

**FUJITSU Software**  
**Infrastructure Manager V2.4**  
**Infrastructure Manager for PRIMEFLEX V2.4**

A horizontal decorative band with a red-to-dark-red gradient, featuring abstract white and light red curved lines and glowing points of light.

**Plug-in and Management Pack**  
**Setup Guide**

CA92344-2741-03  
May 2019

## 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.

<b>ISM Plug-in</b>	<b>Virtualization management software</b>
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 V2.4 Infrastructure Manager for PRIMEFLEX V2.4 First Step Guide	<p>This manual is for those using this product for the first time.</p> <p>This manual summarizes the procedures for the use of this product, the product system, and licensing.</p> <p>In this manual, it is referred to as "First Step Guide."</p>
FUJITSU Software Infrastructure Manager V2.4 Infrastructure Manager for PRIMEFLEX V2.4 User's Guide	<p>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.</p> <p>In this manual, it is referred to as "User's Guide."</p>
FUJITSU Software Infrastructure Manager V2.4 Infrastructure Manager for PRIMEFLEX V2.4 Operating Procedures	<p>This manual describes the installation procedure and usages for the operations of this product.</p> <p>In this manual, it is referred to as "Operating Procedures."</p>
FUJITSU Software Infrastructure Manager V2.4 Infrastructure Manager for PRIMEFLEX V2.4 REST API Reference Manual	<p>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.</p> <p>In this manual, it is referred to as "REST API Reference Manual."</p>
FUJITSU Software Infrastructure Manager V2.4 Infrastructure Manager for PRIMEFLEX V2.4 Messages	<p>This manual describes the messages that are output when using ISM and ISM for PRIMEFLEX, and the actions to take for these messages.</p> <p>In this manual, it is referred to as "ISM Messages."</p>
FUJITSU Software	<p>This manual describes the messages that</p>

Manual Name	Description
Infrastructure Manager for PRIMEFLEX V2.4 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 V2.4 Infrastructure Manager for PRIMEFLEX V2.4 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 V2.4 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 V2.4 Infrastructure Manager for PRIMEFLEX V2.4 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 V2.4 Infrastructure Manager for PRIMEFLEX V2.4 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 <b>Infrastructure Manager Plug-in.</b> <ul style="list-style-type: none"> <li>● Infrastructure Manager Plug-in for              Microsoft System Center Operations              Manager</li> <li>● Infrastructure Manager Plug-in for              Microsoft System Center Virtual Machine              Manager</li> <li>● Infrastructure Manager Plug-in for VMware              vCenter Server</li> <li>● Infrastructure Manager Plug-in for VMware              vCenter Server Appliance</li> </ul>

Manual Name	Description
	<ul style="list-style-type: none"> <li>● Infrastructure Manager Management Pack for VMware vRealize Operations</li> <li>● Infrastructure Manager Plug-in for VMware vRealize Orchestrator</li> </ul> <p>In this manual, it is referred to as "ISM Plug-in/MP Setup Guide."</p>

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.



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 V2.4 Glossary”.

## High Risk Activity

---

The Customer acknowledges and agrees that the Product is designed, developed and manufactured as contemplated for general use, including without limitation, general office use, personal use, household use, and ordinary industrial use, but is not



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

## **To Use This Product Safely**

---

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

## **Modifications**

---

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

## **Disclaimers**

---

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

## **Trademarks**

---

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

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

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

All other products are owned by their respective companies.

## **Copyright**

---

Copyright 2019 FUJITSU LIMITED

This manual shall not be reproduced or copied without the permission of Fujitsu Limited.

## Modification History

---

<b>Edition</b>	<b>Publication Date</b>	<b>Section</b>		<b>Modification Overview</b>
01	February 2019	-	-	First edition
02	April 2019	Chapter 6	-	Add ISM Plug-in for vRO
03	May 2019	1.3 System Requirements	-	Microsoft System Center 2019 is supported in Plug-in for System Center
		2.3 System Requirements	-	

# Contents

---

<b>Preface</b> .....	<b>2</b>
Purpose .....	2
Intended Readers .....	6
Notation in this guide .....	6
High Risk Activity .....	8
To Use This Product Safely .....	9
Modifications .....	9
Disclaimers .....	9
Trademarks .....	9
Copyright .....	10
Modification History .....	11
<b>Contents</b> .....	<b>12</b>
<b>1. ISM Plug-in for SCOM 1.2</b> .....	<b>15</b>
1.1 Product Summary .....	15
1.2 Contents .....	15
1.3 System Requirements .....	15
1.4 Installation Procedures.....	15
1.4.1 Before installation .....	16
1.4.2 Execute the install file .....	16
1.4.3 Import Management Pack .....	16
1.4.4 Register the information in ISM Plug-in from command prompt .....	17
1.4.5 How to use the ISM Plug-in .....	17
1.5 Uninstallation Procedure.....	18
1.6 Precautions .....	19
<b>2. ISM Plug-in for SCVMM 1.2</b> .....	<b>20</b>
2.1 Product Summary .....	20
2.2 Contents .....	20
2.3 System Requirements .....	20
2.4 Installation Procedures.....	21
2.4.1 Before installation .....	21
2.4.2 Execute the install file .....	21
2.4.3 Import console add-in .....	21

2.4.4	Register the information in ISM Plug-in from command prompt .....	22
2.4.5	How to use the ISM Plug-in .....	23
2.5	Uninstallation Procedure.....	23
2.6	Precautions .....	23
<b>3.</b>	<b>ISM Plug-in for vCenter 1.3 .....</b>	<b>25</b>
3.1	Product Summary .....	25
3.2	Contents .....	25
3.3	System Requirements .....	25
3.4	Installation Procedures.....	26
3.4.1	Before installation .....	26
3.4.2	Execute the install file .....	26
3.4.3	Register the information in ISM Plug-in from command prompt .....	26
3.4.4	Install SSL Server Certificate of ISM into Web browser .....	28
3.4.5	How to use the ISM Plug-in .....	28
3.5	Uninstallation Procedure.....	30
3.6	Precautions .....	30
<b>4.</b>	<b>ISM Plug-in for vCSA 1.3 .....</b>	<b>32</b>
4.1	Product Summary .....	32
4.2	Contents .....	32
4.3	System Requirements .....	32
4.4	Installation Procedures.....	32
4.4.1	Before installation .....	33
4.4.2	Connect vCSA with SSH .....	33
4.4.3	Allocate the install file.....	34
4.4.4	Unzip and execute the installation file .....	35
4.4.5	Register the necessary information in ISM Plug-in .....	37
4.4.6	Terminate the SSH connection.....	38
4.4.7	Install SSL Server Certificate of ISM into Web browser .....	39
4.4.8	How to use the ISM Plug-in .....	39
4.5	Uninstallation Procedure.....	42
4.6	Precautions .....	42
<b>5.</b>	<b>ISM Management Pack 1.1 .....</b>	<b>43</b>
5.1	Product Summary .....	43
5.2	Contents .....	43

5.3	System Requirements .....	43
5.4	Installation Procedures .....	44
5.4.1	Before installation .....	44
5.4.2	Execute the install file .....	44
5.4.3	Register information in ISM Management Pack .....	44
5.4.4	Utilize ISM Management Pack .....	45
5.5	Uninstallation Procedure .....	46
5.6	Precautions .....	47
<b>6.</b>	<b>ISM Plug-in for vRO 1.0 .....</b>	<b>48</b>
6.1	Product Summary .....	48
6.2	Contents .....	48
6.3	System Requirements .....	48
6.4	Installation Procedures .....	49
6.4.1	Before installation .....	49
6.4.2	Installation procedures .....	49
6.4.3	Installation procedures for manual installation .....	50
6.4.4	Cluster Offline Update Workflow .....	51
6.4.5	Execution results of Workflow .....	54
6.5	Uninstallation Procedure .....	57
6.6	Precautions .....	57
<b>7.</b>	<b>How to utilize ISM .....</b>	<b>58</b>
<b>8.</b>	<b>Latest Information .....</b>	<b>59</b>
	<b>Appendix Import the SSL Server Certificate .....</b>	<b>60</b>

# 1. ISM Plug-in for SCOM 1.2

## 1.1 Product Summary

---

Infrastructure Manager Plug-in for Microsoft System Center Operations Manager (ISM Plug-in for SCOM) 1.2 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 five (5) files:

- ISMSCOM\_INSTALL.exe
- Readme.txt
- Readme\_en.txt
- Setup Guide (Japanese)
- Setup Guide (\*this document)

## 1.3 System Requirements

---

The system requirements for SCOM to run ISM Plug-in are as follows.

### Required software

Product name	Version
Windows Server	Windows Server 2012 R2 / 2016 / 2019
SCOM	SCOM 2012 R2 / 2016 / 2019
ISM	ISM V2.3 / V2.4

Refer to "User's Guide" for the Web browser requirements for ISM.

## 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 1.2.2.
- 

### 1.4.2 Execute the install file

---

1. Double click (ISMSCOM\_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. “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.

### 1.4.3 Import Management Pack

---

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

#### Point

---

If the online catalog message appears after 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.

#### 1.4.4 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.  
.....

#### 1.4.5 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

### 2.1 Product Summary

---

Infrastructure Manager Plug-in for Microsoft System Center Virtual Machine Manager (ISM Plug-in for SCVMM) 1.2 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 five (5) files:

- ISMSCVMM\_INSTALL.exe
- Readme.txt
- Readme\_en.txt
- Setup Guide (Japanese)
- Setup Guide (\*this document)

### 2.3 System Requirements

---

System requirements for SCVMM for using ISM Plug-in are below.

#### Required software

Software name	Version
Windows Server	Windows Server 2012 R2 / 2016 / 2019
SCVMM	SCVMM 2012 R2 / 2016 / 2019
ISM	ISM V2.3 / V2.4

Refer to "User's Guide" for the Web browser requirements for ISM.

## 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 1.2.2.
- 

### 2.4.2 Execute the install file

---

1. Double click [ISMSCVMM\_INSTALL.exe] and open the 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.

### 2.4.3 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.

### 2.4.4 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.

---

## 2.4.5 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

### 3.1 Product Summary

---

Infrastructure Manager Plug-in for VMware vCenter Server (ISM Plug-in for vCenter) 1.3 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 five (5) files:

- ISMvCenter\_INSTALL.exe
- Readme.txt
- Readme\_en.txt
- Setup Guide (Japanese)
- Setup Guide (\*this document)

### 3.3 System Requirements

---

System requirements for vCenter for using ISM Plug-in are below.

#### Required software

Software name	Version
Windows Server	Windows Server 2012 R2 / 2016
vCenter	vCenter 6.5U2 / 6.7 / 6.7U1
ISM	ISM V2.4

About Web browser requirements for ISM, refer to "User's Guide."

About Web browser requirements for vSphere Web Client (Flash) and vSphere Client (HTML5), refer to web sites of VMware, Inc.

## 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 1.2 or former version has been installed, uninstall the Plug-in and install ISM Plug-in 1.3.
- 

### 3.4.2 Execute the install file

---

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.

### 3.4.3 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>%bin%ismServerConfig.exe -a

3. Follow the directions and enter the information below.

```
<Install destination folder name>%bin%ismServerConfig.exe -a
Welcome to the setup wizard for ISM (Infrastructure Manager). Please enter the following information to register.

Please enter a IP address or FQDN of ISM Server : <IP address or FQDN of ISM Server>
Please enter a Port Number of ISM Server : <Port Number of ISM Server>
Please enter a valid user name of ISM Server : <user name of ISM Server>
Please enter a password for the user name : <password of ISM Server>
Please enter a valid user name of vCenter that correspond to user name of ISM Server: <user name of vCenter>

Registration completed successfully
```

#### Point

- 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 Account=<user 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 <<user name of ISM Server>
Unregistration completed successfully.
```

- If ISM Plug-in is used among multiple vCenter users, register all the vCenter users planning to use ISM Plug-in by repeating procedure 2. Create ISM users for each vCenter user you are planning to register, because an ISM user cannot be shared among multiple vCenter users. If multiple users are registered, the information of ISM Server is as below.

```
<Install destination folder name>%bin%ismServerConfig.exe -l
Picked up JAVA_TOOL_OPTIONS: -Xms32M -Xmx128M
ISM IP address or FQDN=<IP address or FQDN of ISM Server> ISM Port=<port number of ISM Server>
ISM Account=<user name1 of ISM Server> vCenter Account= Account=<user name1 of vCenter>
ISM IP address or FQDN=<IP address or FQDN of ISM Server> ISM Port=<port number of ISM Server>
ISM Account=<user name2 of ISM Server> vCenter Account= Account=<user name2 of vCenter>
ISM IP address or FQDN=<IP address or FQDN of ISM Server> ISM Port=<port number of ISM Server>
ISM Account=<user name3 of ISM Server> vCenter Account=<user name3 of vCenter>
```

4. Execute “exit” to finish.

### 3.4.4 Install SSL Server Certificate of ISM into Web browser

---

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

### 3.4.5 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

#### **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.

## 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

### 4.1 Product Summary

---

Infrastructure Manager Plug-in for VMware vCenter Server Appliance (ISM Plug-in for vCSA) 1.3 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 five(5) files:

- ISMvCSA\_INSTALL\_V1.3.1.zip
- Readme.txt
- Readme\_en.txt
- Setup Guide (Japanese)
- Setup Guide (\*this document)

### 4.3 System Requirements

---

System requirements for vCSA for using ISM Plug-in are below.

#### Required software

Software name	Version
vCSA	vCenter 6.5U2 / 6.7 / 6.7U1
ISM	ISM V2.4

Refer to "User's Guide" about Web browser requirements for ISM.

Refer to web sites of VMware, Inc. about Web browser requirements for vSphere Web Client (Flash) and vSphere Client (HTML5).

### 4.4 Installation Procedures

---

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



### Note

---

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

- Activate SSH login on vCSA. Check the login status via the vCSA web console: [Administration] - [Deployment] - [System Configuration] and select the designated node, [Manage] - [Settings] - [Access] Then check whether SSH login is enabled or not.
  - Install a terminal emulator supporting SSH connections.
  - Install a FTP client supporting SFTP connections.
- 

### Point

---

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

- The 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 1.2 or former version has been installed, uninstall the Plug-in and install ISM Plug-in 1.3.
- 

## 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/vmttn/server/vcenter/cloudvm](https://communities.vmware.com/community/vmttn/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

---

1. Unzip the ISMvCSA\_INSTALL.zip file.

```
# unzip ISMvCSA_INSTALL_V1.3.1.zip
Archive:  ISMvCSA_INSTALL_V1.3.1.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  20574 Nov  8 04:38 ISMvCSA_common.zip
-rw-r--r-- 1 root root 4764306 Nov  8 04:38 ISMvCSA_flex.zip
-rw-r--r-- 1 root root 4049368 Nov  8 04:38 ISMvCSA_html5.zip
-rwx----- 1 root root   9617 Oct 30 05:01 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.

---

- 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-vmware-UI/plugin-packages/ism/
  creating: /usr/lib/vmware-vmware-UI/plugin-packages/ism/plugins/

~
-----
Start reboot!
-----
```

- 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.
```

- 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. Add the environment variables.

```
# export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/usr/lib/vmware-vpx/vimtop
```

2. Move to the ISM Plug-in directory.

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

3. 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 a valid user name of vCenter that correspond to user name of ISM Server: < user name of
vCSA>
Picked up JAVA_TOOL_OPTIONS: -Xms32M -Xmx128M
Registration completed successfully.
```

#### Point

---

- 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
Account=<user name of vCSA >
```

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

```
# ./ismServerConfig -d <user name of ISM Server>
Picked up JAVA_TOOL_OPTIONS: -Xms32M -Xmx128M
```

- If ISM Plug-in is used among multiple vCSA users, register all the vCSA users planning to use ISM Plug-in by repeating procedure 3. Create ISM users for each vCSA user you are planning register, because an ISM user cannot be shared among multiple vCSA users. If multiple users are registered, the information of ISM Server is as follows.

```
# ./ismServerConfig -l
Picked up JAVA_TOOL_OPTIONS: -Xms32M -Xmx128M
ISM IPaddress or FQDN=<IP address or FQDN of ISM Server> ISM Port=<Port Number of ISM Server>
ISM Account=<user name1 of ISM Server> vCenter Account=<user name1 of vCSA>
ISM IPaddress or FQDN=<IP address or FQDN of ISM Server> ISM Port=<Port Number of ISM Server>
ISM Account=<user name2 of ISM Server> vCenter Account=<user name2 of vCSA>
ISM IPaddress or FQDN=<IP address or FQDN of ISM Server> ISM Port=<Port Number of ISM Server>
ISM Account=<user name3 of ISM Server> vCenter Account=<user name3 of vCSA>
```

---

#### 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.



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

---

- 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.

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

**For the registered node in ISM:**

Node Information

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

Node List

 **Point**

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



## 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-vmware-vmware-client/plugin-packages/ism
# rm -rf /usr/lib/vmware-vmware-vmware-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 1.1

### 5.1 Product Summary

---

Infrastructure Manager Management Pack for VMware vRealize Operations (ISM Management Pack) 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 five(5) files:

- InfrastructureManagerAdapteraMP.pak
- Readme.txt
- Readme\_en.txt
- Setup Guide (Japanese)
- Setup Guide (\*this document)

### 5.3 System Requirements

---

System requirements for vROps for using ISM Management Pack are below.

#### Required software

Software name	Version
vROps	vROps 6.3.1 / 6.4 / 6.5 / 6.6 / 6.6.1 / 6.7 / 7.0
ISM	ISM V2.3 / V2.4

Refer to "User's Guide" about Web browser requirements for ISM.

Refer to web pages of VMware, Inc. about Web browser requirements for vRealize Operations Manager Web UI.

## 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

---

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].

### 5.4.3 Register information in ISM Management Pack

---

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

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 [Configured Adapter Instances].
4. Select [Configure] button.
5. “Manage Solution” dialog opens. Enter the following items displayed in “Instance Settings.”

Item	Description
------	-------------

Display Name ( <b>imperative</b> )	Input Display Name (ex. ISM Management Pack for vROps)
Description (Optional)	Input Description
Management IP ( <b>imperative</b> )	Input IP address of target ISM (ex. 192.168.100.10)
Management Port ( <b>imperative</b> )	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 ( <b>imperative</b> )	Input Credential name (ex. ISM Management Pack for vROps)
Username ( <b>imperative</b> )	Input username of target ISM (ex. Administrator)
Password ( <b>imperative</b> )	Input password of target ISM (ex. 192.168.100.10)
vRealize Operations Manager Username ( <b>imperative</b> )	Input user name of vROps
vRealize Operations Manager Password ( <b>imperative</b> )	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.

#### 5.4.4 Utilize ISM Management Pack

Below 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.

### **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 6.3.1/6.4/6.5**

Please refer to the page below and proceed to uninstallation procedures.

Removing a solution from vRealize Operations Manager 6.x (2114441)

<https://kb.vmware.com/s/article/2114441>

### **vROps version 6.6/6.6.1/6.7/7.0**

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 [Configured Adapter Instances].
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.

## 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

### 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. Specifically, the function enables to update firmware of ESXi hosts in the ESXi cluster offline one by one. The target firmware is the firmware for the iRMC and BIOS.

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

### 6.2 Contents

---

This product is composed of the following five files.

- o11nplugin-fujitsu-ism-fwupdate.dar
- Readme.txt
- Readme\_en.txt
- Setup Guide (Japanese)
- Setup Guide (\*this document)

### 6.3 System Requirements

---

The system requirements for vRO to run ISM Plug-in vRO are as follows.

#### Required software

Product name	Version
vRO	vRO 7.4.0/7.5.0
ISM	ISM V2.4
ESXi	ESXi 6.5/6.5U1/6.5U2/6.7/6.7U1/6.7U2
vCenter Server	vCenter 6.5/6.5U1/6.5U2/6.7/6.7U1

Refer to "User's Guide" for the web browser requirements for ISM.

Refer to web sites of VMware, Inc. about requirements for VMware vRealize Orchestrator.

## 6.4 Installation Procedures

---

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

### 6.4.1 Before installation

---

Preparation for ISM

- The target nodes must be registered in 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."

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

### 6.4.2 Installation procedures

---

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

1. Use one of the following URLs to open the VMware vRealize Orchestrator interface.
  - `http://<orchestrator_server_DNS_name_or_IP_address>:8282`
  - `https://<orchestrator_server_DNS_name_or_IP_address>:8283`
  - `https://<orchestrator_server_DNS_name_or_IP_address>:8281`
  - `http://<orchestrator_server_DNS_name_or_IP_address>:8280`



2. Log in to VMware vRealize Orchestrator.
3. Click the "Open 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 install.
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 VMware vRealize Orchestrator client.  
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."

### 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.

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. Click "Import selected elements."

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

## 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.

- 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.  
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.

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	Yes	Specify "Yes" or "No."

hostname matches the names stored inside the server's X.509 certificate		<p>If you specify "Yes," the Workflow verifies whether the ISM certificate matches the target host name.</p> <p>If you specify "No," the Workflow does not verify whether the ISM certificate matches the target host name.</p>
---	--	---

## 6.5.2 Execute Workflow

---

After the list and all input fields are filled in completely in "6.5.1 Start Workflow to Register Information," the [Submit] button becomes selectable. Click the [Submit] button to execute Workflow.

## 6.5.3 Execution results of Workflow

---

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

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

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

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

### Note

---

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

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

Refer to "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!

## 6.5.4 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.

## 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. How to utilize ISM**

Please refer to "User's Guide" for how to utilize each function of ISM.

## **8. Latest Information**

For the latest information about ISM Plug-in, please refer to URL below.

You can also 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.

### 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.