FUJITSU Software
Infrastructure Manager V2.5
Infrastructure Manager for PRIMEFLEX V2.5

Plug-in and Management Pack

Setup Guide

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

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

ISM Plug-in	Virtualization 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 (ISM Management Pack)	VMware vRealize Operations Manager (vROps)

VMware vRealize Orchestrator (ISM Plug-in for vRO)	VMware vRealize Orchestrator (vRO)

Product Manuals

Manual Name	Description
FUJITSU Software Infrastructure Manager V2.5 Infrastructure Manager for PRIMEFLEX V2.5 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 V2.5 Infrastructure Manager for PRIMEFLEX V2.5 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 V2.5 Infrastructure Manager for PRIMEFLEX V2.5 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 V2.5 Infrastructure Manager for PRIMEFLEX V2.5 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."
FUJITSU Software Infrastructure Manager V2.5 Infrastructure Manager for PRIMEFLEX V2.5 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	This manual describes the messages that

Manual Name	Description
Infrastructure Manager for PRIMEFLEX V2.5 Messages	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 V2.5 Infrastructure Manager for PRIMEFLEX V2.5 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 V2.5 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 V2.5 Infrastructure Manager for PRIMEFLEX V2.5 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 V2.5 Infrastructure Manager for PRIMEFLEX V2.5 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

Manual Name	Description
	● Infrastructure Manager Management Pack for VMware vRealize Operations ● Infrastructure Manager Plug-in for VMware vRealize Orchestrator 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.

http://manuals.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

Items that require your special caution are preceded by the following symbols.

P 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	ISM Management Pack
Microsoft® System Center Operations Manager	SCOM
Microsoft® System Center Virtual Machine Manager	SCVMM
Microsoft® Windows Server® 2019 Datacenter	Windows Server 2019
Microsoft® Windows Server® 2019 Standard	
Microsoft® Windows Server® 2016 Datacenter	Windows Server 2016
Microsoft® Windows Server® 2016 Standard	
Microsoft® Windows Server® 2012 R2 Datacenter	Windows Server 2012 R2
Microsoft® Windows Server® 2012 R2 Standard	
VMware vCenter Server®	vCenter
VMware vCenter Server® Appliance™	vCSA
VMware vRealize® Operations Manager™	vROps

Terms

Terms For the major terms and abbreviations used in this manual, see "Infrastructure Manager V2.5 Glossary".

Using PDF applications (Adobe Reader, etc.)

Depending on the specifications of the PDF application you are using, issues (the addition of extra spaces, missing spaces, missing line breaks, and missing 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

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Modification History

Edition	Issue Date	Section		Modification Overview
01	July 2019	-	-	First edition
02	September 2019	5.4.4	Utilize ISM Management Pack	Added ISM Inventory Tree
03	January 2020	1.3,2.3,3.3, 4.3,5.3,6.3	System Requirements	Refer to Plug-in Matrix
		6.4	Installation Procedures	・eLCM function ・added article of
		6.5	Firmware Update Procedures	html5 based UI.
04	June 2020	1.3,2.3,3.3, 4.3,5.3,6.3	System Requirements	Update the URL to access Plug-in Matrix
		7	Latest Information	Correction of errors

Contents

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1. ISM Plug-in for SCOM 1.2.2

1.1 Product Summary

Infrastructure Manager Plug-in for Microsoft System Center Operations Manager (ISM Plug-in for SCOM) 1.2.2 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 the SCOM system requirements to operate ISM Plug-in for SCOM, refer to "Plug-in and Management Pack Support Matrix" on the web site for this product.

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

1. Click [DOWNLOADS] tab.
2. Click [Browse For Product] tab from [Ask Fujitsu! We are here to help] window.
3. Navigate to [Software > Infrastructure Manager(ISM)].
4. Select [No Operating System Dependencies] from [Selected operating system] pull-down.
5. Click [+ Support Matrix] to expand menu.

1.4 Installation Procedures

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

1.4.1 Before installation

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

🅿 Point

- Install OpenSSL into a Windows Server that ISM Plug-in will be installed to before execution of the following procedures. Select OpenSSL 1.0.x series.
  Ex.) 1.0.1a, 1.0.2a
- If former version has been installed, uninstall the Plug-in and install ISM Plug-in for SCOM 1.2.2.

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.
3. When the preparations are completed, the installation wizard with the message "To continue, click Next" is displayed. Select [Next].
4. The EULA is displayed. Read the contents and select [I accept the terms]. Select [Next].
5. "Destination Folder" window is displayed. Select [Next] if you do not change the destination. Otherwise, select [Change].
6. When [Change] is selected, "Change Current Destination Folder" is displayed. Select [OK] after change.
7. The path to the designated folder is displayed on "Destination Folder." Select [Next] after confirmation of the path correct.
8. "Ready to Install the Program" window is displayed. Select [Install].
9. "InstallShield Wizard Completed" dialog box is displayed. 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].

ℙ Point
....
If the online catalog message appears after procedure 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 from command prompt

Register the information of ISM and SCOM into ISM Plug-in 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) : <number >
Please enter the Alert deletion interval (3-525600 or 00:00-23:59) : <number >
[INFO] Configuration file was updated successfully.
Do you want to continue? [y/n] : n (end with n)
```

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

📁 Point
....
To replace the server information, just execute the procedures 1 - 4 again.
....

1.4.6　How to use the ISM Plug-in

1. Launch the SCOM console.
2. Select [Active Alert] in the left pane and select the designated host in the middle pane. [Alert task] appears 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, please refer to "User's Guide" 2.3.1 "Setting of Monitoring Items and Threshold Values".
....

3. Select [Fujitsu ISM (node)] under [Alert Task]. The ISM Login console appears.

📁 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.

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

1.5　Uninstallation Procedure

Uninstallation procedures of ISM Plug-in are below.

1. Log in to SCOM.
2. Navigate to [Administration] > [Installed Management Packs] > [Fujitsu Software Infrastructure Manager.]
3. Right click [Fujitsu Software Infrastructure Manager.]
4. Select [Delete] in context menu to delete Management Pack.
5. Open Control Panel in Windows Server ISM Plug-in was installed to.
6. Select [Programs and Features]. [Uninstall or change a program] widow is displayed.
7. Right click [Infrastructure Manager Plug-in for Microsoft System Center Operations Manager] on the list.
8. Select [Uninstall] on context menu.
9. ISM Plug-in is removed.

1.6   Precautions

1. 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.
2. 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.

2. ISM Plug-in for SCVMM 1.2.2

2.1 Product Summary

Infrastructure Manager Plug-in for Microsoft System Center Virtual Machine Manager (ISM Plug-in for SCVMM) 1.2.2 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 the SCVMM system requirements to operate ISM Plug-in for SCVMM, refer to "Plug-in and Management Pack Support Matrix" on the web site for this product.

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

1. Click [DOWNLOADS] tab.
2. Click [Browse For Product] tab from [Ask Fujitsu! We are here to help] window.
3. Navigate to [Software > Infrastructure Manager(ISM)].
4. Select [No Operating System Dependencies] from [Selected operating system] pull-down.
5. Click [+ Support Matrix] to expand menu.

2.4 Installation Procedures

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

2.4.1　Before installation

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

📘 Point

- Install OpenSSL into a Windows Server that ISM Plug-in will be installed to before execution of following procedures. Select OpenSSL 1.0.x series.
  Ex.) 1.0.1a, 1.0.2a
- If former version has been installed, uninstall the Plug-in and install ISM Plug-in for SCVMM 1.2.2.

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.
3. When the preparations are completed, the installation wizard with the message "To continue, click Next" is displayed. Select [Next].
4. The EULA is displayed. Read the contents and select [I accept the terms]. Select [Next].
5. The "Destination Folder" window is displayed. If you change the destination, select [Change], otherwise select [Next].
6. If [Change] is selected, "Change Current Destination Folder" is displayed. Select [OK] after change.
7. The path to the designated folder is displayed on "Destination Folder." Select [Next] after confirmation of the path correct.
8. "Ready to Install the Program" window is displayed. Select [Install].
9. "InstallShield Wizard Completed" dialog is displayed. 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.

3. [Import Console Add-in Wizard] dialog box is displayed. 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.]

5. Return to [Select an Add-in] window. 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.

6. [Confirm the setting] window is displayed. Select [Finish] to end.

7. Reboot SCVMM.

2.4.5　Register the information in ISM Plug-in from command prompt

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

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)
```

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

🅿 Point
....

To reconfigure the server information, just execute the procedures 1 - 3 again.
....

2.4.6 How to use the ISM Plug-in

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

🅿 Point
....

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

2.5   Uninstallation Procedure

Uninstallation procedures of ISM Plug-in are below.

1. Log in to SCVMM.
2. Navigate to [Administration] > [Console Add-in] > [Infrastructure Manager].
3. Right click [Infrastructure Manager PlugIn].
4. Select [Delete] in context menu to delete the PlugIn.
5. Open Control Panel in Windows Server ISM Plug-in was installed to.
6. Select [Programs and Features]. [Uninstall or change a program] widow is displayed.
7. Right click [Infrastructure Manager Plug-in for Microsoft System Center Virtual Machine Manager] on the list.
8. Select [Uninstall] on context menu.
9. ISM Plug-in is removed.

2.6　Precautions

1. 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.
2. 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.

3.　ISM Plug-in for vCenter 1.3.3

3.1　Product Summary

Infrastructure Manager Plug-in for VMware vCenter Server (ISM Plug-in for vCenter) 1.3.3 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 the vCenter system requirements to operate ISM Plug-in for vCenter, refer to "Plug-in and Management Pack Support Matrix" on the web site for this product.

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

1. Click [DOWNLOADS] tab.
2. Click [Browse For Product] tab from [Ask Fujitsu! We are here to help] window.
3. Navigate to [Software > Infrastructure Manager(ISM)].
4. Select [No Operating System Dependencies] from [Selected operating system] pull-

down.

5.   Click [+ Support Matrix] to expand menu.

3.4   Installation Procedures

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

3.4.1   Before installation

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

🅿 **Point**

- Install OpenSSL into a Windows Server that ISM Plug-in will be installed to before execution of following procedures. Select OpenSSL 1.0.x series.
  Ex.) 1.0.1a, 1.0.2a
- If ISM Plug-in former version has been installed, uninstall the Plug-in and install ISM Plug-in 1.3.3.

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 -1 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 1.3.3

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 (*1). 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.

(*1) 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.
[ISM Plug-in for vCenter 1.3.1 or earlier]

```
vCenter

   USER:
   ism1@vsphere.local
   ism2@vsphere.local
   ism3@vsphere.local
```

```
CLI

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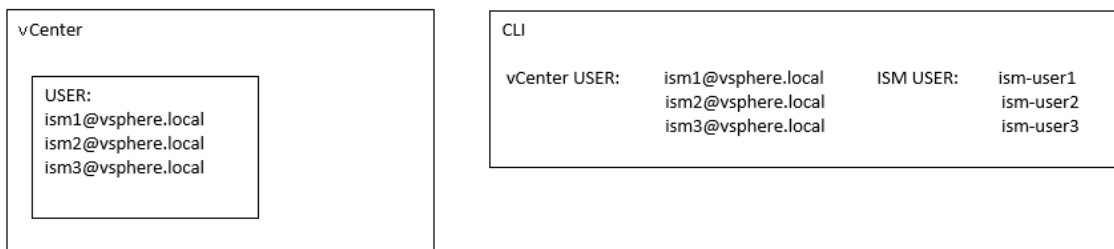
An ISM user setting is required for each vCenter user, that is, three combinations of settings, ism1 and ism-user1, ism2 and ism-user2, and ism3 and ism-user3.

[ISM Plug-in for vCenter 1.3.2 or later]

```
vCenter

   USER:
   ism1@vsphere.local
   ism2@vsphere.local
   ism3@vsphere.local

   Role: IsmRole
            +-- ism1@vsphere.local
            +-- ism2@vsphere.local
            +-- ism3@vsphere.local
```

```
CLI

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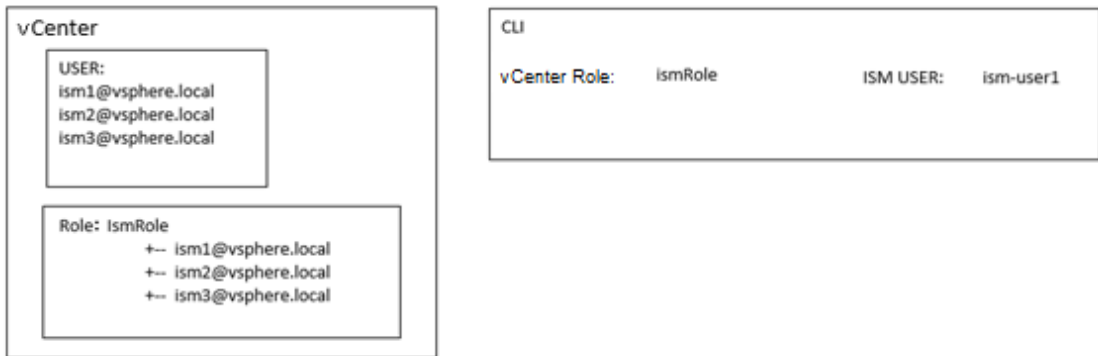
Not every vCenter user requires an ISM user setting, but every vCenter role requires an ISM user setting. In this case, only one setting, a combination of IsmRole and ism-user1 is required.

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. Double click [ISMvCenter_INSTALL.exe] and open the file.

2. Select language for the installation procedures.

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

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

5. The [Destination Folder] window is displayed. If you do not change the destination, select [Next], otherwise select [Change].

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

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

8. [Ready to Install the Program] window is displayed. Select [Install].

9. [InstallShield Wizard Completed] dialog is displayed. Select [Finish] to end.

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

3.4.4   Register the information in ISM Plug-in from command prompt

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>¥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

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

- In case a role is created by "Menu" - "Administration" - "Access Control" - "Roles" on GUI of vCenter as new or cloned
  Specify the created role name.
- In case pre-defined role is used
  Specify the name, that is on row "role name" of Table 1, by type of role.
  If you would like to assign a role "Administrator" in English environment, role name to give the command is "Admin"

[Table 1]

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

Role name to give the setting	Pre-defined role name on vCenter by language	
	German	French
Admin	Administrator	Administrateur
ReadOnly	Nur Lesen	Lecture seule
AutoUpdateUser	AutoUpdateUser	AutoUpdateUser
VirtualMachineConsoleUser	Virtual Machine console user	Utilisateur de console de machine virtuelle
InventoryService.Tagging.TaggingAdmin	Tagging Admin	Administrateur de balisage

Role name to give the setting	Pre-defined role name on vCenter by language	
	Spanish	Simplified Chinese

Admin	Administrador	管理员
ReadOnly	Solo lectura	只读
AutoUpdateUser	AutoUpdateUser	AutoUpdateUser
VirtualMachineConsoleUser	AutoUpdateUser	虚拟机控制台用户
InventoryService.Tagging.TaggingAdmin	Usuario de consola de máquina virtual	标记管理

Role name to give the setting	Pre-defined role name on vCenter by language	
	Traditional Chinese	Korean
Admin	系統管理員	관리자
ReadOnly	唯讀	읽기 전용
AutoUpdateUser	AutoUpdateUser	AutoUpdateUser
VirtualMachineConsoleUser	虛擬機器主控台使用者	가상 시스템 콘솔 사용자
InventoryService.Tagging.TaggingAdmin	標記管理員	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 vCenter user does not have administrative authority, you must grant "extension" privilege. For the details, please 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 Web Client (Flash) or vSphere Client (HTML5) in advance.

**Without Certificate, an error message appears. Refer to "Appendix Import the SSL Server Certificate" regarding the SSL Server Certificate setting.

3.4.6 How to use the ISM Plug-in

How to use ISM Plug-in

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

Note

- Please register IP address of [Hosts] of procedure 2 in [Registered IP Address] of the [OS] tab of the Details of Node screen of ISM
- Please set the following 「Security」 and 「Privacy」 when you use Internet Explorer.
  - [Security] tab setting
    1. Start Internet Explorer 11 and select [Tools] - [Internet options].
    2. The [Internet options] dialog box is displayed. Select the [Security] tab and select [Custom level…].
    3. The [Security Settings - Trusted Sites Zone] dialog box is displayed.
    4. Go to [Scripting] settings. Select [Enable] in all of the four items [Scripting of Java applets], [Enable XSS filter],[Active scripting] and [Allow status bar updates via script].
    5. Select [OK] and close the [Security Settings-Trusted Sites Zone] dialog box.
    6. Select [OK] and close the [Internet options] dialog box.
  - [Privacy] tab setting
    1. Start Internet Explorer and select [Tools]-[Internet options].

2. The [Internet options] dialog box is displayed. Select the [Privacy] tab and select [Advanced Settings].

3. The [Advanced Privacy Settings] dialog box is displayed.

4. Set both [First-party Cookies] and [Third-party Cookies] as [Accept].

5. Select [OK] and close the [Advanced Privacy Settings] dialog box.

6. Select [OK] and close the [Internet options] dialog box.

7. Restart Internet Explorer.

● If the SSL server certificate is not set on the browser correctly, an error screen is displayed. Set the SSL server certificate correctly beforehand referring to Appendix Import the SSL Server Certificate.

Content was blocked because it was not signed by a valid security certificate.

For more information, see "About Certificate Error" in Internet Explorer Help.

● Depending on your using internet browser, the ISM login page may not be displayed correctly due to security settings. Please try the following procedures and logging in to ISM again:
(Example: Microsoft Internet Explorer)

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

● 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 3.4.3 Register the information in ISM Plug-in from command prompt.

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

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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.
．．

3.5　Uninstallation Procedure

Uninstallation procedures of ISM Plug-in are below.

1. Open Control Panel on Windows Server ISM Plug-in was installed to.
2. Select [Programs and Features]. [Uninstall or change a program] widow is
   displayed.
3. Right click [Infrastructure Manager Plug-in for VMware vCenter Server] on the
   list.
4. Select [Uninstall] on context menu.
5. ISM Plug-in is removed.

3.6　Precautions

1. 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.
2. To use ISM Management Pack, installation in advance of and connection to
   vCenter are required. Refer to the product guides of VMware for operations of
   vCenter.

4.   ISM Plug-in for vCSA 1.3.3

4.1   Product Summary

Infrastructure Manager Plug-in for VMware vCenter Server Appliance (ISM Plug-in for vCSA) 1.3.3 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 vSphere Web Client

4.2   Contents

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

· ISMvCSA_INSTALL_V1.3.3.zip

· Readme.txt

· Readme_en.txt

4.3   System Requirements

For the vCSA system requirements to operate ISM Plug-in for vCSA, refer to "Plug-in and Management Pack Support Matrix" on the web site for this product.

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

1.   Click [DOWNLOADS] tab.

2.   Click [Browse For Product] tab from [Ask Fujitsu! We are here to help] window.

3.   Navigate to [Software > Infrastructure Manager(ISM)].

4.   Select [No Operating System Dependencies] from [Selected operating system] pull-down.

5.   Click [+ Support Matrix] to expand menu.

4.4   Installation Procedures

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

Note
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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.

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

- The commands are written in capitals and bold type.
- 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.

4.4.1   Before installation

📔 Point

- Install OpenSSL into a Windows Server that ISM Plug-in will be installed to before execution of following procedures. Select OpenSSL 1.0.x series.
  Ex.) 1.0.1a, 1.0.2a
- If ISM Plug-in former version has been installed, uninstall the Plug-in and install ISM Plug-in 1.3.3.

4.4.2   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.
```

4.4.3 Allocate the install file

Connect to vCSA with an FTP client and allocate ISMvCSA_INSTALL.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.zip file into the designated folder in the vCSA side. Transfer mode is changed to binary mode.

3. Close FTP client.

4.4.4　Unzip and execute the installation file

Note
....

For ISM Plug-in for vCSA 1.3.1 or earlier

1) Execute the ismServerConfig.-1 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 1.3.3

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 (*1). 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.

(*1) 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.

[ISM Plug-in for vCSA 1.3.1 or earlier]
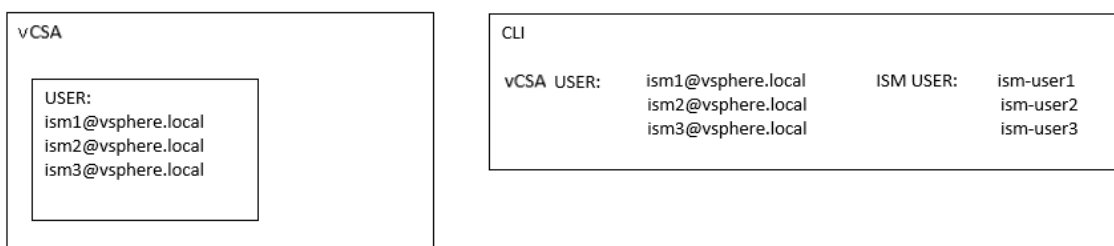
An ISM user setting is required for each vCSA user, that is, three combinations of settings, ism1 and ism-user1, ism2 and ism-user2, and ism3 and ism-user3.

[ISM Plug-in for vCSA 1.3.2 or later]

```
vCSA
    USER:
    ism1@vsphere.local
    ism2@vsphere.local
    ism3@vsphere.local

    Role: IsmRole
            +-- ism1@vsphere.local
            +-- ism2@vsphere.local
            +-- ism3@vsphere.local
```

```
CLI
vCSA Role:        ismRole              ISMU SER:     ism-user1
```

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.

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. Unzip the ISMvCSA_INSTALL.zip file.

```
# unzip ISMvCSA_INSTALL_V1.3.3.zip
Archive:  ISMvCSA_INSTALL_V1.3.3.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/
~
-------------
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 「4.3 Software 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.

4.4.5　Register the necessary information in ISM Plug-in

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.
```

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

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

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

  Specify the created role name.

- In case pre-defined role is used

  Specify the name, that is on row "role name" of Table 1, by type of role.

  If you would like to assign a role "Administrator" in English environment, role name to give the command is "admin"

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[Table1]

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

Role name to give the setting	Pre-defined role name on vCenter by language	
	German	French
Admin	Administrator	Administrateur
ReadOnly	Nur Lesen	Lecture seule
AutoUpdateUser	AutoUpdateUser	AutoUpdateUser
VirtualMachineConsoleUser	Virtual Machine console user	Utilisateur de console de machine virtuelle
InventoryService.Tagging.TaggingAdmin	Tagging Admin	Administrateur de balisage

Role name to give the setting	Pre-defined role name on vCenter by language	
	Spanish	Simplified Chinese
Admin	Administrador	管理员
ReadOnly	Solo lectura	只读
AutoUpdateUser	AutoUpdateUser	AutoUpdateUser
VirtualMachineConsoleUser	AutoUpdateUser	虚拟机控制台用户
InventoryService.Tagging.TaggingAdmin	Usuario de consola de máquina virtual	标记管理

Role name to give the setting	Pre-defined role name on vCenter by language	
	Traditional Chinese	Korean
Admin	系統管理員	관리자
ReadOnly	唯讀	읽기 전용
AutoUpdateUser	AutoUpdateUser	AutoUpdateUser
VirtualMachineConsoleUser	虛擬機器主控台使用者	가상 시스템 콘솔 사용자
InventoryService.Tagging.TaggingAdmin	標記管理員	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 vCenter>
Picked up JAVA_TOOL_OPTIONS: -Xms32M -Xmx128M


Unregistration completed successfully.
```

- If vCenter user does not have administrative authority, you must grant "extension" privilege. For the details, please refer to the product manual from VMware.

4.4.6　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 icon]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.
- -

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 Web Client (Flash) or vSphere Client (HTML5) in advance.

**Without Certificate, an error message appears. Refer to "Appendix Import the SSL Server Certificate" regarding the SSL Server Certificate setting.

4.4.8 How to use the ISM Plug-in

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

![Note icon]Note
- -

- Please register IP address of [Hosts] of procedure 2 in [Registered IP Address] of the [OS] tab of the Details of Node screen of ISM
- Please set the following 「Security」 and 「Privacy」 when you use Internet Explorer.
  - [Security] tab setting
    1. Start Internet Explorer 11 and select [Tools] - [Internet options].
    2. The [Internet options] dialog box is displayed. Select the [Security] tab and select [Custom level…].
    3. The [Security Settings - Trusted Sites Zone] dialog box is displayed.

4. Go to [Scripting] settings. Select [Enable] in all of the four items [Scripting of Java applets], [Enable XSS filter],[Active scripting] and [Allow status bar updates via script].

5. Select [OK] and close the [Security Settings-Trusted Sites Zone] dialog box.

6. Select [OK] and close the [Internet options] dialog box.

➢ [Privacy] tab setting

1. Start Internet Explorer and select [Tools]-[Internet options].

2. The [Internet options] dialog box is displayed. Select the [Privacy] tab and select [Advanced Settings].

3. The [Advanced Privacy Settings] dialog box is displayed.

4. Set both [First-party Cookies] and [Third-party Cookies] as [Accept].

5. Select [OK] and close the [Advanced Privacy Settings] dialog box.

6. Select [OK] and close the [Internet options] dialog box.

7. Restart Internet Explorer.

● If the SSL server certificate is not set on the browser correctly, an error screen is displayed. Set the SSL server certificate correctly beforehand referring to Appendix Import the SSL Server Certificate.

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

(Example: Microsoft Internet Explorer)

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

● 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 4.4.5 Register the necessary information in ISM Plug-in.

> **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. 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.
....

4.5　Uninstallation Procedure

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

```
# 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
```

4.6　Precautions

1.　To use ISM Management Pack, purchase and installation of ISM are required. Refer to "User's Guide" for more details. Without ISM, this plug-in does not work properly.
2.　To use ISM Management Pack, installation in advance of and connection to vCSA are required. Refer to the product guides of VMware for operations of vCSA.

5. ISM Management Pack 1.2.0

5.1 Product Summary

Infrastructure Manager Management Pack for VMware vRealize Operations (ISM Management Pack) 1.1.0 is designed to extend the user interface of vCSA 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.

5.2 Contents

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

· InfrastructureManagerAdapteraMP.pak
· Readme.txt
· Readme_en.txt

5.3 System Requirements

For the vROps system requirements to operate ISM Plug-in for vROps, refer to "Plug-in and Management Pack Support Matrix" on the web site for this product.
https://support.ts.fujitsu.com/
1. Click [DOWNLOADS] tab.
2. Click [Browse For Product] tab from [Ask Fujitsu! We are here to help] window.
3. Navigate to [Software > Infrastructure Manager(ISM)].
4. Select [No Operating System Dependencies] from [Selected operating system] pull-down.
5. Click [+ Support Matrix] to expand menu.

5.4 Installation Procedures

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

5.4.1 Before installation

Decompress the zip file of this product and save InfrastructureManagerAdapterMP.pak locally.

5.4.2 Execute the install file

vROps version 6.6.1/6.7/7.0

1. Connect to "https: //<IP address of vROps>/ui/" and log in by administrator with a Web browser.
2. Select [Administration] tab.
3. Select [Solutions] from the left pane. Select [Add] button.
4. [Add Solution] dialog is displayed. Select the [BROWSE] button. Select the PAK file and click [Open].
5. Select the [BROWSE] button. Select the PAK file prepared in "5.4.1 Before installation." Click [Open].
6. The message "The selected file is ready to upload and install. Select Upload to continue" is displayed. Select [UPLOAD].
7. "End User License Agreement" is displayed. Confirm the content of the Agreement. Check "I accept the terms of this agreement". Select [NEXT].
8. Installation starts. [FINISH] is displayed in [Installation Details]. Select [FINISH].

vROps version 7.5

1. Connect to "https: //<IP address of vROps>/ui/" and log in by administrator with a Web browser.
2. Select [Administration] tab.
3. Select [Solutions > Repository] from the left pane. Select [Add a Management Pack] button in [Other Management Pack].
4. [Add Solution] dialog is displayed. Select the [BROWSE] button. Select the PAK file and click [Open].
5. Select the [BROWSE] button. Select the PAK file prepared in "5.4.1 Before installation." Click [Open].
6. The message "The selected file is ready to upload and install. Select Upload to continue" is displayed. Select [UPLOAD].
7. "End User License Agreement" is displayed. Confirm the content of the Agreement. Check "I accept the terms of this agreement". Select [NEXT].
8. Installation starts. [FINISH] is displayed in [Installation Details]. Select

[FINISH].

5.4.3　Register information in ISM Management Pack

Register various information of vROps and ISM in the ISM Management Pack.

vROps version 6.6.1/6.7/7.0

1. Log in to vRealize Operations Manager Web UI.
2. Select [Administration] tab.
3. Select [Solutions] from the left pain. Select [FUJITSU Software Infrastructure Manager] in [Solutions].
4. Select [Configure] button.
5. "Manage Solution" dialog opens. Enter the following items displayed in "Instance Settings."

Item	Description
Display Name (imperative)	Input Display Name (ex. ISM Management Pack for vROps)
Description (Optional)	Input Description
Management IP (imperative)	Input IP address of target ISM (ex. 192.168.100.10)
Management Port (imperative)	Input target ISM Port (ex. 25566)

6. Select the [Add New] button on the right side of "Credential."
7. The "Management Credential" dialog opens. Enter the following information and select [OK].

Item	Description
Credential name (imperative)	Input Credential name (ex. ISM Management Pack for vROps)
ISM Username (imperative)	Input username of target ISM (ex. Administrator)
ISM Password (imperative)	Input password of target ISM (ex. 192.168.100.10)
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]. [Manage Credential] dialog box closes.

11. The message "Adapter instance successfully saved." is displayed. Select [OK] to close.

12. Select [CLOSE] to close [Manage Solution] dialog.

vROps version 7.5

1. Log in to vRealize Operations Manager Web UI.

2. Select [Administration] tab.

3. Select [Solutions > Configuration] from the left pain. Select [FUJITSU Software Infrastructure Manager] in [Configured Adapter Instances].

4. Select [Configure] button.

5. "Manage Solution" dialog opens. Enter the following items displayed in "Instance Settings."

Item	Description
Display Name (imperative)	Input Display Name (ex. ISM Management Pack for vROps)
Description (Optional)	Input Description
Management IP (imperative)	Input IP address of target ISM (ex. 192.168.100.10)
Management Port (imperative)	Input target ISM Port (ex. 25566)

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

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

Item	Description
Credential name (imperative)	Input Credential name (ex. ISM Management Pack for vROps)
ISM Username (imperative)	Input username of target ISM (ex. Administrator)
ISM Password (imperative)	Input password of target ISM (ex. 192.168.100.10)
vRealize Operations Manager Username (imperative)	Input user name of vROps
vRealize Operations Manager	Input password of vROps

Password (**imperative**)	

8. Select [Test connection].

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

10. Select [SAVE SETTINGS]. [Manage Credential] dialog box closes.

11. The message "Adapter instance successfully saved." is displayed. Select [OK] to close.

12. Select [CLOSE] to close [Manage Solution] dialog.

5.4.4   Utilize ISM Management Pack

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

Check a node status by opening ISM from vROps dashbord

1. Log in to vRealize Operations Manager Web UI.

2. Select [Dashboards]. Select [Infrastructure Manager] in the left pane.

3. Selecting any object displayed in [Host System] in the [Environment Overview] widget displays the configuration diagram in the [Object Relationship] widget, and the graph on the [Metric Chart].

4. Select any host system displayed in the [Object Relationship] widget. Select [Details] to go to the detailed screen of the host concerned.

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 to display the Infrastructure Manager Adapter instance that was added to [Administration] - [Solutions] in the [FUJITSU Software Infrastructure Manager] configuration.

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 state 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] and select [Search Infrastructure Manager for node].
6. ISM opens in a new window and automatically transitions to the node screen of the failed host.

5.5 Uninstallation Procedure

Uninstallation procedures are as follows.

vROps version 6.6.1/6.7/7.0

Execute following procedure.
1. Log in to vRealize Operations Manager Web UI.
2. Select [Administration] tab.
3. Select [Solutions] from the left pane. Select [Fujitsu Software Infrastructure Manager] from [Solutions].
4. Select the [Uninstall Solution] button.
5. A [WARNING] dialog is displayed. Check [I understand the risk and agree]. Select [OK].
6. ISM Management Pack is deleted.

vROps version 7.5

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].

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

6. ISM Management Pack is deleted.

5.6   Precautions

1. 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.

2. 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.

6. ISM Plug-in for vRO 1.0.0

6.1   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) 1.0.0. Specifically, the function enables to update firmware of 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.

6.2   Contents

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

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

6.3   System Requirements

For the vRO system requirements to operate ISM Plug-in for vRO, refer to "Plug-in and Management Pack Support Matrix" on the web site for this product.

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

1. Click [DOWNLOADS] tab.
2. Click [Browse For Product] tab from [Ask Fujitsu! We are here to help] window.
3. Navigate to [Software > Infrastructure Manager(ISM)].
4. Select [No Operating System Dependencies] from [Selected operating system] pull-down.
5. Click [+ Support Matrix] to expand menu.

6.4　Installation Procedures

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

6.4.1　Before installation

Decompress the zip file of 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 of "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 by 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 firmare 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

● The repository server that is effective for updates can be accessed

For details, refer to the following applicable manuals on the following Fujitsu Manual Server site.

http://manuals.ts.fujitsu.com/index.php

- "ServerView embedded Lifecycle Management (eLCM) 1.2 for iRMC S4 Overview"

- "ServerView embedded Lifecycle Management (eLCM) 1.2 for iRMC S5 Overview"

6.4.2　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 VMware vRealize Orchestrator.

3. **When the vRO version is 7.4 or 7.5:**

Click the "Open Control Center" link.

When the vRO version is 7.6:

Click the "START THE CONTROL CENTER" link.

4. Click the "Manage Plug-in" icon.

5. In the "Install Plug-in" section, click "Reference."

6. Select the "o11nplugin-fujitsu-ism-fwupdate.dar" file to be installed that has been stored in "6.4.1 Before installation".

7. Click "Open."

8. Click "Upload."

9. Click "Install."

10. After executing Step 9, Orchestrator server service will automatically restart in two minutes.

    Therefore, you must wait for two minutes until the restart of the service completes before performing Step 11.

11. 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.

12. Check that "Library" - "Infrastructure Manager" - "HostSystem" is displayed on the Workflow tree. If it is not displayed, execute "6.4.3 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. **When the vRO version is 7.4 or 7.5:**

   Click the "Open Control Center" link.

   When the vRO version is 7.6:

   Click the "START THE CONTROL CENTER" link.

4. Click the "Manage Plug-in" icon.

5. In the "Install Plug-in" section, click "Reference."

6. Select the "o11nplugin-fujitsu-ism-fwupdate.dar" file to be installed that has been stored in "6.4.1 Before installation".

7. Click "Open."

8. Click "Upload."

9. Click "Install."

10. After executing Step 9, Orchestrator server service will automatically restart in two minutes.
    Therefore, you must wait for two minutes until the restart of the service completes before performing Step 11.

11. 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.

12. **When the vRO version is 7.4 or 7.5:**
    Move in the order [Workflows] - [Library].
    When the vRO version is 7.6:
    Move in the order [Library] - [Workflows].

13. Enter "Infrastructure_Manager" in the search field and press Enter.
    Confirm that the following eight workflows are displayed. If they are not displayed, execute "6.4.3 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

6.4.3 Installation procedures for manual installation

Some parts of the Workflow package may not be installed by executing the installation procedure in "6.4.2 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. Click "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-1.0.0.package

5. Click "Open."

   The "Import package" dialog is displayed.

6. Click "Import."

   The second "Import package" dialog is displayed.

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

   Check that the checkbox for each item has been checked.

8. Click "Import selected elements."

   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. **When the vRO version is 7.5:**

Click [Packages].

When the vRO version is 7.6 or later:

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

4. Click 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-1.1.0.package

6. Click the [Open] button.

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

7. Click the [Package elements] tab.

   If the checkboxes for all items are not checked, click the checkbox for each item.

8. Click the [Import] button.

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

6.5 Firmware Update Procedures

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

6.5.1 Start Workflow to Register Information

The following are the parameters to be 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.

   1.1 Click the [Not set] button.

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

1.2   Specify the ESXi cluster to which the operation target server belongs.[Note1]

[Note 1]: 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.

2.1   Click the [Not set] button.
        The "Array of Composite Type (iRMC_IPaddress:string,
        ESXi:VC:HostSystem): irmc_credential" screen is displayed.

2.2   Click the [Insert value] button to the right of "New value."
        The "Composite type" screen is displayed.

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

2.4   Click the [Not set] button below "ESXi."
        The "Select(VC:HostSystem)" screen is displayed.

2.5   Select the ESXi host that corresponds to the iRMC IP address that you
        entered in Step 2.3 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.

2.6   Click 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 2.3 is
        displayed.
        In "ESXi," the ESXi host information that you selected in Step 2.5 is entered.

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There is no problem even though "HostSystem" is displayed on the screen.

2.7 Repeat Step 2.2 to Step 2.6 for the number of target servers.

2.8 After executing Step 2.7, click 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.

2.9 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.

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	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.
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 "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.
    1.1   Click the [Search for value] entry field.
          The "Select (VC:ClusterComputeResource)" screen is displayed.
    1.2   Specify the ESXi cluster to which the operation target server belongs.[Note1]

    [Note 1]: 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 2].

    [Note 2] 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.

    2.1   Click the [+] button.

A new window is displayed.

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

2.3 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 2.3. Click the [APPLY] button.

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

2.4 Repeat Step 2.1 to Step 2.3 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.

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.
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," UFI boot mode is used.

6.5.2 Execute Workflow

When all the entry fields and lists are filled in "6.5.1 Start Workflow to Register Information," the [Submit] button or "RUN" button is enabled.

Click the [Submit] button or the [RUN] button to execute the Workflow.

🖙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 "6.5.1 Start Workflow to Register Information", execute "6.5.3 Add registration information to the Workflow".

6.5.3 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.

or detailed information see manual " FUJITSU Software Infrastructure Manager Plug-in and Management Pack Setup Guide".

*********** User interaction waiting, has to be opened manually ***********

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

or detailed information see manual " FUJITSU Software Infrastructure Manager

Plug-in and Management Pack Setup Guide".

*********** User interaction waiting, has to be opened manually ***********

2.   Confirm that the following message is displayed.

3.   Click [Waiting for Input] under "Activity" in the left pane.

4.   Click the [ANSWER] link.

5.   Check the checkbox for "The host will be set in maintenance mode. Are you sure?"
      if "Yes," and if "No," leave the checkbox unchecked.

6.   Click the [ANSWER] button.

6.5.4   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.

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 "6.5.4 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."

Click the Workflow that has been executed.

The log of the Workfow is displayed in the "Messages" field of the [Logs] tab in the bottom of the right pane in 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 "6.5.1 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 "6.5.4 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!

6.5.5　Messages

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

Message ID	Output	Description
10000001	{iRMC IP address} The fimware was update success.	The Firmware Rolling Update Parameter was created successfully.
10000002	{iRMC IP address} The firmware is up to date.	The Firmware Rolling Update Parameter list was output successfully.
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. -Please 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}	Please 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.	Please 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.

6.6 Uninstallation Procedure

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

6.7 Precautions

1. 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.
2. To use ISM Management Pack, deployment in advance of and the availability of vRO are required. Refer to the product guides of VMware for operations of vRO.

7. Latest Information

You can refer to the latest information about ISM by contacting your local Fujitsu customer service partner.

Appendix Import the SSL Server Certificate

It is necessary to import the SSL Server Certificate in advance into the devices which should be connected to vCSA. Without Certificate, an error message appears.
An example with Internet Explorer 11 is below.

1. Prepare the SSL Server Certificate.

    ℙ Point
    ∙∙

    Prepare the SSL Server Certificate referring to Chapter 4.7.1 "Deployment of SSL Server Certificates" in "User's Guide." Make sure to complete the certificate import on the intended devices.
    If using Firefox, refer to Chapter 2.1.1 "GUI" in "User's Guide" to complete the certificate import.
    ∙∙

2. With Internet Explorer 11, navigate to [Tools] > [Internet options].
3. The [Internet Options] dialog box is displayed. Navigate to [Content] > [Certificates].
4. The [Certificates] dialog box is displayed. Select the [Personal] tab.
5. Select [Import]. The "Certificate Import Wizard" dialog box is displayed.
6. The "Welcome to the Certificate Import Wizard" window is displayed. Select [Next].
7. The "File to import" window is displayed. Select [Browse].
8. Select the [SSL Server Certificate] prepared in procedure 1.
9. The path to the certificate file is displayed in [File name]. Confirm the file name or path of the certificate is correct. Select [Next].
10. The "Certificate Store" window is displayed. Confirm [Place all certificates in the following store] is selected. Select [Browse].
11. The [Select Certificate Store] dialog box is displayed. Select [Trusted Root Certification Authorities]. Select [OK].
12. [Certificate Store] is displayed. Select [Next].
13. The [Completing the Certificate Import Wizard] window is displayed. Select [Finish] after checking for misconfigurations.
14. When the [Security Warning] dialog box saying "You are about to install a certificate from a certification authority (CA) claiming to represent: <IP address of ISM or hostname>" is displayed, select [Yes] after confirming that the IP address

or hostname of ISM is correct.

15. The message "The import was successful" appears. Select [OK] to close the dialog box.

16. Select [Close] to close the [Certificates] dialog box.

17. Select [OK] to close the [Internet Options] dialog box.

18. Reboot Internet Explorer 11.

19. Login to ISM and confirm that there are no errors.