

NEC ESMPRO ServerAgentService Ver. 2.0 Installation Guide (Windows)

Chapter 1 General Description

Chapter 2 Installation

Chapter 3 Uninstallation

Chapter 4 Appendix

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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 handling operating software. |
| Note | Indicates items that must be confirmed when handling operating software. |
| Tips | Indicates information that is helpful to keep in mind. |

Abbreviations of Operating Systems

Windows Operating Systems are referred to as follows.

| Notations in this document | Official names of Windows |
|----------------------------|-----------------------------------|
| Windows Server 2016 | Windows Server 2016 Standard |
| | Windows Server 2016 Datacenter |
| Windows Server 2012 R2 | Windows Server 2012 R2 Standard |
| | Windows Server 2012 R2 Datacenter |

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 - jsonpatch-rw
 - recordtype

- **MIT License**

- urlparse2
 - validictory
 - six

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- Python2.7

- **Modified BSD License**

- jsonpatch
 - jsonpointer
 - ply3.8
 - decorator

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General Description

This chapter explains NEC ESMPRO ServerAgentService.

1. Introduction

2. System Requirements

Describes about the necessary system configuration.

***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 there is any unclear point, see Windows online help.

Software for monitoring the server. This works with NEC ESMPRO Manager. You can choose Service Mode or Non-Service Mode when installing this software. Service Mode resides as the OS service and Non-Service Mode does not use the OS service to reduce memory, CPU power and other OS resources.

For details of Service Mode and Non-Service Mode, see Chapter 2 (2.1 Service Mode and Non-Service Mode).

For details of NEC ESMPRO Manager, see "NEC ESMPRO Manager Installation Guide".

2. System Requirements

NEC ESMPRO ServerAgentService requires the following hardware and software.

- Hardware

- | | |
|------------------------------|--|
| - Machine | Express5800 series |
| - Memory | Memory required for running OS + 200MB or more |
| - Free hard disk drive space | 50MB or more |

- Software

- | | |
|----------------|---|
| - OS | Windows Server 2016 Windows Server 2012 R2 |
| - OS component | SNMP (Simple Network Management Protocol) .NET Framework 4 or later version by Microsoft support |

Important

- When monitoring NEC ESMPRO ServerAgentService by NEC ESMPRO Manager, use following one of NEC ESMPRO Manager.
 - NEC ESMPRO Manager included in EXPRESSBUILDER or newer version than that.
 - Latest version on the web (recommended).
- Nano Server installation option is not supported.

Tips

SNMP Service is not essential function by Non-Service Mode of NEC ESMPRO ServerAgentService. For details of Service Mode and Non-Service Mode, see Chapter 2 (2.1 Service Mode and Non-Service Mode).

Installation

This chapter explains installation of NEC ESMPRO ServerAgentService.

1. Before Starting Installation

Describes about necessary setting before installation.

2. Installation

Describes about installation procedure.

3. After Finishing Installation

Describes about necessary setting after installation.

I. Before Starting Installation

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

Important

- When using NEC ESMPRO ServerAgentService service mode in iLO model, invalidate "Thermal Shutdown" on BIOS/Platform Configuration (RBSU). After a report, NEC ESMPRO ServerAgentService shutdown the server. When using NEC ESMPRO ServerAgentService Non-Service mode or uninstalling NEC ESMPRO ServerAgentService in iLO model, validate "Thermal Shutdown".
- Do not change the setting of Encryption when using iLO model. When Production is not set, express report of a hardware fault is not performed.
- When installing NEC ESMPRO ServerAgentService, make the system locale of Windows OS the same one as an OS language.

I.I Installation Method

NEC ESMPRO ServerAgentService has the following installation method.

◆ Pre-installation

In Windows pre-installed model, NEC ESMPRO ServerAgentService is already installed.

To use follow a procedure of Chapter 2 (1.2.5 Settings of SNMP Service).

◆ Installation simultaneously with OS installation

You can install NEC ESMPRO ServerAgentService automatically when Windows OS is installed with EXPRESSBUILDER.

To use follow a procedure of Chapter 2 (1.2.5 Settings of SNMP Service).

◆ Individual installation

You can execute the setup program from EXPRESSBUILDER (or in case of Starter Pack by iLO model) and a download.

To install NEC ESMPRO ServerAgentService, follow a procedure of Chapter 2 (1.2 Settings Before Installation).

1.2 Settings Before Installation

Install NEC ESMPRO ServerAgentService after some components are set.

1.2.1 Installing of Starter Pack by IPMI model

Starter Pack is installed by IPMI model from EXPRESSBUILDER or from Driver Set of Support Kit. Details of Starter Pack, see "Installation Guide" in EXPRESSBUILDER or "Supplemental Installation Guide" in Support Kit.

1.2.2 Installing of .NET Framework

Installation of .NET Framework 4 or later version are indispensable by NEC ESMPRO ServerAgentService.

The installing of .NET Framework is described below.

This procedure is unnecessary by the environment that .NET Framework 4.5.2 or later version is installed.

Follow a procedure after Chapter 2 (1.2.3 Setting of TCP/IP).

Tips

If uninstall .NET Framework after installation of NEC ESMPRO ServerAgentService, install .NET Framework again. Then uninstall and install NEC ESMPRO ServerAgentService.

◆ Installing of .NET Framework

1. Sign-in (Log on) with the built-in administrator account.

2. Start of .NET Framework setup program.

- In the case of .NET Framework 4.5.2

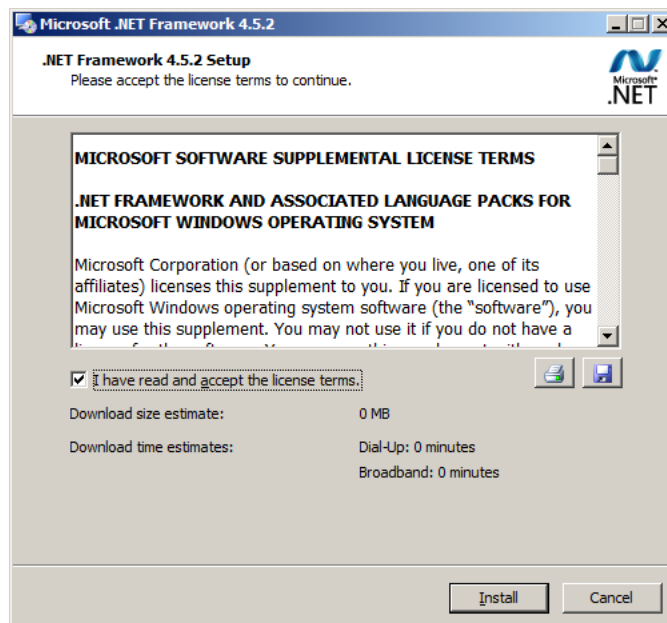
C:\Program Files (x86)\EXPRESSBUILDER\repository\<revision number>\win\dnetfwk\NDP452-KB2901907-x86-x64-AILOS-ENU.exe

Tips

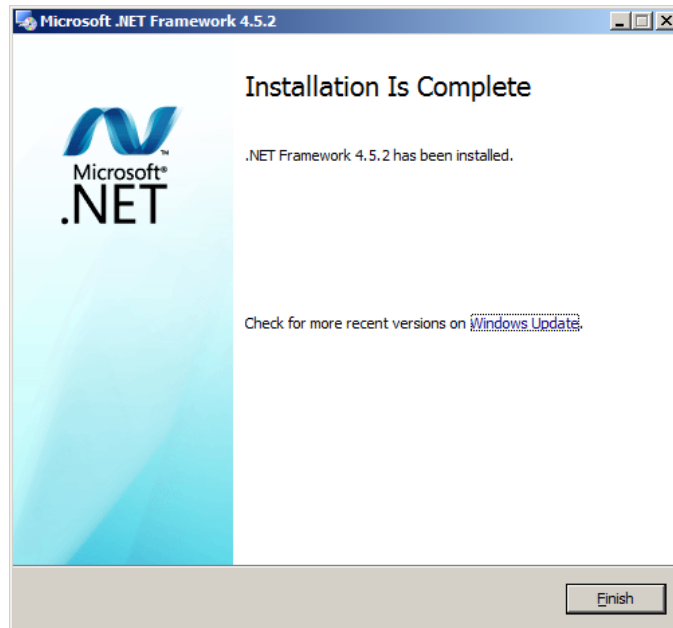
- When starting from EXPRESSBUILDER DVD, the setup program can be started from a "<revision number>\win\dnetfwk" folder.
- When starting from Starter Pack DVD, the setup program can be started from a "software\<revision number>\win\dnetfwk" folder.
- If you are installing on Server Core, you need to install follow the instructions below before you install .NET Framework.
 - Start /w ocsetup ServerCore-WOW64
 - Start /w ocsetup NetFx2-ServerCore
 - Start /w ocsetup NetFx2-ServerCore-WOW64

3. Check [I have read and accept the license terms.], and click [Install].

Start of installation.



4. Click [Finish].



The installation completed.

Restart the system. When installing the first time of .NET Framework.

1.2.3 Setting of TCP/IP

Set a static IP address for the server.

See Help from Windows for how to set TCP/IP.

1.2.4 Installing of SNMP Service

Installation of SNMP Service is indispensable by Service Mode of NEC ESMPRO ServerAgentService.

The installing of SNMP Service is described below.

Tips

- SNMP Service is not essential function by Non-Service Mode of NEC ESMPRO ServerAgentService. For details of Service Mode and Non-Service Mode, see Chapter 2 (2.1 Service Mode and Non-Service Mode).
- If uninstall SNMP Service after installation of NEC ESMPRO ServerAgentService, install SNMP Service again. Then uninstall and install NEC ESMPRO ServerAgentService.

◆ Windows Server 2012R2 / Windows Server2016

1. Click [Programs and Features] in [Control Panel].
2. Click [Turn Windows features on or off].
"Add Roles and Features Wizard" window appears.
3. Click [Features].
[Features] but when it cannot be clicked by gray, when [Next] is clicked several times, [Features] can be clicked now.
4. Check [SNMP Service] check box.
5. Click [Next].
6. Click [Install].
Installing, it becomes more effective, it starts.
7. Click [Close].

Tips

In the case of Server Core installation, type the following command at the command prompt.

```
"Dism /online /enable-feature /featurename:SNMP"
```

1.2.5 Settings of SNMP Service

Tips

This setting is needed for the event log monitoring system. Also, this setting is needed for the function which cooperate with other product, so be sure to set.

At all except for server core installation,"◆ Setting preparation of SNMP Service" is unnecessary.
Follow the procedure of the next "◆ To change the settings of SNMP Service".

◆ Setting preparation of SNMP Service

The setting change of SNMP Service of the server that executes, Server Core installation is done from PC for Management by way of the network.

1. Connected preparation is done on the server side.

Type the following command at the command prompt on the server.

```
"netsh advfirewall firewall set rule group="File and Printer Sharing" new enable=Yes"
```

2. Install SNMP Service on PC for Management.

(Operation by "PC for Management" after.)

About the method of installing SNMP Service, see Chapter 2 (1.2.4 Installing SNMP Service).

3. The session from PC for Management to the server is established.

Type the following command at the command prompt on PC for Management side.

```
"Net use * ¥¥ <ServerName> ¥c$ /u: <UserName>"
```

Tips

- ServerName is a name of the server that executes Server Core installation.
- UserName is a name of administrator account.

4. Click "Computer Management" in "Administrative Tools".
5. Right-click on the tree of the left pane, and click "Connect to another PC..."
6. The computer name of the server that executes Server Core installation is input to "Select Computer" box, and click "OK".

Connected to "Computer Management" of the server that executes Server Core installation.

◆ To change the settings of SNMP Service

1. Double-click [Services] at [Administrative Tools] in [Control Panel].
2. Click [SNMP Service] from the service list and then [Properties] in [Action] menu.
"SNMP Properties" dialog box appears.

Tips

- When a list of Windows service is opened when installing SNMP Service, [Traps] property sheet, [Agent] property sheet and [Security] property sheet of "SNMP Properties" dialog box are not indicated. When a property is not indicated right, close a list of Windows service and open a list of Windows service again.
- When not installing Feature Administrative Tools of SNMP Service, "SNMP Properties" dialog box is not indicated right. Add [SNMP Tool] from [Control Panel] [Programs and Features] - [Turn Windows features on or off] - [Features] - [Remote Server Administration Tools] - [Feature Administration Tools].

3. Enter "public" or an arbitrary name in [Community name] box of [Traps] property sheet and click [Add to list].

To change the community name of traps to be received from the default "*" in NEC ESMPRO Manager side, enter the same name as the community name newly set in NEC ESMPRO Manager side.

To receive trap from NEC ESMPRO ServerAgentService at NEC ESMPRO Manager, both community names must be the same.

4. Click [Add].
5. Click [Add...] in [Trap destinations]. After entering IP address of NEC ESMPRO Manager of the send destination in [Host name, IP or IPX address] box, click [Add].

When a designated IP address (or host name) is designated by setting of Manager Alert (TCP/IP) in the trap destination, the message to warn to overlap is indicated.

The alert overlaps by this setting, and is reported to NEC ESMPRO manager of a designated IP address (or host name).

6. Click [OK] Terminate the network setup.

1.2.6 Monitoring RAID System

Monitoring RAID system uses Universal RAID Utility or Smart Storage Administrator. For details, see the manual of each utility.

1.2.7 Backup of System Event Log

In case of IPMI model, SEL (System Event Log) of EXPRESSSCOPE Engine is cleared by installation of NEC ESMPRO ServerAgentService. When necessary, save the backup of SEL. See the manual of EXPRESSSCOPE Engine about the backup procedure of SEL.

1.2.8 Monitoring function of Storage device

For iLO model, use the management utility Smart Storage Administrator. See several manual of Smart Storage Administrator.

2. Installation

Start installing after the system starts completely. If installation is conducted right after the system startup, it may fail. Wait for a while and retry if the error message appears.

Tips

The version of installed NEC ESMPRO ServerAgentService can be confirmed by [NEC ESMPRO ServerAgentService] - [About NEC ESMPRO] from Start menu (or Apps Start window).

2.1 Service Mode and Non-Service Mode

Installation method of NEC ESMPRO ServerAgentService has a Mode of two kinds, "Service Mode" and "Non-Service Mode".

Tips

Mode selection is performed in installation program. To use another mode of NEC ESMPRO ServerAgentService, run uninstall once and run installation.

2.1.1 Service Mode

Installation mode of default. Mode to Install all feature of NEC ESMPRO ServerAgentService.

On preinstallation or Installation simultaneously with OS installation, Service Mode is chosen automatically.

Tips

If you want to monitor PCIeSSD install the mode of NEC ESMPRO ServerAgentService as a "Service Mode". See Chapter 2 (3.5 Monitoring PCIeSSD).

2.1.2 Non-Service Mode

The mode without Windows service program. The monitoring service and the report engine are not installed.

To choose Non-Service Mode, run setup program from [Applications].

2.1.3 Comparison of Service Mode and Non-Service Mode

[OS Component]

| | Service Mode | Non-Service Mode | Note |
|----------------|---------------|------------------|------|
| .NET Framework | Indispensable | Indispensable | |
| SNMP Service | Indispensable | Unnecessary | |

[Monitoring Function]

| | Service Mode | Non-Service Mode | Note |
|--------------------------------|--------------|------------------|---|
| CPU load monitoring | Installed | Installed | Not reported in case of Non-Service Mode. |
| CPU/Memory Fallback monitoring | Installed | Not Install | |
| Memory usage monitoring | Installed | Installed | Not reported in case of Non-Service Mode. |
| File system monitoring | Installed | Installed | Not reported in case of Non-Service Mode. |
| Storage monitoring | Installed | Installed | Not reported in case of Non-Service Mode. |
| PCIeSSD Monitoring | Installed | Not Install | |

[Resident Service]

| | Service Mode | Non-Service Mode | Note |
|---------------------------------|---------------------|-----------------------|--|
| Start Monitor Service | Installed | Not Install | ESMCommonService |
| Monitoring hardware log Service | Installed | Not Install | ESM System Management Service |
| PCIeSSD monitoring Service | Installed | Not Install | ESMNVMemonitor |
| Communication base Service | Installed | Not Install | Alert Manager Main Service Alert Manager Socket(S) Service |
| Express Report Service | Possible to install | Impossible to install | Alert Manager ALIVE(S) Service |
| Express Report Service (HTTPS) | Possible to install | Impossible to install | none |

2.2 Start of the Setup Program

Starting the Setup Program from Starter Pack (iLO model), EXPRESSBUILDER or a download.

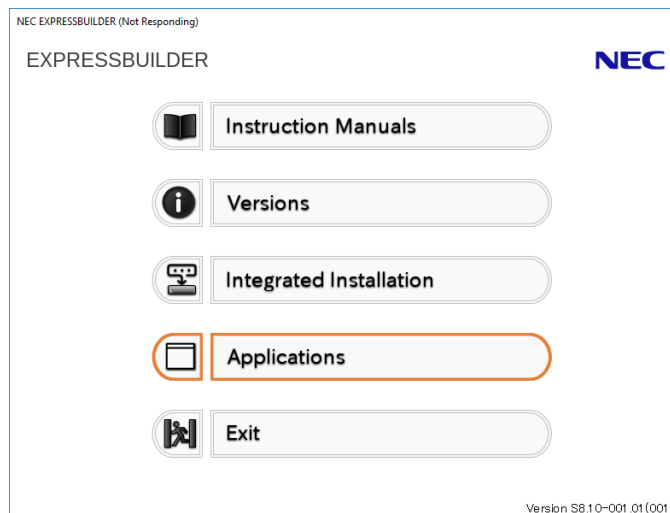
2.2.1 Starting the Setup Program from Starter Pack

1. Sign-in (Log on) to the system with the administrator account.
2. Starter Pack Menu is started.

Tips

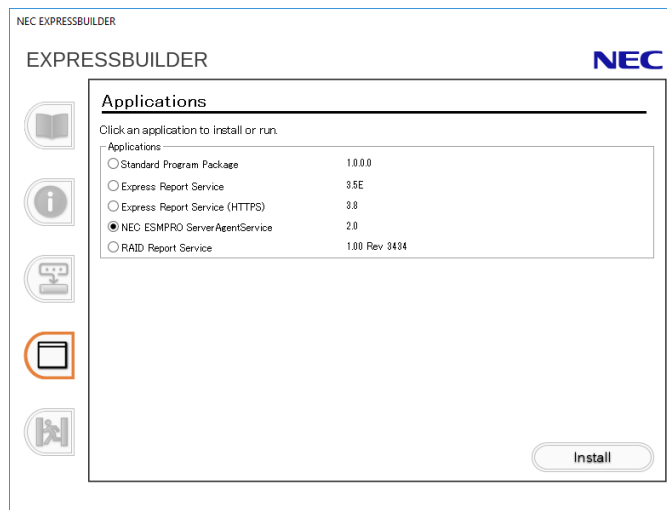
See "Maintenance Guide" for initiation method on Menu.

3. Click [Applications].



4. Click [NEC ESMPRO ServerAgentService] and then [Install].

Setup screen of NEC ESMPRO ServerAgentService starts.



2.2.2 Starting the Setup Program from EXPRESSBUILDER

Tips

On Server Core system, start the setup program with a procedure of "EXPRESSBUILDER Command Line Interface User's Guide".

1. Sign-in (Log on) to the system with the administrator account.
2. EXPRESSBUILDER Autorun Menu is started.

The initiation method on the Autorun Menu is different depending on the models.

Tips

After installing Starter Pack in the server, a shortcut of "EXPRESSBUILDER" is created.

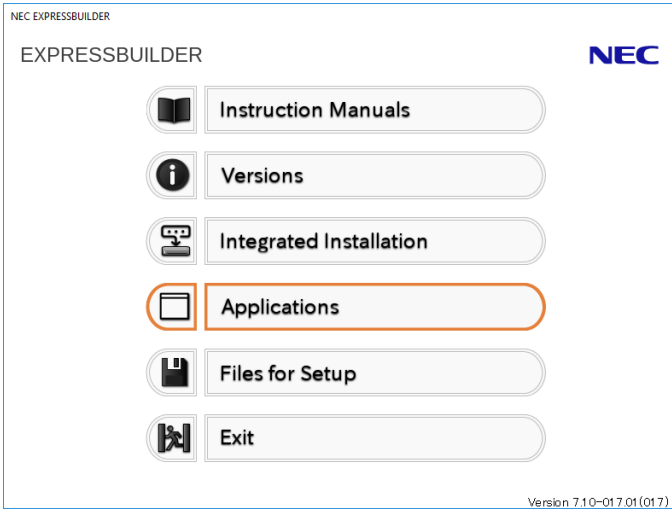
- The equipment by which EXPRESSBUILDER DVD isn't standard.

Click NEC EXPRESSBUILDER from Windows Start Menu or run the shortcut on the desk top.

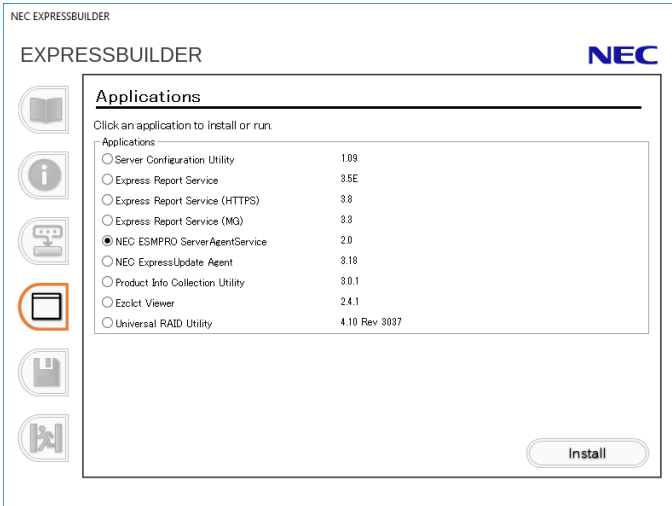
- The equipment by which EXPRESSBUILDER DVD is standard.

Insert EXPRESSBUILDER DVD into Optical disk drive.

3. Click [Applications].



4. Click [NEC ESMPRO ServerAgentService] and then [Install].
Setup screen of NEC ESMPRO ServerAgentService starts.



2.2.3 Starting the Setup Program from Download

Tips

Without uninstalling NEC ESMPRO ServerAgentService of the old version, you can upgrade it.

1. Sign-in (Log on) with the built-in administrator account.

2. A downloaded setup program is defrosted.

Save the downloaded "SAS20_E.zip" file in a folder of your choice, and unzip it. Use the shallow hierarchy (C:\TEMP) for a folder. When the hierarchy of the folder is too deep, the setup program is not defrosted right.

3. Double click the setup program "SAS20_EAGENTsetup.exe".

Setup screen of NEC ESMPRO ServerAgentService starts.

Tips

- You may see a prompt for source (i.e. "Please insert the disk: 1") when performing a Minor Upgrade when you are upgrading with a CD image where the installer resides on a subfolder of the removable media. You should put the setup program (setup.exe) on the local disk.
- When installing from a drive on the network. A network drive must be allocated firstly and then double-click "SAS20_EAGENTsetup.exe" to install.

2.3 Execution of the Setup Program

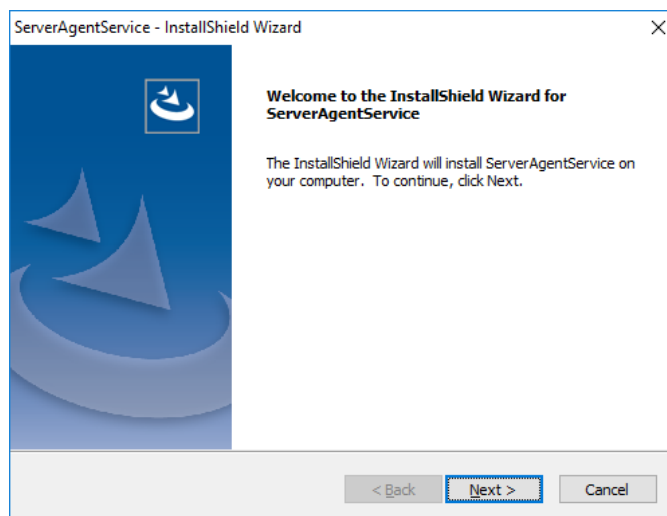
Install with directions of a screen of the setup program.

To change a destination folder and installation mode, choose Custom setup type on Setup Type screen.

Tips

When upgrading, setup.exe display the message box which confirms whether you want to continue upgrade. The message shown to a welcome window will be "Resuming the InstallShield Wizard for ServerAgentService".

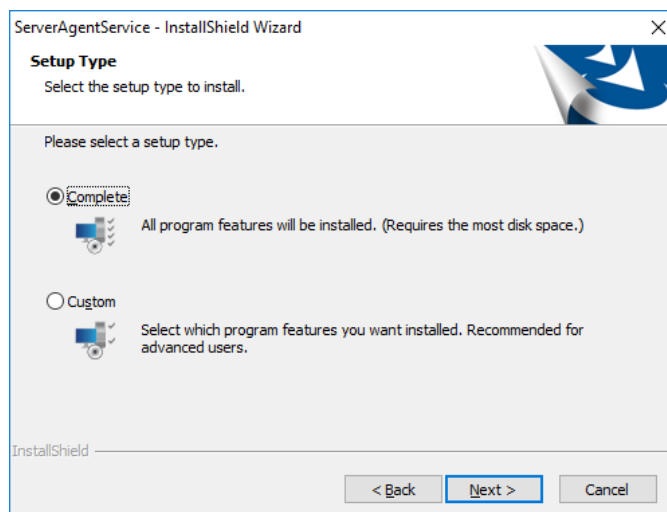
1. Click [Next].



2. Chose the setup type, and click [Next].

To install with default destination folder and installation mode, choose "Complete" setup type.

Skip to 5. To change a destination folder or installation mode, choose "Custom" setup type.



Tips

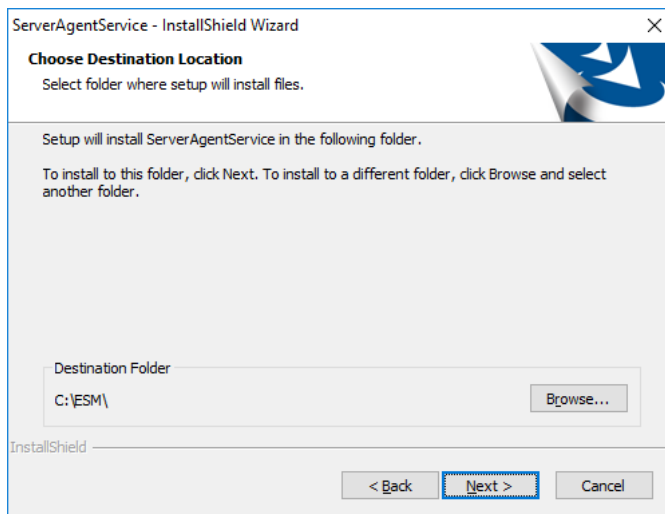
Default value of destination folder and installation mode as follows;
Destination folder : C:\ESM
Installation mode : Service Mode

3. Choose Destination Location screen is indicated. If need, change the installation destination, and click [Next].

Tips

Do not choose following path as installation destination.

- A removable disk
- A network drive
- Path that includes multi-byte character like Japanese language
- Path that includes " ; " (Semicolon)



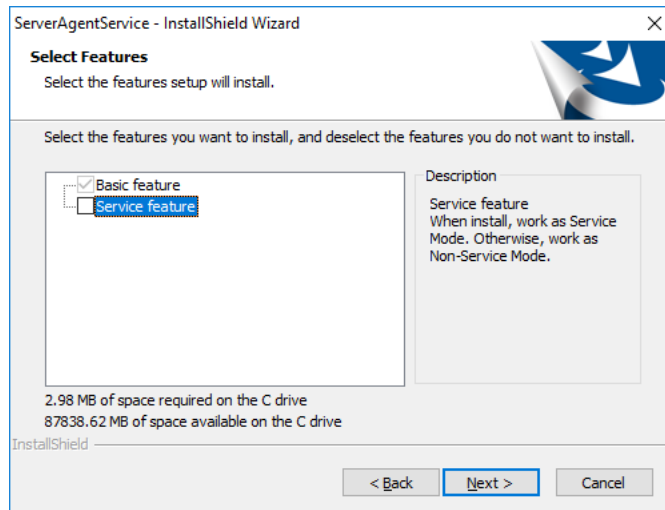
4. Select Feature screen is indicated. If need, change status of Service feature check box, and click [Next].

For Service Mode installation, put a tick on the check box.

For Non-Service Mode installation, remove a check of the check box.

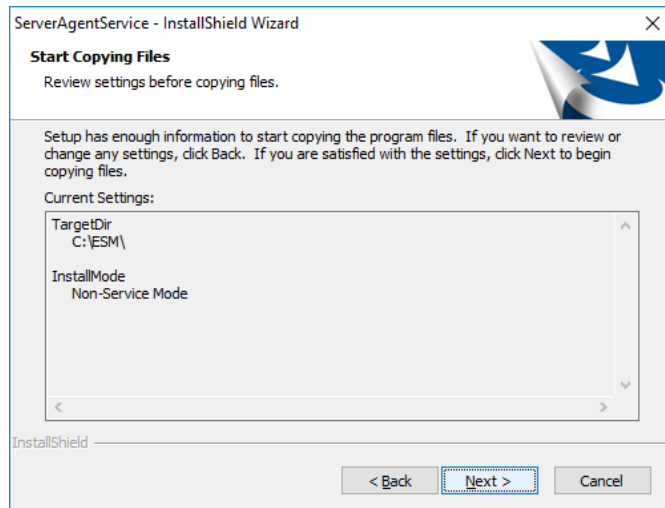
Tips

Basic feature check box is always on because it is an indispensable feature.

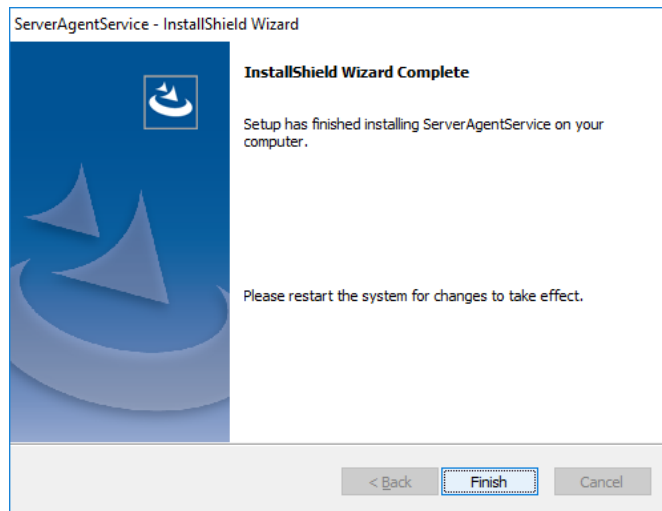


5. Click [Next].

Start of installation.



6. When the installation end window appears, click [Finish].



Installed NEC ESMPRO ServerAgentService becomes enabled after a restart the system.
The installation completed.

Tips

Depending on OS installing NEC ESMPRO ServerAgentService the message that "Windows Explorer has stopped working" might be displayed. However, installation was normally completed. There is no problem in system operation.

3. After Finishing Installation

Be sure to read this page after installing NEC ESMPRO ServerAgentService.

3.1 Operations Check

The setup program of NEC ESMPRO ServerAgentService enable Windows remote management (WinRM) and change settings. The setup program executes following WinRM commands in installation process.

```
winrm quickconfig -q
winrm set winrm/config/service @{AllowUnencrypted="true"}
winrm set winrm/config/service/auth @{Basic="true"}
```

In uninstallation process, the setup program does not change these settings. If you need, change settings to use by WinRM command.

3.2 Port Setting

A use port (5985/tcp, 80/tcp) in WS-Man monitoring by NEC ESMRPO Manager is opened from after OS installation, but an accessible machine is restricted to only a machine in the local sub-net depending on installed OS or network environment. When monitoring in NEC ESMPRO Manager in the different sub-net, open WS-Man access from NEC ESMPRO Manager with the following procedure.

1. Double click [Administrative Tools]-[Windows Firewall with Advanced Security] in [Control Panel].
2. Click [Inbound Rules].
3. Select [Windows Remote Management (HTTP-In)], then Click [Properties] in the [Action] menu.

Windows Remote Management (HTTP-In) properties" window appears.

Tips

Depending on OS, [Windows Remote Management (HTTP-In)] is divided into plural by a network profile. Select rule for your network environment.

4. Select "Any IP address" in [Remote IP address] box of [Scope] property sheet.
When choosing [these IP addresses], add IP address of NEC ESMPRO Manager.
5. Click [OK].

3.3 HTTPS Setting

NEC ESMPRO ServerAgentService uses HTTP or HTTPS for WS-Man communication with NEC ESMPRO Manager. When NEC ESMPRO ServerAgentService is installed, HTTP is used as the default value. Considering the security, HTTPS is recommended. When you're using the machines on the secure environment (e.g. standalone or closed network), you can also use HTTP.

3.3.1 Setting Method

How to connect with NEC ESMPRO Manager using HTTPS is as the following one procedure.

Important Using HTTPS for a connection with NEC ESMPRO Manager is recommended. Because if you used HTTP, username and the password of Basic authentication to use WS-Man communication would be flowed by plain text on the network.

Tips CA-signed certificate is recommended to use.

During the HTTPS setting, the following event log is registered. However, there is no problem in system operation.

Source : HttpEvent
Event ID : 15301
Level : Warning
Description : SSL Certificate Settings created by an admin process for Port : 0.0.0.0:5986.

Source : HttpEvent
Event ID : 15300
Level : Warning
Description : SSL Certificate Settings deleted for Port : 0.0.0.0:5986.

◆ The way to use a CA-Signed certificate

In case of using a CA-Signed certificate, you have to install the certificate with the way that a certificate authority indicated.

1. Get a CA-Signed certificate from a certificate authority.
2. Sign-in (Log on) to the server of NEC ESM PRO ServerAgentService with the built-in administrator account.
3. Store the CA-Signed certificate in %EsmDir%\%tool.
4. Run the command prompt by administrator account.
5. Execute following commands.

```
cd %EsmDir%\%tool
ESMHttps.bat -c certificate_file
```

◆ The way to use "keytool.exe"

Create a Self-Signed certificate on a PC for management in which NEC ESMPRO Manager was installed. After that set HTTPS setting on the server in which NEC ESMPRO ServerAgentService was installed. "keytool.exe" is bundled by NEC ESMPRO Manager.

1. Sign-in (Log on) to the PC for management of NEC ESMPRO Manager with the built-in administrator account.
2. Run the command prompt by administrator account.
3. Type the following command.

In case of Installing NEC ESMPRO Manager in C:\Program Files (x86)\ESMPRO on 64bit OS
"C:\Program Files (x86)\ESMPRO\ESMWEB\jre\bin\keytool.exe" -genkey -keystore
-storepass -validity -keyalg RSA -keysize -storetype pkcs12 -ext EKU=serverAuth -dname
"CN=IP Address"

Example:

In case of the server's IP Address is 192.168.1.1.

```
"C:\Program Files (x86)\ESMPRO\ESMWEB\jre\bin\keytool" -genkey -keystore  
C:\temp\esmpro.pfx -storepass secret -validity 3650 -keyalg RSA -keysize 2048 -storetype  
pkcs12 -ext EKU=serverAuth -dname "CN=192.168.1.1"
```

Tips

- In case of an example, esmpro.pfx is made in C:\temp. Make C:\temp folder before executing the command.
- In case of on 32bit OS, paraphrase "Program Files (x86)" as "Program Files".

4. Sign-in (Log on) to the server of NEC ESMPRO ServerAgentService with the built-in administrator account.
5. Store the created certificate in %EsmDir%\tool.
6. Run the command prompt by administrator account.
7. Execute following commands.

```
cd %EsmDir%\tool  
ESMHttps.bat -c certificate_file password
```

Example:

```
ESMHttps.bat -c esmpro.pfx secret
```

◆ The way to use "makecert.exe"

"makecert.exe" is available by installing Windows SDK, and it is possible to use it. Create a Self-Signed certificate and set HTTPS setting by the following procedure.

Important Use "makecert.exe" of file version 6 or later.

Tips See the following site about makecert.exe.
- Makecert.exe (Certificate Creation Tool)
<https://msdn.microsoft.com/library/windows/desktop/aa386968.aspx>

1. Sign-in (Log on) to the server of NEC ESM PRO ServerAgentService with the built-in administrator account.
2. Store the makecert.exe in %EsmDir%\%tool.
3. Run the command prompt by administrator account.
4. Execute following commands.

```
cd %EsmDir%\%tool
ESMHttps.bat -m IPAddress Validity (mm/dd/yyyy)
```

Example:

```
ESMHttps.bat -m 192.168.1.100 12/31/2040
```

3.3.2 Open a port

Open a port to use HTTPS connection.

1. Double click [Administrative Tools]-[Windows Firewall with Advanced Security] in [Control Panel].
2. Right-click [Inbound Rules] and click [New Rule].
3. Select [Port] and click [Next].
4. Select [TCP] and [Specific local ports], input 5986 in port number and click [Next].
5. Select [Allow the connection] and click [Next].
6. Select a profile that is used for a connection with NEC ESMPRO Manager from [Domain], [Private] or [Public].
7. Input [Name] and [Description] and click [Finish].

Example:

Name: NEC ESMPRO ServerAgentService (HTTPS)

Description: Inbound rule for NEC ESMPRO ServerAgentService to allow data transfer using HTTPS [TCP 5986]

3.3.3 NEC ESMPRO Manager Setting

If using Self-Signed certificate, change a setting of NEC ESMPRO Manager to allow Self-Signed certificate by WS-Man communication. If using a CA-Signed certificate, the following procedure is unnecessary.

1. Login NEC ESMPRO Manager.
2. Select [Environment].
3. Select [Network] tab and click [Edit].
4. Select [WS-Man Communication]-[Self Signed Certificate]-[Allow] and click [Apply].

3.4 Operations Check

Confirm whether the setting of NEC ESMPRO ServerAgentService.

1. Type the following command on another server to set WinRM on Command Prompt by administrator account.

```
winrm quickconfig
winrm set winrm/config/Client @{AllowUnencrypted="true"}
winrm set winrm/config/Client/Auth @{Basic="true"}
winrm set winrm/config/Client @{TrustedHost="IPAddress"}
```

2. Execute the following command to confirm.

```
winrm identify -r:http://IPAddress:port -u:username -p:password
winrm e wmi/root/cimv2/Win32_ComputerSystemProduct -r:http://IPAddress:port
-u:username -p:password
winrm e wmi/root/ESMPRO/AS/ESM_GeneralInformation -r:http://IPAddress:port
-u:username -p:password
```

Tips

- When connecting HTTPS, designate HTTPS as "-r" instead of HTTP.
- The port is HTTP/5985 or HTTPS/5986.
- Input username and password of OS' sign-in (log on) account.
- When connecting a server that have been set HTTPS connection by Self-Signed certificate, add "skipCACheck" to the command as follows.
WinRM identify -r:http://IPAddress:port -u:username -p:password -skipCACheck.

3. When an error occurred in the previous procedure, there is a possibility that setting of NEC ESMPRO ServerAgentService is wrong. Confirm the setting with the following.

* In case of using HTTPS for a connection of NEC ESMPRO Manager

Redo setting of a HTTPS connection with Chapter 2 (3.3 HTTPS Setting).

* In case of using HTTP for a connection of NEC ESMPRO Manager

Type the command prompt by administrator account and type the following command on the server in which NEC ESMPRO ServerAgentService was installed. If an error number and message are not shown the prompt, it is success.

```
winrm quickconfig
```

```
winrm set winrm/config/service @{AllowUnencrypted="true"}
```

4. Type the command prompt of procedure 2 by administrator account of a different server, and confirm whether it is possible to connect to the server you installed.

3.5 Monitoring PCIeSSD

PCIeSSD for IPMI model in your environment, you will be able to monitor configuration information (such as the model name) and life state of PCIeSSD. It can be an active monitoring in the following procedure.

1. Double click [Control Panel] - [Administrative Tools] - [Services].
2. Select "ESMNVMemonitor" from the list of services, and open the properties of the service.
3. ESMNVMemonitor Properties - [General] Change the "Startup type" from "Manual" to "Automatic".
4. Start ESMNVMemonitor.
5. Click [OK], and close ESMNVMemonitor Properties.

Tips

To monitor PCIeSSD using NEC ESMPRO Manager is required to register with BMC (EXPRESSSCOPE engine). NEC ESMPRO Manager gets its configuration information and life state of PCIeSSD from BMC (EXPRESSSCOPE engine). Stopping ESMNVMemonitor to display information about PCIeSSD in NEC ESMPRO Manager, but does not update the life state. If you want to monitor the life state, start ESMNVMemonitor.

Uninstallation

This chapter explains uninstallation of NEC ESMPRO ServerAgentService.

1. Before Starting Uninstallation

Describes about necessary setting before uninstallation.

2. Uninstallation

Describes about uninstallation procedure.

***1.* Before Starting Uninstallation**

Be sure to read this page before uninstalling NEC ESMPRO ServerAgentService.

***1.1* Confirmation of .NET Framework**

Installation of .NET Framework 4 or later version are indispensable to uninstallation of NEC ESMPRO ServerAgentService. If uninstall .NET Framework after installation of NEC ESMPRO ServerAgentService, install .NET Framework again.

***1.2* Confirmation of Express Report Service / Express Report Service (HTTPS)**

When Express Report Service / Express Report Service (HTTPS) are installed, Express Report Service / Express Report Service (HTTPS) must be uninstalled prior to uninstalling of NEC ESMPRO ServerAgentService.

2. Uninstallation

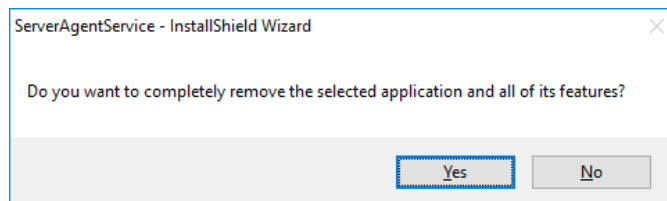
Start uninstalling after the system starts completely. If uninstallation is conducted right after system startup, it may fail. Wait for a while and retry if error message appears.

The uninstallation procedure of NEC ESMPRO ServerAgentService is common to Service Mode and Non-Service Mode.

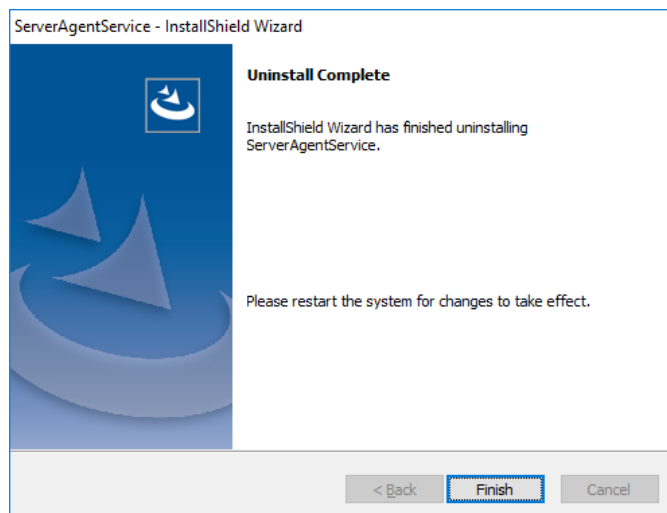
2.1 On Full Install OS

1. Sign-in (Log on) to the system with the administrator account.
2. Click [Programs and Features] or [Add or Remove Programs] from [Control Panel].
3. Select [NEC ESMPRO ServerAgentService] and click [Uninstall/Change] (or [Change/Remove]).
4. The window which confirms the execution of remove is indicated, click [Yes].

Uninstallation is start.



5. When the uninstallation end window appears, click [Finish].



The uninstallation completed. Restart the system is required.

Tips

- If uninstallation is conducted right after the system startup, it can fail. Wait for a while and retry if the error message appears. [AMIRUpt.dll] file can remain solely in the installation folder. In this case, delete it manually. If files other than [AMIRUpt.dll] also remain, do not delete them.
- Due to InstallShield failure, the error message "C:\PROGRAM~1\INSTAL~1\{6342F~1\setup.exe" is indicated only at the first startup after uninstallation.
- Depending on OS uninstalling NEC ESMPRO ServerAgentService the message that "Windows Explorer has stopped working" might be displayed. However, uninstallation was normally completed. There is no problem in system operation.
- After uninstalling, the following file is sometimes left in "C:\Windows\SysWOW64\wbem" (32-bit: %System32%\wbem). When you access to WMI information using a tool like wbemtest.exe, classes and name space still exist. However, there is no problem in system operation.
 - ESMCpu_v4.0.30319.mof
 - esmfs_v4.0.30319.mof
 - ESMGeneralInformation_v4.0.30319.mof
 - ESMReportSetting_v4.0.30319.mof
 - esmstrg_v4.0.30319.mof
 - ESMWorkstationMonitor_v4.0.30319.mof
 - ESMMemory_v4.0.30319.mof
- If fail to stop service(s) during uninstallation, try to run uninstallation after stopping the service(s). To stop service, you can use the sc.exe or the [Administrative tools]. When stopping service, also stop service dependent on the service.

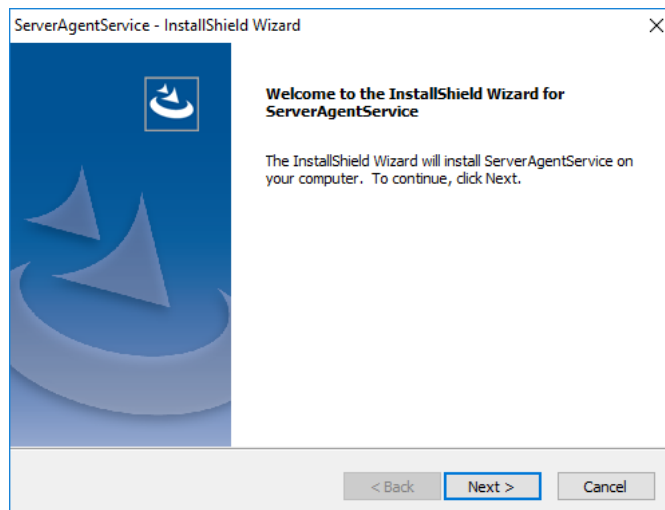
2.2 On Server Core Install OS

The setup program is started from EXPRESSBUILDER by Server Core installation.

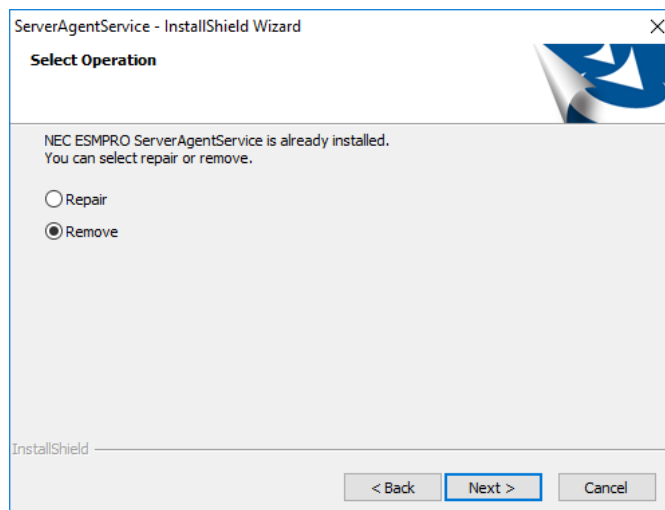
Tips

Use a downloaded setup program to uninstall NEC ESMPRO ServerAgentService installed using a downloaded setup program. About how to start the setup program, see Chapter 2 (2.2.3 Starting the Setup Program from Download).

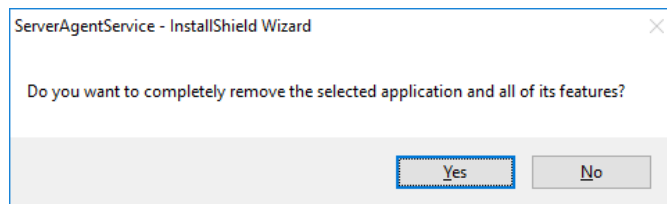
1. Sign-in (Log on) to the system with the administrator account.
2. The setup program of NEC ESMPRO ServerAgentService is started with a procedure of EXPRESSBUILDER Command Line Interface User's Guide.
3. Click [Next].



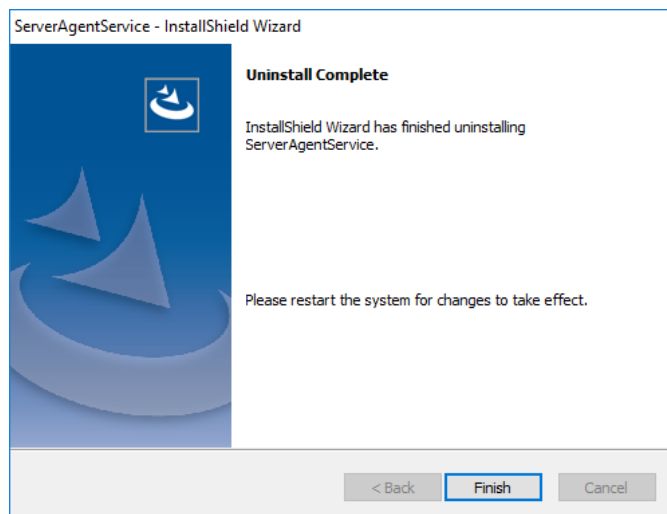
4. Chose a [Remove], and click [Next].



5. The window which confirms the execution of remove is indicated, click [Yes].
Uninstallation is start.



6. When the uninstallation end window appears, click [Finish].



The uninstallation completed. Restart the system is required.

Tips

- If uninstallation is conducted right after the system startup, it can fail. Wait for a while and retry if the error message appears, [AMIRUpt.dll] file can remain solely in the installation folder. In this case, delete it manually. If files other than [AMIRUpt.dll] also remain, do not delete them.
- Due to InstallShield failure, the error message "C:\PROGRAM~1\INSTAL~1\{6342F~1\setup.exe" is indicated only at the first startup after uninstallation.
- Depending on OS uninstalling NEC ESMPRO ServerAgentService the message that "Windows Explorer has stopped working" might be displayed. However, uninstallation was normally completed. There is no problem in system operation.
- After uninstalling, the following file is sometimes left in "C:\Windows\SysWOW64\wbem" (32-bit: %System32%\wbem). When you access to WMI information using a tool like wbemtest.exe, classes and name space still exist. However, there is no problem in system operation.
 - ESMCPU_v4.0.30319.mof
 - esmfs_v4.0.30319.mof
 - ESMGeneralInformation_v4.0.30319.mof
 - ESMReportSetting_v4.0.30319.mof
 - esmstrg_v4.0.30319.mof
 - ESMWorkstationMonitor_v4.0.30319.mof
 - ESMMemory_v4.0.30319.mof
- If fail to stop service(s) during uninstallation, try to run uninstallation after stopping the service(s). To stop service, you can use the sc.exe or the [Administrative tools]. When stopping service, also stop service dependent on the service.

3. After Finishing Uninstallation

3.1 Undo WinRM Settings

As described in Chapter 2 (3.1 Operations Check) of Installation, Even if NEC ESMPRO ServerAgentService is uninstalled, Windows Remote Management (WinRM) is practicable. If you don't use WinRM by other application, and when you'd like to stop using WinRM, carry out the following procedure.

◆ In case of WS-MAN communicate with HTTPS

1. Type the following command at the command prompt by administrator account.

```
winrm delete winrm/config/Listener?Address=*&Transport=HTTPS
```

2. Double click [Administrative Tools] - [Services] in [Control Panel].
3. To disable "WS-MAN service", change [Startup Type] to [Disabled] of [Windows Remote Management (WS-Management)].
4. Delete the rule of Windows Firewall established of Chapter 2 (3.3.2 Open a port).

◆ In case of WS-MAN communicate with HTTP

1. Type the following command at the command prompt by administrator account.

```
winrm delete winrm/config/Listener?Address=*&Transport=HTTP
```

2. Double click [Administrative Tools] - [Services] in [Control Panel].
3. To disable "WS-MAN service", change [Startup Type] to [Disabled] of [Windows Remote Management (WS-Management)].
4. Select [Windows Firewall] in [Control Panel], click [Allow a program or feature through Windows Firewall]. And turn off a check box [Windows Remote Management].

Appendix

1. Notes

Describes about notes.

2. Port Number List

Describes about the port.

3. Services List

Describes about the service list.

4. Starting and Stopping Services

Describes about the starting procedure and stopping procedure.

***I.* Notes**

***I.I* Event Log**

◆ Event log (Application) which is registered during the installation of .Net Framework

During the installation of .Net Framework, the following event log is registered. However, there is no problem in system operation.

| | | |
|-------------|---|---|
| Source | : | ASP.NET 4.0.30319.0 |
| Event ID | : | 1020 |
| Level | : | Warning |
| Description | : | Updates to the IIS metabase were aborted because IIS is either not installed or is disabled on this machine. To configure ASP.NET to run in IIS, please install or enable IIS and re-register ASP.NET using aspnet_regiis.exe /i. |

◆ Alert Manager WMI Service hang-up or ESMCommonService Start Failure event log (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 |
| Level | : | Error |
| Description | : | Alert Manager WMI Service hang-up |

ESMCommonService of NEC ESMPRO ServerAgentService may not start properly then. But "Automatic (Delayed Start)" and "automatic restart at failure" are set at ESMCommonService. When service shifts to a start state (running) by an automatic restart at failure, there is no problem in system operation.

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

When connecting NEC ESMPRO Manager by HTTP connection, the following event log is registered.

| | | |
|-------------|---|---|
| Source | : | Microsoft-Windows-WinRM |
| Event ID | : | 10120 |
| Level | : | Warning |
| Description | : | The WinRM service has received an unsecure HTTP connection from 192.168.1.1. This is not a secure configuration. User Action Set AllowUnencrypted to False in WinRM configuration to ensure packets are encrypted on the wire. |

When this event log is registered, there is no problem in system operation. However, the system is not secure. If you construct a secure system and configure HTTPS connection, see Chapter 2 (3.3 HTTPS Setting). Then, this event log is not registered.

◆ Event log (Application) which is registered when communicating with NEC ESMPRO Manager

When connecting NEC ESMPRO manager under the environment of the logical processors beyond 64, the following event log is registered. However, there is no problem in system operation.

| | | |
|-------------|---|---|
| Source | : | Microsoft-Windows-PerfNet |
| Event ID | : | 2006 |
| Level | : | Error |
| Description | : | Unable to read Server Queue performance data from the Server service. The first four bytes (DWORD) of the Data section contains the status code, the second four bytes contains the IOSB.Status and the next four bytes contains the IOSB.Information. |

The detailed information is described on Microsoft Product Support Services.

Check the contents.

[Article ID: 2607486]

<https://support.microsoft.com/en-us/help/2607486>

◆ Event log (system) of WinRM which is registered when doing shut down

When you shut down the machine in which NEC ESMPRO ServerAgentService was installed, the following event log is registered. However, there is no problem in system operation.

Source : Windows Remote Manager
Event ID : 10149
Level : Warning
Description : The WinRM service is not listening for WS-Management requests.

If you did not intentionally stop the service, use the following command to see WinRM configuration:

```
winrm enumerate winrm/config/listener
```

When the WS-Management listener stopped, this event is registered. Windows Remote Manager service is stopped at shutdown, so this event is registered.

◆ Event log (Application) which is registered during the Setup

During the installation of NEC ESMPRO ServerAgentService, the following event log is registered. However, there is no problem in system operation.

Source : WMI
Event ID : 63
Level : Warning
Description : A provider, xxxx, Version=y.y.y.y, Culture=neutral, PublicKeyToken=zzzz, has been registered in the Windows Management Instrumentation namespace root¥ESMPRO¥AS to use the LocalSystem account. This account is privileged and the provider may cause a security violation if it does not correctly impersonate user requests.
xxxx : provider name
yyyy : provider version
zzzz : PublicKeyToken

If the Remote Desktop Services, formerly Terminal Services, of Windows OS is installed, during uninstallation of NEC ESMPRO ServerAgentService the same event log is registered. However, there is no problem in system operation.

When WMI provider which runs under Local System account is registered, this event occur. Some of WMI providers included in NEC ESMPRO ServerAgentService run under Local System account. Therefore, these events are registered.

◆ Monitors hardware log (SEL)

Monitors hardware log (SEL) by NEC ESMPRO ServerAgentService uses Windows Management Instrumentation (WMI) Service. Therefore when WMI Service stopped or restarted, NEC ESMPRO ServerAgentService cannot monitor any more.

When WMI Service stopped or restarted, the following event is registered with event log (Application).

| | | |
|-------------|---|--|
| Source | : | Application Error |
| Event ID | : | 1000 |
| Level | : | Error |
| Description | : | Faulting application name: svchost.exe |

When WMI Service stopped or restarted, restart the system. Or restart of ESM System Management Service from Control Panel, then "Administrative Tools", then Services.

(NEC ESMPRO ServerAgentService reconnects to WMI Service by restarting ESM System Management Service)

◆ Report monitoring event

- The alert function is based on the event information registered in the event log of the system.
Thus, set the event log process on the event viewer to [Overwrite events as needed] or [Archive the log when full, do not overwrite events]. The monitoring event is not alerted in the setting other than that.

- The event registered in the monitoring event tree of Alert Manager setting tool is not alerted to the manager if Alert Manager Main Service does not operate. Even when the service is operating, if the enabled/disabled flag of each alerting ways is disabled, the event is not alerted.
The alert enabled/disabled flag is set by selecting [Base Setting] - [Report] Properties from [Setting] of Alert Manager. Also the event occurred before Event log Service started at the time of system startup cannot be alerted.

- You can set the time to the shutdown by selecting [Base Setting] - [Other] of Alert Manager setting tool.
The initial value is 20 seconds.
When you set smaller value than this, the alert cannot be performed at the time of shutdown.

- When an alert failure occurs at the time of alerting of monitoring target event, an error message is logged in the event log. If newly log the error message which occurs at the time of alerting as a monitoring target event, the error at the time of alerting will be alerted again.
As a result, large number of alerts will be sent when recovering the failure. This leads to the increase of system load and the degradation of the performance. Do not register the events especially which are produced by the following alert function services as the monitoring target.
 - Alert Manager Main Service
 - Alert Manager Socket(S) Service
 - (Alert Manager ALIVE(S) Service)*

(*) Alert Manager ALIVE(S) Service is the service registered only when Express Report Service or NEC ESMPRO Manager is installed.

- On Manager Alert (SNMP) in alert report function, the length of messages should be up to 511 bytes.
When reporting a message with the length longer than 512 bytes, the 512th and the later message do not appear on the alert viewer. Check the 512th and the later message on the event viewer on the machine that sends the report.
If you want to display all the messages later than the 512th, use Manager Alert (TCP/IP In-Band).

1.2 Monitoring Storage device / File system

Tips

For iLO model, the storage monitoring function of NEC ESMPRO ServerAgentService will not be installed. The described note in this section are precautions on the model where the storage monitoring function is installed.

◆ SATA Optical disk drive

In the case of using LSI Embedded MegaRAID, information of SATA Optical disk drive does not displayed of [Information of server state/constitution] of NEC ESMPRO Manager.

◆ Information displayed in "Resource" of SCSI controller

Incorrect information appear in the [Resource] window displayed from [SCSI Controller] of [Information of server state/constitution] of NEC ESMPRO Manager.

Check the information of resource using "Device Manager" and "System Information (winmsd.exe)" of OS.

◆ Storage Devices other than SCSI/IDE Device

NEC ESMPRO ServerAgentService does not monitor storage devices other than SCSI/IDE devices (e.g., USB device).

◆ Configuration changes to the file system monitoring and storage monitoring

To change the settings, NEC ESMPRO Manager (Ver. 6.05 or later) is required. And set by NEC ESMPRO Manager monitoring interval, hard disk drive pre-failure prediction monitoring enable / disable, file system free space threshold monitoring does not take effect immediately if you change. Setting configuration changes after you have changed in the next monitoring interval of monitoring function of each is enabled.

◆ **Monitoring the failures of the tape device is desired**

NEC ESMPRO ServerAgentService does not monitor the failures of the tape device. If want to conduct monitoring, use backup software or tape monitoring application. Using the event monitoring function of NEC ESMPRO ServerAgentService allows you to monitor the event log of backup software or applications.

◆ **Network drive is not displayed of [Information of server state/constitution] of NEC ESMPRO Manager**

The drive connected to network is not displayed under the file system tree in [Information of server state/constitution] of NEC ESMPRO Manager.

◆ **Changing mode of Hard disk drive pre-failure prediction**

Turning on/off the mode of hard disk drive pre-failure prediction, all hard disk drives work in the same mode in either case. Cannot set the mode of each hard disk drive individually.

◆ **File system information of media insertion**

When you insert media such as a DVD or a floppy disk, NEC ESMPRO Manager as the file system information of [Information server state/constitution] to display information such as volume label and capacity information. So "GB" the smallest unit of information capacity, there is a case to display, "0.0GB" capacity of the media such as a floppy disk capacity is small.

◆ **File system free-space monitoring capacity less than 100MB**

In NEC ESMPRO ServerAgentService, capacity does not support free-space monitoring the file system of less than 100MB. Free space monitoring configuration of such a file system, is "disabled (not monitor)" and from the beginning.

1.3 I/O Device

◆ Serial Port

For the models supporting serial ports, note the following. NEC ESMPRO ServerAgentService has multiple features that use serial ports. When using these features, the ports can become insufficient. The serial ports available for each feature are as follows.

- UPS : COM1-10
- APCU : COM1-2
- (ALIVE Maintenance)* : COM1-9

(*) Alive Maintenance uses Remote Access Service.

The available serial ports when using Remote Access Service for Manager Report (TCP/IP Out-of-Band) are as follows.

- Manager Report: COM1-10

Among those above, only the following combination can share the serial ports.

- Alive Maintenance + Remote Access Service used by a user

When one of the features uses the line, the other feature cannot be used.

Tips

Manager Report (TCP/IP Out-of-Band), which uses Remote Access Service, can be unable to notify failure information when sharing other serial port. Ensure not to share serial ports.

1.4 Coexistence with Other Product

◆ File System monitoring cannot be inherited on the system using EXPRESSCLUSTER

If a failover occurs, the settings of the threshold for the empty space monitoring function and the enable / disable of monitoring of the operating sever are not inherited to the standby server. Make sure to reset the threshold and the enable / disable of monitoring on the standby server.

◆ Using with Oracle Products

When Oracle product is installed, the startup of SNMP Service can be changed to "Manual". In such a case, restore it to "Automatic" and configure the appropriate settings according to the instructions of Oracle product.

◆ 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.

1.5 Report

◆ Detail information of alert

Detail information of some alert displayed on the alert viewer can be shown as "Unknown".

◆ General client report

"General client report" cannot be used.

Though no error appears even if you enable this method, it does not work.

◆ Display of Report Settings

When installed on the same machine NEC ESMPRO Manager and NEC ESMPRO ServerAgentService, [Report Settings] will be displayed only to the [Start] menu on NEC ESMPRO Manager.

1.6 OS Dependence

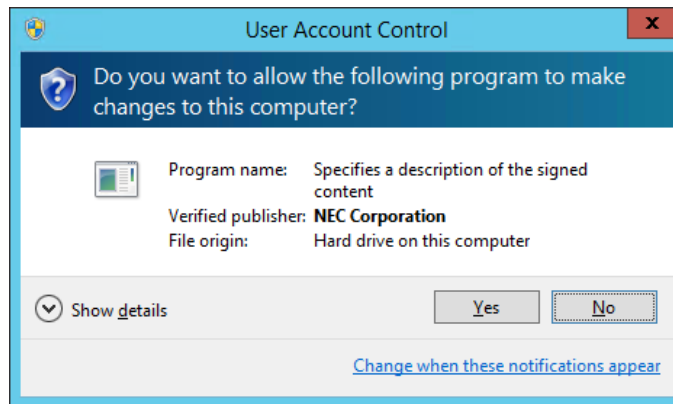
◆ Notes on Server Core Installation

- "Manager (TCP/IP Out-of-Band)" method cannot be used.

- On Windows Server 2016, a screen of "Combobox", "Radiobutton," and "Checkbox" of Alert Manager setting tool (amsadm.exe) is not indicated right. But you can set all of parameters correctly, and use all Alert Reporting function.

◆ User Account Control

User Account Control is turned on, if you start NEC ESMPRO ServerAgentService Control Panel or collect.exe program, [User Account Control] dialog box will appear. Click [Continue] to start the program.



◆ Notes on host OS of Virtualization environment

When NEC ESMPRO ServerAgentService detects dangerous trouble information continuous to operate, OS is shutdown in the setting of default. (If it is installed as Non-Service Mode, OS is not made shutdown)

The shutdown not anticipated from Guest OS was generated because the service console shutdown without shutting down Guest OS in the environment to operate Guest OS in the virtualization environment.

Invalidate the shutdown function by the report from NEC ESMPRO ServerAgentService, and shutdown from Guest OS by manual at the failure when the normal termination of Guest OS is valued.

[Setup steps of shutdown function by report]

1. Sign-in (Log on) with the built-in administrator account.
2. Click [Report Settings] in start menu.
Displays Alert Manager.
3. Click [Setting]-[Base Setting].
4. Confirms "Shutdown Delay" item of [Other] is the invalid (red).
When being valid (green), click an icon and change it to invalid (red).
5. Click [OK] Setting Terminate.

1.7 Others

◆ Update .NET Framework

NEC ESMPRO ServerAgentService works on the .NET Framework 4 or after version. Support for Microsoft .NET Framework 4, 4.5 and 4.5.1 end on January 12, 2016. So, you need update .NET Framework to Microsoft support version.

Access the following article to check the .NET Framework lifecycle policy of Microsoft.

- Lifecycle FAQ—.NET Framework

<https://support.microsoft.com/en-us/help/17455/lifecycle-policy-faq-microsoft-net-framework>

◆ Fail registration by WS-Man with NEC ESMPRO Manager Ver. 6.00

If registration by WS-Man of NEC ESMPRO Manager Ver. 6.00 is fail, confirm Windows remote management (WinRM) settings.

1. Sign-in (Log on) to the server of NEC ESMPRO ServerAgentService with the built-in administrator account.

2. On the command prompt from [Start] menu, click the right button and select "Run as administrator".

3. On the command prompt, input following command and press Enter key.

```
winrm quickconfig -q
```

4. On the command prompt, input following command and press Enter key.

```
winrm get winrm/config/service
```

5. Confirm the following value is "true" or not.

- Basic value under auth

6. If value to confirm is "false", on the command prompt, input following command and press Enter key.

```
winrm set winrm/config/service @{AllowUnencrypted="true"}
```

7. On the command prompt, input following command and press Enter key.

```
winrm get winrm/config/service
```

8. Confirm the following value.

- AllowUnencrypted

9. By which to use HTTP or HTTPS to connect with NEC ESMPRO Manager, run the following WinRM command to use NEC ESMPRO ServerAgentService.

- If you use HTTPS to connect with NEC ESMPRO Manager;

See Chapter2 (3.3 HTTPS Setting).

```
winrm set winrm/config/service @{AllowUnencrypted="false"}
```

- If you use HTTP to connect with NEC ESMPRO Manager;

```
winrm set winrm/config/service @{AllowUnencrypted="true"}
```

◆ **Monitoring component's hardware from NEC ESMPRO Manager**

Registering BMC or iLO to NEC ESMPRO Manager and setting up SNMP Alert configuration are required to monitor component's hardware error.

◆ **Failed in the Auto Registration of NEC ESMPRO ServerAgentService by NEC ESMPRO Manager**

See Chapter 2 (3.4 Operations Check), confirm setting of NEC ESMPRO ServerAgentService.

◆ **Restart after Hardware trouble occurs**

When abnormality of Hardware is detected, OS is shutdown.

When OS is restarted without action/recovering trouble after shutdown, shutdown is done just after the restart.

◆ **When Performing Duplex System Management**

To perform duplex system management by EXPRESSCLUSTER, install NEC ESMPRO ServerAgentService on a local disk on both the operating and standby servers. The installation procedure for NEC ESMPRO ServerAgentService is same as a normal installation, except that install on two servers.

2. Port Number List

NEC ESMPRO ServerAgentService uses the following port numbers.

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

[NEC ESMPRO Manager <-> NEC ESMPRO ServerAgentService]

| Function | NEC ESMPRO Manager | Direction | NEC ESMPRO ServerAgentService | Remarks |
|---|----------------------------|-----------|-------------------------------|-----------|
| Auto Registration Server Monitoring (WS-MAN/HTTP) | Auto-assignment | -> <- | 5985/tcp | HTTP |
| Auto Registration Server Monitoring (WS-MAN/HTTPS) | Auto-assignment | -> <- | 5986/tcp | HTTPS |
| SNMP report to Manager | 162/udp | <- | Auto-assignment | SNMP-trap |
| TCP/IP report to Manager | 31134/tcp | <- > | Auto-assignment | |
| CIM-Indication report to Manager | 6736/tcp (configurable) | <- | Auto-assignment | |

[Express Report Service <-> Mail Server]

| Function | NEC ESMPRO ServerAgentService | Direction | Main Server | Remarks |
|--|-------------------------------|-----------|-------------|---------|
| Express Report Service (Internet Mail) | Auto-assignment | -> | 25/tcp | SMTP |
| | | <- | | |
| | | <- | 110/tcp | (POP3)* |
| | | > | | |

(*) Only when "POP before SMTP" is used.

[Express Report Service <-> Web Server]

| Function | NEC ESMPRO ServerAgentService | Direction | Web Server | Remarks |
|--------------------------------|-------------------------------|-----------|------------|----------|
| Express Report Service (HTTPS) | Auto-assignment | -> | 443/tcp | (HTTPS)* |
| | | <- | | |

(*) If HTTPS port (443) is closed, Change the firewall setting, open port 443, set up the connection state of https.

- In case of two-way protocol, upper arrow shows that connection starts, and lower arrow shows that connection turns.
- The port number used by TCP/IP report to Manager or Express Report Service can be changed in set screen of report.
- In case of port number unknown, unused port is used to start connection.

3. Services List

NEC ESMPRO ServerAgentService uses the following services.

| Services | Process name | Start-up | Function | Remarks |
|---------------------------------|---------------|---------------------------|---|---|
| Alert Manager Main Service | AMVMain.exe | Automatic (Delayed Start) | Manage Various trouble reports. | |
| Alert Manager Socket(S) Service | amvscks.exe | Manual | Report to Manager by using TCP/IP. | When either of "Manager (TCP/IP In-Band) and Manager (TCP/IP Out-of-Band)" is set to valid (green) at Base Setting Window, the service is started. When both settings are set to invalid (red), the service is stop. |
| ESMCommonService | ESMCommon.exe | Automatic (Delayed Start) | Enable NEC ESMPRO monitoring function. | |
| ESM System Management Service | esmsmsrv.exe | Automatic | Monitors hardware log | IPMI model and iLO model. |
| ESMNVMemonitor | esmnvme.exe | Manual | Monitors configuration information and lifespan state of PCIeSSD. | Only IPMI model. |

4. Starting and Stopping Services

To stop or start services, perform the following procedure.

On some model of server, some service cannot exist.

Non-Service Mode does not register service.

| [order] | [stopping services] | [starting services] |
|---------|------------------------------------|------------------------------------|
| 1. | ESMCommonService | ESMCommonService |
| 2. | ESM System Management Service | ESM System Management Service |
| 3. | (ESMNVMeMonitor)*1 | (ESMNVMeMonitor)*1 |
| 4. | (Alert Manager ALIVE(S) Service)*2 | SNMP Service |
| 5. | Alert Manager Main Service | (Alert Manager ALIVE(S) Service)*2 |
| 6. | Alert Manager Socket(S) Service | Alert Manager Main Service |
| 7. | SNMP Service | Alert Manager Socket(S) Service |

(*1) PCIeSSD in your environment, but only if you are starting ESMNVMeMonitor.

(*2) Alert Manager ALIVE(S) Service is the service registered only when Express Report Service or NEC ESMPRO Manager is installed.

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jsonpatch

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jsonpatch-rw

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Python was created in the early 1990s by Guido van Rossum at Stichting Mathematisch Centrum (CWI, see <http://www.cwi.nl>) in the Netherlands as a successor of a language called ABC. Guido remains Python's principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see <http://www.cnri.reston.va.us>) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations (now Zope Corporation, see <http://www.zope.com>). In 2001, the Python Software Foundation (PSF, see <http://www.python.org/psf/>) was formed, a non-profit organization created specifically to own Python-related

Intellectual Property. Zope Corporation is a sponsoring member of the PSF.

All Python releases are Open Source (see <http://www.opensource.org> for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

| Release | Derived from | Year | Owner | GPL-compatible? (1) |
|----------------|--------------|-----------|------------|---------------------|
| 0.9.0 thru 1.2 | | 1991-1995 | CWI | yes |
| 1.3 thru 1.5.2 | 1.2 | 1995-1999 | CNRI | yes |
| 1.6 | 1.5.2 | 2000 | CNRI | no |
| 2.0 | 1.6 | 2000 | BeOpen.com | no |
| 1.6.1 | 1.6 | 2001 | CNRI | yes (2) |
| 2.1 | 2.0+1.6.1 | 2001 | PSF | no |
| 2.0.1 | 2.0+1.6.1 | 2001 | PSF | yes |
| 2.1.1 | 2.1+2.0.1 | 2001 | PSF | yes |
| 2.1.2 | 2.1.1 | 2002 | PSF | yes |
| 2.1.3 | 2.1.2 | 2002 | PSF | yes |
| 2.2 and above | 2.1.1 | 2001-now | PSF | yes |

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Julian Seward, jseward@bzip.org
bzip2/libbzip2 version 1.0.6 of 6 September 2010

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