

NEC ESMPRO Manager Ver. 7 Installation Guide

Chapter 1 General Description

Chapter 2 Installation

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Conventions Used in This Document

Notations used in the text

Three types of notations are used in this document. These notations have the following meanings.

Important	Indicates critical items that must be followed when operating software.
Note	Indicates items that must be confirmed when operating software.
Tips	Indicates information that is helpful to keep in mind.

Abbreviations of Operating Systems

Windows Operating Systems (OS) are referred to as follows.

Notations in this document	Official names of Windows
Windows Server 2022	Windows Server 2022 Standard
	Windows Server 2022 Datacenter
Windows Server 2019	Windows Server 2019 Standard
	Windows Server 2019 Datacenter
Windows Server 2016	Windows Server 2016 Standard
	Windows Server 2016 Datacenter
Windows 11	Windows 11 Pro 64-bit Edition
Windows 10	Windows 10 Pro 64-bit Edition

Terminology

Term	Description
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 Agent for GuestOS	This is a software that works together with NEC ESMPRO Manager to monitor guestOS of the virtualPC and to obtain various informations from them.
NEC ESMPRO ServerAgentService	It is NEC ESMPRO Agent's successor software.
WebSAM AlertManager	This is a software that extends the Reporting function for related products such as NEC ESMPRO Manager, NEC ESMPRO ServerAgentService and NEC ESMPRO Agent.
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 receive 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 necessary relative module for NEC ESMPRO Manager to monitor iStorage (M Series).
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.
iLO	Integrated Lights-Out The controller monitor hardware according to IPMI2.0 of standard interface.
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 functions as NEC ESMPRO Manager Ver.6. It can display Server detail information and operate environment setting of NEC ESMPRO Manager.
Component	It is the device managed in NEC ESMPRO Manager.
Dashboard	It is a management screen that display integrally the status and detail information of various components.
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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License documents and NOTICE files of external libraries are stored in the following folders:

*<The folder in which this product is installed>\ESMWEB\wbserver

*<The folder in which this product is installed>\ESMWEB\wbserver\webapps\axis2\WEB-INF\lib

*<The folder in which this product is installed>\ESMWEB\wbserver\webapps\esmpro\WEB-INF\lib

* <The folder in which this product is installed>\ESMWEB\java\r1\legal

* <The folder in which this product is installed>\ESMWB7

If the external libraries require to include their source code with this product, see the folder below.

Downloaded NEC ESMPRO Manager

<the folder in that setup program is stored>\SM724_E\MANAGER\SRC

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Apache commons-fileupload	Copyright©The Apache Software Foundation
Apache commons-httpclient	Copyright©The Apache Software Foundation
Apache commons-io	Copyright©The Apache Software Foundation
Apache commons-logging	Copyright©The Apache Software Foundation
Apache Derby	Copyright©The Apache Software Foundation
Apache geronimo-activation	Copyright©The Apache Software Foundation
Apache geronimo-annotation	Copyright©The Apache Software Foundation
Apache geronimo-java-mail	Copyright©The Apache Software Foundation
Apache geronimo-stax-api	Copyright©The Apache Software Foundation
Apache httpcore	Copyright©The Apache Software Foundation
Apache httpcore-nio-4.0	Copyright©The Apache Software Foundation
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Apache Log4J	Copyright©The Apache Software Foundation
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Apache Tiles	Copyright©The Apache Software Foundation
Apache Tiles request	Copyright©The Apache Software Foundation

Apache Tomcat	Copyright©The Apache Software Foundation
Apache Woden	Copyright©The Apache Software Foundation
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BeanShell	Copyright©Patrick Niemeyer
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imagesLoaded	Copyright©2011-2022 David DeSandro and contributors

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istack-commons-runtime	Copyright©Oracle and/or its affiliates
jackson	Copyright©2009-2011 FasterXML, LLC
jalopy	Copyright©Marco Hunsicker.
Java Annotation Indexer	https://smallrye.io
Java Service Launcher for Windows	http://www.roeschter.de/index.html
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javax.persistence-api	Copyright©Oracle and/or its affiliates
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Momentjs	https://momentjs.com/
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SOAP with Attachments API for Java (SAAJ)	Copyright©Sun Microsystems, Inc
sortable	Copyright©Stuart Langridge
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vSphere Web Services SDK	http://communities.vmware.com/community/vmtn/developer/forums/managementapi
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General Description

This chapter explains NEC ESMPRO Manager.

1. Introduction

2. About Downloading Latest NEC ESMPRO

Describes about Downloading Latest NEC ESMPRO.

3. System Requirements

Describes about the need environment of NEC ESMPRO Manager.

1. Introduction

Read this document so as to gain an adequate understanding of the contents.

The contents in this document are intended for users who fully understand features and operations of OS related to this utility.

If you want to know operations of OS, or if there is any unclear point, see the online help of each OS.

NEC ESMPRO Manager is a software designed for reducing operational management costs by remotely managing servers.

NEC ESMPRO Manager has the following features.

Note Some models of managed servers may not support all functions. See "Managed Server" at "System Requirements".

- **Rebuilding even if OS on the managed server has failed.**

Even if OS on the managed server is inoperable (in the state of OS's stall, BIOS Power On Self Test (POST), or DC OFF), NEC ESMPRO Manager allows you to collect the managed server's hardware information and control the power supply.

- **Operation while viewing the managed server's screen.**

While key-in and mouse operations are enabled, the managed server's screen can be viewed on the remote browser at any time during POST just after the managed server is turned ON and even after Windows or Linux has been booted.

Note After Windows or Linux starts up, login to EXPRESSSCOPE Engine series, key input and mouse operation are possible from remote KVM.

- **Operation of more than one managed server at a time.**

By specifying a group, you can provide power control or change a setting for managed servers through a single operation.

- **Specification of remote operation time.**

The managed server can be turned OFF or information can be collected at pre-specified time, so NEC ESMPRO Manager is available for nighttime batch processing.

- **Easy operation through the Internet.**

The managed server can be operated with a web browser. If you use Internet's standard Secure Socket Layer (SSL) for NEC ESMPRO Manager, you enable secure remote operation from an external network.

- **Update of firmware and software on the managed server. (NEC ExpressUpdate)**

NEC ExpressUpdate is the function that manages versions of modules like firmware and software on the managed server and that updates the modules.

NEC ExpressUpdate can download the update packages automatically for the managed server, and install them without stopping the system.

Note Update package of firmware or software unused may be provided in ExpressUpdate. Please refer to the NEC Corporation website for information on applying these update packages.

- Remote manage the devices beside the Server.

Beside Server, Storage, Network Device, and Other Computer Device can be managed remotely.

2. System Requirements

NEC ESMPRO Manager requires the following hardware and software:

2.1 PC for Management

Important

About product license
NEC ESMPRO Manager can be used on a single OS per license.

• Hardware

- Machine A computer on which OS supported by NEC ESMPRO Manager can be installed
- CPU 2-core CPU or higher on a CPU that meets the system requirements for OS installations supported by NEC ESMPRO Manager.
[Recommended CPU]
Intel Xeon processor 4-core CPU, or CPU with equivalent or higher specs.
- Memory Memory required for running OS + 4GB or more
- Free hard disk space 1.5GB or more

- Software

- OS *1

Windows Server 2022
Windows Server 2019
Windows Server 2016
Windows 11
Windows 10
VMware ESXi 7 (Guest OS)
VMware ESXi 8 (Guest OS)
Windows Hyper-V (Guest OS)
*1 Supports only 64-bit Edition

- Important**

· Before installing NEC ESMPRO Manager, the following software is required on the PC for Management.
.NET Framework 4.8 and above.
(Note: NEC ESMPRO Manager uses .Net Framework 4.8.)
If .Net Framework 4.8 is not installed on the PC for Management, we cannot guarantee that the operation of NEC ESMPRO Manager is available, such as the login screen of NEC ESMPRO Manager not being displayed.
· NEC ESMPRO Manager is available on neither Server Core, nor Minimal Server Interface.

- Web client

Firefox ESR 115 (Windows / Linux)

Microsoft Edge

- Important**

· 1024 by 768 pixels or more are recommended as a screen area in display properties.
· The browser must be latest status such as applying a patch.
If the status is not updated such as preinstalled, some pages may not be displayed correctly.

- Number of managed devices

Addition of server licenses permits a single NEC ESMPRO Manager to manage a maximum of 1000 devices. In case that you register VMware ESXi in NEC ESMPRO Manager, number of managed maximum servers is 500.

2.2 Managed device

A server to be managed by NEC ESMPRO Manager is as follows:

- Baseboard Management Controller (BMC)

About the managed server integrated BMC, see "Appendix D Managed Components Summary" in "NEC ESMPRO Manager Ver.7 Setup Guide".

Note

The required environment varies depending on the connection type with the managed server. See "Chapter1 3.3 Requirements for Connection between PC for Management and Managed Server".

- Integrated Lights-Out (iLO)

About the managed server integrated iLO, see "Appendix D Managed Components Summary" in "NEC ESMPRO Manager Ver.7 Setup Guide"

- NEC ESMPRO Agent

If you use Simple Network Management Protocol (SNMP) monitoring function, the following software is need on managed server. (No matter if BMC is integrated or not.)

- NEC ESMPRO Agent (Ver. 4.1 or later)
- The following fit server is supported.

Express5800/ft server [R320c-M4 / R320c-E4 / R320d-M4 / R320e-M4 / R320e-E4 / R320f-M4 / R320f-E4 / R310g-E4 / R320g-M4 / R320g-E4 / R320h-M4 / R320h-E4]

- NEC ESMPRO ServerAgentService

If you use WS-Man monitoring function, the following software will be need on managed server. (No matter if BMC is integrated or not.)

- NEC ESMPRO ServerAgentService (Ver. 1.0 or later)

- NEC ExpressUpdate Agent

If you use NEC ExpressUpdate function that manages versions of modules like firmware and software, the following software or firmware is required on the managed server.

- NEC ExpressUpdate Agent

- EXPRESSSCOPE Engine 3

If you use NEC ExpressUpdate function that manages versions of modules like firmware and software, the following software or firmware is required on the managed server.

- EXPRESSSCOPE Engine 3

-

- VMware ESXi

If you manage the managed server installed ESXi, the following ESXi is required on the managed server.

- VMware ESXi7.0 / 7.0u1 / 7.0u2 / 7.0u3
- VMware ESXi8.0 / 8.0u1 / 8.0u2

RAID system

If you manage RAID system using Universal RAID Utility on the managed server, the following software is required on the managed server.

- Universal RAID Utility Windows Edition (Ver4.0 or later)
- Universal RAID Utility Linux / VMware ESX Edition (Ver4.0 or later)

If you manage RAID system on the managed server installed ESXi, the following ESXi is required on the managed server.

In such a case, Universal RAID Utility is not required on the managed server.

- VMware ESXi7.0 or later

- vPro

About the managed server based on vPro, see "Appendix D Managed Components Summary" in "NEC ESM PRO Manager Ver.7 Setup Guide".

- ExpEther

NEC ESM PRO Manager needs the following software to manage the ExpEther board and the ExpEther I/O expansion unit.

- ExpEther Manager
- ExpEtherConfig tool

ExpEther Manager must connect to the network which has been connected to NEC ESM PRO Manager, or ExpEther Manager must be installed on the server on which NEC ESM PRO Manager has been installed.

Note

- If Windows Firewall is enabled, communication will be interrupted.
See Appendix "Chapter4 2 Port numbers / Protocols" and open the required ports.
- NEC ESM PRO Manager and a managed server needs to be the same OS language.

- Storage

To manage storage devices, the following types of storage are supported:

- iStorage M series
- iStorage V series

Note

Please see "WebSAM iStorageManager Installation Guide" for more information about NEC ESM PRO Manager relativemodule of WebSAM iStorageManager

Network Device

Network devices that support SNMPv1 MIB-2, UNIVERGE IX serials, and UNIVERGE QX serials will be managed.

- Other Computer Device

The server or PC with following OS are managed.

- 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

Note

NEC ESMPRO Manager manage devices with Windows OS by PowerShell Remoting, and manage devices with Red Hat Enterprise Linux by Remote SSH.

- Other Computer Device (Windows)
 - If windows firewall is enabled, the communication will be interrupted, so you won't be able to manage it correctly. If port is disable, according to "managed PC <-> Other Computer Device (Windows OS)" of "chapter4 2 Port numbers / Protocols" to open the required port.
 - Setting category of network to domain or private network.
 - In Windows 2016, run "Set-WSManQuickConfig -Force" by PowerShell.
- Other Computer Device (Red Hat Enterprise Linux)
 - If port is disable, according to "managed PC <-> Other Computer Device (Red Hat Enterprise Linux)" of "chapter4 2 Port numbers / Protocols"to open the required port.
 - In Red Hat Enterprise Linux 9, SSH login for the root account is disabled by default. If you want to register Red Hat Enterprise Linux 9 as Other Computer Device, you need to enable it.

2.3 Requirements for connection between PC for Management and managed device

PC for Management can connect with managed device by TCP/IP network via LAN.

Please pay attention to the following.

Note

- Do not use a cross cable to connect PC for Management and managed server.
- If you use the managed server integrated BMC, LAN port that BMC uses depends on the type of BMC. Some BMC uses standard LAN port. Other BMC uses a Management LAN Port. There are 2 types of managed servers on that BMC uses standard LAN port to connect with NEC ESMPRO Manager: one type is permitted to use only LAN1 port, and the other type is permitted to use both LAN1 and LAN2 ports. See "Appendix D Managed Servers Summary" in "NEC ESMPRO Manager Ver.7 Setup Guide".

2.4 Notes on managed servers and network devices

This section explains particular notes on managed servers and network devices.

- **Use of network switch / router(Notes about Gratuitous ARP)**

If the managed server installed BMC that uses a standard LAN port or loaded Advanced Remote Management Card, and there is network switch / router between PC for Management and the managed servers, set the network switch / router to receive Gratuitous ARP. See each document of the switch / router about how to set it.

If Gratuitous ARP cannot be received, managed server that is power-off status is not connected.

- **Use of a layer-2 / layer-3 switching hub(Notes about Spanning Tree Protocol and Auto-Negotiation)**

Set "Disable" for Spanning Tree Protocol (STP) function of the switching hub or STP of the port to which a managed server is connected.

Set "Enable" for the auto-negotiation function of the port to which a managed server is connected.

- **Use of DHCP**

In case that BMC on the managed server uses a standard LAN port, communication between NEC ESMPRO Manager and System BIOS or BMC is not compatible with a DHCP environment.

Be sure to use a fixed IP address with NEC ESMPRO server in which NEC ESMPRO Manager is to be installed.

To use a managed server in a DHCP environment, start NEC ESMPRO Agent Extension.

- **Setting of Teaming for LAN that NEC ESMPRO Agent Extension uses with OS (providing redundancy or multiplexing with multiple network adapters) on the managed server installed BMC that uses a Management LAN port**

If the teaming setting is made available for LAN port that NEC ESMPRO Agent Extension uses on the managed server installed BMC that uses a Management LAN port, see "Appendix B B.2 On the managed server that BMC uses a Management LAN port" in "NEC ESMPRO Manager Ver.7 Setup Guide".

- **Change of the hardware of a default gateway or an alert receiver**

In case that there is a gateway between a PC for Management and a managed server, re-configure BMC on the managed server after the change the device(ex. route) as hardware of the gateway. In case that there is not gateway between an alert receiver and a managed server, re-configure BMC on the managed server after the change the hardware of the alert receiver. BMC on the managed server can know MAC address of the new hardware by setting BMC configuration.

- **Restrictions on use of the standard serial port 2 (COM2)**

The standard serial port 2 (COM2) on a managed server cannot be used for connecting another device in the following cases because BMC occupies the serial port 2.

- The managed server compatible with Serial over LAN (SOL) and set enable on following BMC

Configuration items:

"Remote control (WAN/Direct)"

"Redirection (LAN)"

"Redirection (WAN/Direct)"

- Direct connection has been set in BMC configuration information. (Even if NEC ESMPRO Manager and managed server are not connected, BMC occupies the serial port 2 (COM2).)

Note

See "Appendix D Managed Components Summary" in "NEC ESMPRO Manager Ver.7 Setup Guide" to confirm whether that your server supports SOL.

This chapter explains installation of NEC ESMPRO Manager.

1. Before Installation

Describes about necessary setting before NEC ESMPRO Manager installation.

2. Installation

Describes about installation procedure of NEC ESMPRO Manager.

3. After Installation

Describes about necessary setting after NEC ESMPRO Manager installation.

I. Before Installation

Be sure to read this page before installing NEC ESMPRO Manager.

◆ Required software on PC for management

Following software is required before the NEC ESMPRO Manager is installed on PC for management.

.NET Framework 4.8 or above

◆ Set up the proxy settings in the system environment variables

If you have set up the proxy settings (HTTP_PROXY, HTTPS_PROXY) in the system environment variables of Windows, please set up NO_PROXY with localhost and 127.0.0.1.

After making this configuration, please restart the server.

◆ Register WS-Man management(NEC ESMPRO ServerAgentService)and Other Computer Device as managed device in NEC ESMPRO Manager

After you register WS-Man management(NEC ESMPRO ServerAgentService)and Other Computer Device as managed device in NEC ESMPRO Manager, the log registered into the Event log of managed device increases.

Please see "1.3 Managed Servers" in "chapter 4 Appendix" for detail information.

- About dealing with a large number of logs(related to WinRM, logon and logoff) are output to the Event log of managed device(Windows) registered in NEC ESMPRO Manager.
- About registering security logs when Other Computer Device is registered in NEC ESMPRO Manager

◆ Confirming NEC ESMPRO Manager version

Use the version or later of NEC ESMPRO Manager which is stored in NEC EXPRESSBUILDER for the managed component when you manage the managed component.

Tips

The latest version is recommended.

You can download the latest version of NEC ESMPRO Manager from the URL.

<http://www.58support.nec.co.jp/global/download/index.html>

◆ Confirming the disk space required for operation

Prepare sufficient free space in the folder you specified at installation. By default, the installation folder is "%Program Files (x86)%ESMPRO" on the system drive.

The following files are added at operation. See them before you calculate the required disk space.

- About 10MB as a management area.
- About 10KB per server.
- Maximum of 60KB per IPMI information collection of a server.
- About 1KB per alert.
- About 3KB per power consumption measurement of a server.

(Reading Interval = 60 seconds, Last Reading Period = 1 hour)

◆ Setting access permissions

When installing NEC ESMPRO Manager in an already existing folder, NEC ESMPRO Manager will not operate unless the access permissions required for NEC ESMPRO Manager operation have been set. When installing NEC ESMPRO Manager in a folder that does not exist, the following access permissions are set by the installer:

Administrators Full Control(All)(All)
Everyone Read(RX)(RX)
SYSTEM Full Control(All)(All)

◆ Remote installation of NEC ESMPRO Manager

When installation of NEC ESMPRO Manager completes, you need to reboot the system. Careful attention is needed to install the program in the environment where reboot cannot be performed from the Start menu, such as on Remote Desktop of Windows.

Tips

OS can be restarted by running the following command at Command Prompt:
Ex.) When you want to restart the system immediately: shutdown -r -t 0

◆ Installation for multisesion terminal server or Remote Desktop Server access

Perform the following operation to install NEC ESMPRO Manager for multisesion Terminal Server access on Windows Server:

- Use [Install Application on Remote Desktop Server] in [Control Panel].

Important

If you do not follow the procedure above, a message indicating the occurrence of the error during the setup is displayed and the setup stops.

◆ If an older version of NEC ESMPRO Manager has already been installed

- If NEC ESMPRO Manager Ver. 6.0 or later has already been installed, you can update it to this version. If the version older than the above, uninstall it before installation.
- If you update it, the registered information of old NEC ESMPRO Manager is inherited.
- NEC ESMPRO Manager Ver. 7.0 does not support direct connections or modem connections. The connection form for registering a server component is only supported by the LAN. When you want to update NEC ESMPRO Manager Ver.6, delete the component registered by direct connection or modem connection before updating.

◆ Changing language settings in Windows (ex. In the case of using MUI)

When changing the language settings in Windows, make sure "Japanese" is not selected in the settings below. "Japanese" is not supported, and therefore installation will fail.

You must also make consistent language settings, that is, choose the same language (except Japanese) in

the settings below.

Control Panel - Language - Change date, time, or number formats - [Formats] tab
- [Location] tab
- [Administrative] tab

Important

Do not change language settings after installation of NEC ESMPRO Manager.
Otherwise it does not work properly.

◆ **Changing the port number because of conflict.**

Before you have to change the port number because of conflict, please see “the change of port numbers” in “chapter2 3 After Installation”.

Note

Please see “chapter4 2 Port numbers / Protocols” for information about ports and protocols used in NEC ESMPRO Manager.

2. Installation

This page describes fresh installation and update installation of NEC ESMPRO Manager.

Be sure to read "Before Installation" and install this product.

2.1 Installation procedure

Please install application by method below.

- Downloaded NEC ESMPRO Manager

Note

- If you install NEC ESMPRO Manager Ver.7 on device where NEC ESMPRO Manager Ver.6 is installed, you can execute the installation with upgrade.

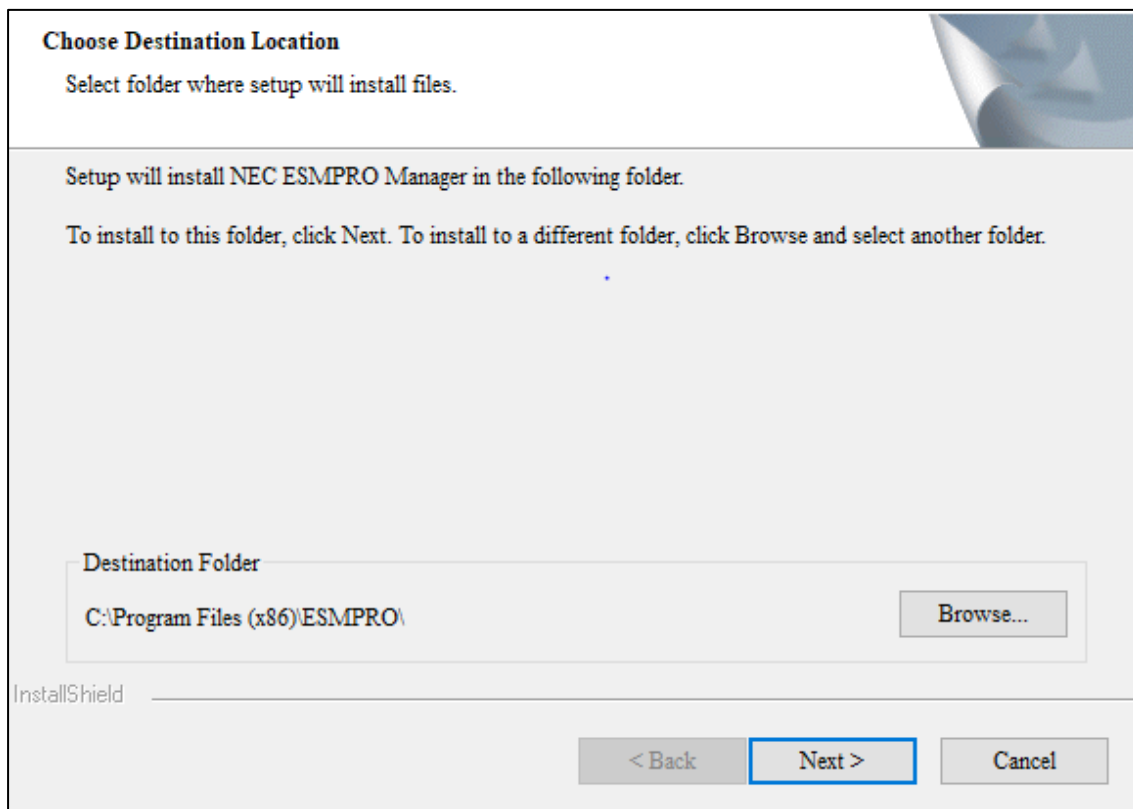
Note that upgrade from NEC ESMPRO Manager Ver.5 or earlier is not possible.

Tips

- If you want to monitor storage(iStorage M series), please install WebSAM iStorageManager and iStorage (M series) NEC ESMPRO Manager linkage module on server where the NEC ESMPRO Manager is installed.
- If you want to work together with Windows Admin Center, please install Windows Admin Center.

2.1.1 Downloaded NEC ESMPRO Manager

1. **Sign-in (Logon) to the system with the built-in Administrator (or an account having administrative privilege).**
2. **Save the downloaded file in a folder of your choice, and unzip it.**
3. **Run the setup program "MANAGER¥setup.exe".**
4. **Select the installation destination.** (For update installation, this is not displayed.)
Select the installation target folder, and then click [Next].



Important when you set [Destination Folder] , please don't a folder that includes the Unicode special character.

5. Enter the administrator name and the password.

(For update installation, this is not displayed.)

Create NEC ESMPRO Manager administrator. Specify the administrator name and password, and then click [Next].

Input of the administrator name and password

Please enter the administrator name and password.

Administrator name

Password

Password(check)

InstallShield

< Back Next > Cancel

Note

- Specify the administrator name with 1 to 16 alphanumeric characters, and the password with 6 to 16 alphanumeric characters.
- Administrator name is the user name to operate NEC ESMPRO Manager with the administrator authority.

6. Input of the http connector port.

(For update installation from NEC ESMPRO Manager Ver.7, this is not displayed.)

Specify the http connector port that NEC ESMPRO Manager uses, and then click "Next".

Port number(default value is 21120) is used to connect to NEC ESMPRO Manager Ver.7 by browser.

Port number(classic mode)(default value is 21112) is used to run Classic Mode from NEC ESMPRO Manager.

Input of the http connector port

Please enter the http connector port that the NEC ESMPRO Manager uses. The useful range is 0-65535.

Port number

Port number(classic mode)

InstallShield

< Back Next > Cancel

Note

The useful range of the http connector port is 0-65535.

The Input of the http connector port is displayed only for update installation from NEC ESMPRO Manager Ver.6.

When The port have to be changed because of conflict, see "Changing the port number" in [chapter2 3 After Installation] and change port number.

7. Enter preservation folder of update package.

(For update installation, this is not displayed in case that the folder has been specified.)

Specify the preservation folder of update package, and then click [Next].

Preservation folder of update package

Please specify the folder location which has enough free capacity for preserving update packages.

Preservation folder of update package
C:\Program Files (x86)\ESMPRO\ESMWEB\pkgpool

Browse...

InstallShield

< Back Next > Cancel

Tips This folder will be used as a repository of update packages for NEC Express Update.

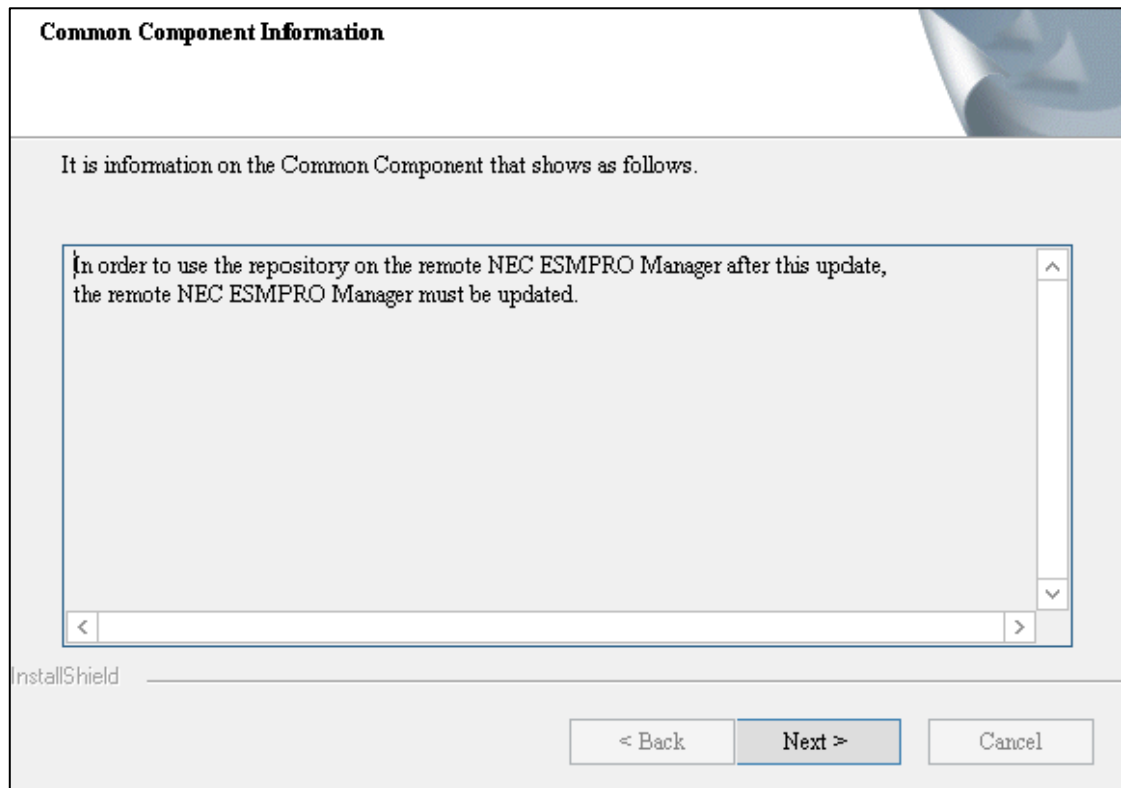
Note This folder is required more than 200MB space. The default preservation folder is "Installation target folder\ESMWEB\pkgpool".

Wait until the installation completes. Some installation windows are displayed during the installation. If you click [Cancel], the installation can be aborted but the installed files are not deleted.

8. Check the information on Common Component.

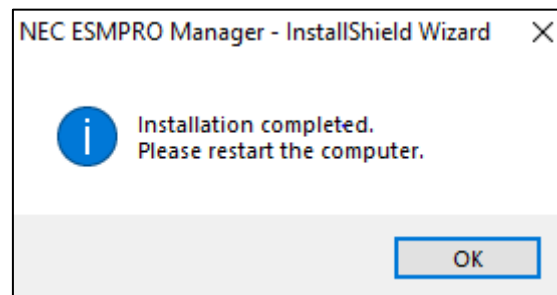
(This is displayed for update installation when you set the remote repository on Tools.)

Check the information and click [Next].



9. The installation completes.

Click [OK] and then restart OS (the system will not automatically restart.).



Note

- The displayed messages vary depending on the environment.
- If this computer is intended to be used in EXPRESSCLUSTER system, you need to do some extra work before restarting the computer. Refer to EXPRESSCLUSTER document.

2.2 Notes on installation

◆ Message on NEC ESMPRO Manager install

Depending on OS, installing NEC ESMPRO Manager the message that "Windows Explorer has stopped working" might be displayed. However, installation was normally completed. The system does not have the influence.

◆ Program Compatibility Assistant dialog box

A message "This program might not have installed correctly" may popup after installing NEC ESMPRO Manager complete. In such a case, you can safely click [This program installed correctly] or [Cancel] button to close the dialog because the installation is done successfully.

3. After Installation

◆ Login

When the installation of NEC ESMPRO Manager completes, check that you can login to it.

1. Access to the following address on a Web browser.

http://"the hostname of NEC ESMPRO Manager installed":"port number"/esmpro/Login/index

This is connection example of URL with HTTP and port "21120" using the web browser on PC for Management.

http://hostname:21120/esmpro/Login/index

* If EXPRESSCLUSTER system is installed, access to the following address.

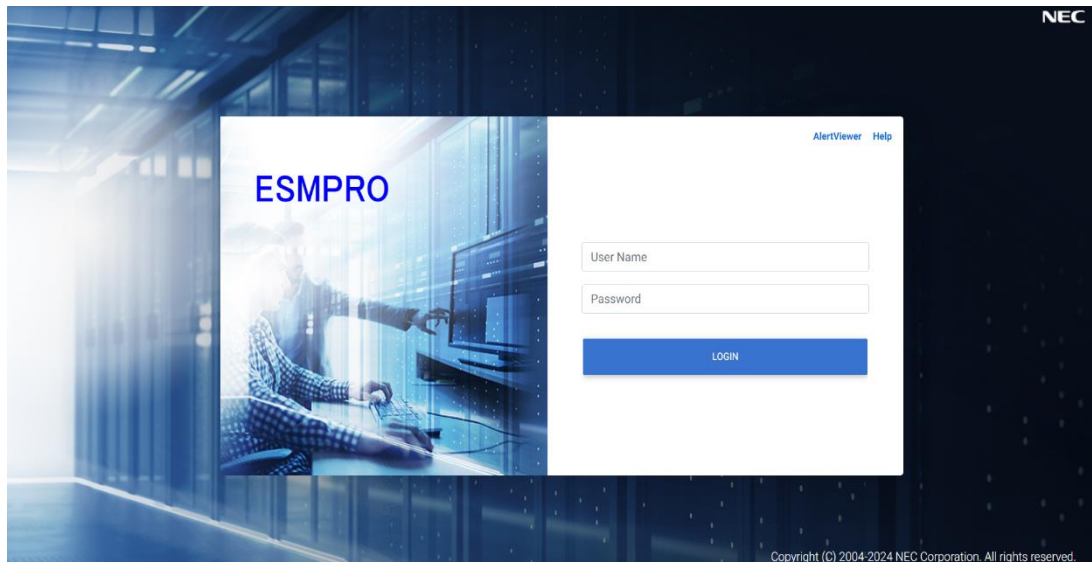
http://" Floating IP (FIP) or Virtual computer name":"HTTP connection port number"/esmpro/Login/index

Tips

- NEC ESMPRO Manager can be started up by clicking its icon created on the desktop after the installation.
- NEC ESMPRO Manager has the access control function.
NEC ESMPRO Manager can be accessed only from the local Web browser with the default setting.
Add the IP address to access ESMPRO Manager from remote Web browser.
[Procedure]
Run Classic Mode, and then
 1. Click [Environment]-[Access Control].
 2. Click [Add Address].
 3. Add the IP address which you want to allow to access.

2. NEC ESMPRO Manager login window opens.

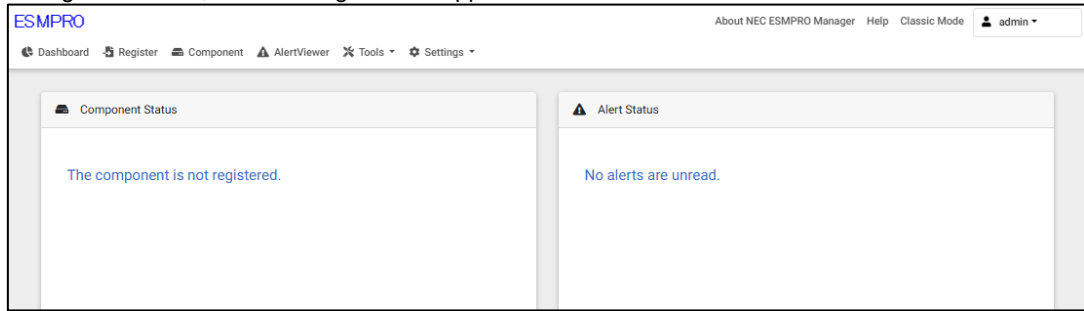
Enter the administrator name and the password that were registered at the installation, and click "LOGIN" button.



Note

To protect your NEC ESMPRO Manager more securely, you should change the password regularly and use a strong password that is hard to guess.

When the login succeeds, the following window appears:



◆ Setting environment

You can change the optional settings of NEC ESMPRO Manager.

Click "Settings" -> "Environment" from the menu displayed above to check the setting. For details, see the online help.

◆ The change of the service accounts

By following steps, you can change account of ESMPRO/SM Task Service for management other computer device.

1. Run service From management tool on control panel.
2. Stop ESMPRO/SM Web Service.
3. Stop ESMPRO/SM Task Service.
4. Double click ESMPRO/SM Task Service,then property screen is displayed.
5. Select the [log on] on property screen, change local system account to account.
6. After enter account with the administrator permissions and password in the "account", click "OK".
7. Start ESMPRO/SM Task Service.
8. Start ESMPRO/SM Web Service.

◆ SSL

If you need to login to NEC ESMPRO Manager using SSL, you must change the setting of NEC ESMPRO Manager. Perform the procedure that is necessary in order to use SSL with NEC ESMPRO Manager as follows:

1. Edit “appsettings.json” in “ESMWB7\sm7web” of NEC ESMPRO Manager

Installed folder and change port number.

```
"webhost": {  
  "port": 21120,    Note:please change the port number  
  
  "urls": "http://0.0.0.0:21120" Note:please change the port number.
```

2. Prepare the certificate for ESMPRO/SM Web Service.

Create certificate by "C:\Program Files (x86)\ESMPRO\ESMWEB\java\bin\keytool.
keytool.exe -genkeypair -keystore <keystore name> -storepass <keystore password> -validity <validity
number of days> -keyalg RSA -keysize <keysize> -storetype pkcs12 -ext EKU=serverAuth -dname
"CN=<IP address of the PC for management>" -ext SAN=dns: <hostname of the PC for
management>,ip: <IP address of the PC for management>

Following is an example of creating a certificate with the content below.

```
keystore name : c:\test.pfx  
keystore password : esmpro5800  
validity number of days : 1000  
keysize : 2048
```

```
"c:\Program Files (x86)\ESMPRO\ESMWEB\java\bin\keytool.exe" -genkeypair -keystore  
c:\test.pfx -storepass esmpro5800 -validity 1000 -keyalg RSA -keysize 2048 -storetype pkcs12 -ext  
EKU=serverAuth -dname "CN=192.168.1.xxx" -ext SAN=dns:esmprosv,ip:192.168.1.xxx
```

3. Import certificate created in procedure2 to the trusted root certificates.

Start command program with administrator permission and execute following command.

```
certutil -f -p <keystore password> -importpfx <keystore name>
```

Following is an example of creating a certificate with the content below.

```
certutil -f -p esmpro5800 -importpfx C:\test.pfx
```

Please check if certificate is correctly imported into “Trusted Root Certificate Authorities” by command.

Run “certlm.msc” on command program.

Select “Trusted Root Certification Authorities” - “Certificates”

Please check whether there are the content like as address of PC for management in procedure2 in the “Issued To” and “Issued By”.

4. Add following information into “appsettings.json” in “ESMWB7\sm7web” under NEC ESMPRO Manager installed folder.

```

"Kestrel": {
  "Endpoints": {
    "Https": {
      "Url": "https://*:<number>", Note: Set the port number of procedure1.
      "Certificate": {
        "Path": "<path to .pfx file>", Note: Set the keystore name of procedure2(ex. c:¥¥test.pfx ).
        "Password": "<certificate password>" Note: Set the keystore password of procedure2.
      }
    }
  }
}

```

5. According to following note, change “appsettings.json” in ” ESMWB7\sm7web” under NEC ESMPRO Manager installed folder.

```

"webhost": {
  "protocol": "http", Note: change “http” to “https”.
}

```

6. Restart service by procedures below.

- 1.stop ESMPRO/SM Web Service.
- 2.stop ESMPRO/SM Task Service.
- 3.start ESMPRO/SM Task Service
- 4.start ESMPRO/SM Web Service

7. Change classic mode and Create a key.

Change the setting of NEC ESMPRO Manager.

Edit the server.xml file to enable SLL. The server.xml is in the folder ESMWEB¥wbserver¥conf on NEC ESMPRO Manager installed folder.

Open the server.xml file with an editor tool, search the description of <Connector> which is specified port number 8443, and delete the comment form "<!--" and "->". Modify the port number if you need.

Add the keystore file path and the password that is specified at the time creating the keystore, in the description of <Connector>.

If <SSLHostConfig>~</SSLHostConfig> is described in file, delete it.

```

<!--Define a SSL HTTP/1.1 Connector on port 8443
:
<!--NOTES: Delete these lines
<Connector port="8443" NOTES: Change it if you need.
  protocol="org.apache.coyote.http11.Http11NioProtocol"
  maxThreads="150" SSLEnabled="true" scheme="https" secure="true"
  clientAuth="false" sslProtocol="TLS" NOTES: Add content from scheme to sslProtocol
  keystoreFile="<path to .pfx file>" NOTES: Set the file of Procedure2(ex. c:¥¥test.pfx).
  keystorePass="<certificate password>" NOTES: Set the password of Procedure2
  useBodyEncodingForURI="true"

```

```
sslEnabledProtocols="TLSv1,TLSv1.1,TLSv1.2"    NOTES: Set enabled protocols.  
/>  
--> NOTES:delete these lines.
```

8. If you use Classic Mode by https, please change the setting below.

Change appsettings.json in the folder "ESMWB7¥sm7web" of NEC ESMPRO Manager installed folder.

```
"classic": {  
  "port": "21112",    Note: Set the port number(ex. 8443) of Procedure6.  
  "host": "127.0.0.1",  
  "protocol": "http"  Note: Change "http"to "https"  
}
```

9. Reboot PC for Management.

Reboot the PC for management installed NEC ESMPRO Manager.

10. Login.

Confirm to login to NEC ESMPRO Manager with "https:".

If windows firewall is available, open the changed port number.

Make access to the following address using the web browser on the web client.

https://" the computer name(IP Address) installed NEC ESMPRO Manager":" port number that is specified in procedure1/esmpro/Login/index

An example of address to access from the web browser on PC for Management is shown.

https://esmprosv:21122/esmpro/Login/index

https://192.168.1.xxx:21122/esmpro/Login/index

Important | If you access URLs by hostname, please disable IPv6.

◆ SSL Setup for LDAP/ActiveDirectory

To use SSL connection between NEC ESMPRO Manager and the authentication server of LDAP/ActiveDirectory, please import certificate into a keystore of JRE which NEC ESMPRO Manager uses.

The certificate can be imported by entering the following commands in a command prompt.

```
C:¥Program Files (x86)¥ESMPRO¥ESMWEB¥java¥r1¥bin>keytool.exe -import -trustcacerts -alias ldapsvr  
-file C:¥ldap¥client.pem -keystore ..¥lib¥security¥cacerts
```

Note

- Administrator privileges may be required.
- Change "C:¥Program Files (x86)¥ESMPRO " according to the installed environment.
- Change "C:¥ldap¥client.pem" according to the location and the file name of the certificate.
- A default password of a keystore is "changeit".

Important

Using a network controllable product with its default password may raise a serious risk as it may be hacked by some malicious third person.

If a product is supplanted by a malware, it will face possibilities of not only information leakages, but also system damages obstructing its availability and/or integrity.

Even if it does not cause damage to own system, the product may be used as a botnet to make a cyber-attack to some other systems.

The default password on our product is provided only for the purpose of changing initial setting during its installation service. In first change of initial setting, please be sure to change the password.

NEC Corporation shall not take any liability and responsibility for any damages arising from illegal access.

If the new password is not strong (too short) or easily guessed, illegal access cannot be prevented. Please be sure to use a strong password.

<<How to change your password of a keystore>>

* In the case of NEC ESM PRO Manager installed in "C:\Program Files (x86)\ESM PRO".

1. Open the following folder via a command prompt.

C:\Program Files (x86)\ESM PRO\ESM WEB\jre\bin

2. The password of a keystore can be changed by entering the following commands in a command prompt.

keytool.exe -storepasswd -keystore ..\lib\security\cacerts

3. Stop the following 8 services.

* Stop procedures

1. ESM PRO/SM Web Service
2. ESM PRO/SM Task Service
3. ESM PRO/SM Web Container
4. ESM PRO/SM Event Manager
5. ESM PRO/SM Base AlertListener
6. ESM PRO/SM Common Component
7. ESM32BridgeService for AlertListener
8. ESM32BridgeService for NvAccessor

4. Edit the following file.

<Folder>

C:\Program Files (x86)\ESM PRO\ESM WEB\wbserver\webapps\esmpro\WEB-INF\service

<File>

options.txt

<Changes>

Change the value "changeit" in the following line to the new password and save it.

DS_CERT_PSWD=changeit

(Example)

DS_CERT_PSWD=newpassword

5. Start the following 8 services.

* Start procedures

1. ESM32BridgeService for NvAccessor
2. ESM32BridgeService for AlertListener
3. ESM PRO/SM Common Component
4. ESM PRO/SM Base AlertListener
5. ESM PRO/SM Event Manager
6. ESM PRO/SM Web Container
7. ESM PRO/SM Task Service
8. ESM PRO/SM Web Service

◆ Changing the port number (Start Port)

You can change the available port number after installation of NEC ESMPRO Manager.

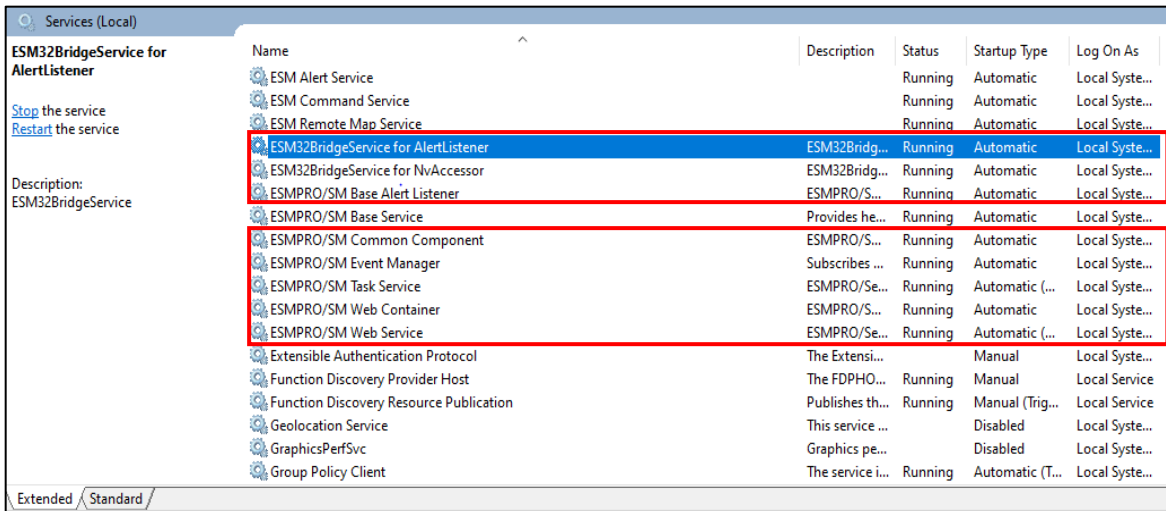
Please change port number if conflict.

An example of address to access in HTTP connection port "21120".

1. Stop the following 8 services.

◆ Stop procedures

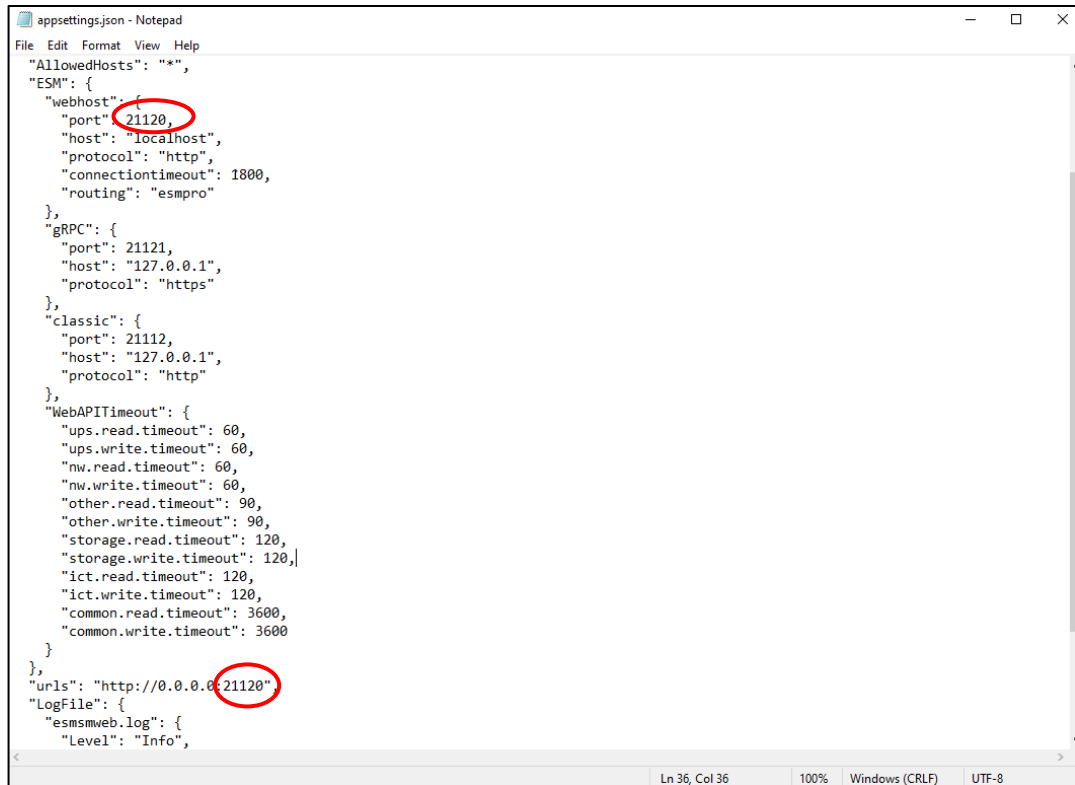
1. ESMPRO/SM Web Service
2. ESMPRO/SM Task Service
3. ESMPRO/SM Web Container
4. ESMPRO/SM Event Manager
5. ESMPRO/SM Base AlertListener
6. ESMPRO/SM Common Component
7. ESM32BridgeService for AlertListener
8. ESM32BridgeService for NvAccessor



Name	Description	Status	Startup Type	Log On As
ESM Alert Service		Running	Automatic	Local System...
ESM Command Service		Running	Automatic	Local System...
ESM Remote Map Service		Running	Automatic	Local System...
ESM32BridgeService for AlertListener	ESM32Bridg...	Running	Automatic	Local System...
ESM32BridgeService for NvAccessor	ESM32Bridg...	Running	Automatic	Local System...
ESMPRO/SM Base Alert Listener	ESMPRO/S...	Running	Automatic	Local System...
ESMPRO/SM Base Service	Provides he...	Running	Automatic	Local System...
ESMPRO/SM Common Component	ESMPRO/S...	Running	Automatic	Local System...
ESMPRO/SM Event Manager	Subscribes ...	Running	Automatic	Local System...
ESMPRO/SM Task Service	ESMPRO/Se...	Running	Automatic (...)	Local System...
ESMPRO/SM Web Container	ESMPRO/S...	Running	Automatic	Local System...
ESMPRO/SM Web Service	ESMPRO/Se...	Running	Automatic (...)	Local System...
Extensible Authentication Protocol	The Extensi...		Manual	Local System...
Function Discovery Provider Host	The FDPHO...	Running	Manual	Local Service
Function Discovery Resource Publication	Publishes th...	Running	Manual (Trig...	Local Service
Geolocation Service	This service ...		Disabled	Local System...
GraphicsPerfSvc	Graphics pe...		Disabled	Local System...
Group Policy Client	The service i...	Running	Automatic (T...	Local System...

2. Edit the port number in the "appsettings.json" setting file of ESM/PRO/SM Web Container service.

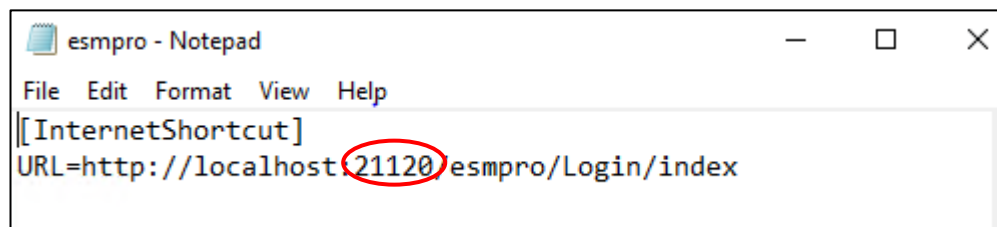
The "appsettings.json" file is on "NEC ESM/PRO Manager installed folder"¥ESMWB7¥sm7web . In this file, you search the following "ESM" and "urls" description specified port number 21120 and change the port number.



```
appsettings.json - Notepad
File Edit Format View Help
"AllowedHosts": "*",
"ESM": {
  "webhost": {
    "port": 21120,
    "host": "localhost",
    "protocol": "http",
    "connectiontimeout": 1800,
    "routing": "esmpro"
  },
  "gRPC": {
    "port": 21121,
    "host": "127.0.0.1",
    "protocol": "https"
  },
  "classic": {
    "port": 21112,
    "host": "127.0.0.1",
    "protocol": "http"
  },
  "WebAPITimeout": {
    "ups.read.timeout": 60,
    "ups.write.timeout": 60,
    "nw.read.timeout": 60,
    "nw.write.timeout": 60,
    "other.read.timeout": 90,
    "other.write.timeout": 90,
    "storage.read.timeout": 120,
    "storage.write.timeout": 120,
    "ict.read.timeout": 120,
    "ict.write.timeout": 120,
    "common.read.timeout": 3600,
    "common.write.timeout": 3600
  }
},
"urls": "http://0.0.0.0:21120",
"LogFile": {
  "esmsmweb.log": {
    "Level": "Info",
```

3. Edit shortcut file "esmpro".

The "esmpro" file is on "NEC ESM/PRO Manager installed folder"¥ESMWEB. In this file, you search the following description specified port number 21120 and change the port number.



```
esmpro - Notepad
File Edit Format View Help
[[InternetShortcut]
URL=http://localhost:21120/esmpro/Login/index
```

4. Start the following 8 services.

◆ Start procedures

1. ESM32BridgeService for NvAccessor
2. ESM32BridgeService for AlertListener
3. ESMPRO/SM Common Component
4. ESMPRO/SM Base AlertListener
5. ESMPRO/SM Event Manager
6. ESMPRO/SM Web Container
7. ESMPRO/SM Task Service
8. ESMPRO/SM Web Service

◆ Changing the port number (Classic Mode)

You can change the port number of classic mode after installation of NEC ESMPRO Manager.

Please change port number if conflict.

An example of setting HTTP connection port to "21112".

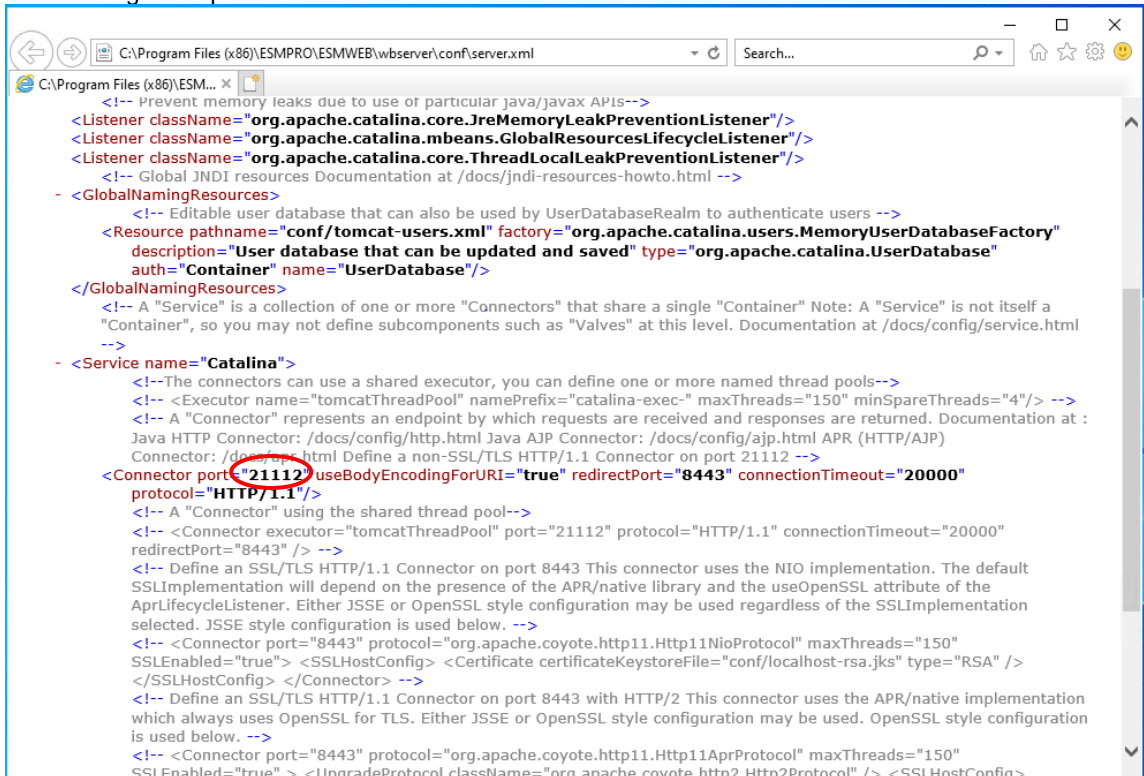
1. Stop the following 8 services.

◆ Stop procedures

1. ESMPRO/SM Web Service
2. ESMPRO/SM Task Service
3. ESMPRO/SM Web Container
4. ESMPRO/SM Event Manager
5. ESMPRO/SM Base AlertListener
6. ESMPRO/SM Common Component
7. ESM32BridgeService for AlertListener
8. ESM32BridgeService for NvAccessor

2. Edit the port number in the "server.xml" setting file of ESMPRO/SM Web C ontainer service.

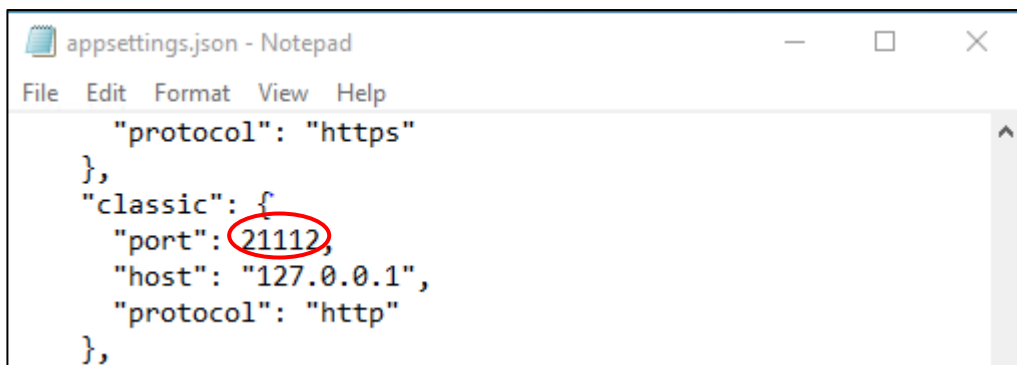
The "server.xml" file is on "NEC ESMPRO Manager installed folder"¥ESMWEB¥wserver¥con f. In this file, you search the following<Connector>description specified port number 21112 and change the port number.



```
<!-- Prevent memory leaks due to use of particular java/javax APIs-->
<Listener className="org.apache.catalina.core.JreMemoryLeakPreventionListener"/>
<Listener className="org.apache.catalina.mbeans.GlobalResourcesLifecycleListener"/>
<Listener className="org.apache.catalina.core.ThreadLocalLeakPreventionListener"/>
<!-- Global JNDI resources Documentation at /docs/jndi-resources-howto.html -->
- <GlobalNamingResources>
  <!-- Editable user database that can also be used by UserDatabaseRealm to authenticate users -->
  <Resource pathname="conf/tomcat-users.xml" factory="org.apache.catalina.users.MemoryUserDatabaseFactory"
description="User database that can be updated and saved" type="org.apache.catalina.UserDatabase"
auth="Container" name="UserDatabase"/>
</GlobalNamingResources>
<!-- A "Service" is a collection of one or more "Connectors" that share a single "Container" Note: A "Service" is not itself a
"Container", so you may not define subcomponents such as "Valves" at this level. Documentation at /docs/config/service.html
-->
- <Service name="Catalina">
  <!-- The connectors can use a shared executor, you can define one or more named thread pools-->
  <!-- <Executor name="tomcatThreadPool" namePrefix="catalina-exec-" maxThreads="150" minSpareThreads="4"/> -->
  <!-- A "Connector" represents an endpoint by which requests are received and responses are returned. Documentation at :
Java HTTP Connector: /docs/config/http.html Java AJP Connector: /docs/config/ajp.html APR (HTTP/AJP)
Connector: /docs/config/ssl.html Define a non-SSL/TLS HTTP/1.1 Connector on port 21112 -->
  <Connector port="21112" useBodyEncodingForURI="true" redirectPort="8443" connectionTimeout="20000"
protocol="HTTP/1.1"/>
  <!-- A "Connector" using the shared thread pool-->
  <!-- <Connector executor="tomcatThreadPool" port="21112" protocol="HTTP/1.1" connectionTimeout="20000"
redirectPort="8443" /> -->
  <!-- Define an SSL/TLS HTTP/1.1 Connector on port 8443 This connector uses the NIO implementation. The default
SSLImplementation will depend on the presence of the APR/native library and the useOpenSSL attribute of the
AprLifecycleListener. Either JSSE or OpenSSL style configuration may be used regardless of the SSLImplementation
selected. JSSE style configuration is used below. -->
  <!-- <Connector port="8443" protocol="org.apache.coyote.http11.Http11NioProtocol" maxThreads="150"
SSLEnabled="true"> <SSLHostConfig> <Certificate certificateKeystoreFile="conf/localhost-rsa.jks" type="RSA" />
</SSLHostConfig> </Connector> -->
  <!-- Define an SSL/TLS HTTP/1.1 Connector on port 8443 with HTTP/2 This connector uses the APR/native implementation
which always uses OpenSSL for TLS. Either JSSE or OpenSSL style configuration may be used. OpenSSL style configuration
is used below. -->
  <!-- <Connector port="8443" protocol="org.apache.coyote.http11.Http11AprProtocol" maxThreads="150"
SSLEnabled="true"> <UpgradeProtocol className="org.apache.coyote.http2.Http2Protocol" /> <SSLHostConfig>
```

3. Edit the port number in the "appsettings.json" setting file of ESMPRO/SM Web service and ESMPRO/SM Task Service.

The "appsettings.json" file is on "NEC ESMPRO Manager installed folder"¥ESMWB7¥sm7we b and ¥ESMWB7¥sm7task. In this file, you search the following "classic" description specified port number 21112 and change the port number.



```
appsettings.json - Notepad
File Edit Format View Help
  "protocol": "https"
},
  "classic": {
    "port": 21112,
    "host": "127.0.0.1",
    "protocol": "http"
  },
```

4. Start the following 8 services.

◆ Start procedures

1. ESM32BridgeService for NvAccessor
2. ESM32BridgeService for AlertListener

3. ESMPRO/SM Common Component
4. ESMPRO/SM Base AlertListener
5. ESMPRO/SM Event Manager
6. ESMPRO/SM Web Container
7. ESMPRO/SM Task Service
8. ESMPRO/SM Web Service

◆ Coexistence with Tomcat

When NEC ESM PRO Manager and Tomcat are installed same computer, the application software installed later will not be running correctly.

In this case, you can avoid it by the following way.

1. If the following 8 services have started, stop the services.

◆ Stop procedures

1. ESM PRO/SM Web Service
2. ESM PRO/SM Task Service
3. ESM PRO/SM Web Container
4. ESM PRO/SM Event Manager
5. ESM PRO/SM Base AlertListener
6. ESM PRO/SM Common Component
7. ESM32BridgeService for AlertListener
8. ESM32BridgeService for NvAccessor

Name	Description	Status	Startup Type	Log On As
ESM Alert Service		Running	Automatic	Local System
ESM Command Service		Running	Automatic	Local System
ESM Remote Map Service		Running	Automatic	Local System
ESM32BridgeService for AlertListener	ESM32Bridg...	Running	Automatic	Local System
ESM32BridgeService for NvAccessor	ESM32Bridg...	Running	Automatic	Local System
ESM PRO/SM Base Alert Listener	ESM PRO/S...	Running	Automatic	Local System
ESM PRO/SM Base Service	Provides he...	Running	Automatic	Local System
ESM PRO/SM Common Component	ESM PRO/S...	Running	Automatic	Local System
ESM PRO/SM Event Manager	Subscribes ...	Running	Automatic	Local System
ESM PRO/SM Task Service	ESM PRO/Se...	Running	Automatic (...)	Local System
ESM PRO/SM Web Container	ESM PRO/S...	Running	Automatic	Local System
ESM PRO/SM Web Service	ESM PRO/Se...	Running	Automatic (...)	Local System
Extensible Authentication Protocol	The Extensi...	Manual	Manual	Local System
Function Discovery Provider Host	The FDPHO...	Running	Manual	Local Service
Function Discovery Resource Publication	Publishes th...	Running	Manual (Trig...	Local Service
Geolocation Service	This service ...	Disabled	Disabled	Local System
GraphicsPerfSvc	Graphics pe...	Disabled	Disabled	Local System
Group Policy Client	The service i...	Running	Automatic (T...	Local System

2. If Tomcat service has started, stop the service.

3. Edit the server port number and connector port number in the "server.xml" setting file of ESM PRO/SM Web Container service.

The "server.xml" file is on the <The folder in which this product is installed>%ESMWEB%\wbserver\conf.

In this file, you search the following description specified <Server port="21113" ...> <Connector port = "21114" ...> and change the port number to unused number.

- server port number

```
<?xml version="1.0"?>
<!-- Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements. See the NOTICE file distributed
with this work for additional information regarding copyright ownership. The ASF licenses this file to You under the Apache License, Version
2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at
http://www.apache.org/licenses/LICENSE-2.0 Unless required by applicable law or agreed to in writing, software distributed under the
License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the
License for the specific language governing permissions and limitations under the License. -->
<!-- Note: A "Server" is not itself a "Container", so you may not define subcomponents such as "Valves" at this level. Documentation
at /docs/config/server.html -->
- <Server shutdown="SHUTDOWN" port="21113">
  <Listener className="org.apache.catalina.startup.VersionLoggerListener"/>
  <!-- Security listener. Documentation at /docs/config/listeners.html <Listener
className="org.apache.catalina.security.SecurityListener" /> -->
  <!-- APR library loader. Documentation at /docs/apr.html -->
  <Listener className="org.apache.catalina.core.AprLifecycleListener" SSLEngine="on"/>
  <!-- Prevent memory leaks due to use of particular java/javax APIs-->
  <Listener className="org.apache.catalina.core.JreMemoryLeakPreventionListener"/>
  <Listener className="org.apache.catalina.mbeans.GlobalResourcesLifecycleListener"/>
  <Listener className="org.apache.catalina.core.ThreadLocalLeakPreventionListener"/>
  <!-- Global JNDI resources Documentation at /docs/jndi-resources-howto.html -->
  - <GlobalNamingResources>
    <!-- Editable user database that can also be used by UserDatabaseRealm to authenticate users -->
    <Resource pathname="conf/tomcat-users.xml" factory="org.apache.catalina.users.MemoryUserDatabaseFactory"
description="User database that can be updated and saved" type="org.apache.catalina.UserDatabase"
auth="Container" name="UserDatabase"/>
  </GlobalNamingResources>
  <!-- A "Service" is a collection of one or more "Connectors" that share a single "Container" Note: A "Service" is not itself a
"Container", so you may not define subcomponents such as "Valves" at this level. Documentation at /docs/config/service.html -->
  - <Service name="Catalina">
    <!--The connectors can use a shared executor, you can define one or more named thread pools-->
    <!-- <Executor name="tomcatThreadPool" namePrefix="catalina-exec-" maxThreads="150" minSpareThreads="4"/> -->
    <!-- A "Connector" represents an endpoint by which requests are received and responses are returned. Documentation at : Java
HTTP Connector: /docs/config/http.html Java AJP Connector: /docs/config/ajp.html APR (HTTP/AJP) Connector: /docs/apr.html
Define a non-SSL/TLS HTTP/1.1 Connector on port 21112 -->
    <Connector port="21112" useBodyEncodingForURI="true" redirectPort="8443" connectionTimeout="20000"
protocol="HTTP/1.1"/>
    <!-- A "Connector" using the shared thread pool-->
    <!-- <Connector executor="tomcatThreadPool" port="21112" protocol="HTTP/1.1" connectionTimeout="20000"
redirectPort="8443" /> -->
    <!-- Define an SSL/TLS HTTP/1.1 Connector on port 8443 This connector uses the NIO implementation. The default
SSLImplementation will depend on the presence of the APR/native library and the useOpenSSL attribute of the
AprLifecycleListener. Either JSSE or OpenSSL style configuration may be used regardless of the SSLImplementation selected.
JSSE style configuration is used below. -->
    <!-- <Connector port="8443" protocol="org.apache.coyote.http11.Http11NioProtocol" maxThreads="150" SSLEnabled="true">
<SSLHostConfig> <Certificate certificateKeystoreFile="conf/localhost-rsa.jks" type="RSA" /> </SSLHostConfig> </Connector>
-->
    <!-- Define an SSL/TLS HTTP/1.1 Connector on port 8443 with HTTP/2 This connector uses the APR/native implementation
which always uses OpenSSL for TLS. Either JSSE or OpenSSL style configuration may be used. OpenSSL style configuration is
used below. -->
    <!-- <Connector port="8443" protocol="org.apache.coyote.http11.Http11AprProtocol" maxThreads="150" SSLEnabled="true"
> <UpgradeProtocol className="org.apache.coyote.http2.Http2Protocol" /> <SSLHostConfig> <Certificate
certificateKeyFile="conf/localhost-rsa-key.pem" certificateFile="conf/localhost-rsa-cert.pem"
certificateChainFile="conf/localhost-rsa-chain.pem" type="RSA" /> </SSLHostConfig> </Connector> -->
    <!-- Define an AJP/1.3 Connector on port 8009 -->
    <Connector port="21114" redirectPort="8443" protocol="AJP/1.3"/>
    <!-- An Engine represents the entry point (within Catalina) that processes every request. The Engine implementation for
Tomcat stand alone analyzes the HTTP headers included with the request, and passes them on to the appropriate Host (virtual
host). Documentation at /docs/config/engine.html -->
    <!-- You should set jvmRoute to support load-balancing via AJP ie : <Engine name="Catalina" defaultHost="localhost"
jvmRoute="jvm1"> -->
    + <Engine name="Catalina" defaultHost="localhost">
  </Service>
</Server>
```

- connector port number

```
HTTP Connector: /docs/config/http.html Java AJP Connector: /docs/config/ajp.html APR (HTTP/AJP) Connector: /docs/apr.html
Define a non-SSL/TLS HTTP/1.1 Connector on port 21112 -->
<Connector port="21112" useBodyEncodingForURI="true" redirectPort="8443" connectionTimeout="20000"
protocol="HTTP/1.1"/>
<!-- A "Connector" using the shared thread pool-->
<!-- <Connector executor="tomcatThreadPool" port="21112" protocol="HTTP/1.1" connectionTimeout="20000"
redirectPort="8443" /> -->
<!-- Define an SSL/TLS HTTP/1.1 Connector on port 8443 This connector uses the NIO implementation. The default
SSLImplementation will depend on the presence of the APR/native library and the useOpenSSL attribute of the
AprLifecycleListener. Either JSSE or OpenSSL style configuration may be used regardless of the SSLImplementation selected.
JSSE style configuration is used below. -->
<!-- <Connector port="8443" protocol="org.apache.coyote.http11.Http11NioProtocol" maxThreads="150" SSLEnabled="true">
<SSLHostConfig> <Certificate certificateKeystoreFile="conf/localhost-rsa.jks" type="RSA" /> </SSLHostConfig> </Connector>
-->
<!-- Define an SSL/TLS HTTP/1.1 Connector on port 8443 with HTTP/2 This connector uses the APR/native implementation
which always uses OpenSSL for TLS. Either JSSE or OpenSSL style configuration may be used. OpenSSL style configuration is
used below. -->
<!-- <Connector port="8443" protocol="org.apache.coyote.http11.Http11AprProtocol" maxThreads="150" SSLEnabled="true"
> <UpgradeProtocol className="org.apache.coyote.http2.Http2Protocol" /> <SSLHostConfig> <Certificate
certificateKeyFile="conf/localhost-rsa-key.pem" certificateFile="conf/localhost-rsa-cert.pem"
certificateChainFile="conf/localhost-rsa-chain.pem" type="RSA" /> </SSLHostConfig> </Connector> -->
<!-- Define an AJP/1.3 Connector on port 8009 -->
<Connector port="21114" redirectPort="8443" protocol="AJP/1.3"/>
<!-- An Engine represents the entry point (within Catalina) that processes every request. The Engine implementation for
Tomcat stand alone analyzes the HTTP headers included with the request, and passes them on to the appropriate Host (virtual
host). Documentation at /docs/config/engine.html -->
<!-- You should set jvmRoute to support load-balancing via AJP ie : <Engine name="Catalina" defaultHost="localhost"
jvmRoute="jvm1"> -->
+ <Engine name="Catalina" defaultHost="localhost">
</Service>
</Server>
```

4. Start the following 8 services.

◆ Start procedures

1. ESM32BridgeService for NvAccessor
2. ESM32BridgeService for AlertListener
3. ESMPRO/SM Common Component
4. ESMPRO/SM Base AlertListener
5. ESMPRO/SM Event Manager
6. ESMPRO/SM Web Container
7. ESMPRO/SM Task Service
8. ESMPRO/SM Web Service

5. Start Tomcat service.

Note

- Specify the port numbers of NEC ESMPRO Manager and Tomcat not to overlap. If you change the port number of NEC ESMPRO Manager, see the preceding clause "Change the Port Number".
- When you use SSL communication on Tomcat or connect Tomcat with Apache, you may need to change another port number. See Tomcat is Document for detail.

◆ Receiving SNMP Trap from iStorage T series

NEC ESMPRO Manager has a built-in support for SNMP trap from iStorage T series.

If you preconfigured NEC ESMPRO Manager to receive trap from iStorage T series using alert definition file, remove such customizations and reboot the computer so that the built-in support is enabled. The trap enterprise of iStorage T series is shown below.

Also note that If you use WebSAM AlertManager, you may have to reconfigure the report setting since alert type for iStorage T series is now "Tape Library".

[Location of the alert definition file]

%ESMWORK%\public\trap

%ESMWORK% is written in the following registry;

Key : HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\NEC\NVBASE

Name : WorkDir

[Enterprise for iStorage T series]

Managed Server	Enterprise
T30A	1.3.6.1.4.1.119.1.83.1.31
T60A	1.3.6.1.4.1.119.1.83.1.41
T100A	1.3.6.1.4.1.211.4.1.1.126.3.5
T700A	1.3.6.1.4.1.211.4.1.1.126.3.2

Uninstallation

This chapter explains uninstallation of NEC ESMPRO Manager.

1. Uninstallation

Describes about uninstallation procedure of NEC ESMPRO Manager.

***I.* Uninstallation**

This page describes how to uninstall NEC ESMPRO Manager.

***I.I* Uninstallation procedure**

Important

- Uninstallation performed immediately after the system restarts may fail. If an error message appears, try again after waiting for a while.
- Delete all components registered before uninstallation. If execute uninstallation without deleting components, CIM-Indication reporting destination may not be deleted.
- If this computer is intended to be used in EXPRESSCLUSTER system, you need to do some extra work before restarting the computer. Refer to EXPRESSCLUSTER document.

- 1. Sign-in (Log on) to the system with the built-in Administrator (or an account having administrative privilege).**
- 2. Exit all running applications.**
- 3. Perform uninstallation.**

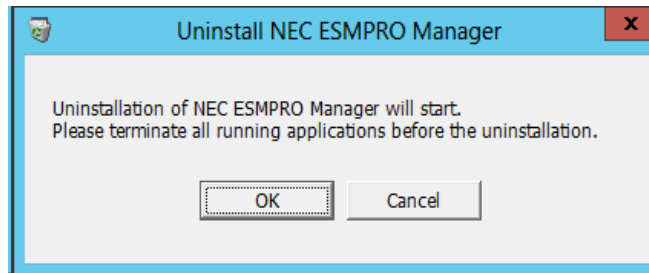
Startup [Programs and Features] (or [Add or Remove Programs]) from [Control Panel].

Select NEC ESMPRO Manager from the list of the installed programs to remove it.

4. Confirmation for uninstallation.

Confirm that any applications related to NEC ESMPRO are not running, and click [OK].

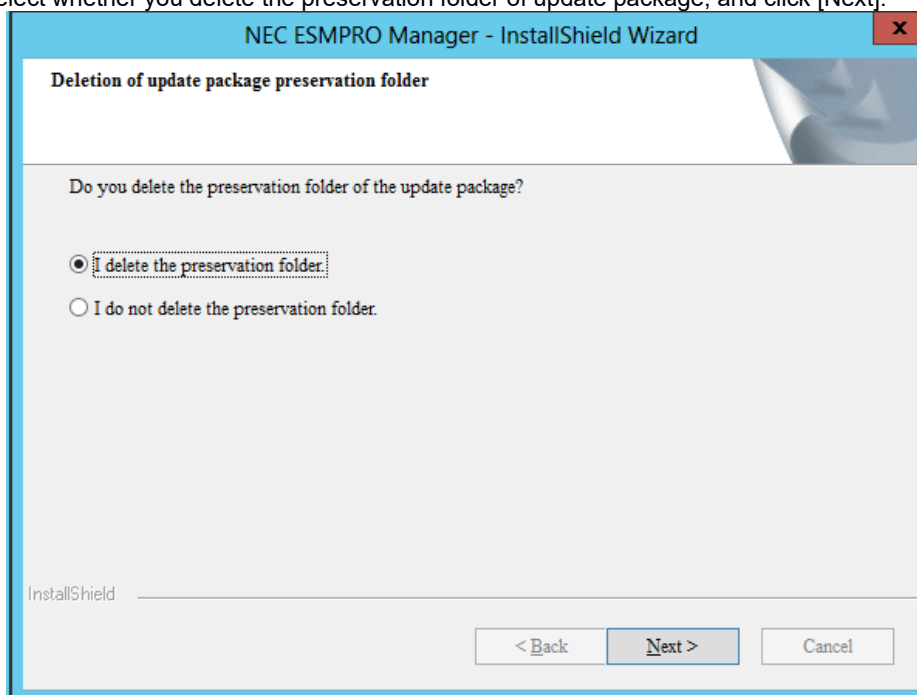
The selected features will be uninstalled.



5. Confirmation for deletion of the folder.

(If there is no folder of update package, this dialog box is not displayed.)

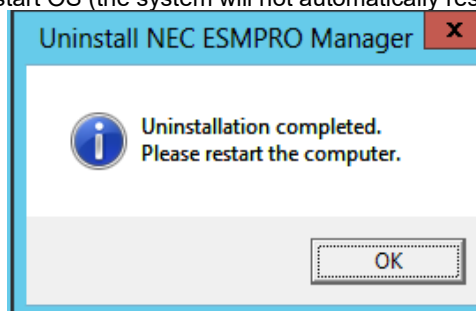
Select whether you delete the preservation folder of update package, and click [Next].



Wait for a while until the uninstallation completes. During the uninstallation, some uninstallation windows will appear.

6. The uninstallation completes.

Click [OK] and then restart OS (the system will not automatically restart.).



1.2 Notes on Uninstallation

◆ Message after NEC ESMPRO Manager Uninstall

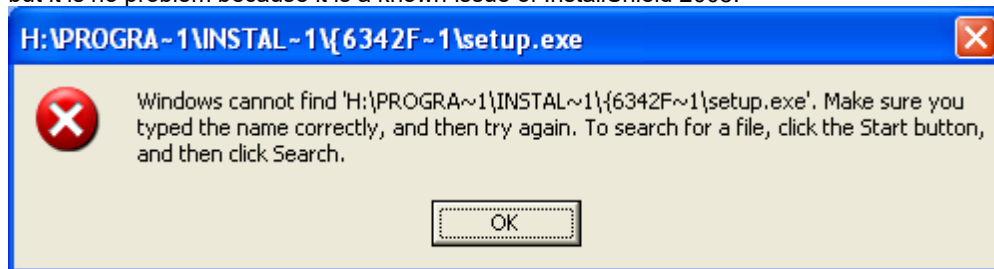
Depending on OS, uninstalling NEC ESMPRO Manager the message that "Windows Explorer has stopped working" might be displayed. However, uninstallation was normally completed. The system does not have the influence.

◆ Program Compatibility Assistant dialog box

A message "This program might not have uninstalled correctly" may popup after uninstalling NEC ESMPRO Manager complete. In such a case, you can safely click [This program uninstalled correctly] or [Cancel] button to close the dialog because the uninstallation is done successfully.

◆ Message at reactivation

The following message might be displayed at the time of the first system reboot after ESMPRO uninstall, but it is no problem because it is a known issue of InstallShield 2008.



◆ File after uninstallation

After uninstalling, the following file is sometimes left in "C:\Windows\System32\wbem". When you access to WMI information using a tool like wbemtest.exe, classes and name space still exist. However, there are no problems to using a system.

- ◆ amwmiprv_v4.0.30319.mof

◆ WebSAM AlertManager is installed

If WebSAM AlertManager is installed on the device where NEC ESMPRO Manager is installed, uninstall WebSAM AlertManager before uninstalling NEC ESMPRO Manager.

However, if you have NEC ESMPRO ServerAgentService or NEC ESMPRO Agent installed, you do not need to uninstall WebSAM AlertManager.

1. Notes

Describes about notes.

2. Port numbers / Protocols

Describes about the port numbers and port Protocols.

3. Services

Describes about the service list.

I. Notes

Check the following points after installing NEC ESMPRO Manager:

I.I NEC ESMPRO Manager

◆ Installation

- If you install NEC ESMPRO Manager on Windows, do not delete user account "Administrators" from "Impersonate a client after authentication" of "Local Security Policy".
- NEC ESMPRO Manager cannot be downgraded to the older version. If you want to use the older version, uninstall the current version and then install new version.

Note: All the registered information will be deleted as the result of the uninstalling.

- If installer displays either of the following message, execute the installation again.
"It failed in the writing in a necessary file of Common Component."
"Close of necessary file for Common Component failed."
- Following product cannot be used in the environment.
 - WebSAM ClientManager
- If you want to monitor storage(iStorage M series) using NEC ESMPRO Manager, you will need to have the WebSAM iStorageManager and iStorage (iStorage M series) NEC ESMPRO Manager relative module installed on the device where NEC ESMPRO Manager is also installed.
In an environment where storage is being monitored, if you are reinstalling or updating the version of NEC ESMPRO Manager, please reinstall the iStorage (M series) NEC ESMPRO Manager relative module.
- You must logout from the web browser that is login to NEC ESMPRO Manager before NEC ESMPRO Manager is updated. After NEC ESMPRO is updated during login, some error may be displayed on any web browser. When the error is displayed, you must close web browser that is login to NEC ESMPRO Manager and restart the following services.

◆ Stop procedures

1. ESMPRO/SM Web Service
2. ESMPRO/SM Task Service
3. ESMPRO/SM Web Container
4. ESMPRO/SM Event Manager
5. ESMPRO/SM Base AlertListener
6. ESMPRO/SM Common Component
7. ESM32BridgeService for AlertListener
8. ESM32BridgeService for NvAccessor

◆ Start procedures

1. ESM32BridgeService for NvAccessor

2. ESM32BridgeService for AlertListener
3. ESMPRO/SM Common Component
4. ESMPRO/SM Base AlertListener
5. ESMPRO/SM Event Manager
6. ESMPRO/SM Web Container
7. ESMPRO/SM Task Service
8. ESMPRO/SM Web Service

- After NEC ESMPRO Manager is updated, NEC ESMPRO Manager on the web browser may display incorrectly. Take the following steps to avoid it.

[Firefox]

1. Click [Tools].
2. Click [Options] menu.
3. Select [Advanced].
4. Select [Network].
5. Click [Clear Now] in [Cached Web Content] section.
6. Click [Clear Now] in [Offline Web Content and User Data] section.
7. Click [OK].

- **[Microsoft Edge]**

1. Click [...] on the upper right of screen.
2. Select [History] and Select [Clear browsing data]
3. Select [All time] fom [Time range]
4. Check following contents
[Browsing history], [Download history], [Cookie and other site data] and [Cached images and files]
5. Click [Clear now]

◆ Setting a Windows Firewall

If the Windows Firewall is enabled, communication of NEC ESMPRO Manager with a web client and a managed server will be interrupted and the system will not work correctly.

To use NEC ESMPRO Manager with Windows Firewall enabled, open the required ports.

Note

For ports used by NEC ESMPRO Manager, see "Chapter4 2 Appendix Port numbers / Protocols".

◆ Use of two or more NEC ESMPRO Manager

A single managed component can be controlled remotely by up to three NEC ESMPRO Manager.

Follow these notes on the remote control:

- Use only one NEC ESMPRO Manager for "management controller" management of the managed component.
- Use only one NEC ESMPRO Manager for RAID system management and NEC ExpressUpdate of the managed component. If you register the managed component on two or more NEC ESMPRO Manager, you must set "unregistration" for RAID system management and NEC ExpressUpdate of the managed component.
- Use one NEC ESMPRO Manager for all EM cards and CPU blades on one blade enclosure.
- Use only one NEC ESMPRO Manager for "WS-Man" management of the managed component.

◆ Power OFF, Power Cycle, Reset, and Dump

Since power control is provided by hardware regardless of the state of the managed server is OS, the system may be damaged. Be careful of operation under power control.

◆ Power OFF, Power Cycle, Reset with BIOS Setup Utility active

If you use the managed server integrated BMC, do not execute Power Off, Power Cycle or Reset while BIOS Setup Utility is active on the managed server. Otherwise, the alert setting of BMC configuration will be disabled.

◆ Shutdown OS

NEC ESMPRO Manager commands one of the agent modules on the managed component to shutdown OS. The order of priority for the shutdown function is NEC ESMPRO Agent Extension, NEC ESMPRO Agent and NEC ExpressUpdate Agent.

NEC ESMPRO Agent Extension or NEC ExpressUpdate Agent shutdowns OS regardless the setting "Permit Remote Shutdown / Reboot" on NEC ESMPRO Agent.

◆ IPMI information collection

While a managed server is tuned OFF, some records of management controller information and FRU (Field Replaceable Unit) information cannot be read in.

The current status of some sensors cannot be read in either while the managed server is turned OFF.

◆ Restriction on concurrent connection to Remote Console

When a single NEC ESMPRO Manager is operating the remote console of a managed server, another Manager cannot execute the remote console function for the managed server. A managed server can transmit redirection data to only a single NEC ESMPRO Manager.

◆ Remote console before OS boot or during DOS program running

If a graphic screen is displayed on a managed server, data cannot be displayed correctly on CUI (Character User Interface) remote console. CUI remote console screen is displayed only when the managed server displays a text screen.

◆ In case of interruption to Remote Console

After BMC on a managed server establishes communication via WAN/Direct connection, communication with DianaScope Agent or NEC ESMPRO Agent Extension may end up with a timeout or the remote console may not be updated any more. This is because priority is given to communication with BMC. To restart the remote console, use [Restart Redirection] button on NEC ESMPRO Manager.

◆ Display of a special character

CUI remote console screen is not displayed correctly in the following cases:

- **Special character**

Ruled lines, arrows correctly and en-size left arrows cannot be displayed.

- **User definition font**

User definition font cannot be displayed.

◆ In case of display of illegally keyed data on the remote console

If you use the managed server integrated BMC, unintentionally keyed data may appear on a managed server in the following conditions when NEC ESMPRO Manager issues a command to BMC:

- WAN/Direct connection.
- Special Administration Console (SAC) screen at Windows boot or CUI remote console under Linux is accessed.

◆ In case of key-in failure on the remote console

- During DOS boot or access to the removable media immediately after the managed server is power switch is turned ON, data cannot be keyed in from the remote console or the keyed data display may be delayed.
- Remote Console is realized by using SOL function of IPMI conformity and the Serial Redirection function of BIOS.

Data cannot be keyed in from the remote console when the firmware (BIOS and so on) or the software requires the key code that VT100 terminal emulator (the hyper-terminal and so on) cannot control.

Refer to the document of each firmware or software for the details.

◆ RAID EzAssist Configuration Utility

To operate RAID EzAssist for a SOL-incompatible managed server from CUI remote console via LAN, set the item "Console Redirection" to "Disable" on BIOS Setup Utility screen, reboot the system, and then boot RAID EzAssist Configuration Utility.

◆ Power management

- If you set the value on the managed server which does not support power management, you cannot put back the value to "unsetting". Set "zero" to each value, it is accepted as "unsetting".
- The electric power value might not necessarily reach even the value of Power Cap value.
The electric power control lowers the power consumption of the system by lowering the frequency of CPU / Memory.

When CPU / Memory Throttling value reaches 100%, the electric power value does not fall any more.

Note

For more detail about Power Monitoring and Power Control Function, reference the following site.
<http://www.58support.nec.co.jp/global/download/index.html>
[Others] – [Technology paper]

◆ CPU blade auto registration

When "Check Connection" of "CPU blade auto registration" was failed. You can execute "Check Connection" on "Server Properties" - "Connection Setting".

If a specified IP address is set from a CPU blade to another CPU blade during "CPU blade auto registration" process (ex. when you replace CPU blade and execute "CPU blade auto registration"), NEC ESMPRO Manager may not be able to connect CPU blade because old information remains in ARP table on PC for Management. Wait for a few minutes and try "Check Connection".

◆ Coexistence of NEC ESMPRO Manager with NEC ESMPRO Agent Extension on the same server

If the managed server is installed Advanced Remote Management Card or EXPRESSSCOPE Engine series (BMC uses exclusive LAN port (management LAN port)), NEC ESMPRO Manager can manage the server itself installed. If the managed server is installed BMC that uses the standard LAN port, NEC ESMPRO Manager on the managed server cannot manage itself.

You can install NEC ESMPRO Manager and NEC ESMPRO Agent Extension on the same server, but the communication with BMC on the server is prevented by local loopback function of OS and BMC cannot receive any packets from NEC ESMPRO Manager.

◆ Coexistence of NEC ESMPRO Manager with Express Report Service(MG) on the same server

If you want to upgrade NEC ESMPRO Manager to Ver.7 on a server where both NEC ESMPRO Manager and Express Report Service (MG) are installed, please upgrade Express Report Service (MG) to Ver3.x or later.

Note: From a preventive maintenance perspective, we recommend updating to the latest version as soon as possible.

- Download the latest version of Express Report Service (MG) from the following NEC support portal
<https://www.58support.nec.co.jp/global/download/index.html>
- To check the version of the Express Report Service (MG), please follow these steps
select [Express Report Service (MG)] from "Control Panel" -> "Programs and Features" and check the version information.

◆ EM Card registration

- When you register EM Card, you need to set valid on SNMP management and "Management Controller" management each other.
- If the connection is failed at "Auto Registration" or "Check Connection", it is not recognized as EM Card because both management is invalid. In this case, set correct connection setting and execute "Check

Connection" again.

◆ Remote Control

When all the following conditions are satisfied, remote control cannot be executed from NEC ESMPRO Manager.

- The managed server has either following BMC.
 - BMC uses standard LAN port
 - Advanced Remote Management Card or equivalent BMC
- The managed server has been power off.

◆ Display of the monitoring window

If you exit and restart the monitoring window of NEC ESMPRO Manager with AlertViewer started, the displayed AlertViewer window is rewritten and the window may not be properly displayed.

In such a case, exit the monitoring window and AlertViewer once, and then restart them.

◆ Coexistence of NEC ESMPRO Manager with other vendor's SNMP management application

When another vendor's SNMP management application which receives SNMP trap is used along with NEC ESMPRO Manager, one of them can fail to receive SNMP trap due to a conflict between the two applications. Through the following procedures, the situation can be avoided.

[Work Around]

If the other vendor's SNMP management application supports the trap reception function of standard SNMP Trap Service, you can change the setting of NEC ESMPRO Manager according to the instruction below.

Select [Options] - [Customize] - [My Manager] on Operation Window, and change the method of receiving SNMP Trap to [Use SNMP Trap Service].

◆ Usage of DHCP

NEC ESMPRO Manager and managed servers communicate by the IP address.

Therefore, if you use DHCP on NEC ESMPRO Manager's OS and managed server's, please configure the DHCP server so that the IP address is assigned by fixing.

◆ Setting SNMP trap destination

When you install NEC ESMPRO Manager and NEC ESMPRO Agent on the same computer, specify IP address assigned to the network card or the host name as SNMP trap destination for the computer, instead of the loop back address 127.0.0.1. If you specify 127.0.0.1, "unknown server" may be displayed on AlertViewer.

On the other hand, you may need to specify 127.0.0.1 for a computer not connected to the network. For more information, see "Settings on Standalone Environments Without Network Connections" below.

If the following is displayed on AlertViewer even when you have specified as above,

```
Component      : {unknown server}
Address         : 127.0.0.1
```

change IP address to 127.0.0.1 on the properties of the server by selecting [Connection Setting] from [Server setting].

◆ Settings on standalone environments without network connections

When you install NEC ESMPRO Manager and NEC ESMPRO Agent on a machine together, if the machine is not connected to the network, take the following steps to monitor the machine itself.

- Specify 127.0.0.1 for Start Address and End Address as a range for Auto Registration.
- Specify 127.0.0.1 for SNMP trap destination.

If you have already registered server, execute Auto Registration after deleting it.

◆ To upgrade your OS

To upgrade OS , uninstall NEC ESMPRO Manager first and upgrade OS.

◆ Display of the network speed

- When you monitor Linux servers, Speed will not be displayed on the network general view of [Information of server state]. In such a case, check it on the monitored server.
- When you monitor Windows servers which have network interfaces of which speeds are 10Gbps or over, Speed may not be displayed correctly on the network general view of [Information of server state]. In such a case, check it on the monitored servers.
- When you monitor servers which have network interfaces with which a cable is not connected, an incorrect value (4,294 Mbps) may be displayed for the Speed on the network general view of [Information of server state].

◆ Display of the teamed network interfaces

Depending on OS, if network interfaces are teamed, the network information may not be properly displayed on [Information of server state]. Check it on the monitored server

◆ Power saving mode of OS

- When a computer on which NEC ESMPRO Manager is installed goes into a power saving mode, all features of NEC ESMPRO Manager (such as alert reception, server status monitoring and automatic statistical data collection) stop. Disabling the power saving mode is recommended.
- When a monitored server with the Wake On Directed Packet option enabled for the network adapter setting goes into the power saving mode, the server is powered on immediately by the server status monitoring feature of NEC ESMPRO Manager which regularly sends packets to the server. In such a case, disable Wake On Directed Packet option.

◆ Application event log when installing NEC ESMPRO Manager

- When installing NEC ESMPRO Manager, the following event will be reported on Application event log.

This does not cause a problem with security, so you do not need to do anything for it.

Source : WinMgmt

Event ID : 5603

Type : Warning

Description : A provider, ServerManager WMI Support extension, has been registered in the WMI namespace, Root\NEC\ESMPRO\SM\WSX, but did not specify the HostingModel property. This provider will be run using the LocalSystem account. This account is privileged and the provider may cause a security violation if it does not correctly impersonate user requests. Ensure that provider has been reviewed for security behavior and update the HostingModel property of the provider registration to an account with the least privileges possible for the required functionality.

In addition to the above, there is ESMPROProvider as a provider name.

Source and Description might somewhat vary depending on OS.

◆ Event log which is registered during the hang-up of Alert Manager WMI Service service Start failure of ESMCommonService (System)

The following log may be registered on the eventlog by the situation of the system - for example, you installed NEC ESMPRO Manager and NEC ESMPRO ServerAgentService on the same machine.

Source : Service Control Manager

Event ID : 7022

Type : Error

Description : Alert Manager WMI Service hang-up

You do not have any problem if it shifts to a start state (running), but, ESMCommonService of NEC ESMPRO ServerAgentService may not start properly then. It is set to solve the phenomenon. Setting method is described below.

1. Double-click [Services] at [Administrative Tools] in [Control Panel].
2. Click [ESMCommonService] from the service list and then [Properties] in [Action] menu.
3. Set "Automatic (Delayed Start)" to Startup type of [General] property sheet.
4. Set "Restart the Service" to [First failure] and [Second failure] of [Recovery] property sheet.
5. Click [OK].

By the setting mentioned above, NEC ESMPRO ServerAgentService starts after system operation after progress for 2 minutes.

◆ Replacing a managed server

After replacing monitored server, even if the server name and IP address remains the same, delete the corresponding server icon and execute AutoRegistration.

Otherwise, the replaced server is not recognized and the server status and the configuration information is not correctly displayed.

◆ Auto Registration

- After you register a CPU blade managed via only SNMP to create the chassis information, to register another CPU blade on the same chassis with the management controller enabled, delete the previously registered CPU blade managed via SNMP and register it again.
- If a server for which Check Connection is not performed is included in the search range for Auto Registration, be sure to execute Check Connection for it before Auto Registration.

◆ Recovery from system error

If a system error occurs, follow the instruction displayed on the window.

If no instruction is displayed, restart the browser.

◆ If communication with a monitored server becomes disabled

If communication with a monitored server becomes disabled due to server down or network problem during display of the status of the server, the server icon of the group or chassis shows unknown status. In this case, the status color of the configuration information tree item may not indicate the latest status. Click the server icon from the group or chassis to display the latest information.

◆ Changing the configuration of the servers

If you change the configuration of the servers (such as attaching or removing HDDs) with [Information of server state/constitution] tree displayed, the changes will not be reflected to [Information of server state/constitution] tree. After changing the configuration, click the target server icon displayed in [Group] or [Chassis] tree to update [Information of server state/constitution] tree.

◆ Display of the Information of EM Card state/constitution

To update the monitoring display in case of EM Card configuration such as removing/mounting CPU blade, switching power redundancy mode, reselect EM card icon from Group/Chassis tree.

◆ If the page cannot be displayed on web browser

When you start NEC ESMPRO Manager or application that is installed after NEC ESMPRO Manager installation, the web browser may displays "The page cannot be displayed." or "The server cannot be found." and the page cannot be displayed. In this case, the port number of NEC ESMPRO Manager and other application may be overlapped. See the procedure on "Coexistence with Tomcat" in "Chapter 2 3.After Installation".

◆ RAID operation

See User's Guide of Universal RAID Utility (after Ver.4.0) or NEC ESMPRO Manager RAID System Management Guide for VMware ESXi 6 or later installed on the managed server for notes about the operation of RAID system with [Information of server state] navigation tree.

◆ Receive alerts for S2D Disk Failures

If the NEC ESMPRO ServerAgentService S2D disk monitoring function is enabled on a server monitored by NEC ESMPRO Manager, you will receive an "S2D Disk Failure" alert.

The "S2D Disk Failure" alert also occurs if the "Usage" of the S2D disk is set to "Retired" when the disk is replaced during hardware maintenance of the monitored server.

In order to halt alerts relating to the maintenance of S2D disk "Usage" operations, temporarily stop the NEC ESMPRO ServerAgentService monitoring service (ESMS2DMonitor).

For details, see "NEC ESMPRO ServerAgentService Ver.2.2 Installation Guide (Windows)".

(Chapter 2 Installation - 3. After Finishing Installation - 3.6 Monitoring S2D Disk)

◆ Suspend Periods Setting

When you set a suspend period schedule for a group, NEC ESMPRO Manager deletes the same schedule which has already been set for the managed component.

Please be careful that the group schedule is deleted from the managed component if you move the managed component from the group to another group.

◆ The default setting of EXPRESSSCOPE Engine 3

You can change BMC Configuration Information from [BMC Setting] of NEC ESMPRO Manager.

For details of [BMC Setting], see the online help of NEC ESMPRO Manager.

Refer to EXPRESSSCOPE Engine 3 User's Guide about difference between NEC ESMPRO Manager's default value and a value which 'Configuration Initialization' function will set.

◆ Standby BMC Configuration Setting

It may take a few minutes to set the Standby BMC Configuration.

If the setting is failed, please set it again after waiting for a few minutes.

◆ DHCP setting for Advanced Remote Management Card

If you change DHCP setting to [Enable] on [BMC setting] of NEC ESMPRO Manager, Advanced Remote Management Card may not be able to send the alert to the destinations.

The reason is that MAC address for the destination becomes unsuitable in the case that enabling DHCP changes the address range.

Set DHCP setting for Advanced Remote Management Card using BMC configuration tools on the managed server.

◆ Fail registration by WS-Man

If registration by WS-Man is fail, see "Chapter4 (1.7 Others)" in "NEC ESMPRO ServerAgentService Installation Guide (Windows)" and confirm Windows remote management (WinRM) settings.

◆ About Login to EXPRESSSCOPE Engine series

"Login to EXPRESSSCOPE Engine series" may fail very rarely after network setting to the BMC or shortly after the BMC reset.

In this case, please try to login again.

◆ Server Monitoring (Ping)

When the management component is equipped with vPro and the IP address for vPro is identical with the IP address for OS, the server monitoring status will be "UNKNOWN" only in case that neither vPro or OS cannot be access via network.

Set the IP address for vPro to the value which is different from the IP address for OS if you want to acquire server monitoring status for vPro and OS, respectively.

◆ Setup steps of Alert Manager

When NEC ESMPRO Manager Ver.7 is installed on the machine which installed WebSAM AlertManager, NEC ESMPRO Agent, or NEC ESMPRO ServerAgentService, go through the following steps to start Alert Manager, and set manually report settings of these products.

1. Sign-in (Log on) with the built-in administrator account.
2. Click [Report Settings] in start menu or Apps of Start.

◆ Virtual machines (Guest OS)

Virtual machines (Guest OS) which are managed by NEC ESMPRO Manager must have unique UUIDs. If you move or copy a virtual machine, you should generate a new unique UUID.

◆ Management of ExpEther

NEC ESMPRO Manager uses the host information set on the ExpEther board to link the ExpEther board to the server that mounts it. You need to set the serial number of the server to the ExpEther board (40G) mounted on the server by using the ExpEtherConfig tool to manage the ExpEther board by NEC ESMPRO Manager.

◆ About deletion of the ExpEther board and the ExpEther I/O expansion unit

When the ExpEther board or the ExpEther I/O expansion unit has been removed by the user's operation from an ExpEther manager, NEC ESMPRO Manager keeps the registry information, but sets the status of ExpEther and ExpEther Manager to "warning".

If you want to remove the ExpEther board or ExpEther I/O expansion unit that was removed from ExpEther Manager, you should remove the ExpEther Manager from NEC ESMPRO Manager and re-register it.

◆ Common module folder

In the related product of NEC ESMPRO Manager and NEC ESMPRO ServerAgentService, the product installed first makes a folder of a common module in its installation folder. If you want to move the folder of a common module, you will need to uninstall all of the related products temporarily.

◆ If the alerts is registered with the alert definition files already

NEC ESMPRO Manager Ver.7 registers SNMP traps of the following enterprise at AlertViewer. If you set the alert definition files of the following enterprise to NEC ESMPRO Manager of less than Ver.6.20, the alerts defined in NEC ESMPRO Manager is registered at AlertViewer by updating Ver.6.20 or later.

* The enterprise of SNMP traps is "1.3.6.1.4.1.232.9.4.11" or "1.3.6.1.4.1.232".

◆ Use of FireFox ESR

FireFox ESR does not allow autoenrollment, manual registration, replacement, and update in the ExpEther panel.

If you want to do this, use the supported Microsoft Edge.

◆ Statistics data collection

After implementing statistical data collection, set unregistered -> registered as the management state, then OS restart or NEC ESMPRO Manager service restart, you may see information about the old statistics data collection.

You collect statistics data again, there are no old statistics, and new statistics are collected.

◆ Regarding the function using Java Applet

The function using the following Java applet will not be supported.

- [Remote Control] – [Remote Console]
- Searching ExpressUpdate Agent Package in NEC EXPRESSBUILDER medium on “ExpressUpdate Agent Install”

When you install ExpressUpdate Agent remotely and you select “EXPRESSBUILDER” in Package selection, file upload function does not run on your browser.

◆ Notes for NEC ESMPRO Manager

When NEC ESMPRO Manager Ver.7 is installed on Pre-Windows10 (or Pre-WindowServer2016), “ESMPRO/SM Common Component” service and “ESMPRO/SM Web Container” service as the part of NEC ESMPRO Manager services may not be started and the status of service may be remaining “Starting”.

In this case, please implement the solution shown below.

[Cause]

“api-ms-win-crt-runtime-l1-1-0.dll” has not been installed on the NEC ESMPRO Manager installed computer.

[How to Fix]

Take the following action, and check if it can be improved.

1. Install All Windows Updates.

“api-ms-win-crt-runtime-l1-1-0.dll” will be installed by Windows Update. After install all pending Windows update, check the status of NEC ESMPRO Manager Service.

2. Download and install “Visual C++ Redistributable for Visual Studio 2015”

When NEC ESMPRO Manager service is not working after Windows Update, install “Visual C++ Redistributable for Visual Studio 2015”.

If “Visual C++ Redistributable for Visual Studio 2015” has been installed, please re-install it.

[Download method]

1. Visit the following Microsoft Download Center page
<https://www.microsoft.com/en-in/download/details.aspx?id=48145>
2. Click the “download” button. And check the box on “vc_redist.x64.exe”.

◆ Registering Other Computer Devices

When Windows Server 2016 are Registered as Other Computer Device, “Failed to get Information of Other Computer Device.” may be displayed.

On Windows Server 2016, run PowerShell and execute [Set-WSManQuickConfig -Force].

◆ Cancelling the Auto Registration

If you click “cancel” from “Auto Registration in Progress” screen and then “Canceling in Progress” will be displayed.

When the state is “Canceling in Progress”, if you move to other screen and then return to “Register”, and even though “Auto Registration in Progress” is displayed, canceling is executing correctly.

When canceling finish, “The automatic registration processing was cancelled.” will be displayed.

◆ Remote Control

If you login to the same NEC ESMPRO Manager using two browsers on different PCs for remote control operations, you may see successful messages on both.

In this case, only the operation that was dealt with first will be available and executed.

◆ About NAT environmental support in NEC ESMPRO Manager

WS-Man management functions (management using NEC ESMPRO ServerAgentService) and management controller management functions (management using iLO and BMC) , Network Device and Other Computer Device are not supported and are not managed under NAT environments.

SNMP management functions (managed using NEC ESMPRO Agent) are supported in NAT environments where global and local addresses are statically one-to-one.

◆ ESMPRO/ServerManager Account

An NEC ESMPRO Manager administrator can create an account to login NEC ESMPRO Manager.

When creating an account, the administrator create password according to user name, so other people can access with the user name and password.

Therefore, it is recommended that NEC ESMPRO Manager administrators consider implementing procedures such as requiring users to change their password after their initial login.

◆ register Other Computer Device on ESMPRO/ServerManage

When you register Other Computer Device in NEC ESMPRO Manager, that will be registered into Trustedhosts. Even if you later remove the Other Computer Device or uninstall NEC ESMPRO Manager, Trustedhosts will not be deleted.

Trustedhosts contains a list of trusted hosts that can be used as connection destinations. Therefore, please remove any unnecessary hosts from Trustedhosts.

Execute following command by PowerShell.

1. Save the current TrustedHosts to a file.
Get-Item WSMAN:localhost¥Client¥TrustedHosts | Out-File C:¥TrustedHosts.txt
2. Open TrustedHosts.txt and delete unnecessary hosts from "Values"
3. Overwrite TrustedHosts with the new value(host).
Set-Item WSMAN:localhost¥Client¥TrustedHosts -Value '<paste values from TrustedHosts.txt>'

◆ Automatically update display of NEC ESMPRO Manager

If the dashboard screen is being displayed and the classic mode is running, the display will be automatically updated at the intervals set for Automatically update display (default:60s). However, the display will be updated every 60 seconds after logged in for Network Devices and Other Computer Devices regardless of the Automatically update display interval.

Note: In Classic Mode, move to "Environment" -> "Option", then you can set the "Update Interval" for Automatically update display.

◆ discovering with multiple authentication keys specified for iLO component auto registration

If you discovery with multiple accounts specified for iLO component auto registration, you may not be able to register even with the correct account. In that case, you can edit "Security" -> "Access Settings" -> "Account Service" of the iLO Web interface according to the following settings and try discovering again or execute Manual Registration.

- change to "5 failures cause no delay" for "Authentication Failures Before Delay"
- change to "2 seconds" for "Authentication Failure Delay Time"

◆ ESMPRO/SM Task Service or ESMPRO/SM Web Service is not starting

After installing NEC ESMPRO Manager, there may be a log in the Windows System Event Log indicating that ESMPRO/SM Task Service or ESMPRO/SM Web Service could not be started during the first OS restart. This may prevent NEC ESMPRO Manager from starting up.

If this issue occurs, please restart the OS or the service again.

◆ Precautions when registering components

Do not register the same device as two components in Management Controller Management and System Management.

If you have registered as two components, delete one of the components and register both administrations as one component in "Edit" in the "Connection Settings" of the other component.

◆ About component names at the time of automatic registration

If you perform automatic system administration registration for a component that has already been created in Management Controller Management, the system sets the component name to the host name.

1.2 NEC ExpressUpdate

◆ Installation of NEC ExpressUpdate Agent

To use the function of "Installing NEC ExpressUpdate Agent", following configurations are necessary.

*1 Change following configurations with the user belongs to Administrators group.

*2 See "Chapter4 2 Appendix Port numbers / Protocols" for network ports and protocols which this function uses.

*3 "NEC ExpressUpdate Agent" cannot be installed on Windows OS remotely

- **Linux OS**

*1 See document of the distribution for configuration.

1) Configure Firewall.

- Enable remote SSH login.

2) Configure SSH.

- Enable root login with SSH.

Typically, open the sshd configuration file [/etc/ssh/sshd_config] and set "PermitRootLogin" option to "yes".

1.3 Managed Servers

◆ Setting Windows Firewall

If Windows Firewall is enabled, communication with the management machine will be interrupted and the system will not work correctly. To use NEC ESMPRO Manager Windows Firewall enabled, open the required ports.

Note

For ports used by NEC ESMPRO Manager, see "Chapter4 2 Appendix Port numbers / Protocols"

◆ Support for SOL

The SOL system implements CUI remote console via LAN by the following method: BMC or vPro gets redirection data that has been output to the serial port 2 by System BIOS or console-less OS and transmits the data via the LAN.

See "Appendix D Managed Components Summary" in "NEC ESMPRO Manager Ver.7 Setup Guide" to confirm the managed server supports SOL.

The remote console of Linux or SAC of Windows can be used when the managed server support SOL. However, there are the following notes:

- Use of serial port 2 is restricted. See "Notes on Managed Servers and Network Devices".
- In case of the managed server based on vPro, NEC ESMPRO Manager does not support the remote console of SAC of Windows.

There are the following notes in the managed server which does not support SOL:

- Do not attempt to boot Windows or Linux on the managed server when you use Remote Control function with utility boot mode via LAN connection. Booting of Windows or Linux may result in a failure.
- To operate RAID EzAssist for a SOL-incompatible managed server from CUI remote console via LAN, set the item [Console Redirection] to [Disable] on BIOS Setup Utility screen, reboot the system, and then boot RAID EzAssist Configuration Utility.

◆ Power control with BIOS Setup Utility Active

If you use the managed server integrated BMC, do not control the power supply while BIOS Setup Utility is active on the managed server. Otherwise, the alert setting of BMC configuration will be disabled.

◆ CUI Remote Console of DOS

To execute CUI remote console function of DOS screen, select [Server]-[Console Redirection] and change [ACPI Redirection] to [Disable] on BIOS Setup Utility screen of the managed server if [ACPI Redirection] exists on [Console Redirection].

◆ CUI Remote Console after Windows boot

- If the managed server does not support SOL, Remote Console of SAC of Windows cannot be executed via LAN.
- To execute CUI remote console function of SAC screen after Windows boot, select [Server]-[Console Redirection] and change [ACPI Redirection] to [Enable] on BIOS Setup Utility screen of the managed server. When [ACPI Redirection] is set to [Enable] on BIOS Setup Utility screen, CUI remote console function cannot be executed after POST.
If [ACPI Redirection] does not exist on [Console Redirection] menu, confirm that [Console Redirection after POST] is enabled.

◆ Shutdown OS

During the following OS shutdown operation, the cancel dialog box may not be displayed when managed server OS is Windows.

- OS shutdown by NEC ESMPRO Manager.
- OS shutdown by scheduled running function.

◆ Shutdown OS during DC-OFF state by scheduled running

When [Agent Setting] - [Shut down OS after DC-ON during Scheduled Running Halt] on NEC ESMPRO Manager is enabled, DianaScope Agent or NEC ESMPRO Agent Extension shutdowns OS if the managed server is powered up during the down period (DC OFF state time by scheduled running).

Only if the managed server is powered up from NEC ESMPRO Manager, or NEC ESMPRO Agent Extension does not shutdown OS. However, in case that any error is occurred during booting, NEC ESMPRO Agent Extension may shutdown OS even though power up by NEC ESMPRO Manager.

◆ FT server VMware model for virtual machine BIOS information

NEC ESMPRO Agent does not manage virtual machine BIOS information in the ft server VMware model. For this reason, the BIOS version is "Unable to communicate with the Agent or not installed." will be displayed.

◆ CPU information may not be displayed correctly

If you enable WS-Man management in NEC ESMPRO Manager and more than 64 logical processors are enabled in Windows Server 2016/2019, the following CPU information will not be displayed correctly in NEC ESMPRO Manager because OS limitations do not return the correct information:

- Constitution information - Hardware - Equipment information - CPU
- Constitution information - Hardware - CPU - CPU socket
- Constitution information - System - CPU - Total CPU - Total information

Check the iLO WEB interface to check the CPU information. Note that this limitation has been fixed in KB4598296 for Windows Server 2019.

◆ A large number of logs(related to WinRM, logon and logoff) are being output to the Event log of a managed server(Windows) registered in NEC ESMPRO Manager

When monitored servers of WS-Man management(NEC ESMPRO ServerAgentService) are registered in NEC ESMPRO Manager, the WinRM service will execute a logon and event logs with event IDs(security[4624, 4634, 4648], system[10120]) will be logged in Event log of monitored servers as following.

- If the communication protocol for WS-Man management (NEC ESMPRO ServerAgentService) is HTTP and the NEC ESMPRO Manager is login, about 15,000 Security logs and 1,000 System logs will be registered per hour.
- If the communication protocol for WS-Man management (NEC ESMPRO ServerAgentService) is HTTP and the NEC ESMPRO Manager is logout, about 1,500 Security logs and 100 System logs will be registered per hour.

Deal with them as following:

- ◆ When connecting to WinRM via HTTP, event ID registered is:10120

Reduce the log output by procedure1) (recommended).

Prevent the log output by procedure2) or procedure3).

- ◆ Event ID that will be registered as audit log of logon or logoff are: 4624, 4634, 4648

Prevent log output by procedure2) or procedure3).

1) Change the connecting settings to NEC ESMPRO ServerAgentService(HTTP→HTTPS)

If you are connecting to NEC ESMPRO ServerAgentService of managed server via HTTP, event ID : 10120 will be registered.

Because it is registered as the Information-Level logs that you connect to WinRM with unsafe HTTP, logging is prevented when a secure HTTPS connection is established using encryption.

<Note>

There are information concerning [Event ID:10120] in <NEC ESMPRO ServerAgentService Installation Guide (Windows)>. See the following for detail.

*Event log (System) which is registered when connecting NEC ESMPRO Manager by HTTP connection

2) Changing the MONITORING INTERVAL

Logging is prevented by changing the MONITORING INTERVAL(default : 600seconds).

However, it is not possible to reduce log output during dashboard display or when running in classic mode.

Follow the steps below to change the MONITORING INTERVAL:

<Steps to change the MONITORING INTERVAL>

Launch the command prompt and execute the following commands.

<Settings>

```
dscli setOption MONITORING_INTERVAL [time(s)] Note: the range of time : 60~86400
```

to check the current value :

```
dscli getOption MONITORING_INTERVAL
```

<Example>

The following is an example of executing the command to set and check the interval to 600 seconds (10 minutes):

```
dscli setOption MONITORING_INTERVAL 600
```

```
dscli getOption MONITORING_INTERVAL
```

If it displays "600", it means the change is successful.

<Note>

MONITORING_INTERVAL is a interval at which NEC ESMPRO Manager regularly retrieves the status of the device.

After login to NEC ESMPRO Manager, the latest status retrieved from the device will be displayed.

3) Stopping the monitoring

Log output can be prevented by stopping the monitoring of WS-Man management, which is performed at regular processing intervals.

Launch the command prompt and execute the following commands:

To stop monitoring :

```
dscli setOption MONITORING_WSMAN_CHECK false
```

To start monitoring(default) :

```
dscli setOption MONITORING_WSMAN_CHECK true
```

To check the current value :

```
dscli getOption MONITORING_WSMAN_CHECK
```

<Note>

If MONITORING_WSMAN_CHECK is set to false, the monitoring will stop on PC for management, and the status display of managed server may differ from the latest status after login.

Reference:

This phenomenon occurs only when NEC ESMPRO Manager is Ver. 7.00 or later and managed server is NEC ESMPRO ServerAgentService(WS-Man Management).

Note

It is recommended to configure the Event log settings of the managed server's OS to enable log rotation.

◆ The registration of Security log when Other Computer Device is registered in NEC ESMPRO Manager

1. When Other Computer Device is registered in NEC ESMPRO Manager as managed device, the Security log with Event IDs 4624, 4634, 4672 and 4776 will be registered in Event log of the managed device.

- About 200 Security logs are registered per hour.

In addition, the Security log with Event IDs 4624, 4634, 4672, 4776 will be registered in the Event logs of managed device due to operations on Other Computer Device.

- About 30 security logs are registered during Auto registration/Manual registration.
- About 20 security logs will be registered when executing Remote Control(Shutdown, Shutdown Reboot), displaying Detail screens, or clicking "APPLY" on the Alive Monitoring screen.

2. When Other Computer Device(Linux) is registered in NEC ESMPRO Manager as managed device, logs for session open/close will be registered in the logs of managed device.

The following are the numbers of logs registered for Red Hat Enterprise Linux 7:

- About 60 logs will be registered per hour in /var/log/secure, and about 40 logs will be registered in /var/log/messages.
- About 10 logs will be registered in /var/log/secure and about 10 logs will be registered in /var/log/messages during Auto registration/Manual registration, executing Remote Control(Shutdown, Shutdown Reboot), displaying Detail screen, or clicking the "APPLY" on Alive Monitoring screen.

3. When Other Computer Device is registered in NEC ESMPRO Manager as managed device, the Security log with Event ID 4648 will be registered in Event log of PC for management.

For one Other Computer Device(Windows) registered, the following logs will be registered:

- About 50 Security logs will be registered per hour.
- About 10 Security logs will be registered during Auto registration/Manual registration, executing Remote Control(Shutdown, Shutdown Reboot), displaying Detail screen, or clicking "APPLY" on Alive Monitoring screen.

For one Other Computer Device(Linux) registered, the following logs will be registered:

- One log with event id:5382 will be registered during manual registration.
The log will not be registered during Auto registration, executing Remote Control(Shutdown, Shutdown Reboot), displaying Detail screen, or clicking "APPLY" on Alive Monitoring screen.

By changing the polling interval for the status of Other Computer Device, it is possible to reduce the number of log registered per hour.

1. Change monitoringconfig.json in the "ESMWB7¥sm7task" folder in the NEC ESMPRO Manager installation folder

There are two settings for the polling interval, one when login the dashboard and another one when logout (logoff).

–Polling interval when login the dashboard

"loginOtherPcPollingTime": "60"(Unit:seconds, Range : 60~3600)

–Polling interval when logout (logoff) the dashboard

"logoutOtherPcPollingTime": "600"(Unit:seconds, Range : 0, 60~86400)

Note: If the Polling interval is set to [0] seconds, the polling cannot be executed.

2. Launch "Control Panel" ->"Administrative Tools" ->"Services", and "Stop"->"Start" ESMPRO/SM Task Service.

Note

It is recommended to configure the Event log settings of the managed server's operating system to enable log rotation.

◆ Multiple controller information is displayed on the storage controller of "Constitution information"

When a device equipped with a RAID controller is registered as a managed server of NEC ESMPRO Manager, the following events may occur.

- If you enable both iLO management and WS-Man management
 - When the OS is running, multiple "general information", "physical drive", and "logical drive" under the "Constitution information" -> "Storage" -> "Controller" are displayed.
 - When the OS is not running, multiple controllers are displayed under the "Constitution information" -> "Storage" -> "Controller".
- If you enable iLO management only
 - Multiple controllers are displayed under the "Constitution information" -> "Storage" -> "Controller".

There is no problem with the display information.

◆ Multiple information on the Express5800/R110k-1 controller is displayed.

If you register Express5800/R110k-1 as a managed server in NEC ESMPRO Manager and display the storage of configuration information, multiple controllers may be displayed.

In addition, multiple controllers may be displayed on the system health screen of NEC ESMPRO Extension for Windows Admin Center.

There is no problem with the display information.

◆ Logical drive information is not displayed on the NEC iLO6-equipped server.

When NEC iLO6-equipped server configured for RAID with Intel VROC (Virtual RAID on CPU) is registered as a managed server in NEC ESMPRO Manager, logical drive information is not displayed in the configuration information storage.

◆ Precautions when uninstalling the WEM provider on an ESXi server

Uninstalling the WVM provider on an ESXi server does not work with the RAID system management features of NEC ESMPRO Manager.

If you want to register an ESXi server with WBEM provider uninstalled with NEC ESMPRO Manager,

Set raid system management functions to Disabled.

◆ Server / Storage monitoring

When registering Server and Storage (iStorage M series) in NEC ESMPRO Manager, it is necessary for them to have a valid UUID assigned. Server / Storage without an assigned UUID will not be managed.

ex) Check the UUID of a Windows Server

Launch command prompt and execute following command:

```
wmic csproduct
```

◆ Automatic logout from Classic Mode

If Classic Mode is being displaying and there is no operation on the Dashboard for 30 minutes, the Dashboard and Classic Mode will automatically logout. Even if you are operating in Classic Mode, will automatically logout. Please login again as necessary.

◆ What to do if you want to de-monitor the network board

If you want to de-monitor the network board, make the following settings.

1. Log in to NEC ESMPRO Manager.

2. open classic mode , and write down the physical address of the network where you want to hide the component name and status (want to be unmonitored).

- Component name: Component name → server settings → connection settings → Settings tab

- Physical address:

For WS-Man + iLO management

Configuration tab → Configuration Information → Network → Network Name →

General Information → Physical Addresses

For iLO management

Configuration tab → Configuration Information → Network → Network Name →

Port Name → Physical Address

3. open classic mode , and log off NEC ESMPRO Manager.

4. Open the NICStatusNotShow .txt in the following folder with a text editor:

<NEC ESMPRO Manager Installed Folder>ESMWEB\%wbsserver%\webapps\%esmpro%\WEB-INF\%service

5. Set the component name and physical address written down in step 2 to the NICStatusNotShow .txt with the following contents and save the file.

(Component name) = (physical address), (physical address),...

Example: Component Name: ServerA, Physical Address: 11:22:33:44:55:66

ServerA=11:22:33:44:55:66

6. Log in to NEC ESMPRO Manager.

7. open classic mode , and check "Configuration Information" → "Network" for the component name you set. Display the icon for the network name of the physical address set in NICStatusNotShow.txt with "..."

Notes

1. If you want to set multiple physical addresses for the NICStatusNotShow .txt, separate them with

",(comma)".

Example: ServerA=11:22:33:44:55:66,11:22:33:44:55:77

2. If you want to set multiple component names in the NICStatusNotShow .txt, set them in rows.

Example: ServerA=11:22:33:44:55:66

ServerB=11:22:33:44:55:77

3. Even if "Alias" of the component's display name is set to "Enabled", set "Component Name" to NICStatusNotShow.txt.
4. If the same component name is listed in multiple lines, only the setting in the last line will be valid.
5. If you set it by the wrong method, the setting will be invalid.
6. This setting cannot be performed for networks where the MAC address is not displayed in NEC ESMPRO Manager.
7. Depending on the network board that is installed, the network name displayed in "Information of server state/constitution" for the managed server may differ from the information displayed on the device. In such cases, please confirm the network name on the device itself.

◆ Display of Network Name

Depending on the LAN board that is installed, the network name displayed in "Information of server state/constitution" for the managed server may differ from the information displayed on the iLO web interface. In such cases, please confirm the network name on the iLO web interface.

◆ The time of the Alert Viewer

When displaying alerts (SNMPtrap) received from iStorageV series, Network Devices, and individually defined devices, the time of alert may not be displayed.

Note: For iStorageV series, please refer to the time described in the details of the alert.

◆ The component name of iStorageV series

The component name displayed in Alert Viewer, and WebSAM AlertManager Report will not be the name that registered on NEC ESMPRO Manager and it will be a name that is appended with "_IP1" or "_IP2" to device name.

If the IP address of the iStorage V series is IP1: _IP1

If the IP address of the iStorage V series is IP2: _IP2

◆ Monitoring of non-SCSI/IDE devices

Storage monitoring does not monitor non-SCSI/IDE storage devices such as USB.

Please note that storage monitoring is disabled for iLO-compatible models, so this precaution does not apply.

◆ Display the information of Intel VROC on the Express5800/T110m,T110m-S

If you want to display the Intel VROC information, please refer to "Intel Virtual RAID on CPU Utility VROC User Guide" stored in EXPRESSBUILDER media, and Install Intel VROC CLI on managed device. After configuring Intel VROC, enable WS-Man management.

If you install Intel VROC CLI other than the default path "C:\Program Files\Intel\VROCCLI\bin", add following information into the "IntelVrocCliPath" of "SmIntelVROC.json" in "ESMSM\bin\SmIntelVROC" under NEC ESM PRO Manager installed folder.

```
{  
  "ip": "<ip address>",    Note: Set IP address of Intel VROC component.  
  "path": "<path to CLI>"  Note: Set the path where you installed the Intel VROC CLI. (ex. C:\cli)  
}
```

◆ UNIVERGE IX series, UNIVERGE QX series

UNIVERGE IX series and UNIVERGE QX series does not support SNMP trap.

1.4 BMC Configuration

◆ In case of exchange of PC for Management

If a PC for Management as an alert receiver has been exchanged, register the managed server is BMC configuration information again even when IP address of PC for Management remains unchanged.

Otherwise, BMC may fail to recognize the alert receiver.

◆ Port that BMC uses

In case that Linux on the managed server uses port 623, NEC ESMPRO Manager cannot communicate with BMC that uses standard LAN port.

Perform following settings:

1. Add the following entries in services files (/etc/services) to reserve port 623.

```
asf-rmcp 623/tcp ASF Remote Management and Control Protocol
asf-rmcp 623/udp ASF Remote Management and Control Protocol
```

2. Reboot OS.

◆ Initialization of BMC Configuration Information setting

When you set [Default value] on BMC Configuration Information with DianaScope Agent or NEC ESMPRO Agent Extension, or create New Configuration with [System Management Tool] started from EXPRESSBUILDER, each items of BMC Configuration Information are initialized.

If the managed server integrates EXPRESSSCOPE Engine series, Advanced Remote Management Card, following items for BMC Web server are also initialized because they are shared with BMC Configuration Information:

- DHCP Configuration
- IP Address
- Subnet Mask
- Default Gateway

How to set the Web server is following:

- Select [System Management Tool] on [Tool]. Started from EXPRESSBUILDER DVD-ROM, and then select [Web server of BMC].
- Login to Web server of BMC, and then select [Configuration] - [Network].

◆ The installation of BMC Configuration

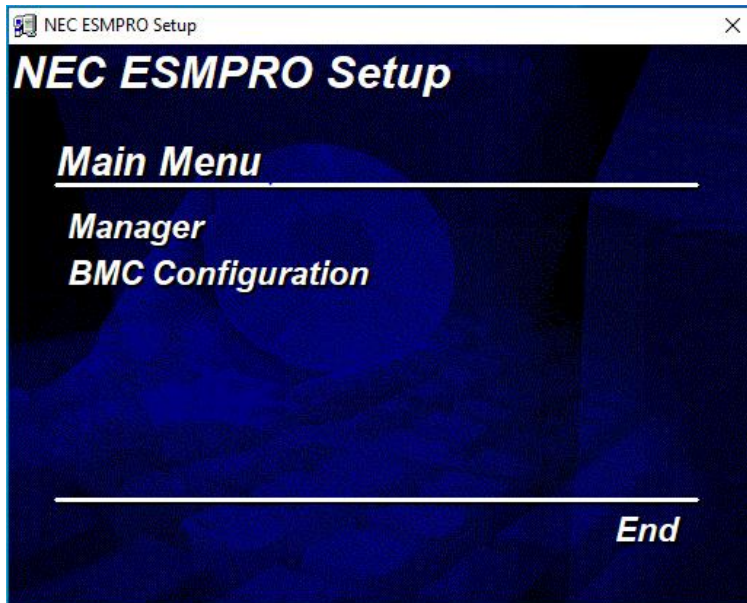
The following is procedure to install BMC Configuration.

1. Sign-in(logon) with the built-in Administrator account(or an account with Administrator).
2. Run "¥ESMMENU¥SETUP.EXE" from downloaded NEC ESMPRO Manager , and then the ESMPRO setup will start and the menu will be displayed.

If the User Account Control is enabled, "User Account Control" window will be displayed. Click "Yes" to proceed.

3. Click "BMC Configuration" on the ESMPRO setup menu.

Follow the screen displayed to install "BMC Configuration".



1.5 Web client

◆ Language setting on Web browser

NEC ESMPRO Manager and Web client needs to be the same OS language.

Do not change your browser language setting.

◆ Operation from two or more browsers

NEC ESMPRO Manager cannot be operated using two or more browser windows by one Web client.

When you use the browser which has tabbed browsing, NEC ESMPRO Manager cannot be operated using two or more tab.

◆ Java Plug-in version

To login to EXPRESSSCOPE Engine series through NEC ESMPRO Manager, Java plug-in of the web browser must be version 7.0 or later.

◆ Using Firefox

● When using the Firefox web browser, the following NEC ESMPRO Manager functions are not available:

- 1) Cannot launch iSM client from NEC ESMPRO Manager.
 - "WebSAM iStorageManager" on the "Storage Details" screen
 - "Server Status" -> "Product Information" -> "Starting the iSMClient" in Classic Mode
- 2) The NEC ESMPRO Manager Classic Mode will not work if it does not support Java applets.
 - "Remote Control" -> "Remote Console"
 - The following functions of ExpressUpdate

When obtaining the ExpressUpdate Agent package using "EXPRESS BUILDER" during remote installation of the ExpressUpdate Agent.

(the function that automatically search and obtain the ExpressUpdate agent package from the EXPRESSBUILDER)

● Do not press the F5 key on the browser while operating NEC ESMPRO Manager.

If you press F5, the message "Failed to get detail information." may be displayed, and the screen may not be displayed correctly.

◆ Using Microsoft Edge

When using the Microsoft Edge web browser, the following NEC ESMPRO Manager functions are not available:

- 1) Cannot launch iSM client from NEC ESMPRO Manager if the iSM client version is less than 12.3.
 - "WebSAM iStorageManager" on the "Storage Details" screen
 - "Server Status" -> "Product Information" -> "Starting the iSMClient" in Classic Mode
- 2) The NEC ESMPRO Manager Classic Mode will not work if Microsoft Edge does not support Java applets.
 - "Remote Control" -> "Remote Console"
 - The following functions of ExpressUpdate

When obtaining the ExpressUpdate Agent package using “EXPRESS BUILDER” during remote installation of the ExpressUpdate Agent.

(the function that automatically search and obtain the ExpressUpdate agent package from the EXPRESSBUILDER)

◆ **Using AlertViewer**

In some environments, a pop-up window must be allowed on a browser to use AlertViewer.

If the pop-up window is not allowed, AlertViewer may not work properly.

◆ **[Back] button of the browser**

NEC ESMPRO Manager cannot be operated using browser functions like [Back] button. The screen contents cannot be displayed correctly on browsers.

Choose a necessary link or a button again in that case.

◆ **Automatic logout**

NEC ESMPRO Manager logs out automatically when you do not operate a screen for more than 30 minutes.

When you continue the operation, login to NEC ESMPRO Manager again.

2. Port numbers / Protocols

NEC ESMPRO Manager uses the following port numbers and protocols.

In case of two-way protocol, upper arrow shows that connection starts, and lower arrow shows that connection turns.

In case of port No. unknown, unused port is used to start connection.

[Web Client <->PC for Management]

Function	Web Client		Protocol /Direction	PC for Management	
	Component	Port No.		Port No.	Component
Management/ monitoring (HTTP)	web browser	Unknown	TCP → ←	21120(*1)	NEC ESMPRO Manager (Dashboard)
Management/ monitoring(HTTP)	web browser	Unknown	TCP → ←	21112(*1)	NEC ESMPRO Manager (Classic Mode)

*1 You can change the port number at the installation or see [Changing the port number].

[PC for Management <->Managed Server]

Function	PC for Management		Protocol /Direction	Managed Server	
	Component	Port No.		Port No.	Component
SNMP report to Manager	NEC ESMPRO Manager	162	UDP ←	Unknown	NEC ESMPRO Agent NEC ESMPRO ServerAgent Service
TCP/IP report to Manager (TCP/IP in Band)	NEC ESMPRO Manager	31134 (*1)	TCP ← ->	Unknown	NEC ESMPRO Agent NEC ESMPRO ServerAgent Service
Auto Registration Server Monitoring (SNMP)	NEC ESMPRO Manager	Unknown	UDP -> ←	161	NEC ESMPRO Agent
Server Monitoring (Ping)	NEC ESMPRO Manager	--	ICMP -> ←	--	OS BMC iLO vPro
BMC Setting NEC ExpressUpdate	NEC ESMPRO Manager	Unknown	TCP -> ←	443(*2)	BMC
Alert from BMC	NEC ESMPRO Manager	162	UDP ←	Unknown	BMC
Alert Trap from iLO	NEC ESMPRO Manager	162	UDP ←	Unknown	iLO
Acknowledge of Alert from BMC (When Alert Acknowledge is Enable)	NEC ESMPRO Manager	47116	UDP ->	623	BMC
Server Monitoring	NEC ESMPRO Manager	47117 (*3)	UDP -> ←	623	BMC
Information Collection (through BMC)	NEC ESMPRO Manager	47117 (*3)	UDP -> ←	623	BMC

Remote Batch	NEC ESMPRO Manager	47117 (*3)	UDP -> -<	623	BMC
Operation with Command Line I/F	NEC ESMPRO Manager	47117 (*3)	UDP -> -<	623	BMC
Power Control	NEC ESMPRO Manager	47117 (*3)	UDP -> -<	623	BMC
Remote Console (CUI, SOL)	NEC ESMPRO Manager	47117 (*3)	UDP -> -<	623	BMC
Remote Console (CUI, non-SOL)	NEC ESMPRO Manager	47115	UDP -> -<	2069	System BIOS
Remote Wake Up	NEC ESMPRO Manager	Unknown	UDP ->	10101	LAN Board
Information Collection (through NEC ESMPRO Agent Extension)	NEC ESMPRO Manager	Unknown	TCP -> -<	47120- 47129 (*4)	NEC ESMPRO Agent Extension
Scheduled Running	NEC ESMPRO Manager	Unknown	TCP -> -<	47120- 47129 (*4)	NEC ESMPRO Agent Extension
Search of NEC ExpressUpdate Agent, Universal RAID Utility	NEC ESMPRO Manager	Unknown	TCP -> -<	7	OS
Search of NEC ExpressUpdate Agent, Universal RAID Utility ESXi server	NEC ESMPRO Manager	Unknown	UDP -> -<	427	NEC ExpressUpdate Agent Universal RAID Utility ESXi
NEC ExpressUpdate Agent, Universal RAID Utility	NEC ESMPRO Manager	Unknown	TCP -> -<	Unknown	NEC ExpressUpdate Agent Universal RAID Utility
NEC ExpressUpdate Agent, Universal RAID Utility event monitoring	NEC ESMPRO Manager	21112	TCP -< ->	Unknown	NEC ExpressUpdate Agent Universal RAID Utility
Remote installation of NEC ExpressUpdate Agent (When managed server's OS is Windows type)	NEC ESMPRO Manager	Unknown	UDP -> -<	137	OS
		Unknown	TCP -> -<	445	OS
Remote installation of NEC ExpressUpdate Agent (When managed server's OS is Linux type)	NEC ESMPRO Manager	Unknown	TCP -> -<	22	OS
Communication with the iLO	NEC ESMPRO Manager	Unknown	TCP -> -<	443 80 (*7)	iLO
Communication with the vPro	NEC ESMPRO Manager	Unknown	TCP -> -<	16992	vPro

Remote Console	NEC ESMPRO Manager	Unknown	TCP -> -<	16994	vPro
Server Monitoring (WS-Man)	NEC ESMPRO Manager	Unknown	TCP -> -<	443	ESXi
CIM Indication Subscription	NEC ESMPRO Manager	Unknown	TCP -> -<	5989	ESXi
CIM Indication Receiving events	NEC ESMPRO Manager	6736 (*5)	TCP -< ->	Unknown	ESXi NEC ESMPRO ServerAgent Service
Server Monitoring (WS-Man)(HTTP) CIM Indication Subscription(HTTP) (When managed server's OS is Windows type)	NEC ESMPRO Manager	Unknown	TCP -> -<	5985 80(*6)	NEC ESMPRO ServerAgent Service
Server Monitoring (WS-Man)(HTTPS) CIM Indication Subscription(HTTPS) (When managed server's OS is Windows type)	NEC ESMPRO Manager	Unknown	TCP -> -<	5986 443(*6)	NEC ESMPRO ServerAgent Service
Server Monitoring (WS-Man)(HTTPS) (When managed server's OS is Linux type)	NEC ESMPRO Manager	Unknown	TCP -> -<	5986	NEC ESMPRO ServerAgent Service
CIM Indication Subscription(HTTPS) (When managed server's OS is Linux type)	NEC ESMPRO Manager	Unknown	TCP -> -<	5989	NEC ESMPRO ServerAgent Service
CIM Indication Subscription (Ping)	NEC ESMPRO Manager	--	ICMP -> -<	--	OS

*1 The port number used by TCP/IP report to Manager can be changed in "TCP/IP Report Setting" screen of AlertViewer.

*2 BMC's port number can be changed on [BMC Setting] - [Network] - [Service].

*3 NEC ESMPRO Manager's port number used for communication with BMC can be changed on the "Environment" screen.

*4 The module uses the lowest unused port of the range.

*5 The port number can be changed on [Alert Receive Setting] - [CIM-Indication Setting] - [Port Number] of AlertViewer.

*6 The used default port number depends on Windows Remote Management(WinRM) on the managed server. For detailed information, see " Appendix C Port number for WS-Man communication" in "NEC ESMPRO Manager Ver.7 Setup Guide".

*7 The module uses the port number of iLO Web Server. The port number can be changed. For detailed information, see "iLO5 user's guide" or "iLO6 user's guide".

[PC for Management -> EM Card]

Function	PC for Management		Protocol /Direction	EM Card	
	Component	Port No.		Port No.	Component
Information Collection	NEC ESMPRO Manager	47117(*1)	UDP -> <-	623	EM Card
	NEC ESMPRO Manager	47170-47179(*2)	TCP/IP <-	623	EM Card
	NEC ESMPRO Manager	47180-47189(*2)	UDP -> <-	623	EM Card
Auto Registration EM Card Monitoring (SNMP)	NEC ESMPRO Manager	Unknown	UDP -> <-	161	EM Card
EM Card Monitoring	NEC ESMPRO Manager	47117(*1)	UDP -> <-	623	EM Card
BMC configuration of CPU blade	NEC ESMPRO Manager	47117(*1)	UDP -> <-	623	EM Card
Operation with Command Line I/F	NEC ESMPRO Manager	47117(*1)	UDP -> <-	623	EM Card
SNMP Trap	NEC ESMPRO Manager	162	UDP <-	Unknown	EM Card
Ack sending for SNMP trap	NEC ESMPRO Manager	Unknown	UDP ->	5002	EM Card

*1 NEC ESMPRO Manager uses a same port number for communication with BMC and EM card. The port number can be changed on the [Environment Setting] screen.

*2 The module uses the lowest unused port of the range.

[PC for Management <-> Other Vendor's Management Console]

Function	PC for Management		Protocol /Direction	Other Vendor's Management Console	
	Component	Port No.		Port No.	Component
SNMP Trap Redirection	NEC ESMPRO Manager	Unknown	UDP ->	162	Other Vendor's Management Console

[PC for Management <-> Network Device]

Function	PC for Management		Protocol /Direction	Network Device	
	Component	Port No.		Port No.	Component
Manager (SNMP)	NEC ESMPRO Manager	162	UDP ←	Unknown	Network Device
Auto registration device Monitoring(SNMP)	NEC ESMPRO Manager	Unknown	UDP → ←	161	Network Device
Alive Monitoring (Ping)	NEC ESMPRO Manager	--	ICMP → ←	--	Network Device

[PC for Management <-> Other Computer Device(Windows OS)]

Function	PC for Management		Protocol /Direction	Other Computer Device	
	Component	Port No.		Port No.	Component
Detail, Remote Control	NEC ESMPRO Manager	Unknown	TCP → ←	5985	WinRM Service
Alive Monitoring (Ping)	NEC ESMPRO Manager	--	ICMP → ←	--	Other Computer Device

[PC for Management <-> Other Computer Device(Red Hat Enterprise Linux)]

Function	PC for Management		Protocol /Direction	Other Computer Device	
	Component	Port No.		Port No.	Component
Detail, Remote Control	NEC ESMPRO Manager	Unknown	TCP → ←	22	SSH
Alive Monitoring (Ping)	NEC ESMPRO Manager	--	ICMP → ←	--	Other Computer Device

[PC for Management <-> Alert Only]

Function	PC for Management		Protocol /Direction	Alert Only	
	Component	Port No.		Port No.	Component
Alive Monitoring (Ping)	NEC ESMPRO Manager	--	ICMP → ←	--	Alert Only

[Inside of PC for Management]

Function	Component	Port No.	Protocol /Direction	Port No.	Component
----------	-----------	----------	---------------------	----------	-----------

NEC ESM PRO Manager	NEC ESM PRO Manager	21115	TCP -> -<	21115	NEC ESM PRO Manager
NEC ESM PRO Manager	NEC ESM PRO Manager	Unknown	TCP -> -<	21121	NEC ESM PRO Manager
NEC ESM PRO Manager	NEC ESM PRO Manager	51099-51107 (*1)	UDP -> -<	51099-51107 (*1)	NEC ESM PRO Manager
NEC ESM PRO Manager	NEC ESM PRO Manager	21113 21114	TCP -> -<	21113 21114	NEC ESM PRO Manager
NEC ESM PRO Manager	NEC ESM PRO Manager	Unknown	TCP -> -<	8807 (*2)	ESM Alert Service
NEC ESM PRO Manager Direct connection / Modem connection	NEC ESM PRO Manager	Unknown	TCP -> -<	47140-47149 (*1)	NEC ESM PRO Manager (DianaScope Modem Agent)
Server Monitoring	NEC ESM PRO Manager	Unknown	TCP -> -<	Unknown	NEC ESM PRO Manager
NEC ESM PRO Manager	NEC ESM PRO Manager	21117 (*2,*3)	HTTP -> -<	21117 (*2,*3)	ESM32BridgeService for NvAccessor
NEC ESM PRO Manager	NEC ESM PRO Manager	21118 (*2,*3)	HTTP -> -<	21118 (*2,*3)	ESM32BridgeService for AlertListener

*1 The module uses the lowest unused port of the range.

*2 No firewall configuration is needed as it is used for inter-process communication on the local computer.

*3 The port number of ESM32BridgeService can be changed. Please check following.

● Changing the port number(ESM32BridgeService)

After NEC ESM PRO Manager is installed, you can change the port number used by ESM32BridgeService by the following procedures. Please change port number if there are conflicts or other reasons.

1. Stop the following 8 services.

[stop procedures]

1. ESM PRO/SM Web Service
2. ESM PRO/SM Task Service
3. ESM PRO/SM Web Container
4. ESM PRO/SM Event Manager
5. ESM PRO/SM Base AlertListener
6. ESM PRO/SM Common Component
7. ESM32BridgeService for AlertListener
8. ESM32BridgeService for NvAccessor

2. Open the following file, and edit it.

<folder>

C:\Program Files (x86)\ESM PRO\ESMWEB\wbserver\webapps\esmpro\WEB-INF\service

Note: The path above is the default installation location.

<file name>

options.txt

<change content>

Change the port number to any number(0~65535), for example:

BRIDGE_NV_PORT=21117

BRIDGE_ALERT_PORT=21118

Note: BRIDGE_NV_PORT -> the port number of ESM32BridgeService for NvAccessor

Note: BRIDGE_ALERT_PORT -> the port number of ESM32BridgeService for AlertListener

3. Start the following 8 services.

[start procedures]

1. ESM32BridgeService for NvAccessor
2. ESM32BridgeService for AlertListener
3. ESM32BridgeService for AlertListener
4. ESM32BridgeService for AlertListener
5. ESM32BridgeService for AlertListener
6. ESM32BridgeService for AlertListener
7. ESM32BridgeService for AlertListener
8. ESM32BridgeService for AlertListener

3. Services

NEC ESMPRO Manager registers the following services.

Display Name	Process Name	Function
Alert Manager Main Service	AMVMMain.exe	Various processing about reports.
Alert Manager WMI Service	AMwmiprv.exe	Setting of report function
Alert Manager HTTPS Service	AMMHTTP.exe	Forward Express Report (HTTPS) (*2)(*3)
Alert Manager ALIVE(S) Service	AMVALVS.exe	ExpressReportService reports.
Alert Manager Socket(R) Service	amvsckr.exe	Receiving TCP/IP In-bound report. (*1)
Dmi Event Watcher	dmieventwatcher.exe	Receiving DMI events.
ESM Alert Service	esmasvnt.exe	Receiving traps (alerts).
NVBASE System Service	nvbase.exe	Communication base for NEC ESMPRO Manager.
ESM Command Service	nvcmd.exe	Periodical command execution.
ESM Remote Map Service	nvrmapd.exe	Synchronizing Remote Map status color.
ESMPRO/SM Base Service	esmdsvnt.exe(*4) esmdsvap.exe	Server status watching.
ESMPRO/SM Event Manager	jsl.exe	CIM indication Subscription / Receiving events
ESMPRO/SM Common Component	jsl.exe	Main service
ESMPRO/SM Base AlertListener	jsl.exe	Function listening to reports receiving alerts from NVBASE System Service.
ESMPRO/SM Web Container	jsl.exe	Web application server(classic mode)
ESMPRO/SM Task Service	smTaskService.exe	Main service(Dashboard)
ESMPRO/SM Web Service	smWebService.exe	Web application service(Dashboard)
ESM32BridgeService for NvAccessor	jsl.exe	Connection function for Main service and Communication base for NEC ESMPRO Manager.
ESM32BridgeService for AlertListener	jsl.exe	
DianaScope ModemAgent	DianaScopeModemAgent.exe	For modem/direct connection

*1 This service has stopped when "Receive from Agent (TCP/IP)" of the TCP/IP Report Setting is disabled.

*2 The startup is set as "Manual" by default.

*3 "Alert Manager HTTPS Service" is started and the startup is set as "Automatic" when "Express Report (HTTPS) from Manager" of Report Setting is enabled.

"Alert Manager HTTPS Service" is stopped and the startup is set as "Manual" when "Express Report (HTTPS) from Manager" of Report Setting is disabled.

*4 For ESMPRO/SM Base Service, esmdsvnt.exe is registered as a service process, and esmdsvap.exe is started and stopped on starting and stopping the service.

- **Dependencies of the services**

The dependencies of the services are the followings:

- Alert Manager WMI Service
- Alert Manager HTTPS Service
- ESM Base Service
 - ESM Alert Service
 - Alert Manager Socket(R) Service
 - Dmi Event Watcher
 - ESM Command Service
 - ESM Remote Map Service
 - ESMPRO/SM Base Service
 - ESM32BridgeService for NvAccessor
 - ESM32BridgeService for AlertListener
 - ESMPRO/SM Common Component
 - ESMPRO/SM Base AlertListener
 - ESMPRO/SM Event Manager
 - ESMPRO/SM Web Container
 - ESMPRO/SM Task Service
 - ESMPRO/SM Web Service

- DianaScope ModemAgent

Order of starting or stopping services

To start or stop services, perform the following procedures.

◆ Start procedures

1. Alert Manager WMI Service
2. Alert Manager HTTPS Service(*)
3. ESM Base Service
4. ESM Remote Map Service
5. ESM Command Service
6. ESM Alert Service
7. Dmi Event Watcher(*)
8. ESMPRO/SM Base Service
9. Alert Manager Socket(R) Service(*)
10. ESM32BridgeService for NvAccessor
11. ESM32BridgeService for AlertListener
12. ESMPRO/SM Common Component
13. ESMPRO/SM Base AlertListener
14. ESMPRO/SM Event Manager
15. ESMPRO/SM Web Container
16. DianaScope ModemAgent
17. ESMPRO/SM Task Service
18. ESMPRO/SM Web Service

◆ Stop procedures

1. ESMPRO/SM Web Service
2. ESMPRO/SM Task Service
3. DianaScope ModemAgent
4. ESMPRO/SM Web Container
5. ESMPRO/SM Event Manager
6. ESMPRO/SM Base AlertListener
7. ESMPRO/SM Common Component
8. ESM32BridgeService for AlertListener
9. ESM32BridgeService for NvAccessor
10. Alert Manager Socket(R) Service(*)
11. ESMPRO/SM Base Service
12. Dmi Event Watcher(*)
13. ESM Alert Service
14. ESM Command Service
15. ESM Remote Map Service
16. ESM Base Service
17. Alert Manager HTTPS Service(*)
18. Alert Manager WMI Service

* May be stopped depending on the settings. In such a case, there is no need to start or stop the service.

● **An example of creating a batch file to start/stop the service**

This is an example of creating a batch file to start all the services of NEC ESMPRO Manager.

When you run the batch file in the example, an error will occur if the startup type of a service is set to "Manual" or " Disabled" , Please remove any services from the batch file that are not used in your system.

■ **Starting service**

```
rem start_service.bat
net start "Alert Manager WMI Service"
net start "Alert Manager HTTPS Service"
net start "ESM Base Service"
net start "ESM Remote Map Service"
net start "ESM Command Service"
net start "ESM Alert Service"
net start "Dmi Event Watcher"
net start "ESMPRO/SM Base Service"
net start "Alert Manager Socket(R) Service"
net start "ESM32BridgeService for NvAccessor"
net start "ESM32BridgeService for AlertListener"
net start "ESMPRO/SM Common Component"
net start "ESMPRO/SM Base Alert Listener"
net start "ESMPRO/SM Event Manager"
```

```
net start "ESMPRO/SM Web Container"  
net start "DianaScope ModemAgent"  
net start "ESMPRO/SM Task Service"  
net start "ESMPRO/SM Web Service"  
exit /b
```

■Stopping service

```
rem stop_service.bat  
net stop /y "ESMPRO/SM Web Service"  
net stop /y "ESMPRO/SM Task Service"  
net stop /y "DianaScope ModemAgent"  
net stop /y "ESMPRO/SM Web Container"  
net stop /y "ESMPRO/SM Event Manager"  
net stop /y "ESMPRO/SM Base Alert Listener"  
net stop /y "ESMPRO/SM Common Component"  
net stop /y "ESM32BridgeService for AlertListener"  
net stop /y "ESM32BridgeService for NvAccessor"  
net stop /y "Alert Manager Socket(R) Service"  
net stop /y "ESMPRO/SM Base Service"  
net stop /y "Dmi Event Watcher"  
net stop /y "ESM Alert Service"  
net stop /y "ESM Command Service"  
net stop /y "ESM Remote Map Service"  
net stop /y "ESM Base Service"  
net stop /y "Alert Manager HTTPS Service"  
net stop /y "Alert Manager WMI Service"  
exit /b
```