FUJITSU

Fujitsu Software Infrastructure Manager / Infrastructure Manager for PRIMEFLEX V2.9.0

Plug-in and Management Pack Setup Guide

CA92344-5438-01
September 2023

Preface

Purpose

This Setup Guide describes the installation procedure, precautions on usage and information for Fujitsu Software Infrastructure Manager Plug-in (hereinafter referred to as "ISM Plug-in") and Fujitsu Software Infrastructure Manager Management Pack (hereinafter referred to as "ISM Management Pack").

Fujitsu Software Infrastructure Manager (hereinafter referred to as "ISM") is operation and management software that manages and operates ICT devices, such as servers, storages and facility devices, such as PDUS, in an integrated way. ISM Plug-in and ISM Management Pack are Plug-in software that extends the user interface and enables you to use functions of ISM. ISM can be used directly from the cloud management software with this product.

ISM Plug-ins and cloud management software described in this guide are displayed below.

ISM Plug-in	Cloud management software
Infrastructure Manager Plug-in for Microsoft System Center Operations Manager (ISM Plug-in for SCOM)	Microsoft System Center Operations Manager (SCOM)
Infrastructure Manager Plug-in for Microsoft System Center Virtual Machine Manager (ISM Plug-in for SCVMM)	Microsoft System Center Virtual Machine Manager (SCVMM)
Infrastructure Manager Plug-in for VMware vCenter Server (ISM Plug-in for vCenter)	VMware vCenter Server (vCenter)
Infrastructure Manager Plug-in for VMware vCenter Server Appliance (ISM Plug-in for vCSA)	VMware vCenter Server Appliance (vCSA)
Infrastructure Manager Management Pack for VMware vRealize Operations Manager (ISM Management Pack)	VMware vRealize Operations Manager (vROps)
Infrastructure Manager Plug-in for VMware vRealize Orchestrator (ISM Plug-in for vRO)	VMware vCenter Server Appliance VMware vRealize Orchestrator (vRO)
Infrastructure Manager Plug-in for Microsoft Windows Admin Center (ISM Plug-in for WAC)	Microsoft Windows Admin Center (WAC)

Product Manuals

Manual Name	Description
Fujitsu Software Infrastructure Manager / Infrastructure Manager for PRIMEFLEX V2.9.0 First Step Guide	This manual is for those using this product for the first time. This manual summarizes the procedures for the use of this product, the product system, and licensing. In this manual, it is referred to as "First Step Guide."
Fujitsu Software Infrastructure Manager / Infrastructure Manager for PRIMEFLEX V2.9.0 User's Guide	This manual describes the functions of this product, the installation procedure, and procedures for operation. It allows you to quickly grasp all functions and all operations of this product. In this manual, it is referred to as "User's Guide."
Fujitsu Software Infrastructure Manager / Infrastructure Manager for PRIMEFLEX V2.9.0 Operating Procedures	This manual describes the installation procedure and usages for the operations of this product. In this manual, it is referred to as "Operating Procedures."
Fujitsu Software Infrastructure Manager / Infrastructure Manager for PRIMEFLEX V2.9.0 REST API Reference Manual	This manual describes how to use the required APIs and provides samples and parameter information for using user-created applications that integrate with this product. In this manual, it is referred to as "REST API Reference Manual."

Manual Name	Description
Fujitsu Software Infrastructure Manager / Infrastructure Manager for PRIMEFLEX V2.9.0 Messages	This manual describes the messages that are output when using ISM and ISM for PRIMEFLEX, and the actions to take for these messages. In this manual, it is referred to as "ISM Messages."
Fujitsu Software Infrastructure Manager for PRIMEFLEX V2.9.0 Messages	This manual describes the messages that are output when using ISM for PRIMEFLEX and the actions to take for these messages. In this manual, it is referred to as "ISM for PRIMEFLEX Messages."
Fujitsu Software Infrastructure Manager / Infrastructure Manager for PRIMEFLEX V2.9.0 Items for Profile Settings (for Profile Management)	This manual describes detailed information for the items set when creating profiles for managed devices. In this manual, it is referred to as "Items for Profile Settings (for Profile Management)."
Fujitsu Software Infrastructure Manager for PRIMEFLEX V2.9.0 Cluster Creation and Cluster Expansion Parameter List	This manual describes Cluster Definition Parameters that are used for the automatic settings in Cluster Creation and Cluster Expansion when using ISM for PRIMEFLEX. In this manual, it is referred to as "ISM for PRIMEFLEX Parameter List."
Fujitsu Software Infrastructure Manager / Infrastructure Manager for PRIMEFLEX V2.9.0 Glossary	This document defines the terms that you need to understand in order to use this product. In this manual, it is referred to as "Glossary."
Fujitsu Software Infrastructure Manager / Infrastructure Manager for PRIMEFLEX V2.9.0 Plug-in and Management Pack Setup Guide	This manual describes the procedures, from installation to operation as well as precautions and reference information, for the following features of Infrastructure Manager Plug-in. - Infrastructure Manager Plug-in for Microsoft System Center Operations Manager - Infrastructure Manager Plug-in for Microsoft System Center Virtual Machine Manager - Infrastructure Manager Plug-in for VMware vCenter Server - Infrastructure Manager Plug-in for VMware vCenter Server Appliance - Infrastructure Manager Management Pack for VMware vRealize Operations Manager - Infrastructure Manager Plug-in for VMware vRealize Orchestrator - Infrastructure Manager Plug-in for Microsoft Windows Admin Center In this manual, it is referred to as "ISM Plug-in/MP Setup Guide."

Together with the manuals mentioned above, you can also refer to the latest information about ISM by contacting your local Fujitsu customer service partner.

For the information about managed hardware products, refer to the manuals of the relevant hardware.

For PRIMERGY, refer to "ServerView Suite ServerBooks" or the manual pages for PRIMERGY.

https://support.ts.fujitsu.com/

Intended Readers

This manual is intended for system administrators, network administrators, facility administrators, and service technicians who have sufficient knowledge of hardware and software.

Notation in this guide

Notation

Keyboard

Keystrokes that represent nonprintable characters are displayed as key icons such as [Enter] or [F1]. For example, [Enter] means press key labeled "Enter"; [Ctrl]+[B] means hold down the key labeled "Ctrl" or "Control" and then press the B key.

Symbols

Describes important information for each subject.

Point

Describes important information for each subject.

Note

Describes subjects where attention is necessary.

Variables: <xxx>

Represents variables that require replacement by numerical values or text strings in accordance with the environment you are using.

Example: <IP address>

Abbreviation

This document may use the following abbreviations.

Official name	Abbreviation
Fujitsu Software Infrastructure Manager	ISM
Fujitsu Software Infrastructure Manager Plug-in	ISM Plug-in
Fujitsu Software Infrastructure Manager Management Pack for VMware vRealize Operations Manager	ISM Management Pack
Microsoft® System Center Operations Manager	SCOM
Microsoft® System Center Virtual Machine Manager	SCVMM
Microsoft® Windows Admin Center	WAC
Microsoft® Windows Server®	Windows Server
VMware vCenter Server®	vCenter
VMware vCenter Server® Appliance™	vCSA
VMware vRealize® Operations Manager™	vROps
VMware vRealize® Orchestrator™	vRO

Terms

For the major terms and abbreviations used in this manual, refer to "Glossary."

Using PDF applications (Adobe Reader, etc.)

Depending on the specifications of the PDF application you are using, issues (extra spaces and line breaks, missing spaces, line breaks, and hyphens in line breaks) may occur when you perform the following operations.

- Saving to a text file
- Copying and pasting text

High Risk Activity

The Customer acknowledges and agrees that the Product is designed, developed and manufactured as contemplated for general use, including without limitation, general office use, personal use, household use, and ordinary industrial use, but is not designed, developed and manufactured as contemplated for use accompanying fatal risks or dangers that, unless extremely high safety is secured, could lead directly to death, personal injury, severe physical damage or other loss (hereinafter "High Safety Required Use"), including without limitation, nuclear reaction control in nuclear facility, aircraft flight control, air traffic control, mass transport control, medical life support system, missile launch control in weapon system. The Customer shall not use the Product without securing the sufficient safety required for the High Safety Required Use. In addition, Fujitsu (or other affiliate's name) shall not be liable against the Customer and/or any third party for any claims or damages arising in connection with the High Safety Required Use of the Product.

To Use This Product Safely

This document contains important information required for using this product safely and correctly. Read this manual carefully before using the product. In addition, to use the product safely, the customer requires understanding the related products (hardware and software) before using the product. Be sure to use the product by following the notes on the related products. Be sure to keep this manual in a safe and convenient location for quick reference during use of the product.

Modifications

The customer may not modify this software or perform reverse engineering involving decompiling or disassembly.

Disclaimers

Fujitsu Limited assumes no responsibility for any claims for losses, damages or other liabilities arising from the use of this product. The contents of this document are subject to change without notice.

Trademarks

Microsoft, Windows, and the titles or names of other Microsoft products are trademarks or registered trademarks of Microsoft Corporation in the United States and other countries.

VMware is a trademark or a registered trademark of VMware, Inc. in the United States and other countries.

All other company and product names are trademarks or registered trademarks of the respective companies.

All other products are owned by their respective companies.

Copyright

Modification History

Edition	Issue Date	Modification Overview	Section	
01	September 2023	First edition	-	-

Contents

Chapter 1 ISM Plug-in for SCOM 1.2

1.1 Product Summary

Infrastructure Manager Plug-in for Microsoft System Center Operations Manager (ISM Plug-in for SCOM) is designed to extend the user interface of SCOM to enable the use of the functions of ISM from the SCOM console to enhance the efficiency of the infrastructure management.

This plug-in software enables you to operate ISM directly from the SCOM console.

1.2 Contents

This product is composed of the following three (3) files:

- ISMSCOM_INSTALL.exe
- Readme.txt
- Readme_en.txt

1.3 System Requirements

For information on the SCOM system requirements to operate ISM Plug-in for SCOM, refer to "Support Matrix."

https://support.ts.fujitsu.com/index.asp

Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

Select [DOWNLOADS] and select the target operating system.

The reference procedures are subject to change without notice.

For ISM 2.8.0.010 or later, disable Multi-Factor Authentication when using this plug-in.

1.4 Installation Procedures

This section explains installation procedures of ISM Plug-in into SCOM.

1.4.1 Installation Preparation

This section explains installation procedures of ISM Plug-in into SCOM.

Point

- Install OpenSSL into a Windows Server that ISM Plug-in for SCOM will be installed to before execution of the following procedures. The version of OpenSSL you install must match the OpenSSL version of ISM.
- For new installations of ISM 2.3.0 or later, TLS v1.2 must be available to the Windows Server and System Center where ISM Plug-in for SCOM is to be installed.
- If former version has been installed, uninstall the Plug-in and install ISM Plug-in for SCOM.

1.4.2 Store the Install File

Use Remote Desktop to connect to the Windows Server on which you are installing ISM Plug-in for SCOM.

Transfer the install file to an arbitrary directory on the Windows Server of the connection destination by copying and pasting the file.

1.4.3 Execute the Install File

1. On the installation destination Windows Server, double-click the install file (ISMSCOM_INSTALL.exe) that has been transferred in "1.4.2 Store the Install File."
2. Select language for the installation procedures.

   When the preparations are completed, the installation wizard with the message "To continue, select Next" is displayed.
3. Select [Next].

   The EULA is displayed.
4. Read the contents and select [I accept the terms]. Select [Next].

   The "Destination Folder" window is displayed.
5. Select [Next] if you do not change the destination.
   Otherwise, select [Change].

   When [Change] is selected, "Change Current Destination Folder" is displayed. Select [OK] after change.

   The path to the designated folder is displayed on "Destination Folder."
6. Select [Next] after confirmation of the path correct.

   The "Ready to Install the Program" window is displayed.
7. Select [Install].

   The "InstallShield Wizard Completed" dialog box is displayed.
8. Select [Finish] to end.

1.4.4 Import Management Pack

1. Launch the SCOM console.
2. On the left pane, click [Administration], right click [Installed Management Packs] and select [Import Management Packs].
3. Select [Add from disk] under [Add].

   Point

   If the online catalog message appears after Step 3, select [No].
4. In the install destination folder, select "Fujitsu.InfrastructureManager.mp" from [Management Packs] and click [Open].
5. Select [Install].
6. After installation is completed, click [Close] to close the window.

1.4.5 Register the Information in ISM Plug-in for SCOM

Register the information of ISM and SCOM into ISM Plug-in for SCOM with the command prompt.

1. Start [Command Prompt (Admin)] on the Windows Server where ISM Plug-in for SCOM is installed.
2. Execute the command below on Command Prompt.

   <Install destination folder name>\IsmServerConfig.exe
3. Follow the directions and enter the information below.

```
Please enter the IP address or FQDN of ISM Server : <IP address or FQDN of ISM Server>
Please enter the port number of ISM Server : <port number of ISM Server>
Please enter the user name of ISM Server : <user name of ISM Server>
Please enter the password for the user name : <password of ISM Server>
Please enter the user name of SCOM : <user name of SCOM>
```

```
Please enter the Alert collection interval(3-525600 or 00:00-23:59): <Alert collection interval>
Please enter the Alert deletion interval(3-525600 or 00:00-23:59): <Alert deletion interval>
[INFO] Configuration file was updated successfully.
Do you want to continue? [y/n] : n (end with n)
```

Set <Alert collection interval> and <Alert deletion interval> for 3 to 525600 minutes or 0:00 to 23:59.

4. Enter the "exit" command to close the window.

Point

To replace the server information, just execute Steps 1 - 4 again.

1.4.6 How to use the ISM Plug-in for SCOM

Note

When Multiple-Factor Authentication is enabled, alert information detected from ISM is not displayed. Also, if trying to display the ISM login screen, the following error screen is displayed:

```
AcISM [ERROR] ISM Alert Task is failed.
{"MessageInfo": [{"TimeStamp": "2022-08-11T05:26:51.470Z", "MessageId": "50060008", "API": "POST
https://xx.xx.xxx.xxx:25566/ism/api/v1/session/login", "Message": "Failed to log in. The
authentication code has not been entered."}], "IsmBody": {}, "SchemaType": "https://xx.xx.xxx.xxx:
25566/ism/schema/v1/MessageInfo-Out.0.0.1.json"}
```

1. Launch the SCOM console.
2. Select [Active Alert] in the left pane and select the designated host in the middle pane.

   [Alert task] is displayed in the right pane.

   Point

   In the [active alerts] window, alerts detected via ISM has [InfrastructureManager] as a source.

   Only the activated monitored items and specified thresholds are going to be detected. The time stamp shown in the Name column is using UTC time, which differs from the time shown in the Created column.

   For setting up the monitoring items and each threshold value, refer to "2.3.1 Setting of Monitoring Items and Threshold Values" in "User's Guide."

3. Select [Fujitsu ISM (node)] under [Alert Task].

   The ISM Login console is displayed.

   Point

   If the selected alert is not registered in ISM as a node, an error message is displayed.

4. The designated node information appears after the login.

1.5 Uninstallation Procedure

Uninstallation procedures of ISM Plug-in for SCOM are below.

1. Log in to SCOM.
2. Select the [Administration] tab.

3. Select [Installed Management Packs].
4. Right click [Fujitsu Software Infrastructure Manager].
5. Select [Delete] in context menu to delete Management Pack.
6. Open Control Panel in Windows Server ISM Plug-in for SCOM was installed to.
7. Select [Programs and Features].

   The "Uninstall or change a program" window is displayed.
8. Right click [Infrastructure Manager Plug-in for Microsoft System Center Operations Manager] on the list.
9. Select [Uninstall] on context menu.

   ISM Plug-in for SCOM is removed.

1.6 Precautions

- To use ISM Management Pack, purchase and installation of ISM are required.

  Refer to "User's Guide" for more details. Without installing ISM, this plug-in does not work properly.
- To use ISM Management Pack, installation in advance of and connection to SCOM are required.

  Refer to the product guides of Microsoft for operations of SCOM.

Chapter 2 ISM Plug-in for SCVMM 1.2

2.1 Product Summary

Infrastructure Manager Plug-in for Microsoft System Center Virtual Machine Manager (ISM Plug-in for SCVMM) is designed to extend the user interface of SCVMM to enable you to use the functions to integrate the infrastructure management of ISM from SCVMM.

This Plug-in software enables you to operate ISM directly from SCVMM.

2.2 Contents

This product is composed of the following three (3) files:

- ISMSCVMM_INSTALL.exe
- Readme.txt
- Readme_en.txt

2.3 System Requirements

For information on the SCVMM system requirements to operate ISM Plug-in for SCVMM, refer to "Support Matrix."

https://support.ts.fujitsu.com/index.asp

Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

Select [DOWNLOADS] and select the target operating system.

The reference procedures are subject to change without notice.

For ISM 2.8.0.010 or later, disable Multi-Factor Authentication when using this plug-in.

2.4 Installation Procedures

This section explains installation procedures of ISM Plug-in into SCVMM.

2.4.1 Installation Preparation

This section explains installation procedures of ISM Plug-in for SCVMM into SCVMM.

Point

- Install OpenSSL into a Windows Server that ISM Plug-in for SCVMM will be installed to before execution of following procedures. The version of OpenSSL you install must match the OpenSSL version of ISM.
- For new installations of ISM 2.3.0 or later, TLS v1.2 must be available to the Windows Server and System Center where ISM Plug-in for SCVMM is to be installed.
- If former version has been installed, uninstall the Plug-in and install ISM Plug-in for SCVMM.

2.4.2 Store the Install File

Use Remote Desktop to connect to the Windows Server on which you are installing ISM Plug-in for SCVMM.

Transfer the install file to an arbitrary directory on the Windows Server of the connection destination by copying and pasting the file.

2.4.3 Execute the Install File

1. On the installation destination Windows Server, double-click the install file (ISMSCVMM_INSTALL.exe) that has been transferred in "2.4.2 Store the Install File."
2. Select a language for the installation procedures.

   When the preparations are completed, the installation wizard with the message "To continue, select Next" is displayed.
3. Select [Next].

   The EULA is displayed.
4. Read the contents and select [I accept the terms]. Select [Next].

   The "Destination Folder" window is displayed.
5. If you change the destination, select [Change], otherwise select [Next].

   If [Change] is selected, "Change Current Destination Folder" is displayed. Select [OK] after change.

   The path to the designated folder is displayed on "Destination Folder."
6. Select [Next] after confirmation of the path correct.

   The "Ready to Install the Program" window is displayed.
7. Select [Install].

   The "InstallShield Wizard Completed" dialog is displayed.
8. Select [Finish] to end.

2.4.4 Import Console Add-in

1. Log in to SCVMM.
2. On the left pane, under [Settings], select [Import Console Add-in] tab.

   The "Import Console Add-in Wizard" dialog box is displayed.
3. To enter the path of the add-in, select [Browse].
4. In the installation destination folder, select [FujitsuISMVMMPlugin.zip] from [Management Packs], and select [Open].

   Return to [Select an Add-in] window.
5. Check [Continue installing this add-in anyway] and select [Next].

   Point

   When the message "Because you have started the Administrator Console with explicit Windows credentials, you must restart the Administrator Console to finish importing this add-in." is displayed, select [OK] to close.

   The "Confirm the setting" window is displayed.
6. Select [Finish] to end.
7. Reboot SCVMM.

2.4.5 Register the Information in ISM Plug-in for SCVMM

Register information of ISM and SCVMM into ISM Plug-in with command prompt.

1. Start [Command Prompt (Admin)] on the Windows Server where ISM Plug-in for SCVMM is installed.
2. Execute the command below on Command Prompt.

   <Install destination folder name>\IsmServerConfig.exe

3. Follow the directions and enter the information below.

```
Please enter the IP address or FQDN of ISM Server : <IP address or FQDN of ISM Server>
Please enter the port number of ISM Server : <port number of ISM Server>
Please enter the user name of ISM Server : <user name of ISM Server>
Please enter the password for the user name : <password of ISM Server>
Please enter the user name of SCVMM : <user name of SCVMM>
[INFO] Configuration file was updated successfully.
Do you want to continue? [y/n] : n (end with n)
```

4. Enter the "exit" command and close the window.

Point

To reconfigure the server information, just execute Steps 1 - 4 again.

2.4.6 How to use the ISM Plug-in for SCVMM

Note

When Multiple-Factor Authentication is enabled, the following error screen is displayed if [Fujitsu ISM] is selected:

```
[ERROR]ISM Login was Failed.
```

1. Log in to SCVMM.
2. Select [All hosts] in the left pane and right click the host name in the middle pane. Then select [Fujitsu ISM].

   Alternatively select the [Fujitsu ISM] tab in the upper right.

   The "Fujitsu SCVMM Plugin" dialog is displayed.
3. When selecting [Profile Assignment], the ISM login console is displayed. After login to ISM, the node registration screen is displayed.

2.5 Uninstallation Procedure

Uninstallation procedures of ISM Plug-in are below.

1. Log in to SCVMM.
2. Select the [Administration] tab.
3. Select [Console Add-in].
4. Right click [Infrastructure Manager Plug-in].
5. Select [Delete] in context menu to delete the Plug-in.
6. Open Control Panel in Windows Server ISM Plug-in was installed to.
7. Select [Programs and Features].

   The "Uninstall or change a program" window is displayed.
8. Right click [Infrastructure Manager Plug-in for Microsoft System Center Virtual Machine Manager] on the list.
9. Select [Uninstall] on context menu.

   ISM Plug-in is removed.

2.6 Precautions

- To use ISM Management Pack, purchase and installation of ISM are required.

  Refer to "User's Guide" for more details. Without installing ISM, this plug-in does not work properly.

- To use ISM Management Pack, installation in advance of and connection to SCVMM are required.

  Refer to the product guides of Microsoft for operations of SCVMM.

Chapter 3 ISM Plug-in for vCenter 1.3

3.1 Product Summary

Infrastructure Manager Plug-in for VMware vCenter Server (ISM Plug-in for vCenter) is designed to extend the user interface of vCenter and enables you to use the functions to integrate the infrastructure management of ISM from vCenter.

This Plug-in software enables you to operate ISM directly from vCenter.

3.2 Contents

This product is composed of the following three (3) files:

- ISMvCenter_INSTALL.exe
- Readme.txt
- Readme_en.txt

3.3 System Requirements

For information on the vCenter system requirements to operate ISM Plug-in for vCenter, refer to "Support Matrix."

https://support.ts.fujitsu.com/index.asp

Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

Select [DOWNLOADS] and select the target operating system.

The reference procedures are subject to change without notice.

For ISM 2.8.0.010 or later, disable Multi-Factor Authentication when using this plug-in.

3.4 Installation Procedures

This section explains installation procedures of ISM Plug-in into vCenter.

3.4.1 Installation Preparation

This section explains installation procedures of ISM Plug-in for vCenter into vCenter.

Point

- Perform the following steps if you are using ISM 2.7.0 or earlier and Google Chrome 86 or later, Microsoft Edge 86 or later, or Mozilla Firefox 82 or later.

  For Google Chrome 86 or later, 91 or earlier

  1. Start Google Chrome.
  2. Type "chrome://flags/" in the URL and press the [Enter] key.
  3. Change "SameSite by default cookies" to "Disabled."
  4. Select the [Relaunch] button at the bottom right of the screen.

  For Google Chrome 91 or later, 94 or earlier

  1. Start the command prompt.

2. Enter the following and press the [Enter] key.

```
"C:\ProgramFiles(x86)\Google\Chrome\Application\chrome.exe" --disable-
features=SameSiteByDefaultCookies
```

For Google Chrome 94 or later

Use ISM 2.7.0.010 or later.

For Microsoft Edge 86 or later, 91 or earlier

1. Start Microsoft Edge.
2. Type "Edge://flags/" in the URL and press the [Enter] key.
3. Change "SameSite by default cookies" to "Disabled."
4. Select the [Relaunch] button at the bottom right of the screen.

For Microsoft Edge 91 or later, 94 or earlier

1. Start the command prompt.
2. Enter the following and press the [Enter] key.

```
"C:\ProgramFiles(x86)\Microsoft\Edge\Application\msedge.exe" --disable-
features=SameSiteByDefaultCookies
```

For Microsoft Edge 94 or later

Use ISM 2.7.0.010 or later.

For Mozilla Firefox 82 or later

1. Start Mozilla Firefox.
2. Type "about: config" in the URL and press the [Enter] key.
3. Change "network.cookie.sameSite.laxByDefault" to "false."

- Depending on your using internet browser, the ISM login page may not be displayed correctly due to security settings. Try the following procedures and logging in to ISM again.

  Example: Microsoft Edge

  [Internet Options] - [Security] - [Local intranet] - [Sites] - [Advanced] - Add the ISM's URL

3.4.2 Store the Install File

Use Remote Desktop to connect to the Windows Server on which you are installing ISM Plug-in for vCenter.

Transfer the install file to an arbitrary directory on the Windows Server of the connection destination by copying and pasting the file.

3.4.3 Execute the Install File

Note

For ISM Plug-in for vCenter 1.3.1 or earlier

1. Execute the ismServerConfig.exe -l command, and check the registered setting information
2. Execute the ismServerConfig.exe -d command, and delete all existing setting information
3. Install ISM Plug-in for vCenter x.y.z [Note 1]

   [Note 1]: x.y.z represents the latest version.

   For the latest version or a different version, refer to "Support Matrix."

   https://support.ts.fujitsu.com/index.asp

Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

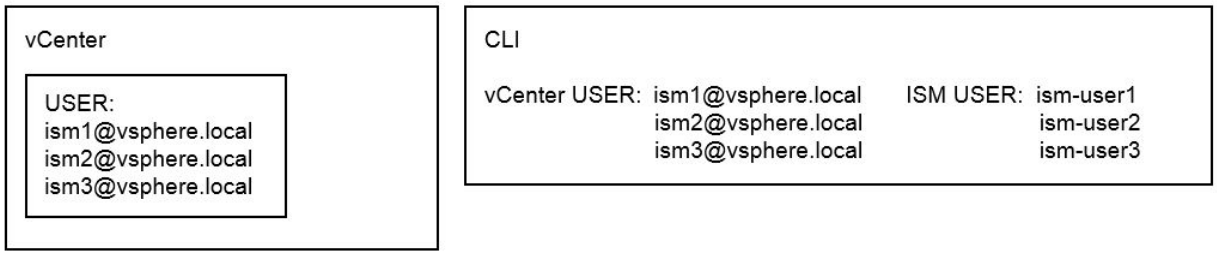
Select [DOWNLOADS] and select the target operating system.

The reference procedures are subject to change without notice.

In ISM Plug-in for vCenter 1.3.1 or earlier, settings for each vCenter user and ISM user are required. However, ISM Plug-in for vCenter 1.3.2 has been improved so that it can be set with a combination of vCenter roles and ISM users [Note 2]. This makes it possible to reduce the number of times the ismServerConfig.exe -a command is executed, which used to be executed for the same number of times as the number of vCenter users.

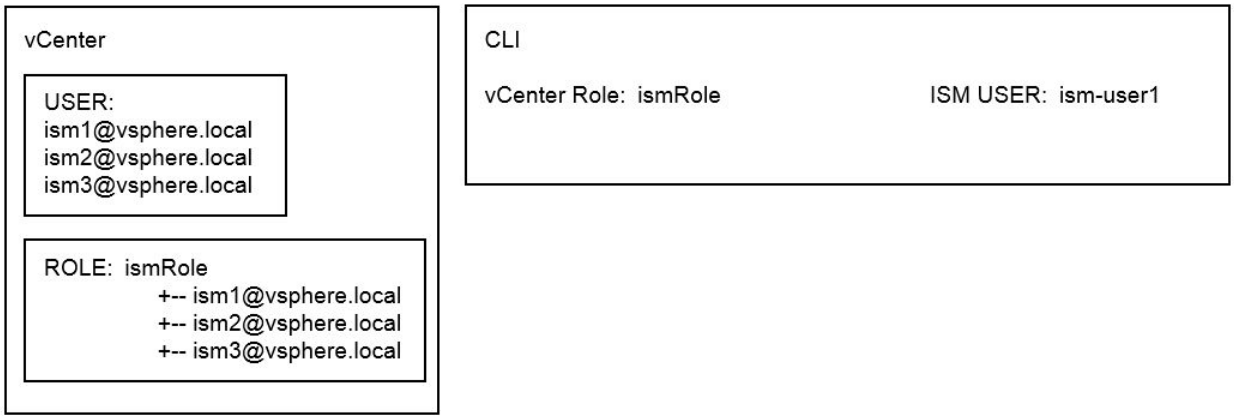
[Note 2]: All users that belong to the vCenter role set as an ISM user can connect to ISM. The image of the connection is as follows.

Figure 3.1 [ISM Plug-in for vCenter 1.3.1 or earlier]



An ISM user setting is required for each vCenter user, that is, three combinations of settings, ism1 and ism-user1, ism2 and ism-user2, and ism3 and ism-user3.

Figure 3.2 [ISM Plug-in for vCenter 1.3.2 or later]



Not every vCenter user requires an ISM user setting, but every vCenter role requires an ISM user setting. In this case, only one setting, a combination of ismRole and ism-user1 is required.

vCenter role must be set. Set it according to the following.

"Menu" - "Administration" - "Access Control" - "Roles"

For details, refer to the applicable manual from VMware, Inc.

1. On the installation destination Windows Server, double-click the install file (ISMvCenter_INSTALL.exe) that has been transferred in "3.4.2 Store the Install File."
2. Select language for the installation procedures.

   When the preparations are completed, the installation wizard with the message "To continue, select Next" is displayed.
3. Select [Next].

   The EULA is displayed.

4. Read the contents and select [I accept the terms]. Select [Next].

   The "Destination Folder" window is displayed.

5. If you do not change the destination, select [Next], otherwise select [Change].

   If [Change] is selected, [Change Current Destination Folder] is displayed. Select [OK] after decision of folder you want to install to.

   The path to the designated folder is displayed on [Destination Folder].

6. Select [Next] after confirmation of the path correct.

   The "Ready to Install the Program" window is displayed.

7. Select [Install].

   The "InstallShield Wizard Completed" dialog is displayed.

8. Select [Finish] to end.

9. To apply change, reboot the Server that ISM Plug-in for vCenter was installed to.

3.4.4 Register the Information in ISM Plug-in for vCenter

Register the necessary information in ISM Plug-in from command prompt.

1. Right click the Start menu and select [Command Prompt (Admin)].

2. Execute the command below on Command Prompt.

```
<Install destination folder name>\bin\ismServerConfig.exe -a
```

3. Follow the directions and enter the information below.

```
<Install destination folder name>\bin\ismServerConfig.exe -a
Welcome to the setup wizard for ISM(Infrastructure Manager). Please enter the following
information to register.
Please enter a IP address or FQDN of ISM Server : <IP address or FQDN of ISM Server>
Please enter a Port Number of ISM Server : <Port Number of ISM Server>
Please enter a valid user name of ISM Server : <user name of ISM Server>
Please enter a password for the user name : <password of ISM Server>
Please enter the vCenter role name that should login as <ISM Server user name> you specified
above : <role name of vCenter>

Registration completed successfully.
```

Point

- "Role name of vCenter" for ISM Plugin specified by CLI

  "Role name of vCenter," which is given by the command "ismServerConfig -a", has to be the following.

  - If a role is created by "Menu" - "Administration" - "Access Control" - "Roles" on GUI of vCenter as new or cloned

    Specify the created role name.

  - If a pre-defined role is used

    Specify the name, that is on the row "role name" of the table below, by type of role.

  Example: If you would like to assign the role "Administrator" in English environment

  Role name to give the command: Admin

Table 3.1 Standard role name for each vCenter language that corresponds to a CLI standard role setting name

Language	role name CLI standard role setting name	Pre-defined role name on vCenter by language
Japanese	Admin	システム管理者
	ReadOnly	読み取り専用
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	仮想マシンコンソールユーザー
	InventoryService.Tagging.TaggingAdmin	管理者のタグ付け
English	Admin	Administrator
	ReadOnly	Read-only
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	Virtual Machine console user
	InventoryService.Tagging.TaggingAdmin	Tagging Admin
German	Admin	Administrator
	ReadOnly	Nur Lesen
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	Virtual Machine console user
	InventoryService.Tagging.TaggingAdmin	Tagging Admin
French	Admin	Administrateur
	ReadOnly	Lecture seule
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	Utilisateur de console de machine virtuelle
	InventoryService.Tagging.TaggingAdmin	Administrateur de balisage
Spanish	Admin	Administrador
	ReadOnly	Solo lectura
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	Usuario de consola de máquina virtual
	InventoryService.Tagging.TaggingAdmin	Administrador de etiquetado
Simplified Chinese	Admin	管理员
	ReadOnly	只读
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	虚拟机控制台用户
	InventoryService.Tagging.TaggingAdmin	标记管理
Traditional Chinese	Admin	系統管理員
	ReadOnly	唯讀
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	虛擬機器主控台使用者
	InventoryService.Tagging.TaggingAdmin	標記管理員
Korean	Admin	관리자

Language	role name CLI standard role setting name	Pre-defined role name on vCenter by language
	ReadOnly	읽기 전용
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	가상 시스템 콘솔 사용자
	InventoryService.Tagging.TaggingAdmin	태그 지정 관리자

- Execute the following command to check the registered information.

```
<Install destination folder name>\bin\ismServerConfig.exe -l
ISM IP address or FQDN= <IP address or FQDN of ISM Server> ISM Port= <Port Number of ISM
Server> ISM Account= <user name of ISM Server> vCenter role= <role name of vCenter>
```

- To correct or replace the server information, delete the information using the following command. Then register the information again.

```
<Install destination folder name>\bin\ismServerConfig.exe -d
Welcome to the delete wizard for ISM(Infrastructure Manager). Please enter the following
information to delete.
Please enter the vCenter role name : <role name of vCenter>

Unregistration completed successfully.
```

- If the vCenter user does not have administrator privileges, you must grant "extension" privileges. For details, refer to the product manual from VMware.

4. Execute "exit" to finish.

3.4.5 Install SSL Server Certificate of ISM into Web Browser

It is necessary to import the SSL Server Certificate into the devices to connect to vSphere Client (HTML5) in advance.

Refer to "Appendix A Import the SSL Server Certificate" regarding the SSL Server Certificate settings.

Without a Certificate, an error message appears.

If you reset the SSL Server Certificate, reinstall the certificate.

3.4.6 How to use the ISM Plug-in for vCenter

Note

When Multiple-Factor Authentication is enabled, the following error screen is displayed if [Infrastructure Manager] is selected:

```
Access error to Infrastructure Manager
It cannot access Infrastructure Manager via the account of vCenter being logged to in now.
Please do an appropriate setting to access Infrastructure Manager with CLI of Infrastructure Manager
for plug-in.
```

Use the following procedure to use ISM Plug-in for vCenter.

1. Open URL of vSphere Client (HTML5) and log in with Web browser.
2. Select [Datacenter] or [Cluster], or open [Hosts and Clusters] and select <Target host>.
3. Select the [Monitor] tab and select [Infrastructure Manager].

Note

- Register the IP address of <Target Host> in [Registered IP Address] in the [OS] tab on the Details of Node screen of ISM.
- If the message below is displayed on [Infrastructure Manager] tab or nothing is displayed on the [Monitor] tab, the setting of ISM Plug-in may be wrong. Reconfigure referring to "3.4.4 Register the Information in ISM Plug-in for vCenter."

```
Access error to Infrastructure Manager
It cannot access Infrastructure Manager via the account of vCenter being logged to in now.
Please do an appropriate setting to access Infrastructure Manager with CLI of Infrastructure
Manager for plug-in.
```

4. After logging in, the following information is displayed according to the object:
   - For the registered node in ISM:

     Node Information
   - For the unregistered node in ISM/ the datacenter or cluster:

     Node List

3.5 Uninstallation Procedure

Uninstallation procedures of ISM Plug-in for vCenter are below.

1. Open Control Panel on Windows Server ISM Plug-in was installed to.
2. Select [Programs and Features].

   The "Uninstall or change a program" window is displayed.
3. Right click [Infrastructure Manager Plug-in for VMware vCenter Server] on the list.
4. Select [Uninstall] on context menu.
5. Restart the Windows Server on which you installed the ISM Plug-in for vCenter.

   ISM Plug-in for vCenter is removed.

3.6 Precautions

- To use ISM Plug-in for vCenter, purchase and installation of ISM are required.

  Refer to "User's Guide" for more details. Without installing ISM, this plug-in does not work properly.
- To use ISM Plug-in for vCenter, installation in advance of and connection to vCenter are required.

  Refer to the product guides of VMware for operations of vCenter.

Chapter 4 ISM Plug-in for vCSA 2.0

4.1 Product Summary

Infrastructure Manager Plug-in for VMware vCenter Server Appliance (ISM Plug-in for vCSA) is designed to extend the user interface of vCSA to enable you to use functions of ISM on vCSA.

This plug-in software enables you to operate ISM directly from the vCSA.

4.2 Contents

This product is composed of the following three (3) files:

- FJSVismvCenterPlugin-x.y.z.tar.gz [Note]
- Readme.txt
- Readme_en.txt

[Note]: x.y.z represents the latest version.

For the latest version or a different version, refer to "Support Matrix."

https://support.ts.fujitsu.com/index.asp

Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

Select [DOWNLOADS] and select the target operating system.

The reference procedures are subject to change without notice.

4.3 System Requirements

For information on the vCSA system requirements to operate ISM Plug-in for vCSA, refer to "Support Matrix."

https://support.ts.fujitsu.com/index.asp

Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

Select [DOWNLOADS] and select the target operating system.

The reference procedures are subject to change without notice.

For ISM 2.8.0.010 or later, disable Multi-Factor Authentication when using this plug-in.

4.4 Installation Procedures

This section explains installation procedures of ISM Plug-in into vCSA.

Note

ISM Plug-in for vCSA installation requires a restart of ISM-VA.

The following items and set ups must be completed before installation:

- Activate SSH login on vCSA.

  Check the login status via the vCSA web console: [Administration] - [Deployment] - [System Configuration] and select the designated node, [Manage] - [Settings] - [Access]. Then check whether SSH login is enabled or not.

- Install a terminal emulator supporting SSH connections.
- Install a FTP client supporting SFTP connections.

Point

- The commands and the messages in a terminal emulator are written in rectangle form.
- The wording of commands may vary depending on the version of the terminal emulator.

4.4.1 Installation Preparation

This section explains installation procedures of ISM Plug-in into vCSA.

Point

- Perform the following steps if you are using ISM 2.7.0 or earlier and Google Chrome 86 or later, Microsoft Edge 86 or later, or Mozilla Firefox 82 or later.

  For Google Chrome 86 or later, 91 or earlier

  1. Start Google Chrome.
  2. Type "chrome://flags/" in the URL and press the [Enter] key.
  3. Change "SameSite by default cookies" to "Disabled."
  4. Select the [Relaunch] button at the bottom right of the screen.

  For Google Chrome 91 or later, 94 or earlier

  1. Start the command prompt.
  2. Enter the following and press the [Enter] key.

     ```
     "C:\ProgramFiles(x86)\Google\Chrome\Application\chrome.exe" --disable-
     features=SameSiteByDefaultCookies
     ```

  For Google Chrome 94 or later

  Use ISM 2.7.0.010 or later.

  For Microsoft Edge 86 or later, 91 or earlier

  1. Start Microsoft Edge.
  2. Type "Edge://flags/" in the URL and press the [Enter] key.
  3. Change "SameSite by default cookies" to "Disabled."
  4. Select the [Relaunch] button at the bottom right of the screen.

  For Microsoft Edge 91 or later, 94 or earlier

  1. Start the command prompt.
  2. Enter the following and press the [Enter] key.

     ```
     "C:\ProgramFiles(x86)\Microsoft\Edge\Application\msedge.exe" --disable-
     features=SameSiteByDefaultCookies
     ```

  For Microsoft Edge 94 or later

  Use ISM 2.7.0.010 or later.

  For Mozilla Firefox 82 or later

  1. Start Mozilla Firefox.
  2. Type "about: config" in the URL and press the [Enter] key.
  3. Change "network.cookie.sameSite.laxByDefault" to "false."

- Depending on your using internet browser, the ISM login page may not be displayed correctly due to security settings. Try the following procedures and logging in to ISM again.

  Example: Microsoft Edge

  [Internet Options] - [Security] - [Local intranet] - [Sites] - [Advanced] - Add the ISM's URL

4.4.2 Storing Installation Files in ISM

Transfer the installation files to ISM-VA.

Forward to: /Administrator/ftp

For information on GUI forwarding, refer to "4.23 File Upload Using the GUI" in "User's Guide."

4.4.3 Applying ISM Plug-in for vCSA

1. Connect to ISM-VA with SSH.

   Some terminal emulators display security-warning messages, but proceed as it is.

2. Log in as administrator user.

3. Temporarily stops ISM services for plug-in application.

```
# ismadm service stop ism
```

4. Execute the plug-in apply command.

```
# ismadm system plugin-add -file /Administrator/ftp/<Installation Files>
========== Preparing to install... ==========
========== Checking install files... ==========
========== Install start... ==========
Install finished
```

5. After applying the plug-in, restart ISM.

```
# ismadm power restart
```

Point

To see which plug-ins have been applied, execute the following command.

```
# ismadm system plugin-show
FJSVismvCenterPlugin x.y.z
#
```

4.4.4 Register Information in ISM Plug-in for vCSA

This section explains procedures to register information of vCSA and ISM to ISM Plug-in.

1. Connect to ISM-VA with SSH.

2. Register information for vCSA to connect to ISM.

```
# pluginmgr config-add -vcip <vCSA IP address>
Welcome to the setup wizard for ISM vCenter Plug-in. Please enter the following information to
register.
Please enter a valid user name of ISM Server : <ISM user name>
Please enter a password for the user name : <ISM Password>
Please enter the vCenter role name that should login as <ISM Server user name> you specified
above : <vCSA role name>
```

```
Registration completed successfully.
```

3. Verify the ISM connection settings of the registered vCSA.

```
# pluginmgr config-show -vcip <vCSA IP address>
ISM account=<ISM user name> vCenter role=<vCSA role name>
ISM account=<ISM user name> vCenter role=<vCSA role name>
```

4. Verify the list of registered vCSAs.

```
# pluginmgr config-list-show
vCenter=192.168.1.20  Last Updated = July 26, 2019 1:18 AM
vCenter=BX920#S1   Last Updated = July 26, 2019 1:25 AM
vCenter=BX920#S3   Last Updated = July 26, 2019 3:40 AM
```

Point

- "Role name of vCSA", which is given by the command "pluginmgr config-add -vcip", has to be the following.
  - If a role is created by "Menu" - "Administration" - "Access Control" - "Roles" on GUI of vCSA as new or cloned

    Specify the created role name.
  - If a pre-defined role is used

    Specify the name, that is on the row "role name" of the table below, by type of role.

    For "Role name as displayed in GUI", check the appropriate language column in "Pre-defined role name on vCSA by language."

Example: If you would like to assign the role "Administrator" in English environment

Role name to give the command is "Admin"

Table 4.1 Standard role name for each vCSA language that corresponds to a CLI standard role setting name

Language	role name CLI standard role setting name	Pre-defined role name on vCSA by language
Japanese	Admin	システム管理者
	ReadOnly	読み取り専用
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	仮想マシンコンソールユーザー
	InventoryService.Tagging.TaggingAdmin	管理者のタグ付け
English	Admin	Administrator
	ReadOnly	Read-only
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	Virtual Machine console user
	InventoryService.Tagging.TaggingAdmin	Tagging Admin
German	Admin	Administrator
	ReadOnly	Nur Lesen
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	Virtual Machine console user
	InventoryService.Tagging.TaggingAdmin	Tagging Admin
French	Admin	Administrateur
	ReadOnly	Lecture seule

Language	role name CLI standard role setting name	Pre-defined role name on vCSA by language
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	Utilisateur de console de machine virtuelle
	InventoryService.Tagging.TaggingAdmin	Administrateur de balisage
Spanish	Admin	Administrador
	ReadOnly	Solo lectura
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	Usuario de consola de máquina virtual
	InventoryService.Tagging.TaggingAdmin	Administrador de etiquetado
Simplified Chinese	Admin	管理员
	ReadOnly	只读
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	虚拟机控制台用户
	InventoryService.Tagging.TaggingAdmin	标记管理
Traditional Chinese	Admin	系統管理員
	ReadOnly	唯讀
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	虛擬機器主控台使用者
	InventoryService.Tagging.TaggingAdmin	標記管理員
Korean	Admin	관리자
	ReadOnly	읽기 전용
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	가상 시스템 콘솔 사용자
	InventoryService.Tagging.TaggingAdmin	태그 지정 관리자

- If the vCSA user does not have administrator privileges, you must grant "extension" privileges. For details, refer to the product manual from VMware.

4.4.5 Modify Information in ISM Plug-in for vCSA

Describes instructions on how to update vCSA and ISM information already registered with the ISM Plug-in.

Point

Not required for initial installation on vCSA.

1. Connect to ISM-VA with SSH.
2. Delete information for vCSA to connect to ISM.

```
# pluginmgr config-del -vcip <vCSA IP address>
Welcome to the setup wizard for ISM vCenter Plug-in. Please enter the following information to
unregister.
Please enter the vCenter role name : <vCSA role name>
```

```
Unregistration completed successfully.
```

3. Register information for vCSA to connect to ISM.

```
# pluginmgr config-add -vcip <vCSA IP address>
Welcome to the setup wizard for ISM vCenter Plug-in. Please enter the following information to
register.
Please enter a valid user name of ISM Server : <ISM user name>
Please enter a password for the user name : <ISM Password>
Please enter the vCenter role name that should login as <ISM Server user name> you specified
above : <vCSA role name>

Registration completed successfully.
```

4. Verify the ISM connection settings of the registered vCSA.

```
# pluginmgr config-show -vcip <vCSA IP address>
ISM account=<ISM user name> vCenter role=<vCSA role name>
ISM account=<ISM user name> vCenter role=<vCSA role name>
```

5. Verify the list of registered vCSAs.

```
# pluginmgr config-list-show
vCenter=192.168.1.20  Last Updated = July 26, 2019 1:18 AM
vCenter=BX920#S1    Last Updated = July 26, 2019 1:25 AM
vCenter=BX920#S3    Last Updated = July 26, 2019 3:40 AM
```

6. Execute "4.4.6 Install ISM Plug-in for vCSA in vCSA."

Point

- "Role name of vCSA", which is given by the command "pluginmgr config-add -vcip", has to be the following.
  - If a role is created by "Menu" - "Administration" - "Access Control" - "Roles" on GUI of vCSA as new or cloned

    Specify the created role name.
  - If a pre-defined role is used

    Specify the name, that is on the row "role name" of the table below, by type of role.

    For "Role name as displayed in GUI", check the appropriate language column in "Pre-defined role name on vCSA by language."

Example: If you would like to assign the role "Administrator" in English environment

Role name to give the command is "Admin"

Table 4.2 Standard role name for each vCSA language that corresponds to a CLI standard role setting name

Language	role name CLI standard role setting name	Pre-defined role name on vCSA by language
Japanese	Admin	システム管理者
	ReadOnly	読み取り専用
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	仮想マシンコンソールユーザー
	InventoryService.Tagging.TaggingAdmin	管理者のタグ付け
English	Admin	Administrator
	ReadOnly	Read-only
	AutoUpdateUser	AutoUpdateUser

Language	role name CLI standard role setting name	Pre-defined role name on vCSA by language
	VirtualMachineConsoleUser	Virtual Machine console user
	InventoryService.Tagging.TaggingAdmin	Tagging Admin
German	Admin	Administrator
	ReadOnly	Nur Lesen
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	Virtual Machine console user
	InventoryService.Tagging.TaggingAdmin	Tagging Admin
French	Admin	Administrateur
	ReadOnly	Lecture seule
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	Utilisateur de console de machine virtuelle
	InventoryService.Tagging.TaggingAdmin	Administrateur de balisage
Spanish	Admin	Administrador
	ReadOnly	Solo lectura
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	Usuario de consola de máquina virtual
	InventoryService.Tagging.TaggingAdmin	Administrador de etiquetado
Simplified Chinese	Admin	管理员
	ReadOnly	只读
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	虚拟机控制台用户
	InventoryService.Tagging.TaggingAdmin	标记管理
Traditional Chinese	Admin	系統管理員
	ReadOnly	唯讀
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	虛擬機器主控台使用者
	InventoryService.Tagging.TaggingAdmin	標記管理員
Korean	Admin	관리자
	ReadOnly	읽기 전용
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	가상 시스템 콘솔 사용자
	InventoryService.Tagging.TaggingAdmin	태그 지정 관리자

- If the vCSA user does not have administrator privileges, you must grant "extension" privileges. For details, refer to the product manual from VMware.

4.4.6 Install ISM Plug-in for vCSA in vCSA

1. Execute the plug-in installation command

```
# pluginmgr pkg-install -vcip <vCSA IP address>
Welcome to the install wizard for ISM vCenter Plug-in. Please enter the following information to
install.
Please enter a valid user name of vCenter Server : <vCSA user name>

Please enter a password for the user name of vCenter Server: <vCSA Password>

Installation completed successfully.
```

2. Enter the "exit" command to log out of ISM.
3. Open the vSphere Client (HTML5) URL in a web browser and log in.
4. Select [Administration].
5. Select [Solutions] > [Client Plugins].
6. Check that the status of "Fujitsu Software Infrastructure Manager Plug-in" is "Deployed/Enabled".

4.4.7 Install SSL Server Certificate of ISM into Web Browser

It is necessary to import the SSL Server Certificate into the devices to connect to vSphere Client (HTML5) in advance.

Refer to "Appendix A Import the SSL Server Certificate" regarding the SSL Server Certificate settings.

Without a Certificate, an error message appears.

If you reset the SSL Server Certificate, perform "4.5.1 Uninstall Plug-ins from vCSA," "4.4.6 Install ISM Plug-in for vCSA in vCSA" and then reinstall the certificate.

4.4.8 How to use the ISM Plug-in for vCSA

Note

When Multiple-Factor Authentication is enabled, the following error screen is displayed if [Infrastructure Manager] is selected:

```
Access error to Infrastructure Manager
It cannot access Infrastructure Manager via the account of vCenter being logged to in now.
Please do an appropriate setting to access Infrastructure Manager with CLI of Infrastructure Manager
for plug-in.
```

1. Open URL of vSphere Client (HTML5) and log in with Web browser.
2. Select or open [Hosts and Clusters] and select <Target Host>.
3. Select the [Monitor] tab and select [Infrastructure Manager].

Note

- Register IP address of <Target Host> in [Registered IP Address] of the [OS] tab of the Details of Node screen of ISM.
- If the message below is displayed on [Infrastructure Manager] tab or nothing is displayed on the [Monitor] tab, the setting of ISM Plug-in may be wrong. Reconfigure referring to "4.4.4 Register Information in ISM Plug-in for vCSA."

```
Access error to Infrastructure Manager
It cannot access Infrastructure Manager via the account of vCenter being logged to in now.
Please do an appropriate setting to access Infrastructure Manager with CLI of Infrastructure
Manager for plug-in.
```

4. After logging in, the following information is displayed according to the object:

   - For the registered node in ISM:

     Node Information

   - For the unregistered node in ISM/ the datacenter or cluster:

     Node List

4.5 Uninstallation Procedure

Uninstall the ISM Plug-in for vCSA installed in vCSA. The procedure for uninstalling into vCSA is described below.

4.5.1 Uninstall Plug-ins from vCSA

1. Execute the plug-ins uninstall command.

```
# pluginmgr pkg-uninstall -vcip <vCSA IP address>
Welcome to the install wizard for ISM vCenter Plug-in. Please enter the following information to
install.
Please enter a valid user name of vCenter Server : <vCSA user name>

Please enter a password for the user name of vCenter Server: <vCSA Password>

Uninstallation completed successfully.
```

Point

To confirm the removal of the plug-in, execute the following command.

Check that the vCSA specified in Step 1 does not exist in the results of the command execution.

```
# pluginmgr pkg-install-list-show
vCenter: 192.168.1.20  Plugin Version: x.y.z Last Updated: June 26, 2021 1:18 AM
vCenter: BX920#S1  Plugin Version: x.y.z Last Updated: June 26, 2021 1:25 AM
vCenter: BX920#S3  Plugin Version: x.y.z Last Updated: June 26, 2021 3:40 AM
```

4.5.2 Remove a Plug-in from ISM

1. Temporarily stops ISM services f to remove the plug-in.

```
# ismadm service stop ism
```

2. Execute the remove plug-in command.

```
# ismadm system plugin-del -name FJSVismvCenterPlugin
Uninstall plugin <FJSVismvCenterPlugin x.y.z> ?
[y/n]:
```

3. Enter [y] to confirm the plug-in removal.
4. After removing the plug-in, restart ISM.

```
# ismadm power restart
```

4.6 Export Settings

Exports the vCSA and ISM configuration registered with the ISM Plug-in in order to apply the same configuration when rebuilding ISM. The following procedure describes how to export settings.

1. Connect to ISM-VA with SSH.

   Some terminal emulators display security-warning messages, but proceed as it is.

2. Log in as administrator user.

3. Execute the export settings command.

```
# pluginmgr config-export -vcip <vCenter IP address>

Export config file completed successfully.
```

4. Enter the "exit" command to log out of ISM.

Point

The exported settings are stored in the FTP area "/Administrator/ftp."

Retrieve them as needed.

For information on GUI forwarding, refer to "4.23 File Upload Using the GUI" in "User's Guide."

For information on how to transfer using FTP, refer to "2.1.2 FTP Access" in "User's Guide."

Transfer the installation files in binary mode.

4.7 Import Settings

Imports the vCSA and ISM configuration registered with the ISM Plug-in in order to apply the same configuration when rebuilding ISM. The following procedure describes how to import settings.

1. Connect to ISM-VA with SSH.

   Some terminal emulators display security-warning messages, but proceed as it is.

2. Log in as administrator user.

3. Execute the import settings command.

```
# pluginmgr config-import -vcip <vCSA IP address>

Import config file completed successfully.
```

4. Enter the "exit" command to log out of ISM.

Point

Imported settings will not take effect unless the plug-in is installed in vCSA.

For information on GUI forwarding, refer to "4.23 File Upload Using the GUI" in "User's Guide."

4.8 Export Log

Export the log of the ISM with the ISM Plug-in installed for troubleshooting purposes. The following procedure describes how to export log.

1. Connect to ISM-VA with SSH.

   Some terminal emulators display security-warning messages, but proceed as it is.

2. Log in as administrator user.

3. Execute the export log command.

```
# pluginmgr log-export

Export log file completed successfully.
```

4. Enter the "exit" command to log out of ISM.

Point

The exported log is stored in the FTP area "/Administrator/ftp."

Retrieve them as needed.

For information on GUI forwarding, refer to "4.23 File Upload Using the GUI" in "User's Guide."

For information on how to transfer using FTP, refer to "2.1.2 FTP Access" in "User's Guide."

4.9 Precautions

- To use ISM Plug-in for vCSA, purchase and installation of ISM are required.

  Refer to "User's Guide" for more details. Without ISM, this plug-in does not work properly.

- To use ISM Plug-in for vCSA, deployment in advance of and the availability of vCSA are required.

  Refer to the product guides of VMware for operations of vCSA.

Chapter 5 ISM Plug-in for vCSA 1.3

5.1 Product Summary

Infrastructure Manager Plug-in for VMware vCenter Server Appliance (ISM Plug-in for vCSA) is designed to extend the user interface of vCSA to enable you to use functions of ISM on vCSA.

This plug-in software enables you to operate ISM directly from the vCSA.

5.2 Contents

This product is composed of the following three (3) files:

- FJSVismvCenterPlugin-x.y.z.tar.gz [Note]
- Readme.txt
- Readme_en.txt

[Note]: x.y.z represents the latest version.

For the latest version or a different version, refer to "Support Matrix."

https://support.ts.fujitsu.com/index.asp

Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

Select [DOWNLOADS] and select the target operating system.

The reference procedures are subject to change without notice.

5.3 System Requirements

For information on the vCSA system requirements to operate ISM Plug-in for vCSA, refer to "Support Matrix."

https://support.ts.fujitsu.com/index.asp

Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

Select [DOWNLOADS] and select the target operating system.

The reference procedures are subject to change without notice.

For ISM 2.8.0.010 or later, disable Multi-Factor Authentication when using this plug-in.

5.4 Installation Procedures

This section explains installation procedures of ISM Plug-in into vCSA.

Note

The following items and set ups must be completed before installation:

- Activate SSH login on vCSA.

  Check the login status via the vCSA web console: [Administration] - [Deployment] - [System Configuration] and select the designated node, [Manage] - [Settings] - [Access]. Then check whether SSH login is enabled or not.

- Install a terminal emulator supporting SSH connections.
- Install a FTP client supporting SFTP connections.

Point

The commands and the messages in a terminal emulator are written in rectangle form.

- The wording of commands may vary depending on the version of the terminal emulator.
- Using the TAB function makes it possible shorten long keyboard commands.

5.4.1 Installation Preparation

This section explains installation procedures of ISM Plug-in into vCSA.

Point

- Perform the following steps if you are using ISM 2.7.0 or earlier and Google Chrome 86 or later, Microsoft Edge 86 or later, or Mozilla Firefox 82 or later.

  For Google Chrome 86 or later, 91 or earlier

  1. Start Google Chrome.
  2. Type "chrome://flags/" in the URL and press the [Enter] key.
  3. Change "SameSite by default cookies" to "Disabled."
  4. Select the [Relaunch] button at the bottom right of the screen.

  For Google Chrome 91 or later, 94 or earlier

  1. Start the command prompt.
  2. Enter the following and press the [Enter] key.

     ```
     "C:\ProgramFiles(x86)\Google\Chrome\Application\chrome.exe" --disable-
     features=SameSiteByDefaultCookies
     ```

  For Google Chrome 94 or later

  Use ISM 2.7.0.010 or later.

  For Microsoft Edge 86 or later, 91 or earlier

  1. Start Microsoft Edge.
  2. Type "Edge://flags/" in the URL and press the [Enter] key.
  3. Change "SameSite by default cookies" to "Disabled."
  4. Select the [Relaunch] button at the bottom right of the screen.

  For Microsoft Edge 91 or later, 94 or earlier

  1. Start the command prompt.
  2. Enter the following and press the [Enter] key.

     ```
     "C:\ProgramFiles(x86)\Microsoft\Edge\Application\msedge.exe" --disable-
     features=SameSiteByDefaultCookies
     ```

  For Microsoft Edge 94 or later

  Use ISM 2.7.0.010 or later.

  For Mozilla Firefox 82 or later

  1. Start Mozilla Firefox.
  2. Type "about: config" in the URL and press the [Enter] key.

3. Change "network.cookie.sameSite.laxByDefault" to "false."

- Depending on your using internet browser, the ISM login page may not be displayed correctly due to security settings. Try the following procedures and logging in to ISM again.

  Example: Microsoft Edge

  [Internet Options] - [Security] - [Local intranet] - [Sites] - [Advanced] - Add the ISM's URL

5.4.2 Connect vCSA with SSH

Connecting to vCSA while the shell is appliancesh(default shell) creates an error.

Change the shell to bash shell before you start.

1. Connect to vCSA with SSH.

   Some terminal emulators display security-warning messages, but proceed as it is.

2. Log in as root user.

3. The vCSA console is displayed as below:

```
Connected to service
  * List APIs: "help api list"
  * List Plug-ins: "help pi list"
  * Enable BASH access: "shell.set --enabled True"
  * Launch BASH: "shell"
```

4. Change the shell to bash shell.

```
Command> shell.set --enabled True
Command> shell
---------- !!!! WARNING WARNING WARNING !!!! ----------
Your use of "pi shell" has been logged!
The "pi shell" is intended for advanced troubleshooting operations and while
supported in this release, is a deprecated interface, and may be removed in a
future version of the product. For alternative commands, exit the "pi shell"
and run the "help" command.
The "pi shell" command launches a root bash shell. Commands within the shell
are not audited, and improper use of this command can severely harm the
system.
Help us improve the product! If your scenario requires "pi shell," please
submit a Service Request, or post your scenario to the
communities.VMware.com/community/vmtn/server/vcenter/cloudvm forum.
localhost:~ #
```

5. Change the default shell to bash shell while using commands for the procedures.

```
# chsh -s /bin/bash root
Changing login shell for root.
Shell changed.
```

5.4.3 Storing Installation Files in vCSA

Connect to vCSA with an FTP client and allocate ISMvCSA_INSTALL_Vx.y.z.zip file into the designated folder.

1. Connect to vCSA with SFTP.

   vCSA does not support FTP connection. Connect with SFTP.

2. Drag and drop the ISMvCSA_INSTALL_Vx.y.z.zip file into the designated folder in the vCSA side. Transfer mode is changed to binary mode.

3. Close FTP client.

5.4.4 Unzip and execute the installation file

Note

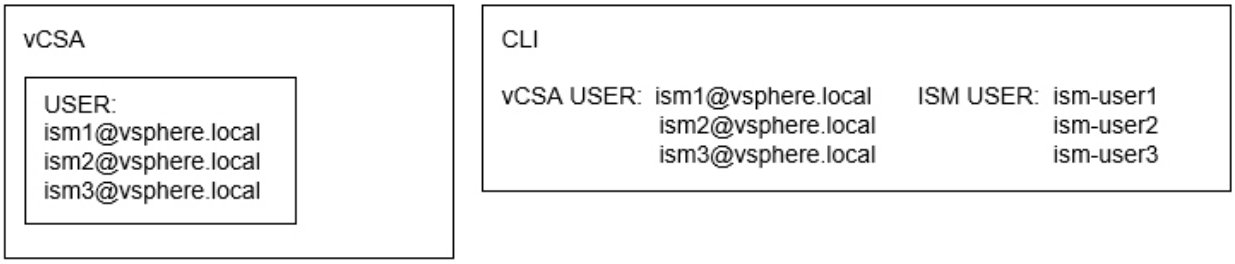
For ISM Plug-in for vCSA 1.3.1 or earlier

1. Execute the ismServerConfig -l command, and check the registered setting information
2. Execute the ismServerConfig -d command, and delete all existing setting information
3. Install ISM Plug-in for vCSA x.y.z

In ISM Plug-in for vCSA 1.3.1 or earlier, settings for each vCSA user and ISM user are required. However, ISM Plug-in for vCSA 1.3.2 has been improved so that it can be set with a combination of vCSA roles and ISM users [Note]. This makes it possible to reduce the number of times the ismServerConfig -a command is executed, which used to be executed for the same number of times as the number of vCSA users.

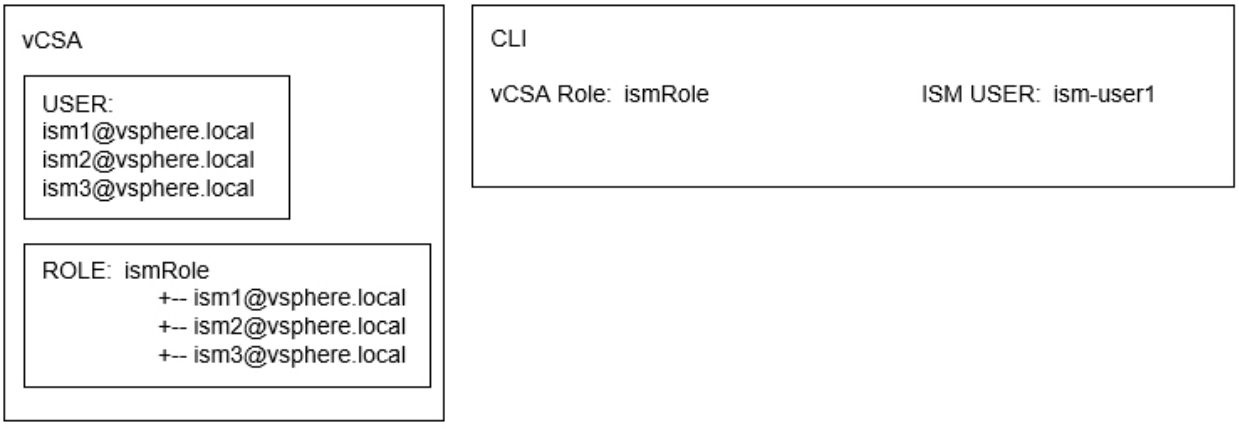
[Note]: All users that belong to the vCSA role set as an ISM user can connect to ISM. The image of the connection is as follows.

Figure 5.1 [ISM Plug-in for vCSA 1.3.1 or earlier]



An ISM user setting is required for each vCSA user, that is, three combinations of settings, ism1 and ism-user1, ism2 and ism-user2, and ism3 and ism-user3.

Figure 5.2 [ISM Plug-in for vCSA 1.3.2 or later]



Not every vCSA user requires an ISM user setting, but every vCSA role requires an ISM user setting. In this case, only one setting, a combination of ismRole and ism-user1 is required.

vCSA role must be set. Set it according to the following.

"Menu" - "Administration" - "Access Control" - "Roles"

For details, refer to the applicable manual from VMware, Inc.

1. Unzip the ISMvCSA_INSTALL_Vx.y.z.zip file.

```
# unzip ISMvCSA_INSTALL_Vx.y.z.zip
Archive:  ISMvCSA_INSTALL_Vx.y.z.zip
```

```
  inflating: ISMvCSA_INSTALL/ISMvCSA_INSTALL.sh
 extracting: ISMvCSA_INSTALL/ISMvCSA_common.zip
 extracting: ISMvCSA_INSTALL/ISMvCSA_html5.zip
 extracting: ISMvCSA_INSTALL/ISMvCSA_flex.zip
```

2. Confirm that the file is unzipped.

```
# ls -lR ISMvCSA_INSTALL
ISMvCSA_INSTALL:
total 8648
-rw-r--r-- 1 root root   20638 Aug  8 12:40 ISMvCSA_common.zip
-rw-r--r-- 1 root root 4772519 Aug  8 12:40 ISMvCSA_flex.zip
-rw-r--r-- 1 root root 3992042 Aug  8 12:40 ISMvCSA_html5.zip
-rwx------ 1 root root   10031 Feb 18  2019 ISMvCSA_INSTALL.sh
```

Note

Please note:

ls -lR ⇒ "L in a small letter" s - "L in a small letter" R

*NOT "i" in capital letters.

3. Execute the ISMvCSA_INSTALL.sh file.

```
# ./ISMvCSA_INSTALL.sh
```

Note

- When you run ISMvCSA_INSTALL.sh, the message "Is it OK to continue? [Yes / no]" is displayed. Input yes to proceed or "no" to cancel. After the installation is completed, vCSA restarts automatically.

```
# cd ISMvCSA_INSTALL
# ./ISMvCSA_INSTALL.sh
Start installing "Fujitsu Software Infrastructure Manager Plug-in".
After Plug-in installation is completed, this "VMware vCenter Server Appliance" will be
rebooted automatically.
Is it OK to continue? [yes/no]
yes
Installing Start.

Archive:  ISMvCSA_html5.zip
   creating: /usr/lib/vmware-vsphere-ui/plugin-packages/ism/
   creating: /usr/lib/vmware-vsphere-ui/plugin-packages/ism/plugins/
-Omitted-
-----------------
reboot starts automatically after
-----------------
```

- The error message below is displayed when the install shell was executed on vCSA with wrong version that ISM Plug-in does not support. Confirm whether the version of vCSA meets "5.3 System Requirements."

```
# ./ISMvCSA_INSTALL.sh
Plug-ins can not be installed because vCenter Server Appliance version is not supported.
```

4. Wait for a while before reconnecting vCSA with SSH after reboot.

5. Log in as root user.

5.4.5 Register Information in ISM Plug-in for vCSA

This section explains procedures to register information of vCSA and ISM to ISM Plug-in.

1. Move to the ISM Plug-in directory.

```
# cd /opt/fujitsu/ism-plugin/bin/
```

2. Follow the directions and register the ISM Server information in ISM Plug-in.

```
# ./ismServerConfig -a
Welcome to the setup wizard for ISM(Infrastructure Manager). Please enter the following
information to register.
Please enter a IP address or FQDN of ISM Server : <IP address or FQDN of ISM Server>
Please enter a Port Number of ISM Server : <Port Number of ISM Server>
Please enter a valid user name of ISM Server : <user name of ISM Server>
Please enter a password for the user name : <password of ISM Server>
Please enter the vCenter role name that should login as <ISM Server user name> you specified
above: <role name of vCSA>
Picked up JAVA_TOOL_OPTIONS: -Xms32M -Xmx128M
Registration completed successfully.
```

Point

- "Role name of vCSA", which is given by the command "ismServerConfig -a", has to be the following.
  - If a role is created by "Menu" - "Administration" - "Access Control" - "Roles" on GUI of vCSA as new or cloned

    Specify the created role name.
  - If a pre-defined role is used

    Specify the name, that is on the row "role name" of the table below, by type of role.

    For "Role name as displayed in GUI", check the appropriate language column in "Pre-defined role name on vCSA by language."

Example: If you would like to assign the role "Administrator" in English environment

Role name to give the command is "Admin"

Table 5.1 Standard role name for each vCSA language that corresponds to a CLI standard role setting name

Language	role name CLI standard role setting name	Pre-defined role name on vCSA by language
Japanese	Admin	システム管理者
	ReadOnly	読み取り専用
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	仮想マシンコンソールユーザー
	InventoryService.Tagging.TaggingAdmin	管理者のタグ付け
English	Admin	Administrator
	ReadOnly	Read-only
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	Virtual Machine console user
	InventoryService.Tagging.TaggingAdmin	Tagging Admin
German	Admin	Administrator
	ReadOnly	Nur Lesen
	AutoUpdateUser	AutoUpdateUser

Language	role name CLI standard role setting name	Pre-defined role name on vCSA by language
	VirtualMachineConsoleUser	Virtual Machine console user
	InventoryService.Tagging.TaggingAdmin	Tagging Admin
French	Admin	Administrateur
	ReadOnly	Lecture seule
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	Utilisateur de console de machine virtuelle
	InventoryService.Tagging.TaggingAdmin	Administrateur de balisage
Spanish	Admin	Administrador
	ReadOnly	Solo lectura
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	Usuario de consola de máquina virtual
	InventoryService.Tagging.TaggingAdmin	Administrador de etiquetado
Simplified Chinese	Admin	管理员
	ReadOnly	只读
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	虚拟机控制台用户
	InventoryService.Tagging.TaggingAdmin	标记管理
Traditional Chinese	Admin	系統管理員
	ReadOnly	唯讀
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	虛擬機器主控台使用者
	InventoryService.Tagging.TaggingAdmin	標記管理員
Korean	Admin	관리자
	ReadOnly	읽기 전용
	AutoUpdateUser	AutoUpdateUser
	VirtualMachineConsoleUser	가상 시스템 콘솔 사용자
	InventoryService.Tagging.TaggingAdmin	태그 지정 관리자

- Execute the following command to check the registered information.

```
# ./ismServerConfig -l
Picked up JAVA_TOOL_OPTIONS: -Xms32M -Xmx128M
ISM IP address or FQDN=<IP address of ISM Server> ISM Port=<Port Number of ISM Server> ISM
account=<user name of ISM Server> vCenter role=<role name of vCSA>
```

- To correct or replace the server information, delete the information using the following command. Then register the information again.

```
# ./ismServerConfig -d
Welcome to the delete wizard for ISM(Infrastructure Manager). Please enter the following
information to delete.
Please enter the vCenter role name : <role name of vCSA>
Picked up JAVA_TOOL_OPTIONS: -Xms32M -Xmx128M
```

```
Unregistration completed successfully.
```

- If the vCSA user does not have administrator privileges, you must grant "extension" privileges. For details, refer to the product manual from VMware.

5.4.6 Terminate the SSH connection

1. Change the login shell to appliancesh.

```
# chsh -s /bin/appliancesh root
```

2. Enter the exit command twice and close terminal emulator.

Note

When there is no action for a set period of time, it automatically logs out.

```
timed out waiting for input: auto-logout
```

Enter the "shell" command and call the shell back.

5.4.7 Install SSL Server Certificate of ISM into Web Browser

It is necessary to import the SSL Server Certificate into the devices to connect to vSphere Client (HTML5) in advance.

Refer to "Appendix A Import the SSL Server Certificate" regarding the SSL Server Certificate settings.

Without a Certificate, an error message appears.

If you reset the SSL Server Certificate, reinstall the certificate.

5.4.8 How to use the ISM Plug-in for vCSA

Note

When Multiple-Factor Authentication is enabled, the following error screen is displayed if [Infrastructure Manager] is selected:

```
Access error to Infrastructure Manager
It cannot access Infrastructure Manager via the account of vCenter being logged to in now.
Please do an appropriate setting to access Infrastructure Manager with CLI of Infrastructure Manager
for plug-in.
```

1. Open URL of vSphere Web Client (Flash) or vSphere Client (HTML5) and log in with Web browser.
2. Select or open [Hosts and Clusters] and select <Target Host>.
3. Select the [Monitor] tab and select [Infrastructure Manager].

Note

- Register IP address of <Target Host> in [Registered IP Address] of the [OS] tab of the Details of Node screen of ISM.
- If the SSL server certificate is not set on the browser correctly, an error screen is displayed. Set the SSL server certificate correctly beforehand. Refer to "Appendix A Import the SSL Server Certificate" regarding the SSL Server Certificate settings.

- If the message below is displayed on [Infrastructure Manager] tab or nothing is displayed on the [Monitor] tab, the setting of ISM Plug-in may be wrong. Reconfigure referring to "5.4.5 Register Information in ISM Plug-in for vCSA."

```
Access error to Infrastructure Manager
It cannot access Infrastructure Manager via the account of vCenter being logged to in now.
Please do an appropriate setting to access Infrastructure Manager with CLI of Infrastructure
Manager for plug-in.
```

4. After logging in, the following information is displayed according to the object:

   - For the registered node in ISM:

     Node Information

   - For the unregistered node in ISM/ the datacenter or cluster:

     Node List

Point

If the ISM system guide dialog appears, scroll down to the bottom right and select [Close]. Change the settings from [Help] - [System Guide] in ISM.

5.5 Uninstallation Procedure

For uninstallation, delete the designated directory by using the command below and restart vCSA manually.

1. Connect to vCSA with SSH.
2. Log in as root user and execute the following command.

```
# rm -rf /opt/fujitsu
# rm -rf /usr/lib/vmware-vsphere-client/plugin-packages/ism
# rm -rf /usr/lib/vmware-vsphere-ui/plugin-packages/ism
# reboot
```

5.6 Precautions

- To use ISM Plug-in for vCSA, purchase and installation of ISM are required.

  Refer to "User's Guide" for more details. Without ISM, this plug-in does not work properly.

- To use ISM Plug-in for vCSA, deployment in advance of and the availability of vCSA are required.

  Refer to the product guides of VMware for operations of vCSA.

Chapter 6 ISM Management Pack 1.5

6.1 Product Summary

Infrastructure Manager Management Pack for VMware vRealize Operations Manager (ISM Management Pack) is designed to extend the user interface of vROps to enable you to use the functions to integrate the infrastructure management of ISM from the vROps.

This Plug-in software enables you to operate ISM directly from vROps.

6.2 Contents

This product is composed of the following three (3) files:

- InfrastructureManagerAdapterMP-x.y.z.pak [Note]
- Readme.txt
- Readme_en.txt

[Note]: x.y.z represents the latest version.

For the latest version or a different version, refer to "Support Matrix."

https://support.ts.fujitsu.com/index.asp

Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

Select [DOWNLOADS] and select the target operating system.

The reference procedures are subject to change without notice.

6.3 System Requirements

For information on the vROps system requirements to operate ISM Plug-in for vROps, refer to "Support Matrix."

https://support.ts.fujitsu.com/index.asp

Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

Select [DOWNLOADS] and select the target operating system.

The reference procedures are subject to change without notice.

For ISM 2.8.0.010 or later, disable Multi-Factor Authentication when using this plug-in.

6.4 Installation Procedures

This section explains installation procedures of ISM Management Pack into vROps.

6.4.1 Installation Preparation

Decompress the zip file for this product and save InfrastructureManagerAdapterMP-x.y.z.pak locally.

The [Infrastructure Manager Heatmap] Dashboard requires the following configuration:

Preparing ISM

The monitoring target node has been registered in ISM and the monitoring setup is complete.

Refer to "User's Guide" for more details.

6.4.2 Execute the Install File

1. Connect to "https: //<IP address of vROps>/ui/" and log in as an administrator with a Web browser.

2. Select [Administration] tab.
3. Select [Solutions > Repository] from the left pane. Select the [ADD/UPGRADE] button in [Other Management Packs].

   The "Add Solution" dialog is displayed.
4. Select the [BROWSE] button. Select the PAK file and select [Open].
5. Select the [BROWSE] button. Select the PAK file prepared in "6.4.1 Installation Preparation." Select [Open].

   The message "The selected file is ready to upload and install. Select Upload to continue" is displayed.
6. Select [UPLOAD].

   The "End User License Agreement" is displayed.
7. Confirm the content of the Agreement. Check "I accept the terms of this agreement". Select [NEXT].

   Installation starts.
8. [FINISH] is displayed in [Installation Details]. Select [FINISH].

6.4.3 Register Information in ISM Management Pack

Register the information for vROps and ISM in the ISM Management Pack.

1. Log in to vRealize Operations Manager Web UI.
2. Select the [Administration] tab.
3. Select [Solutions > Other Accounts] from the left pane and select the [ADD ACCOUNT] button.
4. Select [Infrastructure Manager Adapter] in account type.

   The "New Account" screen opens.
5. Enter the following items displayed in "Cloud Account Information."

Item	Description
Name (imperative)	Input Display Name (example: ISM Management Pack for vROps)
Description (optional)	Input Description
Management IP (imperative)	Input IP address of target ISM (example: 192.168.100.10)
Management Port (imperative)	Input target ISM Port (example: 25566)

6. Select the [Add New] button on the right side of "Credential."

   The "Management Credential" dialog opens.
7. Enter the following information and select [OK].

Item	Description
Credential name (imperative)	Input Credential name (example: ISM Management Pack for vROps)
ISM Username (imperative)	Input username of target ISM (example: Administrator)
ISM Password (imperative)	Input password of target ISM
vRealize Operations Manager Username (imperative)	Input user name of vROps
vRealize Operations Manager Password (imperative)	Input password of vROps

8. Select [Test connection].
9. When the message [Test connection successful] is displayed, select [OK].

10. Select [SAVE SETTINGS].

    The "New Account" screen closes.

6.4.4 Utilize ISM Management Pack

Note

When Multiple-Factor Authentication is enabled, the information detected from ISM is not displayed. When a new plug-in is installed, the following confirmation screen is displayed:

```
Confirmation
Cannot access to Infrastructure Manager due to an incorrect instance settings
Proceed anyway?
```

These are the procedures for checking information about nodes managed by ISM and for troubleshooting using the dashboard for the vROps that ISM Management Pack was installed on.

Check a node status by opening ISM from vROps dashbord

Using the [Infrastructure Manager] Dashboard

1. Log in to vRealize Operations Manager Web UI.
2. Select [Dashboards]. Select [Infrastructure Manager] in the left pane.
3. Select any object displayed in [Host System] in the [Environment Overview] widget.

   The configuration diagram is displayed in the [Object Relationship] widget, and the graph is displayed on the [Metric Chart].
4. Select any host system displayed in the [Object Relationship] widget. Select [Details].

   The details screen for the target host is displayed.

Using the [Infrastructure Manager Heatmap] Dashboard

1. Log in to vRealize Operations Manager Web UI.
2. Select [Dashboards]. Select [Infrastructure Manager Heatmap] in the left pane.

   The Heatmap widget is displayed on the left side of the screen.

   The top -20 widget is displayed on the right side of the screen according to the resource utilization and temperature.
3. Double-click any object displayed in each widget.

   The details screen for the target host is displayed.

ISM Inventory Tree

Display the inventory tree of the object managed by the Infrastructure Manager Adapter instance. You can also display the details of an object from the objects that are displayed in the inventory tree.

1. Select [Environment]. Select [Infrastructure Manager] below [Fujitsu Infrastructure Manager] in the left pane.

   The Infrastructure Manager Adapter instance that was added to [Administration] - [Solutions] in the [Fujitsu Software Infrastructure Manager] configuration is displayed.
2. Each object is displayed by drilling down from the Infrastructure Manager Adapter instance.

   Select [>] in the Infrastructure Manager Adapter instance to display all of the objects just below the instance.

   You can display the entire inventory tree by selecting the [>] just below each object.
3. You can confirm detailed information for objects by selecting the row of an object in the left pane to display detailed information for objects in the right pane.

Troubleshooting using ISM Management Pack

In the vROps environment that ISM Management Pack was installed in, you can easily identify a failed physical host and check its status with ISM. Here is an example of the process from failure occurrence in the physical host to status confirmation.

1. Log in to vRealize Operations Manager Web UI.
2. Select [Dashboard] and select [Infrastructure Manager].
3. Select the object where the error occurred.

   A graphic is displayed in the [Object Relationship] widget and a graph in [Metric Chart].
4. If you select a failed host from the configuration diagram displayed in the [Object Relationship] widget, a pop-up appears at the top. Select [Details] on the pop-up.
5. Selecting [Details] transitions to the environment screen of the host. Select the [Actions] button and select [Search Infrastructure Manager for node].

   ISM opens in a new window and automatically transitions to the node screen of the failed host.

6.5 Uninstallation Procedure

Uninstallation procedures are as follows.

Execute following procedure.

1. Log in to vRealize Operations Manager Web UI.
2. Select [Administration] tab.
3. Select [Solutions > Repository] from the left pane.
4. Select the [Uninstall] button from [Fujitsu Software Infrastructure Manager] in [Other Management Packs].

   The "WARNING" dialog is displayed.
5. Select [I understand the risk and agree]. Select [OK].

   ISM Management Pack is deleted.

6.6 Precautions

- To use ISM Management Pack, purchase of and installation of ISM are required.

  Refer to "User's Guide" for more details. Without installing ISM, this plug-in does not work properly.
- To use ISM Management Pack, deployment in advance of and the availability of vROps are required.

  Refer to the product guides of VMware for operations of vROps.

Chapter 7 ISM Plug-in for vRO 1.2

7.1 Product Summary

Rolling Offline Firmware Update for ESXi clusters is provided as a function of Infrastructure Manager Plug-in for VMware vRealize Orchestrator (ISM Plug-in for vRO). Specifically, the function enables you to update the firmware for ESXi hosts in the ESXi cluster offline one by one. When using firmware data, the target firmware is for a server (BIOS/iRMC), and when using eLCM, the target firmware is for a server (BIOS/iRMC/mounted PCI card).

This plug in software enables you to operate ISM directly from the vRO console.

7.2 Contents

This product is composed of the following three (3) files:

- o11nplugin-fujitsu-ism-fwupdate.dar
- Readme.txt
- Readme_en.txt

7.3 System Requirements

For information on the vRO system requirements to operate ISM Plug-in for vRO, refer to "Support Matrix."

https://support.ts.fujitsu.com/index.asp

Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

Select [DOWNLOADS] and select the target operating system.

The reference procedures are subject to change without notice.

For ISM 2.8.0.010 or later, disable Multi-Factor Authentication when using this plug-in.

7.4 Installation Procedures

This section explains installation procedures of ISM Plug-in into vRO.

7.4.1 Installation Preparation

Decompress the zip file for this product and save "o11nplugin-fujitsu-ism-fwupdate.dar" in the local directory of the management terminal.

When using firmware data and ServerView embedded Lifecycle Management (eLCM), the common required configurations are as follows.

Preparation for ISM

The target nodes must be registered in ISM

For details, refer to "User's Guide."

Preparation for vRO

A vCenter Server must be added to vRO

For details, refer to the manual for "VMware vRealize Orchestrator."

Preparation for vCenter Server and ESXi

- A vCenter Server must be managing the ESXi cluster
- VMware DRS must be enabled on the ESXi cluster
- VMware vMotion must be enabled on the ESXi cluster

- Virtual machines must be able to be migrated to another ESXi host in the ESXi cluster when enabling Maintenance Mode on an ESXi host in the ESXi cluster

To update the firmware using the firmware data, the following additional configurations are required.

Preparation for ISM

- The latest version of the firmware for the target nodes must be imported to ISM
- The ServerView Suite DVD and ServerView Suite Update DVD must be imported to the repository area of ISM
- The network settings and BIOS settings of the target nodes must be complete so that PXE boot can be used from the management LAN
- A DHCP server must exist within the network

For details, refer to "User's Guide."

To update the firmware by using ServerView embedded Lifecycle Management (eLCM), the following additional configurations are required.

Preparation for iRMC

- An SD card must be installed on the PRIMERGY server
- An active eLCM license must be registered
- A repository server that is effective for updates can be accessed

For details, refer to the "ServerView embedded Lifecycle Management (eLCM) x.x for iRMC Sx Overview" (where x is the latest version.) on the Fujitsu Manual site below.

https://support.ts.fujitsu.com/

Reference procedure

Select "Select a new Product" - [Browse For Product] and select the server that will struct the eLCM environment.

Download from [Server Management Controller].

Reference procedures are subject to change without notice.

7.4.2 Installation Procedures

Import a dar file to the plug-in section of the VMware vRealize Orchestrator configuration interface.

When using an Orchestrator legacy client based on Java

Note

If the vRO version is 8.0 or later, you cannot use an Orchestrator legacy client that is based on Java. Refer to the procedures for using a vRealize Orchestrator client that is based on HTML5.

1. Use one of the following URLs to open the VMware vRealize Orchestrator interface.

   http://<orchestrator_server_DNS_name_or_IP_address>:8280

   https://<orchestrator_server_DNS_name_or_IP_address>:8281

2. Log in to VMware vRealize Orchestrator.
3. Perform one of the following according to the vRO version.

   - When the vRO version is 7.4 or 7.5:

     Select the "Open Control Center" link.

- When the vRO version is 7.6:

  Select the "START THE CONTROL CENTER" link.

4. Select the "Manage Plug-in" icon.
5. In the "Install Plug-in" section, select "Reference."
6. Select the "o11nplugin-fujitsu-ism-fwupdate.dar" file to be installed that has been stored in "7.4.1 Installation Preparation."
7. Select the [Open] button.
8. Select the [Upload] button.
9. Select the [Install] button.

   After executing this step, Orchestrator server service will automatically restart in two minutes.

   You must wait for the restart of the service to complete before performing the next step.
10. Log in to the Orchestrator legacy client that is based on Java.

    If the restart of the service is not complete, the login may fail.

    In this case, wait for a while, and then log in again.
11. Check that [Library] - [Infrastructure Manager] - [HostSvstem] is displayed on the Workflow tree.

    If it is not displayed, execute "7.4.3 Installation Procedures for Manual Installation."

When using a vRealize Orchestrator client based on HTML5

1. Use one of the following URLs to open the VMware vRealize Orchestrator interface.
   - When the vRO version is 7.4 or 7.5 or 7.6

     http://<orchestrator_server_DNS_name_or_IP_address>:8280

     https://<orchestrator_server_DNS_name_or_IP_address>:8281
   - When the vRO version is 8.0 or later

     https://<orchestrator_server_FQDN>/vco
2. Log in VMware vRealize Orchestrator.
3. Perform one of the following according to the vRO version.
   - When the vRO version is 7.4 or 7.5:

     Select the "Open Control Center" link.
   - When the vRO version is 7.6 or later:

     Select the "START THE CONTROL CENTER" link.
4. Select the "Manage Plug-in" icon.
5. In the "Install Plug-in" section, select "Reference."
6. Select the "o11nplugin-fujitsu-ism-fwupdate.dar" file to be installed that has been stored in "7.4.1 Installation Preparation."
7. Select the [Open] button.
8. Select the [Upload] button.
9. Select the [Install] button.

   After executing this step, Orchestrator server service will automatically restart in two minutes.

   You must wait for the restart of the service to complete before performing the next step.
10. Log in to the Orchestrator client that is based on HTML5.

    If the restart of the service is not complete, the login may fail.

In this case, wait for a while, and then log in again.

11. Perform one of the following according to the vRO version.

    - When the vRO version is 7.4 or 7.5:

      Move in the order [Workflows] - [Library].

    - When the vRO version is 7.6 or later:

      Move in the order [Library] - [Workflows].

12. Enter "Infrastructure_Manager" in the search field and press the [Enter] key.

    Confirm that the following eight workflows are displayed. If they are not displayed, execute "7.4.3 Installation Procedures for Manual Installation."

    - Add Rest Host
    - Cluster Offline Update
    - Enter maintenance mode vMotion
    - Exit maintenance mode
    - Offline Update
    - Shut down host
    - enter maintenance mode
    - wait and exit maintenance mode

7.4.3 Installation Procedures for Manual Installation

Some parts of the Workflow package may not be installed by executing the installation procedure in "7.4.2 Installation Procedures." In this case, you must install the package file manually.

When using an Orchestrator legacy client based on Java

Note

If the vRO version is 8.0 or later, you cannot use an Orchestrator legacy client that is based on Java. Refer to the procedures for using a vRealize Orchestrator client that is based on HTML5.

1. Change the name of the installation file.

   Change the name from "o11nplugin-fujitsu-ism-fwupdate.dar" to "o11nplugin-fujitsu-ism-fwupdate.zip."

2. Decompress "o11nplugin-fujitsu-ism-fwupdate.zip."

3. Select "Import package..." on the top left in the right pane of the VMware vRealize Orchestrator client workspace.

4. Select the package file in the directory "o11nplugin-fujitsu-svs-fwupdate/resources/packages," that was decompressed in Step 2.

   File name: o11nplugin-fujitsu-ism-fwupdate-package-x.y.z.package [Note]

   [Note]: x.y.z represents the latest version.

   For the latest version or a different version, refer to "Support Matrix."

   https://support.ts.fujitsu.com/index.asp

   Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

   Select [DOWNLOADS] and select the target operating system.

   The reference procedures are subject to change without notice.

5. Select the [Open] button.

   The "Import package" dialog is displayed.

6. Select the [Import] button.

   The second "Import package" dialog is displayed.

7. If the checkboxes for all items are not selected, select the [Select/Deselect all] checkbox.

   Check that the checkbox for each item has been selected.

8. Select the [Import selected elements] button.

   The package "com.vmware.library.fujitsuISM.FWupdate" is displayed in the "Packages" view of the VMware vRealize Orchestrator client workspace.

When using a vRealize Orchestrator client based on HTML5

Note

If the vRO version is 7.4, you cannot import a package with a vRealize Orchestrator client that is based on HTML. Refer to the procedures for using an Orchestrator legacy client that is based on Java.

1. Change the name of the installation file.

   Change the name from "o11nplugin-fujitsu-ism-fwupdate.dar" to "o11nplugin-fujitsu-ism-fwupdate.zip."

2. Decompress "o11nplugin-fujitsu-ism-fwupdate.zip."

3. Perform one of the following according to the vRO version.

   - When the vRO version is 7.5:

     Select [Packages].

   - When the vRO version is 7.6 or later:

     Select in the order [Assets] - [Packages].

4. Select the [IMPORT] button.

5. Select the following package files in the directory that were deployed in Step 2 (o11nplugin-fujitsu-svs-fwupdate/resources/packages).

   File name: o11nplugin-fujitsu-ism-fwupdate-package-x.y.z.package [Note]

   [Note]: x.y.z represents the latest version.

   For the latest version or a different version, refer to "Support Matrix."

   https://support.ts.fujitsu.com/index.asp

   Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

   Select [DOWNLOADS] and select the target operating system.

   The reference procedures are subject to change without notice.

6. Select the [Open] button.

   The "Import com.vmware.library.fujitsuISM.FWupdate package" screen is displayed.

7. Select the [Package elements] tab.

   If the checkboxes for all items are not selected, select the checkbox for each item.

8. Select the [Import] button.

   The package "com.vmware.library.fujitsuISM.FWupdate" is displayed in the "Packages" view in the VMwarevRealize Orchestrator client work space.

7.5 Firmware Update Procedures

Execute Cluster Offline Update Workflow to update firmware. The following shows the procedures to execute Cluster Offline Update.

7.5.1 Start Workflow to Register Information

The following are the parameters entered by a user from the Workflow view when executing Cluster Offline Update Workflow.

When using an Orchestrator legacy client based on Java

Note

If the vRO version is 8.0 or later, you cannot use an Orchestrator legacy client that is based on Java. Refer to the procedures for using a vRealize Orchestrator client that is based on HTML5.

1. "VMware configuration" - "vCenter" dialog

   Specify the ESXi cluster to which the operation target server belongs for the "Cluster" parameter.

   a. Select the [Not set] button.

      The "Select (VC:ClusterComputeResource)" screen is displayed.

   b. Specify the ESXi cluster to which the operation target server belongs.

      Note

      If the ESXi cluster is not displayed in the vCenter inventory browser, execute Workflow from "Library" - "vCenter" - "Configuration" - "Add a vCenter Server Instance" in the Workflow tree.

2. "VMware configuration" - "Management Controllers details" dialog

   Specify the iRMC IP address of the target server and the ESXi host information in the "Settings for particular Hosts which are not configured in vCenter Server" parameter.

   Note

   If you registered iRMC information on the "Power Management IPMI/iLO Settings" screen of the ESXi host with vCenter Server in advance, the iRMC IP address and the ESXi host information are retrieved automatically during the Workflow process. The following procedures are not required in this case.

   a. Select the [Not set] button.

      The "Array of Composite Type (iRMC_IPaddress:string, ESXi:VC:HostSystem): irmc_credential" screen is displayed.

   b. Select the [Insert value] button to the right of "New value."

      The "Composite type" screen is displayed.

   c. Enter the iRMC IP address of the target server in "iRMC IPaddress."

   d. Select the [Not set] button below "ESXi."

      The "Select (VC:HostSystem)" screen is displayed.

   e. Select the ESXi host that corresponds to the iRMC IP address that you entered in Step c. on the "Select(VC:HostSystem)" screen, and then click the [Select] button.

      The "Composite type" screen is displayed, and the information of the ESXi host that you selected on the "Select(VC:HostSystem)" screen is entered in "ESXi" on the "Composite type" screen.

f. Select the [Define] button.

   The "Array of Composite Type(iRMC_IPaddress:string,ESXi:VC:HostSystem):irmc_credential" screen is displayed.

   In "iRMC IPaddress," the iRMC IP address that you entered in Step c. is displayed.

   In "ESXi," the ESXi host information that you selected in Step e. is entered. There is no problem even though "HostSystem" is displayed on the screen.

g. Repeat Step b. to Step f. for the number of target servers.

h. After executing Step g., select the [Accept] button on the "Array of Composite Type(iRMC_IPaddress:string,ESXi:VC:HostSystem):irmc_credential" screen.

   The "Management Controllers details" dialog is displayed.

   In the "Settings for particular Hosts which are not configured in vCenter Server" parameter, the IP address and the ESXi host information of the operation target iRMC are displayed as "Array [Properties]."

Note

If there is an error in the iRMC IP address of an iRMC server that is turned off and the ESXi server is turned off, the firmware update on the iRMC server with the incorrect IP address will be successful. To avoid this, note that you must be careful when you enter an IP address for iRMC and ESXi host information.

3. "VMware configuration" - "Settings for Management Controller" dialog

   Specify "Yes" or "No" for "If "Yes": no user interaction when changing to maintenance mode."

   - Yes

     The ESXi host is set in Maintenance Mode automatically during the execution of the Workflow.

   - No

     You must specify whether to allow the ESXi host to be set to Maintenance Mode during the Workflow in a dialog.

     If specify "No" in a dialog, proceed to next ESXi host without entering Maintenance Mode.

     After 5 minutes passed without specifying, specified "No" automatically.

   The "Timeout to wait for completion of maintenance mode. (minutes)" parameter is the timeout value for the Maintenance Mode on the ESXi host.

   If the virtual machine does not move from the ESXi host for more than this value during maintenance mode configuration, it times out. Specify an integer between 1 and 1440. The unit is minutes.

4. "VMware configuration" - "Timeouts" dialog

   The "Connection Timeout (seconds)" parameter is the timeout value for the communication connection that is used in the Workflow. The value is displayed in seconds.

   The "Operation Timeout (seconds)" parameter is the timeout value for the communication process that is used in the Workflow. The value is displayed in seconds.

5. "Infrastructure Manager configuration" dialog

   Input values for each item are as follows.

Parameter name	Default	Description
Infrastructure Manager address (IP or FQDN)	None	Infrastructure Manager address (IP or FQDN)
Infrastructure Manager port	25566	Specify a port number for ISM.
Infrastructure Manager user	None	Specify a login user name for ISM.
Infrastructure Manager password	None	Specify a login password for ISM.
If "Yes": the certificate is accepted silently and the certificate is added to the trusted store	No	Specify "Yes" or "No."

Parameter name	Default	Description
		If you specify "Yes," an ISM certificate will be imported into vRO automatically. If you specify "No," a confirmation dialog will be displayed when an ISM certificate is imported into vRO.
Verify whether the target hostname matches the names stored inside the server's X.509 certificate	Yes	Specify "Yes" or "No." If you specify "Yes," the Workflow verifies whether the ISM certificate matches the target host name. If you specify "No," the Workflow does not verify whether the ISM certificate matches the target host name.

6. "VMware configuration" - "eLCM mode" dialog

   Input values for each item are as follows.

Parameter name	Default	Description
If "Yes" : eLCM is used for firmware update	No	Specify "Yes" or "No." If "Yes," a firmware update using eLCM is executed. If "No," a firmware update with the firmware data is executed.
If "Yes" : legacy BIOS compatibility mode is used when rebooting, else UEFI mode is used	No	Specify "Yes" or "No." If "Yes," Legacy BIOS compatibility mode is used. If "No," UEFI boot mode is used.

When using a vRealize Orchestrator client based on HTML5

Note

If the vRO version is 7.4 or 7.5 or 7.6, you cannot execute the workflow with a vRealize Orchestrator client that is based on HTML5. Refer to the procedures for using an Orchestrator legacy client that is based on Java.

1. [vCenter] tab

   Specify the ESXi cluster to which the operation target server belongs for the "Cluster" parameter.

   a. Select the [Search for value] entry field.

      The "Select (VC:ClusterComputeResource)" screen is displayed.

   b. Specify the ESXi cluster to which the operation target server belongs.

      Note

      If the ESXi cluster is not displayed in the vCenter inventory browser, execute Workflow from "Library" - "vCenter" - "Configuration" - "Add a vCenter Server Instance" in the Workflow tree.

2. [Management Controllers details] tab

   Specify the IP address of the iRMC of the operation target server in the "iRMC_IP address" parameter, and the ESXi host information in the "ESXi" parameter. Specification procedure is as follows.

Note

If you registered iRMC information on the "Power Management IPMI/iLO Settings" screen of the ESXi host with vCenter Server in advance, the iRMC IP address and the ESXi host information are retrieved automatically during the Workflow process. The following procedures are not required in this case.

a. Select the [+] button.

   A new window is displayed.

b. Enter the iRMC IP address of the target server in "iRMC IPaddress."

c. In the [Search for value] entry field under ESXi, enter the ESXi host that corresponds to the IP address of the iRMC that you entered in Step b. Select the [APPLY] button.

   The values that have been entered in the "iRMC_IPaddress" parameter and "ESXi" parameter are displayed.

d. Repeat Step a. to Step c. for the number of target servers.

Note

If there is an error in the iRMC IP address of an iRMC server that is turned off and the ESXi server is turned off, the firmware update on the iRMC server with the incorrect IP address will be successful. To avoid this, note that you must be careful when you enter an IP address for iRMC and ESXi host information.

3. [Settings for Management Controller] tab

   Specify "Yes" or "No" for "If "Yes": no user interaction when changing to maintenance mode."

   - Yes

     The ESXi host is set in Maintenance Mode automatically during the execution of the Workflow.

   - No

     You must specify whether to allow the ESXi host to be set to Maintenance Mode during the Workflow in a dialog.

     If specify "No" in a dialog, proceed to next ESXi host without entering Maintenance Mode.

     After 5 minutes passed without specifying, specified "No" automatically.

   The "Timeout to wait for completion of maintenance mode. (minutes)" parameter is the timeout value for the Maintenance Mode on the ESXi host.

   If the virtual machine does not move from the ESXi host for more than this value during maintenance mode configuration, it times out. Specify an integer between 1 and 1440. The unit is minutes.

4. [Timeouts] tab

   The "Connection Timeout (seconds)" parameter is the timeout value for the communication connection that is used in the Workflow. The value is displayed in seconds.

   The "Operation Timeout (seconds)" parameter is the timeout value for the communication process that is used in the Workflow. The value is displayed in seconds.

5. [ISM Server] tab

   Input values for each item are as follows.

Parameter name	Default	Description
Infrastructure Manager address (IP or FQDN)	None	Specify an IP address for ISM or an FQDN.
Infrastructure Manager port	25566	Specify a port number for ISM.
Infrastructure Manager user	None	Specify a login user name for ISM.
Infrastructure Manager password	None	Specify a login password for ISM.

Parameter name	Default	Description
If "Yes": the certificate is accepted silently and the certificate is added to the trusted store	No	Specify "Yes" or "No." If you specify "Yes," an ISM certificate will be imported into vRO automatically. If you specify "No," a confirmation dialog will be displayed when an ISM certificate is imported into vRO.
Verify whether the target hostname matches the names stored inside the server's X.509 certificate	Yes	Specify "Yes" or "No." If you specify "Yes," the Workflow verifies whether the ISM certificate matches the target host name. If you specify "No," the Workflow does not verify whether the ISM certificate matches the target host name.

6. [eLCM mode] tab

   Input values for each item are as follows.

Parameter name	Default	Description
If "Yes" : eLCM is used for firmware update	No	Specify "Yes" or "No." If "Yes," a firmware update using eLCM is executed. If "No," a firmware update with the firmware data is executed.
If "Yes" : legacy BIOS compatibility mode is used when rebooting, else UEFI mode is used	No	Specify "Yes" or "No." If "Yes," Legacy BIOS compatibility mode is used. If "No," UEFI boot mode is used.

7.5.2 Execute Workflow

Note

When Multiple-Factor Authentication is enabled, the following error screen is displayed if workflow is executed:

```
[ISM] {"MessageInfo": [{"TimeStamp": "2022-08-10T00:39:59.262Z", "MessageId": "50060008", "API":
"POST https://xx.xx.xxx.xxx:25566/ism/api/v2/users/login", "Message": "Failed to log in. The
authentication code has not been entered."}], "IsmBody": {}, "SchemaType": "https://xx.xx.xxx.xxx:
25566/ism/schema/v1/MessageInfo-Out.0.0.1.json"} (Workflow:Cluster Offline Update / ISM login
(item14)#57)
```

Complete all of the entry fields and lists in "7.5.1 Start Workflow to Register Information," then select the [Submit] button or [RUN] button to execute the Workflow. If there are any fields or lists that have not been entered, execution will terminate with an error.

Note

After the Cluster Offline Update workflow is executed, all Offline Update targets are updated.

If specify "No." at "If "Yes": no user interaction when changing to maintenance mode" parameter in "7.5.1 Start Workflow to Register Information," execute "7.5.3 Add Registration Information to the Workflow."

7.5.3 Add Registration Information to the Workflow

After executing the Cluster Offline Update workflow, add a user input parameter.

When using an Orchestrator legacy client based on Java

Note

If the vRO version is 8.0 or later, you cannot use an Orchestrator legacy client that is based on Java. Refer to the procedures for using a vRealize Orchestrator client that is based on HTML5.

1. Confirm that the following message is displayed from the [Logs] tab in the bottom of the right pane of the VMware vRealize Orchestrator workspace.

```
********** User interaction waiting, has to be opened manually **********
Please open user decision dialog by doing the following action:
If using Java based client, click the tab "My Orchestrator" (located in the upper left corner)
then "Waiting for Input" (located in the right part).
If using HTML5 client, click the item "Waiting for Input" under "Activity" (located in the left
tree).
Then, please click the item and answer if you agree with entering to maintenance mode.
Afterwards Offline Update workflow is going to proceed.
For detailed information see manual "Fujitsu Software Infrastructure Manager Plug-in and
Management Pack Setup Guide".
********** User interaction waiting, has to be opened manually **********
```

2. Select the [My Orchestrator] tab in the left pane.
3. Select the [Waiting for Input] tab in the right pane.
4. Select the [Answer a user interaction] icon.
5. Select "Yes" or "No" for "The host will be set in maintenance mode. Are you sure?"
6. Select the [Submit] button.

When using a vRealize Orchestrator client based on HTML5

Note

If the vRO version is 7.4, 7.5, or 7.6, you cannot execute the workflow with a vRealize Orchestrator client that is based on HTML. Refer to the procedures for using an Orchestrator legacy client that is based on Java.

1. Select the [Logs] tab in the bottom of the right pane of the VMWare vRealize Orchestrator workspace.
2. Confirm that the following message is displayed.

```
********** User interaction waiting, has to be opened manually **********
Please open user decision dialog by doing the following action:
If using Java based client, click the tab "My Orchestrator" (located in the upper left corner)
then "Waiting for Input" (located in the right part).
If using HTML5 client, click the item "Waiting for Input" under "Activity" (located in the left
tree).
Then, please click the item and answer if you agree with entering to maintenance mode.
Afterwards Offline Update workflow is going to proceed.
For detailed information see manual " Fujitsu Software Infrastructure Manager Plug-in and
Management Pack Setup Guide".
********** User interaction waiting, has to be opened manually **********
```

3. Select [Waiting for Input] under "Activity" in the left pane.
4. Select the [ANSWER] link.

5. Select the checkbox for "The host will be set in maintenance mode. Are you sure?" if "Yes," and if "No," leave the checkbox cleared.
6. Select the [ANSWER] button.

7.5.4 Execution Results of Workflow

When using an Orchestrator legacy client based on Java

Note

If the vRO version is 8.0 or later, you cannot use an Orchestrator legacy client that is based on Java. Refer to the procedures for using a vRealize Orchestrator client that is based on HTML5.

When the execution of the Workflow is complete, an icon that shows the execution results is displayed under the icon, "Offline Update" or "Cluster Offline Update" of the VMware vRealize Orchestrator Workflow tree.

Workflow logs are displayed in the [Messages] field in the [Logs] tab on the lower part of the right pane of the VMware vRealize Orchestrator workspace.

When an error occurs during the execution of the Workflow, an error message in red characters will be output in the Workflow log.

Exception messages for the Workflow are displayed in the [Exception] field of the [Variables] tab on the lower part of the right pane of the VMware vRealize Orchestrator workspace.

Note

After executing Cluster Offline Update Workflow, check if the firmware of the target server is the latest version from the ISM screen.

If the firmware version is not the latest one, the firmware update may have been executed for the incorrect iRMC IP address and ESXi host combination.

Refer to "7.5.1 Start Workflow to Register Information" for the procedure.

When an error occurs during the execution of the Workflow, an error message will be output in the Workflow log. Take action as follows.

When a message starts with [ISM]:

An error message for the REST API of ISM is displayed.

Take action referring to "ISM Messages."

Example:

```
[ISM] {"MessageInfo": [{"TimeStamp": "2018-12-21T00:22:18.167Z", "MessageId": "50060001", "API":
"POST https://192.168.100.163:25566/ism/api/v2/users/login", "Message": "Login failed."}],
"IsmBody": {}, "SchemaType": "https://192.168.100.163:25566/ism/schema/v1/MessageInfo-Out.
0.0.1.json"}
```

When a message starts with [ISM-vRO]:

Take action referring to "7.5.5 Messages."

Example:

```
[ISM-vRO] 50000009: 192.168.100.1 vMotion doesn't work or migration progress is too slow.
```

Other than the above

Follow the message, and take the appropriate action.

If you cannot take any action from the message, contact your local Fujitsu customer service partner.

Example:

```
Error in (Workflow:Cluster Offline Update / find Hosts (item4)#42) 0 hosts can be updated. You have
provided not enough information.
Ending workflow!
```

When using a vRealize Orchestrator client based on HTML5

- When the vRO version is 7.4 or 7.5:

  After executing the Workflow, click "Workflows" - "Runs."

- When the vRO version is 7.6 or later:

  After executing the Workflow, click "Activity" - "Workflow Runs."

- When the vRO version is 8.0:

  After executing the Workflow, click "Activity" - "Workflow Runs."

Click the Workflow that has been executed.

The log of the Workflow is displayed in the "Messages" field of the [Logs] tab in the bottom of the right pane in the VMware vRealize Orchestrator workspace.

If there is a problem running the workflow, the workflow log displays an error message in red text.

Note

After executing Cluster Offline Update Workflow, check if the firmware of the target server is the latest version from the ISM screen.

If the firmware version is not the latest one, the firmware update may have been executed for the incorrect iRMC IP address and ESXi host combination.

Refer to "7.5.1 Start Workflow to Register Information" for the procedure.

When an error occurs during the execution of the Workflow, an error message will be output in the Workflow log. Take action as follows.

When a message starts with [ISM]:

An error message for the REST API of ISM is displayed.

Take action referring to "ISM Messages."

Example:

```
[ISM] {"MessageInfo": [{"TimeStamp": "2018-12-21T00:22:18.167Z", "MessageId": "50060001", "API":
"POST https://192.168.100.163:25566/ism/api/v2/users/login", "Message": "Login failed."}],
"IsmBody": {}, "SchemaType": "https://192.168.100.163:25566/ism/schema/v1/MessageInfo-Out.
0.0.1.json"}
```

When a message starts with [ISM-vRO]:

Take action referring to "7.5.5 Messages."

Example:

```
[ISM-vRO] 50000009: 192.168.100.1 vMotion doesn't work or migration progress is too slow.
```

Other than the above

Follow the message, and take the appropriate action.

If you cannot take any action from the message, contact your local Fujitsu customer service partner.

Example:

```
Error in (Workflow:Cluster Offline Update / find Hosts (item4)#42) 0 hosts can be updated. You have
provided not enough information.
Ending workflow!
```

7.5.5 Messages

The following are the messages starting with "vRO" displayed.

Message ID	Output	Description
10000001	{iRMC IP address} The firmware was update success.	The firmware update was successful.
10000002	{iRMC IP address} The firmware is up to date.	The latest firmware update is already applied.
30000001	IP address was not found. Not enough information for the node ({vmware id}).	Please do one of the following. - Register iRMC information for ESXi host in vCenter server. - Specify the ESXi host for the "IP address" of iRMC on the screen when executing the workflow.
30000002	{iRMC IP address} did not exist in the Infrastructure Manager node list. This process is being skipped.	Check if the iRMC IP address is registered in ISM.
50000002	{iRMC IP address} Power down timed out after waiting for 3600s.	Check the node status on ISM.
50000005	{iRMC IP address} The offline firmware update task failed. {ISM taskid} Message : {ISM task message}	Handle ISM tasks.
50000006	{iRMC IP address} Firmware update timed out after waiting for 10800s.	Check the node status on ISM.
50000007	Error occurred while parsing response.	Check if ISM is working properly.
50000008	(ESXi: {ESXi IP address}) Power down failed. (iRMC: {iRMC IP address})	- Check if the IP address of iRMC and the IP address of ESXi are linked. - Check if the ESXi host can communicate.
50000009	{ESXi IP address} vMotion doesn't work or migration progress is too slow.	A timeout occurred while waiting for the maintenance mode setting to complete. Set the parameter (Timeout to wait for completion of maintenance mode.) with 5 minutes plus.
50000010	{iRMC IP address} There is no eLCM license or SD card. Or the Infrastructure Manager is an older version.	- Check if the iRMC settings allow to the use of eLCM. - Check if your ISM version supports eLCM.

7.6 Uninstallation Procedure

For the uninstallation procedures for the plug-in, refer to "Uninstall a Plug-In" in "vRealize Orchestrator" in "VMware Docs."

7.7 Precautions

- To use ISM Plug-in for vRO, purchase of and installation of ISM are required.

  Refer to "User's Guide" for more details. Without installing ISM, this plug-in does not work properly.

- To use ISM Plug-in for vRO, deployment in advance of and the availability of vRO are required.

  Refer to the product guides of VMware for operations of vRO.

Chapter 8 ISM Plug-in for WAC 1.0

8.1 Product Summary

Infrastructure Manager Plug-in for Microsoft Windows Admin Center (ISM Plug-in for WAC) is designed to extend the user interface of WAC to enable you to use the functions to integrate the infrastructure management of ISM from the WAC.

This Plug-in software enables you to operate ISM directly from WAC.

8.2 Contents

This product is composed of the following three (3) files:

- fujitsu.sme.infrastructure-manager.x.y.z.nupkg [Note]
- Readme.txt
- Readme_en.txt

[Note]: x.y.z represents the latest version.

For the latest version or a different version, refer to "Support Matrix."

https://support.ts.fujitsu.com/index.asp

Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

Select [DOWNLOADS] and select the target operating system.

The reference procedures are subject to change without notice.

8.3 System Requirements

For information on the WAC system requirements to operate ISM Plug-in for WAC, refer to "Support Matrix."

https://support.ts.fujitsu.com/index.asp

Select [Select a new Product] on the above site and enter "Infrastructure Manager" in [Product Search:].

Select [DOWNLOADS] and select the target operating system.

The reference procedures are subject to change without notice.

For ISM 2.8.0.010 or later, disable Multi-Factor Authentication when using this plug-in.

8.4 Installation Procedures

This section explains installation procedures of ISM Plug-in for WAC into WAC.

8.4.1 Store the Install File

Use Remote Desktop to connect to the Windows Server on which you are installing ISM Plug-in for WAC.

Transfer the install file to an arbitrary directory on the Windows Server of the connection destination by copying and pasting the file.

8.4.2 Installation Procedures

1. Open Windows Admin Center in a web browser using the following URL.

   https:// <WAC_ Server_FQDN_or_IP_ address>: <WAC_Server_Port>

2. Select the gear icon in the upper right corner of the screen to display the setting screen.
3. Select [Gateway > Extensions] from the left pane.

4. Select [Feeds] in the right pane.
5. Select [+ Add] in the right pane.
6. Enter the path to the directory where you stored the installation files in "8.4.1 Store the Install File" in [Extension feed URL or path] and click [Add].
7. Check that the directory specified in [Package feeds] on the "Feeds" screen is displayed.
8. Select [Available extensions].
9. Select [Fujitsu Software Infrastructure Manager].
10. Select [Install].
11. Select [Installed extensions] and check that [Fujitsu Software Infrastructure Manager] is installed.

8.4.3 Register Information in ISM Plug-in for WAC

This section explains procedures to register information of ISM to ISM Plug-in for WAC.

1. Open Windows Admin Center in a web browser using the following URL.

   <WAC_ Server_FQDN_or_IP_ address>: <WAC_Server_Port>
2. Select [>] at the top of the "WAC" screen and select [Fujitsu Software Infrastructure Manager Suite] from the installed solutions.
3. Select the [+ Add] button.

   The "Connection tags" screen is displayed.
4. Enter the following settings.

Item	Description
IP Address (imperative)	Input IP address of target ISM (ex. 192.168.100.10)
Port Number (imperative)	Input port number of target ISM (ex. 25566)
User Name (imperative)	Input username of target ISM (ex. Administrator)
Password (imperative)	Input password of target ISM

5. Select the [Add] button.

Note

If you change an ISM configuration item that is already registered, you must delete it and re-register it.

For example, here is the procedure for changing the ISM password.

1. Open Windows Admin Center in a web browser using the following URL.

   https:// <WAC_ Server_FQDN_or_IP_ address>: <WAC_Server_Port>
2. Select [>] at the top of the "WAC" screen and select [Fujitsu Software Infrastructure Manager Suite] from the installed solutions.
3. Select the row you want to modify.
4. Select the [Remove] button.
5. Select [Yes] from the "Remove Connection(s)" window.
6. Change the ISM password.

   For details on how to change the password, refer to "2.3.1.2 Edit users" in "Operating Procedures."
7. Reregister the information you changed in ISM with the ISM Plug-in for WAC.

   For the registration procedures, refer to Step 3 or later in "8.4.3 Register Information in ISM Plug-in for WAC."

8.4.4 Install SSL Server Certificate of ISM into Web Browser

It is necessary to import the SSL Server Certificate into the devices to connect to WAC in advance.

Refer to "Appendix A Import the SSL Server Certificate" regarding the SSL Server Certificate settings.

Without a Certificate, an error message appears.

If you reset the SSL Server Certificate, reinstall the certificate.

8.4.5 How to use the ISM Plug-in for WAC

Note

If the plug-in is newly installed and Multiple-Factor Authentication is enabled, the following error screen is displayed.

```
Error connecting to Server. Failed to log in. The authentication code has not been entered.
```

During operation, if Multiple-Factor Authentication is enabled, any data is displayed on the "Overview" screen. The following error screens are displayed in "Nodes", "Events", and "Firmware" screens.

```
No records found.
```

1. Open Windows Admin Center in a web browser using the following URL.

   https:// <WAC_Server_FQDN_or_IP_address>:<WAC_Server_Port>

2. Select [>] at the top of the "WAC" screen and select [Fujitsu Software Infrastructure Manager Suite] from the installed solutions.
3. Select the IP address for ISM.
4. Select from the menu on the left of the screen to move to each screen.
   - Overview
   - Nodes
   - Events
   - Firmware
   - Settings

"Overview" screen

ISM version information, and status information for nodes being managed by ISM can be displayed in the WAC.

"Nodes" screen

Detailed information of the nodes being managed by ISM (Hardware information, tree structures between nodes, etc.) can be displayed in the WAC.

Note

After selecting the target node from the [Node] tab, collapse the lower target node details area, and then expand it to display the tabs other than [General]. Collapse and expand the details area can be executed by selecting the bottom of the details of 'node name'. When selecting other nodes, collapse the current node details area and select other nodes, and then expand the details area. Although each tab in the details area may take some time to display and if the tab area does not return from the loading status, restart your browser. Also, after selecting a node group, select the bottom of the details of 'node-name' and collapse it, and then expand it again to display the correct tabs for the node group.

"Events" screen

Event information maintained by ISM can be displayed in the WAC. Also, if there are a large number of events, you can export them locally to analyze trends or investigate causes by transitioning to ISM.

Note

The event information displayed on the WAC depends on the ISM language settings.

Therefore, you should set the language settings in WAC and ISM.

"Firmware" screen

Firmware information of the nodes being managed by ISM can be displayed in the WAC.

You can also update the firmware by transitioning to ISM.

Note

If ISM data is not available on each screen, the ISM connection information may be incorrectly configured.

Refer to "8.4.3 Register Information in ISM Plug-in for WAC" to remove ISM connection information and re-register.

8.5 Uninstallation Procedure

Uninstallation procedures of ISM Plug-in for WAC are below.

1. Open Windows Admin Center in a web browser using the following URL.

   https:// <WAC_Server_FQDN_or_IP_ address>: <WAC_Server_Port>
2. Select the gear icon in the upper right corner of the screen to display the setting screen.
3. Select [Gateway > Extensions] from the left pane.
4. Select [Installed extensions] in the right pane.
5. Select [Fujitsu Software Infrastructure Manager] and select the [Uninstall] button.
6. Check that [Fujitsu Software Infrastructure Manager] is not displayed in the [Installed extensions] list.

8.6 Precautions

- To use ISM Plug-in for WAC, purchase and installation of ISM are required.

  Refer to "User's Guide" for more details. Without installing ISM, this plug-in does not work properly.
- To use ISM Plug-in for WAC, installation in advance of and connection to WAC are required.

  Refer to the product guides of Microsoft for operations of WAC.

Chapter 9 Latest Information

For the latest information about ISM Plug-in, contact your local Fujitsu customer service partner.

Appendix A Import the SSL Server Certificate

If the SSL server certificate is not set on the terminal connecting to vSphere Client (HTML5) or WAC, an error screen appears when using the ISM Plug-in.

An example with Microsoft Edge is below.

1. Prepare the SSL Server Certificate.

   Point

   - Prepare the SSL Server Certificate referring to "4.7.1 Deployment of SSL Certificates" in "User's Guide." Make sure to complete the certificate import on the intended devices that connects to the vSphere Client (HTML5) or WAC.
   - If you created a self-signed SSL server certificate, you must register the CA certificate that you downloaded in "4.7.5 Download of CA Certificates" in "User's Guide."
   - If using other than Microsoft Edge, refer to "2.1.1 GUI" in "User's Guide" to complete the certificate import.

2. With Microsoft Edge, select [···] button in the upper right, and select "Settings."
3. Select [Privacy, search, and services].
4. Select [Manage Certificates].

   The "Certificates" dialog box is displayed.
5. Select the [Personal] tab.
6. Select [Import] to import from here.
7. When import is completed, reboot the browser.
8. Login to ISM and confirm that there are no errors.