PW

QX-S4314XT-2X	QX-S4508GT-4G-I	QX-S4808XT-2X	QX-S4814XT-2X
QX-S5012G	QX-S5012T	QX-S5024G	QX-S505MT-2X-PW
QX-S510MT-2X-PW	QX-S5116P	QX-S5124GP-4X	QX-S5124GT-4X
QX-S5124GT-4X-PW	QX-S5124P	QX-S5126P-PW	QX-S5148GT-4X
QX-S5148GT-4X-PW	QX-S5148P	QX-S5224GP-4X	QX-S5224GT-4X
QX-S5224GT-4X-PW	QX-S5226P	QX-S5248GT-4X	QX-S5248GT-4X-PW
QX-S5250P	QX-S5324GT-4X1C	QX-S5327P	QX-S5348GT-4X1C
QX-S5351P	QX-S5432XT-8X2Q	QX-S5448XP-4Q	QX-S5516
QX-S5524GP-4X1C	QX-S5524GT-4X1C	QX-S5524GT-4X2Q	QX-S5526P
QX-S5526P(DC)	QX-S5526T	QX-S5548GT-4X1C	QX-S5548GT-4X2Q
QX-S5550P	QX-S5624GP-4X1C	QX-S5624GT-4X1C	QX-S5625P
QX-S5625T	QX-S5628GT-4X2Q	QX-S5648GT-4X1C	QX-S5648GT-4X2Q
QX-S5649P	QX-S5732P	QX-S5756P	QX-S5824XP-2Q2C
QX-S5828T	QX-S5948GT-4X2Q	QX-S5948XP-4Q	QX-S5948XT-4Q
QX-S6502-XG	QX-S6503	QX-S6503-XG	QX-S6506
QX-S6506R	QX-S6506R-XG	QX-S6506-XG	QX-S6632QP
QX-S6648XP-6Q	QX-S6648XT-6Q	QX-S6832-QP	QX-S708B
QX-S708E	QX-S716BP	QX-S716EP	QX-S724BP
QX-S724EP	QX-S7502R	QX-S7503R	QX-S7506R
QX-S808E	QX-S810EP-PW	QX-S816EP	QX-S816EP-PW
QX-S824EP	QX-S4824XT-1C	QX-S6748XP-6H	QX-S6748XT-6H
QX-S7532HP	QX-S708GT-2X-PW	QX-S716GT-4X-PW	

UNIVERGE QX-W series

QX-W1010	QX-W1020	QX-W1030	QX-W1030-ANCHOR
QX-W1120	QX-W1130	QX-W2120AC	QX-W2230AC
QX-W1110	QX-W610	QX-W1240	QX-W2330AC

UNIVERGE PF series

PF5459-48GT-4X2Q	PF5459-48XP-4Q	PF5459-48XT-4Q	PF5468-32QP

UNIVERGE QX-R series

QX-R2809	QX-R2810	QX-R2811	QX-R2830
QX-R2831	QX-R2840	QX-R2880	

UNIVERGE IX-R series

IX-R2530

UNIVERGE IX-V series

IX-V100

Other Computer Device

Servers or PC with following operating system is described.

- Windows Server 2022
- Windows Server 2019
- Windows Server 2016
- Windows 11
- Windows 10
- Red Hat Enterprise Linux 9
- Red Hat Enterprise Linux 8
- Red Hat Enterprise Linux 7

Detail, Remote Control, Edit and Alive Monitoring can be used.

Detail	:	Alive Monitoring Status System OS Name, Version, System Name, System Manufacturer, System Model BIOS Manufacturer Name, Version, Release Date Hardware CPU Name, Clock Speed、Max Core Counts, Number of Logical CPUs, Number of Physical CPUs, Total Capacity of Physical Memory, Available Capacity of Physical Memory, Total Capacity of Disk
Remote Control	:	Shutdown, Shutdown Reboot
Alive Monitoring	:	Watch Status, Register Alert Upon No Response, Polling Interval, Max Retries on Error (0 – 100 number of times)

Appendix E. Means to perform REST API using a sample script

NEC ESMPRO Manager uses REST API to manage ExpEther.
A sample script of a ruby is prepared to perform REST API.

There is a sample script of 3 of REST API.
- Discovery ExpEther Manager API
- Deletion ExpEther Manager API
- Get ExpEther Manager list API

Prepare

Ruby has to be installed in the management PC of NEC ESMPRO Manager.

Edit sample script

A sample script has a parameter and sets the information which accesses NEC ESMPRO Manager and request data of each API as a parameter.
Therefore edit these parameters according to the environment beforehand.

A parameter with the necessity to edit is indicated in the following.

(1) search_eem.rb
This script perform "Discovery ExpEther Manager API".
Correct the following parameter according to the environment.

- HOST
Write host or IP address of NEC ESMPRO Manager.
Ex) IP Address of NEC ESMPRO Manager is "192.168.1.1"
HOST="192.168.1.1"
The same host as NEC ESMPRO Manager.
HOST="localhost"

- PORT
Write the port number NEC ESMPRO Manager is using.
An initial value of port number of NEC ESMPRO Manager is "21112".
Ex) PORT=21112

- login_account
Write user name and password of NEC ESMPRO Manager Account.
Ex) login_account = {'user'=>'Administrator', 'password'=>'Password'}

- request_data
Write a request of "Discovery ExpEther Manager API".
Refer to "Diascovery ExpEther Manager API" in "NEC ESMPRO Manager Ver.6 RESTful API Reference" for details of a request.

(2) delete_eem.rb

This script perform "Deletion ExpEther Manager API".
Correct the following parameter according to the environment.

- HOST
  This parameter is same as a "Discovery ExpEther Manager API".

- PORT
  This parameter is same as a "Discovery ExpEther Manager API".

- login_account
  This parameter is same as a "Discovery ExpEther Manager API".

- name
  Write a target ExpEther Manager name.

(3) list_eem.rb

This script perform "Get ExpEther Manager list API".
Correct the following parameter according to the environment.

- HOST
  This parameter is same as a "Discovery ExpEther Manager API".

- PORT
  This parameter is same as a "Discovery ExpEther Manager API".

- login_account
  This parameter is same as a "Discovery ExpEther Manager API".

Sample code

(1) search_eem.rb

```
#
# NEC ESMPRO Manager REST API Sample
#

require 'openssl'
require 'base64'
require 'net/http'
require 'json'

##########################################
###
### Change below value
###
##########################################
HOST="192.168.14.189"
PORT=21112
login_account = {'user'=>'Administrator', 'password'=>'Password'}
request_data = {'discoveryMode'=>'0', 'startAddress'=>'192.168.1.1','endAddress'=>'192.168.1.10','networkAddress'=>'192.168.1.0','networkMask'=>'255.255.255.0', 'accounts'=>[{'user'=>'admin', 'password'=>'eemeem'}]}

##########################################


session_id = nil

def make_header(session_id=nil)
httpheader = {};

httpheader['X-ESMPRO-API-Version'] = "1.0";
httpheader['Content-Type'] = "application/json; charset=utf-8";
httpheader['Cookie'] = "JSESSIONID=#{session_id}" if session_id != nil;

return httpheader;
end



def send_restreq(method ,session_id, url, req_body)

response = nil
http = Net::HTTP.new(HOST,PORT);

req_header = make_header(session_id);

if (method == :post)
time1 = Time.now;
response = http.post(url, req_body.to_json, req_header);
time2 = Time.now;
time3 = time2 - time1;
```

```
end

if (method == :get)
time1 = Time.now;
response = http.get(url,req_header);
time2 = Time.now;
time3 = time2 - time1;
end

if (method == :delete)
transaction = Net::HTTP::Delete.new(url,req_header);
time1 = Time.now;
response = http.request(transaction)
time2 = Time.now;
time3 = time2 - time1;
end

if (req_body == nil)
req_body = {};
end

puts "============================================================"
puts "---- Request Data ----------------------------------"
print("    Method                  : ", method, "¥n");
print("    URL                     : ", url, "¥n");
print("    Request Header      : ", req_header, "¥n");
print("    Session ID              : ", session_id, "¥n");
print("    Request Time          : ", time1, "¥n");
print("    Request Body          : ", req_body, "¥n");
puts "---- Response Data ----------------------------------"
print("    Status Code             : ", response.code, " ", response.message,"¥n");
#print("    Response Header    : ", response.header, "¥n");
print("    Response Body        : ", response.body, "¥n");
print("    Response Time        : ", time2, "¥n");
print("    Elapsed    Time        : ", time3, "¥n");
puts "------------------------------------------------------------"

if (response.body == "")
return nil
else
res_body = JSON.parse(response.body);
end
end


# Login
login_url = "/esmpro/api/login-session";
count = 0;
result = send_restreq(:post ,nil, login_url, login_account);
session_id = result['sessionId'];

# Discover EEM
url = "/esmpro/api/eem"
result = send_restreq(:post ,session_id, url, request_data);
jobstate_url = result['url'];
```

```
while true do
    # Job status
    result = send_restreq(:get ,session_id, jobstate_url, nil);
    if ( result['jobStatus'] == "Running"    || result['jobStatus'] == "Waiting")
        sleep(1);
    elsif ( result['jobStatus'] == "Completed" )
        # Job result
        result_url = result['url'];
        result = send_restreq(:get ,session_id, result_url, nil);
        break;
    else
        break;
    end
end


# Logout
result = send_restreq(:delete ,session_id, login_url, nil);
```

(2) delete_eem.rb

```
#
# NEC ESMPRO Manager REST API Sample
#

require 'openssl'
require 'base64'
require 'net/http'
require 'json'

########################################
###
### Change below value
###
########################################
HOST="192.168.14.189"
PORT=21112
login_account = {'user'=>'Administrator', 'password'=>'Password'}
name="ExpEtherManager001"

########################################


session_id = nil

def make_header(session_id=nil)
httpheader = {};

httpheader['X-ESMPRO-API-Version'] = "1.0";
httpheader['Content-Type'] = "application/json; charset=utf-8";
httpheader['Cookie'] = "JSESSIONID=#{session_id}" if session_id != nil;

return httpheader;
end



def send_restreq(method ,session_id, url, req_body)

response = nil
http = Net::HTTP.new(HOST,PORT);

req_header = make_header(session_id);

if (method == :post)
time1 = Time.now;
response = http.post(url, req_body.to_json, req_header);
time2 = Time.now;
time3 = time2 - time1;
end

if (method == :get)
time1 = Time.now;
response = http.get(url,req_header);
time2 = Time.now;
```

```
time3 = time2 - time1;
end

if (method == :delete)
transaction = Net::HTTP::Delete.new(url,req_header);
time1 = Time.now;
response = http.request(transaction)
time2 = Time.now;
time3 = time2 - time1;
end

if (req_body == nil)
req_body = {};
end

puts "============================================================"
puts "---- Request Data ----------------------------------"
print("    Method                  : ", method, "¥n");
print("    URL                     : ", url, "¥n");
print("    Request Header      : ", req_header, "¥n");
print("    Session ID              : ", session_id, "¥n");
print("    Request Time          : ", time1, "¥n");
print("    Request Body          : ", req_body, "¥n");
puts "---- Response Data ---------------------------------"
print("    Status Code             : ", response.code, " ", response.message,"¥n");
#print("    Response Header    : ", response.header, "¥n");
print("    Response Body        : ", response.body, "¥n");
print("    Response Time        : ", time2, "¥n");
print("    Elapsed    Time        : ", time3, "¥n");
puts "------------------------------------------------------"

if (response.body == "")
return nil
else
res_body = JSON.parse(response.body);
end
end


# Login
login_url = "/esmpro/api/login-session";
count = 0;
result = send_restreq(:post ,nil, login_url, login_account);
session_id = result['sessionId'];

# Delete EEM
url = "/esmpro/api/eem"
resource = url + "?name=" + name
result = send_restreq(:delete ,session_id, resource, nil);

# Logout
result = send_restreq(:delete ,session_id, login_url, nil);
```

(3) list_eem.rb

```
#
# NEC ESMPRO Manager REST API Sample
#

require 'openssl'
require 'base64'
require 'net/http'
require 'json'

########################################
###
### Change below value
###
########################################
HOST="192.168.14.189"
PORT=21112
login_account = {'user'=>'Administrator', 'password'=>'Password'}

########################################



session_id = nil

def make_header(session_id=nil)
httpheader = {};

httpheader['X-ESMPRO-API-Version'] = "1.0";
httpheader['Content-Type'] = "application/json; charset=utf-8";
httpheader['Cookie'] = "JSESSIONID=#{session_id}" if session_id != nil;

return httpheader;
end



def send_restreq(method ,session_id, url, req_body)

response = nil
http = Net::HTTP.new(HOST,PORT);

req_header = make_header(session_id);

if (method == :post)
time1 = Time.now;
response = http.post(url, req_body.to_json, req_header);
time2 = Time.now;
time3 = time2 - time1;
end

if (method == :get)
time1 = Time.now;
response = http.get(url,req_header);
time2 = Time.now;
```

```
time3 = time2 - time1;
end

if (method == :delete)
transaction = Net::HTTP::Delete.new(url,req_header);
time1 = Time.now;
response = http.request(transaction)
time2 = Time.now;
time3 = time2 - time1;
end

if (req_body == nil)
req_body = {};
end

puts "============================================================"
puts "---- Request Data ----------------------------------"
print("    Method                  : ", method, "¥n");
print("    URL                     : ", url, "¥n");
print("    Request Header      : ", req_header, "¥n");
print("    Session ID              : ", session_id, "¥n");
print("    Request Time          : ", time1, "¥n");
print("    Request Body          : ", req_body, "¥n");
puts "---- Response Data ----------------------------------"
print("    Status Code             : ", response.code, " ", response.message,"¥n");
#print("    Response Header    : ", response.header, "¥n");
print("    Response Body        : ", response.body, "¥n");
print("    Response Time        : ", time2, "¥n");
print("    Elapsed    Time        : ", time3, "¥n");
puts "------------------------------------------------------"

if (response.body == "")
return nil
else
res_body = JSON.parse(response.body);
end
end


# Login
login_url = "/esmpro/api/login-session";
count = 0;
result = send_restreq(:post ,nil, login_url, login_account);
session_id = result['sessionId'];

# List EEM
url = "/esmpro/api/eem"
result = send_restreq(:get ,session_id, url, nil);

# Logout
result = send_restreq(:delete ,session_id, login_url, nil);
```

Appendix F. View Windows Admin Center screen

Provides step-by-step instructions on how to view the Windows Admin Center from NEC ESMPRO Manager.
Please use Microsoft Edge as your browser to use this function.
Windows Admin Center can be installed from installation media downloaded from the web.
There are two methods available:

1. The procedure to display “Linkage” of server on “Component List”
   [Premise]
   - The managed server registered by OS IP address with Windows Server 2016 / 2019 / 2022 and “Type” is “Server”.
   - The managed server registered by OS IP address with Windows Server 2016 / 2019 / 2022 / Windows 10/ 11 and “Type” is “Other Computer Device”.
   - Windows Admin Center Version2009 or later

   The procedure is executed on the PC for management where NEC ESMPRO Manager is installed.

   (1) Edit the configuration file.
   Logout from NEC ESMPRO Manager.
   Use the comment line that begins with the following file to specify the Windows Admin Center host name (or IP address) and port number.

   %ESMPRO%¥ESMWEB¥wbserver¥webapps¥esmpro¥WEB-INF¥service¥alertviewer¥WindowsAdminCenter_settings.txt

   * %ESMPRO% : where to install NEC ESMPRO Manager
   * The default value for installs NEC ESMPRO Manager is < C:/Program Files (x86)/ESMPRO>

   (2) Component registration
   Login to NEC ESMPRO Manager.
   Register the server that can display Windows Admin Center screen.

   (3) The link to Windows Admin Center
   Click “Windows Admin Center” link of ”Linkage” of server on “Component List”. Please enter the account for the Windows Admin Center server on the authentication screen.

2. The procedure to display Windows Admin Center screen from NEC ESMPRO Manager Alert Viewer
[Premise]
・The managed server with Windows Server 2016 / 2019 / 2022, integrated NEC iLO.

Verify that NEC ESMPRO Extension for Windows Admin Center(*1) is installed in Windows Admin Center.

(*1) THE NEC ESMPRO Extension for Windows Admin Center is an extension that displays information about the hardware of the NEC Express5800 server to the Windows Admin Center.

The procedure is executed on the PC for management where NEC ESMPRO Manager is installed.

(1) Edit the configuration file.
Logout from NEC ESMPRO Manager.
Use the comment line that begins with the following file to specify the Windows Admin Center host name (or IP address) and port number.

%ESMPRO%¥ESMWEB¥wbserver¥webapps¥esmpro¥WEB-INF¥service¥alertviewer¥WindowsAdminCenter_settings.txt

* %ESMPRO% : where to install NEC ESMPRO Manager
* The default value for installs NEC ESMPRO Manager is < C:¥Program Files (x86)¥ESMPRO¥>

(2) Component registration
Login to NEC ESMPRO Manager.
Register the Component in which iLO is integrated with enabling system management(WS-Man) and MC management(iLO) on NEC ESMPRO Manager.

*The OS of integrates iLO is a Windows OS for servers such as Windows Server 2019 etc. that support Windows Admin Center.

(3) The link to EC ESMPRO Extension for Windows Admin Center
Make sure that there are alerts for the device on the alert list screen.
Click the Components section of the alert to display the LINKED NEC ESMPRO Extension for Windows Admin Center screen.

Appendix G. configure the NEC ICT Device Visualize Service Agent

Here are the steps to display or configure the information of the NEC ICT Device Visualize Service Agent from NEC ESMPRO Manager.

[Premise]
・Managed servers with Windows Server 2016/2019/2022, NEC ESMPRO ServerAgentService Ver2.3 or above installed, and NEC ICT Device Visualize Service Agent installed.
・NEC ICT Device Visualize Service Agent is running with child mode.

CHECK :
・ Independent mode of NEC ICT Device Visualize Service Agent is not supported.

Please perform these steps on the management PC where NEC ESMPRO Manager is installed.

(1) Component registration
Login to NEC ESMPRO Manager.
Enable the System Management (WS-Man) and register managed device in NEC ESMPRO Manager.

(2) Display the settings screen
On the "Component List", click on the "NEC ICT Device Visualize Service Agent" link on the "Linkage" of the registered server.

(3) Settings of NEC ICT Device Visualize Service Agent
Configure the NEC ICT Device Visualize Service Agent on its settings screen.
For more details, please refer to the online help for NEC ESMPRO Manager.

(3) URL

NEC ESMPRO ServerAgentService
https://www.58support.nec.co.jp/global/download/index.html

Appendix H. EThe procedure to execute a Test Report by using the Event log monitoring(Windows) or Syslog monitoring(Linux) of NEC ESMPRO Agent or NEC ESMPRO ServerAgentService

■ Event log monitoring(Windows)

(1) Start “NEC ESMPRO Agent” from “Control Panel”, and click “Report Setting” in “NEC ESMPRO Agent”.
If NEC ESMPRO ServerAgentService, click “Report Setting” from “Start”.

(2) Expand the "EventLog" tree on the left of the “Alert Manager” screen.

(3) Right-click on the event ID and select "Test".

Note that you cannot perform a “Test” if no “Report Destination” (Manager, SNMP, TCP/IP In-Band, CIM-Indication) is specified for that event ID.

(4)When "Are you sure you want to write a test event?" is displayed, click "OK".

The test event will be registered into the event log.

The Event log monitoring will immediately detect and report to reporting destination(s) about the test event.

<Additional Information>

・ If the channel is undefined or a channel other than the focused channel is defined, a reporting test cannot be performed.
In the case, even if a reporting test is performed, one of the followings will happen:
- An error message will be displayed.
- Events from the channel other than the focused channel will be registered into Event log.
- No event will be registered into Event log.

■ Syslog monitoring(Linux)

(1) Login with the root user.

(2) Move to the directory where the Control Panel (ESMamsadm) is installed.
cd /opt/nec/esmpro_sa/bin/

(3) Launch ESMamsadm.
./ESMamsadm

(4) Launch ESMamsadm and choose "Syslog Events Setting".

(5) Choose any you prefer from “Source”. (Choose by “↑” or “↓”)

(6) Check "OFF" for "Operation on source".
(Set this using the space key.)

(7) Choose any event ID in the "Event ID" field.
(Choose by “↑” or “↓”)

(8) Press the "Settings..." to open the "Syslog Application Setting" screen.
Confirm that the “Action After Report” is set to "None".
Confirm that the "Report to" is set to "SNMP".
If the "Action After Report" is set to "Shutdown" or "Reboot", the action will be executed.

(9) Press "ok" to return the "Syslog Application Setting" screen.

(10) Press "Test" button.
The test message will be registered into the syslog. If the syslog Monitor Interval (default : 300 seconds) is exceeded, the test message will be detected and a reporting will be sent.

<Additional Information>

- When adding or deleting syslog events, or changing settings, it is necessary that reload the Syslog Event information.
Press “Close” button on the “Syslog Event Settings” screen to reload the Event information, and then perform the Test.

- For detailed operations such as the Control Panel (ESMamsadm), please refer to “NEC ESMPRO Agent (Linux) User's Guide”.
https://www.58support.nec.co.jp/global/download/index.html

Revision History

E7.24-01-STD	2024/11/15	Revised the environment setting usage guide in chapters 1.3.1, 1.3.3.3, 3.3.1, and 4.3.1.1 has been changed from classic mode to ESMPRO SM7 UI. Added IX-R2530 to UNIVERGE IX-R series of network devices in Appendix D. Added IX-V100 to UNIVERGE IX-V series of network devices in Appendix D. Added revision history.