Deploying Avaya Aura® System Manager in Virtualized Environment

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Contents

Chapter 1: Introduction

Purpose

This document provides procedures for deploying:

- Avaya Aura® System Manager application on VMware® in a customer-provided Virtualized Environment and Avaya Solutions Platform 130 (Dell PowerEdge R640) in a Avaya-Supplied VMware ESXi 7.0. It includes installation, configuration, installation verification, troubleshooting, and basic maintenance checklists and procedures.
- Avaya Aura® System Manager application on Kernel-Based Virtual Machine (KVM) Avaya Solution Platform 130 (Dell Power Edge R640, R660xs) in the Avaya-Supplied KVM on Red Hat Enterprise Linux (RHEL) R8.10 or Avaya Solution Platform S8300 in the Avaya-supplied KVM on RHEL R8.10.

The primary audience for this document is anyone who is involved with installing, configuring, and verifying System Manager at a customer site. For example, implementation engineers, field technicians, business partners, solution providers, and customers.

This document does not include optional or customized aspects of a configuration.

Changes to platform support

As of January 1, 2026, Avaya has refined its infrastructure support strategy for Avaya Aura® and Surround Applications. This update specifically impacts Software-Only and Infrastructure as a Service (IaaS) deployment models. To ensure your environment remains compliant and supported, review the following changes to supported platforms:

Discontinued Platforms:

- Hypervisor: Microsoft Hyper-V
- Cloud Platforms: Microsoft Azure, Google Cloud Platform (GCP), IBM Cloud

Supported platforms for Software Only and Infrastructure as a Service (IaaS) deployment models:

- Cloud Platform: AWS
- On-premises platforms: KVM, Nutanix, VMware

Prerequisites

Before deploying the System Manager OVA, ensure that you have the following knowledge, skills and tools.

Knowledge

- **For Avaya Solutions Platform 130:** Avaya Solutions Platform 130 (Dell PowerEdge R640) installation and set up
- **For VMware:** VMware® vSphere™ virtualized environment
- System Manager

Skills

To administer:

- VMware® vSphere™ virtualized environment
- Avaya Solutions Platform 130 (Dell PowerEdge R640)

Tools

For information about tools and utilities, see “Configuration tools and utilities”.

Change history

Issue	Date	Summary of changes
8	March 2026	Added the section: Changes to platform support on page 8
7	February 2026	Updated the following sections: • Purpose on page 8 • Virtualized Environment overview on page 11 • Software requirements on page 17 • Supported ASP R6.0.x (KVM on RHEL 8.10) version on page 19
6	May 2025	Updated the following section: • Topology on page 11
5	April 2025	Updated the following sections: • Supported ESXi version on page 18 • Deploying System Manager on ASP R6.0.x (KVM on RHEL 8.10) using Script on page 50
4	December 2024	Added the following section: Deploying System Manager on ASP R6.0.x (KVM on RHEL 8.10) using Script on page 50

Table continues…

Issue	Date	Summary of changes
3	December 2024	Added the following sections for Release 10.2.1: • Planning checklist for deploying System Manager on ASP R6.0.x (KVM on RHEL 8.10) on page 15 • Supported hardware for ASP R6.0.x (KVM on RHEL 8.10) on page 18 • Supported ASP R6.0.x (KVM on RHEL 8.10) version on page 19 • Supported footprints of System Manager on ASP R6.0.x (KVM on RHEL 8.10) on page 23 • Deploying System Manager on ASP R6.0.x (KVM on RHEL 8.10) using KVM Cockpit on page 46 • Updating the CPU resources for KVM Cockpit on page 56 Updated the following sections for Release 10.2.1: • Purpose on page 8 • Virtualized Environment overview on page 11 • Virtualized Environment component for ASP R6.0.x (KVM on RHEL 8.10) on page 13 • Virtualized Environment components for VMware on page 12 • Software requirements on page 17
2	April 2024	• Updated VMware features supported by Avaya Aura on page 145. • Changed hyper-threading to hyperthreading across the document.
1	December 2023	Release 10.2

Chapter 2: Virtualized Environment overview

You can deploy the Avaya Aura® Release 10.2.x applications in one of the following Virtualized Environments:

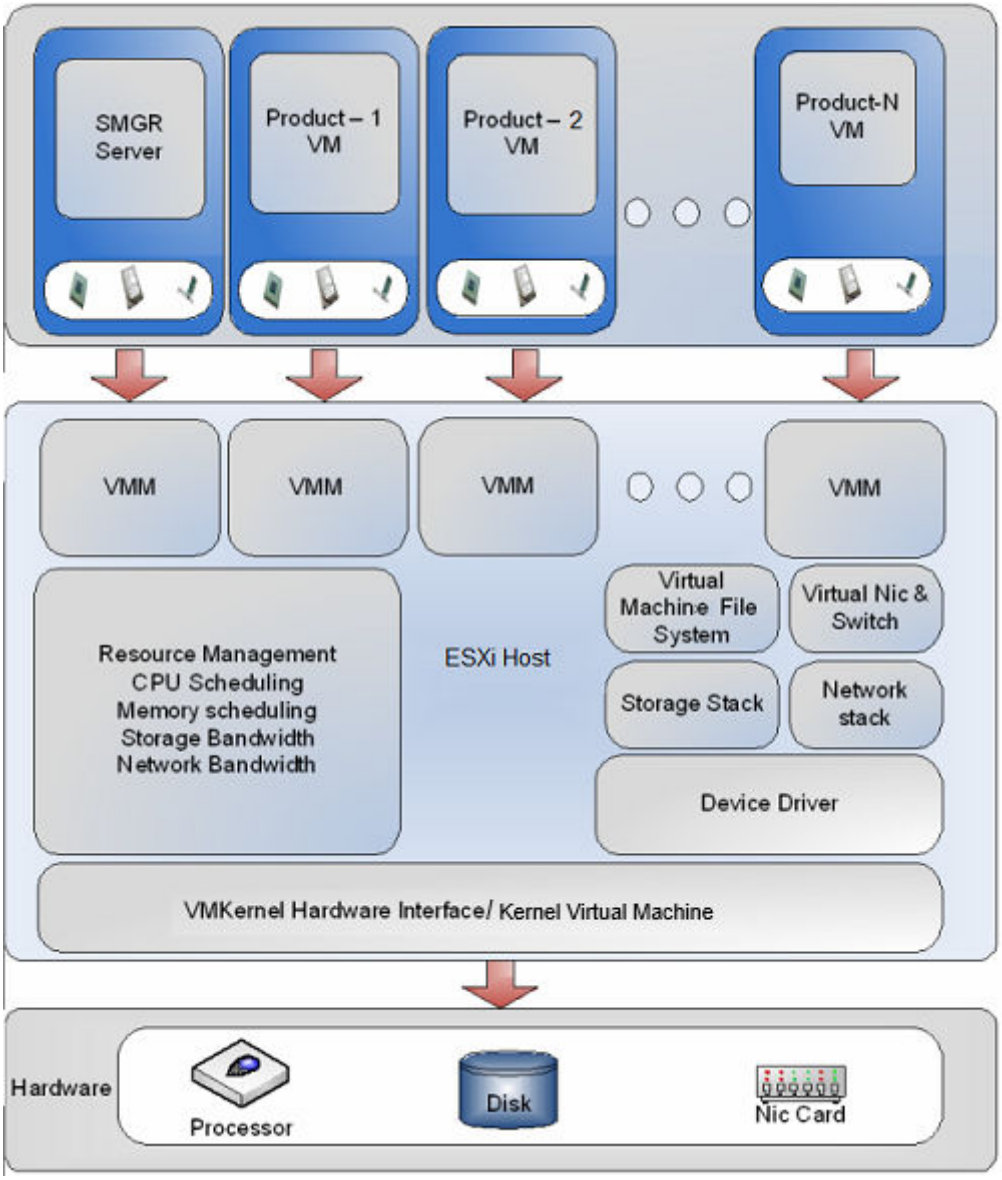
- Avaya Solutions Platform 130 Release 5.1 (Dell PowerEdge R640) is a single host server with a preinstalled ESXi 7.0 Standard VMware License.
- Avaya Solutions Platform 130 Release 6.0 (Dell PowerEdge R640, R660xs) is a single host server with a preinstalled KVM on RHEL R8.10 software.
- Avaya Solutions Platform S8300 Release 6.0 is shipped with a preinstalled Kernel-Based Virtual Machine (KVM) on Red Hat Enterprise Linux (RHEL) R8.10 for Communication Manager and Branch Session Manager.
- VMware in a customer-provided Virtualized Environment.

Note:

For more information about deploying applications, see the product-specific Software-Only and Infrastructure as a Service guide.

Topology

The following is an example of a deployment infrastructure for System Manager on VMware.



Virtualized Environment components for VMware

Virtualized component	Description
Open Virtualization Appliance (OVA)	The virtualized OS and application packaged in a single file that is used to deploy a virtual machine.
Customer-provided VMware or Avaya Solutions Platform 130 (Avaya-Supplied ESXi 7.0)	
ESXi	The physical machine running the ESXi Hypervisor software.

Table continues…

Virtualized component	Description
ESXi Hypervisor	A platform that runs multiple operating systems on a host computer at the same time.
ESXi Embedded Host Client	The ESXi Embedded Host Client is a native HTML and JavaScript application and is served directly from the ESXi host.
vSphere Client (HTML5)	Using a Web browser, it connects to a vCenter server or directly to an ESXi host if a vCenter Server is not used.
vCenter Server	vCenter Server provides centralized control and visibility at every level of the virtual infrastructure. vCenter Server provides VMware features such as High Availability and vMotion. This is not applicable for Avaya Solutions Platform 130.

Virtualized Environment component for ASP R6.0.x (KVM on RHEL 8.10)

Virtualized component	Description
Avaya Solutions Platform 130 (Avaya-Supplied KVM on RHEL R8.10) or Avaya Solutions Platform S8300 (Avaya-Supplied KVM on RHEL R8.10)	
KVM Cockpit	Cockpit is a system administration tool that provides a user interface for monitoring and administering servers through a web browser. Cockpit administrators can create and manage KVM-based virtual machines on the host system

Chapter 3: Planning and preconfiguration

Planning checklist for deploying System Manager on VMware

Complete the following tasks before deploying System Manager on Customer-provided VMware or Avaya-supplied Avaya Solutions Platform 130:

No.	Task	Link/Notes	✔
1.	Download the required software and patches.	Downloading software from PLDS on page 15 Latest software updates and patch information on page 17	
2.	Obtain the required licenses.	—	
3.	Register for PLDS, and activate license entitlements.	Go to the Avaya Product Licensing and Delivery System at https://plds.avaya.com/.	
4.	Verify the software compatibility.	Software requirements on page 17	
5.	Keep the following information handy to create a backup on the remote server: • IP address • Directory • User Name • Password	Customer configuration data for System Manager on page 20	

Planning checklist for deploying System Manager on ASP R6.0.x (KVM on RHEL 8.10)

Complete the following tasks before deploying System Manager OVA on Avaya-supplied Avaya Solutions Platform 130:

No.	Task	Link/Notes	✔
1.	Download the required software and patches.	Downloading software from PLDS on page 15 Latest software updates and patch information on page 17	
2.	Obtain the required licenses.	—	
3.	Register for PLDS, and activate license entitlements.	Go to the Avaya Product Licensing and Delivery System at https://plds.avaya.com/.	
4.	Verify the software compatibility.	Software requirements on page 17	
5.	Keep the following information handy to create a backup on the remote server: • IP address • Directory • User Name • Password	Customer configuration data for System Manager on page 20	

Note:

Solution Deployment Manager and Solution Deployment Manager Client does not support KVM on RHEL 8.10 images for a virtualized environment.

Downloading software from PLDS

When you order for an Avaya Product Licensing and Delivery System (PLDS)-licensed software product, PLDS creates the license entitlements of the order and sends an email notification to you. The email includes a license activation code (LAC) and instructions for accessing and logging into PLDS. Use the LAC to locate and download the purchased license entitlements.

In addition to PLDS, you can download the product software from https://support.avaya.com using the **Downloads and Documents** tab at the top of the page.

Note:

Only the latest service pack for each release is posted on the support site. Previous service packs are available only through PLDS.

Procedure

1. On your web browser, type https://plds.avaya.com to access the Avaya PLDS website.
2. Enter your login ID and password.
3. On the PLDS Home page, select **Assets**.
4. Click **View Downloads**.
5. Click the search icon for Company Name.
6. In the Search Companies dialog box, do the following:
   a. In the **%Name** field, type `Avaya` or the Partner company name.
   b. Click **Search Companies**.
   c. Locate the correct entry and click the **Select** link.
7. Search for the available downloads by using one of the following:
   - In **Download Pub ID**, type the download pub ID.
   - In the **Application** field, click the application name.
8. Click **Search Downloads**.
9. In the **Download Manager** box, click the appropriate **Download** link.

   Note:

   The first link, **Click to download your file now**, uses the Download Manager to download the file. The Download Manager provides features to manage the download (stop, resume, auto checksum). The **click here** link uses your standard browser download and does not provide the download integrity features.
10. If you use the Download Manager, click **Details** to view the download progress.
11. Select a location to save the file, and click **Save**.
12. **(Optional)** When the system displays the security warning, click **Install**.

    When the installation is complete, PLDS displays the downloads again with a check mark next to the downloads that have completed successfully.

Latest software updates and patch information

Before you start the deployment or upgrade of an Avaya product or solution, download the latest software updates or patches for the product or solution. For more information, see the latest release notes, Product Support Notices (PSNs), and Product Correction Notices (PCNs) for the product or solution on the Avaya Support website at https://support.avaya.com/.

After deploying or upgrading a product or solution, use the instructions in the release notes, PSNs, or PCNs to install any required software updates or patches.

For third-party products used with an Avaya product or solution, see the latest release notes for the third-party products to determine if you must download and install any updates or patches.

Software requirements

Avaya Aura® supports the following software versions:

- Avaya Solutions Platform 130 (Avaya-supplied KVM on RHEL 8.10): Dell PowerEdge R660xs or R640.
- Avaya Solutions Platform S8300 (Avaya-supplied KVM on RHEL 8.10): S8300E.

  Note:

  Avaya Solutions Platform 130 Release 6.0 (Dell PowerEdge R640, R660xs, S8300e) is a single host server with preinstalled KVM on RHEL R8.10 software.
- Customer-provided Virtualized Environment offer supports the following software versions:
  - VMware® vSphere ESXi 7.0 or 8.0
  - VMware® vCenter Server 7.0 or 8.0

  To view compatibility with other solution releases, see Broadcom website (formerly VMware) and search for VMware Product Interoperability Matrix.
- Avaya Solutions Platform 130 Release 6.0 (Dell PowerEdge R640, R660xs) is a single host server with a preinstalled KVM on RHEL R8.10 software.
- Avaya Solutions Platform S8300 Release 6.0 is shipped with a preinstalled Kernel-Based Virtual Machine (KVM) on Red Hat Enterprise Linux (RHEL) R8.10 for Communication Manager and Branch Session Manager.

Note:

- Avaya Aura® Release 10.2 and later does not support vSphere ESXi 6.7.
- Avaya Aura® Release 10.1 and later does not support vSphere ESXi 6.0 and 6.5.
- Avaya Aura® Release 8.1.x and later supports ASP R6.0.x (KVM on RHEL 8.10) hypervisor.

  For more information about upgrading from RHEL 8.4 to RHEL 8.10, see *Upgrading Avaya Aura® System Manager*

Supported hardware for VMware

VMware offers compatibility guides that list servers, system, I/O, storage, and backup compatibility with VMware infrastructure. For more information about VMware-certified compatibility guides and product interoperability matrices, see the Broadcom website (formerly VMware).

Supported hardware for ASP R6.0.x (KVM on RHEL 8.10)

The only supported hardware for the KVM images is Avaya Solutions Platform 130 Release 6.0.x and Avaya Solutions Platform S8300 Release 6.0.x.

Supported ESXi version

The following table lists the supported ESXi versions of Avaya Aura® applications:

ESXi version	Avaya Aura® Release				
	7.1.x	8.0.x	8.1.x	10.1.x	10.2.x
ESXi 5.0	N	N	N	N	N
ESXi 5.1	N	N	N	N	N
ESXi 5.5	Y	N	N	N	N
ESXi 6.0	Y	Y	Y	N	N
ESXi 6.5	Y	Y	Y	N	N
ESXi 6.7	N	Y	Y	Y	N
ESXi 7.0	N	N	Starting from Release 8.1.3: Y	Y	Y
ESXi 8.0	N	N	N	N	Y

Note:

- Avaya Solutions Platform 130 Appliance and Avaya Solutions Platform S8300 R6.0 supports Avaya-supplied KVM on RHEL 8.10. The Avaya-provided environments (ASP 130/S8300) only support Avaya-provided updates. If you update directly from a Dell or RHEL website, this results in an unsupported configuration.
- Avaya Aura® Release 10.2.x supports VMware 8.0, VMware 8.0 Update 2, and VMware 8.0 Update 3.

  Avaya Aura® Release 10.2.x does not support VMware 8.0 Update 1. For information about known issues, see VMware 8.0 Update 1 Release Notes on the Broadcom website (formerly VMware).

- As of October 15, 2022, VMware has ended support for VMware vSphere 6.x. Therefore, it is recommended to upgrade to supported vSphere versions.

  For customer-provided environments and how to upgrade to supported vSphere version, see the VMware website.
- Avaya Solutions Platform 130 Appliance Release 5.x and Avaya Solutions Platform S8300 Release 5.1 support only ESXi 7.0. ASP 6.0 moves the Avaya-supplied software from ESXi to KVM on RHEL. The Avaya-provided environments (ASP 130/S8300) only support Avaya-provided updates. If you update directly from a Dell, VMware, or RHEL website, this results in an unsupported configuration.
- From VMware vSphere ESXi 6.7 onwards, only HTML5 based vSphere Client is supported.
- Avaya Aura® applications support the particular ESXi version and its subsequent update. For example, the subsequent update of VMware ESXi 7.0 can be VMware ESXi 7.0 Update 3.
- WebLM Release 10.1.2 OVA and higher are certified with ESXi 8.0, ESXi 8.0 Update 2 (U2) deployments, and ESXi 8.0 Update 3 (U3) deployments.

Supported ASP R6.0.x (KVM on RHEL 8.10) version

The following table lists the supported KVM versions of Avaya Aura® applications:

Avaya Solutions Platform (KVM on RHEL 8.10)	Avaya Aura® Release		
	8.1.x	10.1.x	10.2.x
KVM Release 8.10	Y	Not supported for System Manager	Y

Note:

- Avaya Solutions Platform 130 and Avaya Solutions Platform S8300 R6.0.x are Avaya-supplied KVM on RHEL 8.10. The Avaya Solutions Platform 130 can be either a Dell R660xs or Dell R640. The Dell R660xs only ships with and supports KVM on RHEL 8.10. The initial Release of Avaya Solutions Platform 130 Release 4.0 supported Avaya-supplied ESXi 6.5 and Avaya Solutions Platform 130/S8300 R5.x supported Avaya-supplied ESXi 7.0.
- Avaya Solutions Platform 130 and Avaya Solutions Platform S8300 R6.0.x software is KVM on RHEL 8.10. The Avaya Solutions Platform 130 Dell R660xs server only supports KVM on RHEL 8.10. The Avaya Solutions Platform 130 Dell R640 and the ASP S8300 S8300E support both ESXi 7.0 and KVM on RHEL 8.10. Avaya Solutions Platform 130 Dell R640 Release 4.0 supported ESXi 6.5
- Avaya Solutions Platform 130 Release 6.0 (Dell PowerEdge R640, R660xs) is a single host server with a preinstalled KVM on RHEL R8.10 software.

- Avaya Solutions Platform S8300 Release 6.0 is shipped with a preinstalled Kernel-Based Virtual Machine (KVM) on Red Hat Enterprise Linux (RHEL) R8.10 for Communication Manager and Branch Session Manager.
- Avaya Solutions Platform130 Release 6.0.x (Dell PowerEdge R640, R660xs, S8300E) is a single host server with preinstalled KVM on RHEL R8.10 software.
- With the introduction of Avaya Solutions Platform R6.0.x there is no longer a specific license key needed as was present with Avaya Solutions Platform 5.1.x and earlier versions running on ESXi. However, it is imperative that customers have a record in PLDS for each and every instance of the server hypervisor as customers and Avaya will be subject to audits to ensure right to use royalties have been paid.

Customer configuration data for System Manager

The following table identifies the key customer configuration information that you must provide throughout the deployment and configuration process:

Keep a copy of the license files for the Avaya Aura® products so you can replicate with the new Host ID after the OVA file installation.

Important:

Password must be 8 to 256 alphanumeric characters and without white spaces.

Required data	Description	Example Value for the system	✔
IP address	Management (Out of Band Management) and Public network configuration Configure Public network details only when Out of Band Management is enabled. If Out of Band Management is not enabled, Public network configuration is optional.	172.16.1.10	
Netmask		255.255.0.0	
Gateway		172.16.1.1	
DNS Server IP address		172.16.1.2	
Short hostname		myhost. The host name must be a valid short name. **Note:** System Manager hostname is case sensitive. The restriction applies only during the upgrade of System Manager.	
Domain name		mydomain.com	
Default search list		mydomain.com	
NTP server		172.16.1.100	
Time zone		America/Denver	

Table continues…

Required data	Description	Example Value for the system	✔
VFQDN short hostname	VFQDN	grsmgr	
VFQDN domain name		dev.com	
User Name Prefix	SNMP Parameters	org	
Authentication Protocol Password		orgpassword	
Privacy Protocol Password		orgpassword	
Backup Definition parameters	See Backup Definition Parameters	-	
EASG status	EASG	Enable or Disable	
Data Encryption	Data Encryption	Enable or Disable	

Configuration tools and utilities

You must have the following tools and utilities for deploying and configuring System Manager application:

- Solution Deployment Manager client running on your computer
- If you are running a VMware server then a remote computer running the VMware vSphere Client
- A browser for accessing the System Manager and the Solution Deployment Manager Client web interface
- An SFTP or SCP client for Windows, for example WinSCP
- An SSH client, for example, PuTTY

Note:

Solution Deployment Manager and Solution Deployment Manager Client does not support KVM on RHEL 8.10 images for a virtualized environment.

Supported footprints of System Manager on VMware

The following table describes the resource requirements to support different profiles for System Manager on Customer-provided VMware and Avaya-supplied Avaya Solutions Platform 130.

Note:

- Avaya Aura® System Manager supports VMware hosts with Hyperthreading enabled at the BIOS level.
- Reservations are not permitted for Avaya Solutions Platform 4200 series solutions (formerly known as CPOD/PodFx) deployment. For reservationless deployment of Avaya Aura® applications, see the recommendations given in *Application Notes on Best Practices for Reservationless deployment of Avaya Aura® software release 10.1 on VMware*.

  Ensure to consider reservations for deploying Avaya Aura® applications on Avaya Solutions Platform 130 and Avaya Solutions Platform S8300.

  A gibibyte (GiB) and a gigabyte (GB) are sometimes used as synonyms, though they do not describe the same output of capacity technically. However, they are close in size. A gibibyte = 1024^3 and gigabyte = 1000^3.

Resource	Profile 2	Profile 3	Profile 4
vCPU Reserved	6	8	18
Minimum vCPU Speed	2185 MHz	2185 MHz	2185 MHz
CPU reservation	13110 MHz	17480 MHz	39330 MHz
Virtual RAM	12 GiB	18 GiB	36 GiB
Memory reservation	12288 MiB	18432 MiB	36864 MiB
Virtual Hard Disk	170 GiB	270 GiB	850 GiB
Shared NICs	1	1	1

Note:

From Release 8.0 and later, System Manager Profile 1 is not supported. If System Manager is on a pre Release 8.0 and using the Profile 1, ensure that the server has the required resources to configure Profile 2 on Release 8.0 and later.

Related links

Adjusting the System Manager virtual machine properties on page 22

Adjusting the System Manager virtual machine properties

About this task

If the system encounters CPU resource limitations, the system displays a message similar to `Insufficient capacity on each physical CPU`. To correct the CPU limitation, you require to adjust the virtual machine properties.

If the CPU adjustments you make does not correct the virtual machine start up conditions, you must further reduce the CPU speed. Use the same procedure to reduce the values for other virtual machine resources.

Do not modify the resource settings, for example, remove the resources altogether. Modifying the allocated resources can have a direct impact on the performance, capacity, and stability of the System Manager virtual machine. To run the System Manager virtual machine at full capacity, the

resource size requirements must be met; removing or greatly downsizing reservations could put the resource size requirement at risk.

Important:

Any deviation from the requirement is at your own risk.

Procedure

1. Right click on the virtual machine and select **Edit Settings…**.

   The system displays the Virtual Machine Properties dialog box.

2. Click the **Resources** tab.

   In the left pane, the system displays the details for CPU, memory, disk advanced CPU, and advanced memory.

3. Select CPU.

4. In the **Resource Allocation** area, in the **Reservation** field, perform one of the following to start the virtual machine:

   - Adjust the slider to the appropriate position.
   - Enter the exact value.

Related links

Supported footprints of System Manager on VMware on page 21

Supported footprints of System Manager on ASP R6.0.x (KVM on RHEL 8.10)

The following table describes the resource requirements to support different profiles for System Manager on KVM.

Note:

- Avaya Aura® System Manager supports KVM hosts with Hyperthreading enabled at the BIOS level.
- Ensure to consider reservations for deploying Avaya Aura® applications on Avaya Solutions Platform 130 and Avaya Solutions Platform S8300.

  A gibibyte = 1024^3 and gigabyte = 1000^3

Resource	Profile 2	Profile 3	Profile 4
vCPU Reserved	6	8	18
Minimum vCPU Speed	2185 MHz	2185 MHz	2185 MHz
CPU reservation	13110 MHz	17480 MHz	39330 MHz

Table continues…

Resource	Profile 2	Profile 3	Profile 4
Virtual RAM	12 GiB	18 GiB	36 GiB
Memory reservation	12288 MiB	18432 MiB	36864 MiB
Virtual Hard Disk	170 GiB	270 GiB	850 GiB
Shared NICs	1	1	1

Note:

From Release 8.0 and later, System Manager Profile 1 is not supported. If System Manager is on a pre Release 8.0 and using the Profile 1, ensure that the server has the required resources to configure Profile 2 on Release 8.0 and later.

Supported number of users on System Manager

The following System Manager resource requirements are based on the profile and are applicable for System Manager deployed on Customer-provided VMware, Avaya-supplied Avaya Solutions Platform 130, or Software-only environment.

Footprint	Max number of users	Max number of Branch Session Managers	Max number of Session Managers	Max number of Breeze	Max number of IP Office Branches
Profile 2	35,000 to 250,000	250	12	12	500
Profile 3	250,000	500	28	28	2000
Profile 4	300,000	5000	28	28	3500

Software details of System Manager

For Avaya Aura® application software build details, see Avaya Aura® Release Notes on the Avaya Support website at https://support.avaya.com/.

Creating a prestaging job

Creating a prestaging job for deployment

About this task

Use this procedure to create the prestaging job to upload and store the OVA and service or feature pack files on the datastore of the host that you can use while deploying System Manager.

Procedure

1. To start the Solution Deployment Manager client, click **Start** > **All Programs** > **Avaya** > **Avaya SDM Client** or the SDM icon () on the desktop.
2. Click **Application Management**.
3. In the lower pane, click **Pre-staging**.

   System Manager displays the Pre-Staging page.
4. Click **New**.

   Solution Deployment Manager displays the Application Pre-Stage window.
5. In Select Pre-Stage Operation Type, click **Deployment**.
6. Click **Next**.
7. In the Job Details section, do the following:
   a. In **Name**, type the name of the pre-staging job.
   b. In **Description**, type the description of the pre-staging job.
8. In the Location and Platform Details section, do the following:
   a. In **Select Location**, click the location of the host.
   b. In **Select Platform**, click the platform name.

      When you select the platform name, Solution Deployment Manager fetches the host details and populates the data store configured on the host in **Datastore**.
   c. In **Select Prestage Folder**, click **Browse**.

      Solution Deployment Manager displays the DataStore Explorer window.
9. In the DataStore Explorer window, do one of the following:
   - To select the pre-stage folder location, navigate to the required folder, and click **Submit**.

     When selecting a folder on the VMware datastore ensure that the folder is empty.
   - To create a new pre-staging folder location, click **New**.

     When creating a new folder, do not select any folder with virtual machine files.
     a. In Folder Select, in **Enter Folder Name**, type the folder name, and click **OK**.

b. Click **Submit**.

   Solution Deployment Manager displays the Status pop-up message with the path of the pre-stage folder.

c. Click **OK**.

10. Click **Next**.
11. On the **OVA** tab, click one of the following:
    - **Local Path**, in the **URL** field, type the absolute path of the System Manager OVA file.
    - **SW Library**, in the **File Name** field, select the System Manager OVA file.

      To use the **SW Library** option, the System Manager OVA file must be present in the local software library directory that is defined during the Solution Deployment Manager client installation.
12. To upload and store the latest service or feature pack, select the **Service or Feature Pack** tab and click one of the following:
    - **Local Path**: in the **URL** field, type the absolute path of the System Manager service or feature pack file.
    - **SW Library**: in the **File Name** field, select the System Manager service or feature pack file.

      To use the **SW Library** option, the System Manager service or feature pack file must be present in the local software library directory that is defined during the Solution Deployment Manager client installation.
13. Click **Submit**.

    Solution Deployment Manager creates the prestaging job on the Pre-Staging page.

Creating a pre-staging job for update

About this task

Create a pre-staging job to upload the OVA, service or feature pack and datamigration bin files. Store them on the datastore of the host that you can use while updating System Manager.

Procedure

1. To start the Solution Deployment Manager client, click **Start** > **All Programs** > **Avaya** > **Avaya SDM Client** or the SDM icon () on the desktop.
2. Click **Application Management**.
3. In the lower pane, click **Pre-staging**.

   System Manager displays the Pre-Staging page.
4. Click **New**.

   Solution Deployment Manager displays the Application Pre-Stage window.

5. In Select Pre-Stage Operation Type, click **Update**.
6. Click **Next**.
7. In the Job Details section, do the following:
   a. In **Name**, type the name of the pre-staging job.
   b. In **Description**, type the description of the pre-staging job.
8. In the Location and Platform Details section, do the following:
   a. In **Select Location**, click the location of the host.
   b. In **Select Platform**, click the platform name.

      When you select the platform name, Solution Deployment Manager fetches the host details and populates the data store configured on the host in **Datastore**.
   c. In **Select Prestage Folder**, click **Browse**.

      Solution Deployment Manager displays the DataStore Explorer window.
9. In the DataStore Explorer window, do one of the following:
   - To select the pre-stage folder location, navigate to the required folder, and click **Submit**.

     When selecting a folder on the VMware datastore ensure that the folder is empty.
   - To create a new pre-staging folder location, click **New**.

     When creating a new folder, do not select any folder with virtual machine files.
     a. In Folder Select, in **Enter Folder Name**, type the folder name, and click **OK**.
     b. Click **Submit**.

        Solution Deployment Manager displays the Status pop-up message with the path of the pre-stage folder.
     c. Click **OK**.
10. Click **Next**.
11. On the **OVA** tab, click one of the following:
    - **Local Path**, in the **URL** field, type the absolute path of the System Manager OVA file.
    - **SW Library**, in the **File Name** field, select the System Manager OVA file.

      To use the **SW Library** option, the System Manager OVA file must be present in the local software library directory that is defined during the Solution Deployment Manager client installation.
12. To upload and store the latest service or feature pack, select the **Service or Feature Pack** tab and click one of the following:
    - **Local Path**: in the **URL** field, type the absolute path of the System Manager service or feature pack file.
    - **SW Library**: in the **File Name** field, select the System Manager service or feature pack file.

To use the **SW Library** option, the System Manager service or feature pack file must be present in the local software library directory that is defined during the Solution Deployment Manager client installation.

13. To upload and store the data migration bin file, click the **Datamigration bin** tab and click one of the following:
    - **Local Path**: in the **URL** field, type the absolute path of the System Manager data migration bin file.
    - **SW Library**sect: in the **File Name** field, select the System Manager data migration bin file.

      To use the **SW Library** option, the System Manager data migration bin file must be present in the local software library directory that is defined during the Solution Deployment Manager client installation.
14. Click **Submit**.

    Solution Deployment Manager creates the pre-staging job on the Pre-Staging page.

Application Pre-Stage field descriptions

Select Pre-Stage Operation Type

Name	Description
Select Pre-Stage Operation	You can create the pre-staging job for deploying, upgrading, or updating System Manager. The options are: • **Deployment** • **Upgrade** • **Update**

Prestage Details: Job Details

Name	Description
Name	The pre-staging job name.
Description	The pre-staging job description.

Prestage Details: Parent Folder Details

When you select the **Advanced** > **Local Pre-staging** option, Solution Deployment Manager displays this section.

Name	Description
Local Pre-stage Parent Folder	The path of the local pre-stage parent folder. The default path for the local pre-stage folder is `C:\Program Files\Avaya\AvayaSDMClient\Default_Artifacts`.

Prestage Details: Location and Platform Details

When you select the **Advanced** > **Local Pre-staging** option, Solution Deployment Manager does not display this section.

Name	Description
Select Location	The location name.
Select Platform	The platform name that you must select.
Virtual Machine	The virtual machine name. **Note:** The **Virtual Machine** field is available only when you select the **Upgrade** pre-stage operation type.
Datastore	The data store of the platform. The page populates the capacity details in the Capacity Details section.
Select Prestage Folder	You can click the **Browse** button to display the DataStore Explorer window and to select the pre-staging folder. When you click **New**, you can create a new pre-staging folder.
New	Displays the Folder Select dialog box.
Enter Folder Name	Specifies the pre-staging folder name.
Submit	Saves the pre-staging folder path and displays next to the **Select Prestage Folder** field.

Select Artifacts

Based on the selected Select Pre-Stage Operation Type option, Solution Deployment Manager displays one or more of the following tabs. You can specify either the local path or the Software library path for the System Manager OVA, service pack, or data migration file.

- **OVA**

  Solution Deployment Manager enables the **OVA** tab when you select the **Deployment** or **Upgrade** pre-stage operation type.

- **Service or Feature Pack**

  Solution Deployment Manager enables the **Service or Feature Pack** tab when you select the **Deployment**, **Upgrade**, or **Update** pre-stage operation type.

- **Datamigration bin**

  Solution Deployment Manager enables the **Datamigration bin** tab when you select the **Upgrade** pre-stage operation type.

Name	Description
Local Path	The option to specify the absolute path from where you can get the System Manager OVA, service pack, or data migration bin file.
URL	Specify the absolute path from where you can get the System Manager OVA, service pack, or data migration bin file.

Table continues…

Name	Description
SW Library	The option to specify the absolute path of the software library from where you can get the System Manager OVA, service pack, or data migration bin file. You can save the files in the `C:\Program Files\Avaya\AvayaSDMClient\Default_Artifacts` folder.
File Name	The option to select the System Manager OVA, service pack, or data migration bin file.

Button	Description
Submit	Saves the pre-staging job.

Deployment guidelines

- Deploy maximum number of virtualized environments on the same host.
- Deploy the virtualized environment on the same cluster if the cluster goes beyond the host boundary.
- Segment redundant elements on a different cluster, or ensure that the redundant elements are not on the same host.
- Plan for rainy day scenarios or conditions. Do not configure resources only for traffic or performance on an average day.
- Do not oversubscribe resources. Oversubscribing affects performance.
- Monitor the server, host, and virtualized environment performance.

Chapter 4: Deploying System Manager on VMware

Deployment checklist

Use the following checklist to deploy the System Manager Release 10.2.x OVA by using vSphere Client (HTML5)

Note:

Deployment of the System Manager OVA by using the vApps option is not supported.

#	Action	Link/Notes	✔
1	From the Avaya Support website at http://support.avaya.com, download the System Manager OVAs and System Manager Release 10.2.x bin files.	For information about the software build details, see *Avaya Aura® Release Notes* on the Avaya Support website.	
2	Gain access to vCenter and vSphere Client (HTML5).	-	
3	Keep a copy of the license files for the Avaya Aura® products so you can replicate with the new Host ID after the OVA file installation. Ensure that the license file copies are accessible.	-	
4	Ensure that the following information is handy: • FQDN/IP address, netmask, and gateway • Out of Band Management configuration details.	Customer configuration data for System Manager on page 20 "Out of Band Management configuration"	
5	Deploy the System Manager OVA file.	-	

Table continues…

#	Action	Link/Notes	✔
6	You can perform one of the following to start the virtual machine. • Configure the System Manager virtual machine to start automatically after the deployment. • Start the System Manager virtual machine.	-	
7	Install the System Manager Release 10.2.x bin file. The patch installation takes about 45 minutes to complete.	**Note:** If you perform the fresh deployment of System Manager Release 10.2 and the goal is to be on the latest Feature Pack or Service Pack of 10.2.x that is available, then after deploying the Release 10.2 OVA you can directly install the latest feature pack or service pack of System Manager Release 10.2.x. You do not have to install the 10.2 GA patch first.	
8	Verify the deployment of the System Manager virtual machine.	See “Verifying the installation of System Manager”	

Deploying the System Manager OVA on vCenter by using vSphere Client (HTML5)

Procedure

1. To access the vCenter Server, do the following:
   a. On the web browser, type the vCenter FQDN or IP Address.
   b. Select vSphere Client (HTML5) and type the vCenter Server credentials.
2. Select the Cluster or ESXi host, right-click, and then click **Deploy OVF Template**.

   The system displays the Deploy OVF Template dialog box.
3. On the Select an OVF template page, do one of the following:
   - To download the System Manager OVA from a web location, select **URL**, and provide the complete path of the OVA file.
   - To access the System Manager OVA from the local computer, select **Local file**, click **Choose Files**, and navigate to the OVA file.
4. Click **Next**.

5. On the Select a name and folder page, do the following:
   a. In **Virtual machine name**, type a name for the virtual machine.
   b. In **Select a location for the virtual machine**, select a location for the virtual machine.
6. Click **Next**.
7. On the Select a compute resource page, select a host, and click **Next**.
8. On the Review details page, verify the OVA details, and click **Next**.
9. To accept the End User License Agreement, on the License agreements page, click **I accept all license agreements**.
10. Click **Next**.
11. On the Select configuration page, in **Configuration**, select the required profile.
12. Click **Next**.
13. On the Select storage page, in **Select virtual disk format**, click the required disk format.
14. Click **Next**.
15. On the Select networks page, select the destination network for each source network.
16. Click **Next**.
17. On the Customize template page, enter the configuration and network parameters.

    For more information about the configuration and network parameters, see Network and configuration field descriptions on page 95.

    Note:

    - If you do not provide the details in the mandatory fields, you cannot turn on the virtual machine even if the deployment is successful.
    - During the startup, the system validates the inputs that you provide. If the inputs are invalid, the system prompts you to provide the inputs again on the console of the virtual machine.
18. Click **Next**.
19. On the Ready to complete page, review the settings, and click **Finish**.

    Wait until the system deploys the OVA file successfully.
20. To start the System Manager virtual machine, if System Manager is not already powered on perform one of the following steps:
    - Click VM radio button, and click **Actions** > **Power** > **Power On**.
    - Right-click the virtual machine, and click **Power** > **Power On**.
    - On the **Inventory** menu, click **Virtual Machine** > **Power** > **Power On**.

    The system starts the System Manager virtual machine.

21. Click the **Console** tab and verify that the system startup is successful.

Next steps

From the time you power on the system, the deployment process takes about 30–40 minutes to complete. Do not reboot the system until the configuration is complete. You can monitor the post deployment configuration from the `/var/log/Avaya/PostDeployLogs/post_install_sp.log` file. Once the configuration is complete, the log file displays the following message: `SMGR Post installation configuration is completed`

To verify that the System Manager installation is complete and the system is ready for patch deployment, do one of the following:

- On the web browser, type `https://<Fully Qualified Domain Name>/SMGR`, and ensure that the system displays the System Manager Log on page.

  The system displays the message: Installation of latest System Manager patch is mandatory.
- On the Command Line Interface, log on to the System Manager console, and verify that the system does not display the message: `Maintenance: SMGR Post installation configuration is In-Progress.`

  It should only display the message: `Installation of latest System Manager patch is mandatory.`

Note:

Modifying the network or management configuration is not recommended before the patch deployment.

Deploying the System Manager OVA by accessing the ESXi host directly

Before you begin

This procedure is applicable for ESXi 6.5 u2 onwards.

Procedure

1. To access the ESXI host, do the following:
   a. On the web browser, type the ESXi host FQDN or IP Address.
   b. In **User name**, type the user name of the ESXi host.
   c. In **Password**, type the password of the ESXi host.
   d. Click **Log in**.
2. Right-click an ESXi host and click **Create/Register VM**.

   The system displays the New virtual machine dialog box.
3. On the Select creation type page, select **Deploy a virtual machine from an OVF or OVA file**.

4. Click **Next**.
5. On the Select OVF and VMDK files page, do the following:
   a. Type a name for the virtual machine.
   b. Click to select files or drag and drop the OVA file from your local computer.
6. Click **Next**.
7. On the Select storage page, select a datastore, and click **Next**.
8. To accept the End User License Agreement, on the License agreements page, click **I Agree**.
9. Click **Next**.
10. On the Deployment options page, do the following:
    a. In **Network Mappings**, select the appropriate network from the drop-down list. The available values depend on the existing network settings on the server, such as VM_Network.
    b. In **Disk provisioning**, select THICK as the required disk format.
    c. Uncheck **Power on automatically**.
11. Click **Next**.
12. On the Ready to complete page, review the settings, and click **Finish**.

    Wait until the system deploys the OVA file successfully.
13. To edit the virtual machine settings, click the VM radio option and perform the following:
    - Click **Actions** > **Edit Settings** to edit the required parameters.

      Note:
    - Click **Save** to save the reservation changes.

    Note:

    Ensure that the virtual machine is powered down to edit the settings.
14. To ensure that the virtual machine automatically starts after a hypervisor reboot, click the VM radio option, and click **Actions** > **Autostart** > **Enable**.

    Note:

    If you do not enable autostart, manually start the virtual machine after the hypervisor reboot. Autostart must be enabled on the Host for the virtual machine autostart to function.
15. To start the System Manager virtual machine, if System Manager is not already powered on do one of the following steps:
    - Click VM radio option, and click **Actions** > **Power** > **Power On**.
    - Right-click the virtual machine, and click **Power** > **Power On**.

- On the **Inventory** menu, click **Virtual Machine** > **Power** > **Power On**.

The system starts the System Manager virtual machine.

When the system starts for the first time, configure the parameters for System Manager. For more information about the configuration and network parameters, see Network and configuration field descriptions on page 95.

16. Click **Actions** > **Console**, select the open console type, verify that the system startup is successful, then input the System Manager configuration parameters.

Next steps

From the time you power on the system, the deployment process takes about 30–40 minutes to complete. Do not reboot the system until the configuration is complete. You can monitor the post deployment configuration from the `/var/log/Avaya/PostDeployLogs/post_install_sp.log` file. Once the configuration is complete, the log file displays the following message: `SMGR Post installation configuration is completed`

To verify that the System Manager installation is complete and the system is ready for patch deployment, do one of the following:

- On the web browser, type `https://<Fully Qualified Domain Name>/SMGR`, and ensure that the system displays the System Manager Log on page.

  The system displays the message: Installation of latest System Manager patch is mandatory.
- On the Command Line Interface, log on to the System Manager console, and verify that the system does not display the message: `Maintenance: SMGR Post installation configuration is In-Progress.`

  It should only display the message: `Installation of latest System Manager patch is mandatory.`

Note:

Modifying the network or management configuration is not recommended before the patch deployment.

Deploying the System Manager OVA file by using the Solution Deployment Manager client

About this task

Use the procedure to deploy System Manager by using the Solution Deployment Manager client.

Before you begin

- Install the Solution Deployment Manager client on your computer.
- Add a location.

  For information, see Adding a location on page 57.

- Add the ESXi, vCenter, or Avaya Solutions Platform 130 host.

  For information about adding the host, see “Managing the ESXi host by using SDM”.

  For information about adding vCenter, see Adding a vCenter to Solution Deployment Manager on page 62.

Procedure

1. To start the Solution Deployment Manager client, click **Start** > **All Programs** > **Avaya** > **Avaya SDM Client** or the SDM icon () on the desktop.
2. In **Application Management Tree**, select a platform.
3. On the **Applications** tab, in the Applications for Selected Host <host name> section, click **New**.

   System Manager displays the Applications Deployment window.
4. In the Select Location and Platform section, do the following:
   a. In **Select Location**, select a location.
   b. In **Select Platform**, select a platform.

      Solution Deployment Manager displays the host name in the **Platform FQDN** field.
5. In **Data Store**, select a data store, if not displayed upon host selection.

   The Capacity Details section displays the capacity details.
6. Click **Next**.
7. On the **OVA** tab, click one of the following:
   - **URL**, in **OVA File**, type the absolute path of the same local windows computer or the http URL accessible from the same local windows computer of the System Manager OVA file, and click **Submit**.
   - **S/W Library**, in **File Name**, select the System Manager OVA file from the drop-down list.

     To use the **S/W Library** option, the OVA file must be present in the local software library directory that is defined during the Solution Deployment Manager client installation. The system displays the directory name when the **S/W Library** option is selected.
   - **Browse**, select the required OVA file from your local computer, and click **Submit File**.
   - **Browse from Datastore**

     For information about deploying System Manager using the Pre-staging feature, see “Deploying the System Manager OVA file by using the Pre-staging feature of Solution Deployment Manager Client”.

     For information about the Pre-staging feature, see *Using the Solution Deployment Manager client*.

     This option is applicable only for System Manager Release 10.1 and later.

When you select the OVA, the system:

- Displays the CPU, memory, and other parameters in the Capacity Details section.
- Disables the **Flexi Footprint** field.

8. **(Optional)** To install the System Manager bin file, click **Service or Feature Pack**, and enter the appropriate parameters.
   - **URL**, and type the absolute path of the same local windows computer or the http URL accessible from the same local windows computer of the latest service or feature pack.
   - **S/W Library**, and select the latest service or feature pack from the drop-down list.
   - **Browse**, and select the latest service or feature pack from your local computer, and click **Submit File**.

   You can install the System Manager Release 10.2.x bin file now or after completing the System Manager OVA deployment.

   If you do not provide the System Manager Release 10.2.x patch file at the time of deploying the System Manager OVA, the system displays the following message:

   ```
   Installation of the latest System Manager patch is mandatory. Are
   you sure you want to skip the patch installation?
   If Yes, ensure to manually install the System Manager patch later.
   ```

9. Click **Next**.

   In Configuration Parameters and Network Parameters sections, Solution Deployment Manager displays the fields that are specific to the application that you deploy.

10. In the Configuration Parameters section, complete the fields.

    For more information, see “Application Deployment field descriptions”.

11. In the Network Parameters section:

    For the ESXi host or Avaya Solutions Platform 130, select the required port groups.

12. Click **Deploy**.
13. Click **Accept the license terms**.

    In the Platforms for Selected Location <location name> section, Solution Deployment Manager displays the deployment status in the **Current Action Status** column.

    Solution Deployment Manager displays the virtual machine on the Applications for Selected Location <location name> page.

14. To view details, click the **Status Details** link.

Next steps

To configure System Manager, log on to the System Manager web console. At your first log in, change the System Manager web console credentials.

Update the user password for the system to synchronize the data from applications.

When System Manager is operational, you can use Solution Deployment Manager from System Manager to deploy all other Avaya Aura® applications or continue to use the Solution Deployment Manager client.

Deploying the System Manager OVA file by using the Pre-staging feature of Solution Deployment Manager Client

About this task

Use the procedure to deploy System Manager by using the Pre-staging feature of Solution Deployment Manager Client.

For more information about the Pre-staging feature, see *Using the Solution Deployment Manager client*.

Before you begin

- Install the Solution Deployment Manager client on your computer.
- Add a location.

  For information, see Adding a location on page 57.
- Add the required host.

  For information about adding the host, see “Managing the ESXi host by using SDM”.

  For information about adding vCenter, see Adding a vCenter to Solution Deployment Manager on page 62.
- Create a prestaging job for deployment.

  For more information, see “Creating a prestaging job for deployment”.

Procedure

1. To start the Solution Deployment Manager client, click **Start** > **All Programs** > **Avaya** > **Avaya SDM Client** or the SDM icon () on the desktop.
2. In **Application Management Tree**, select a platform.
3. On the **Applications** tab, in the Applications for Selected Host <host name> section, click **New**.

   System Manager displays the Applications Deployment window.
4. In the Select Location and Platform section, do the following:
   a. In **Select Location**, select a location.
   b. In **Select Platform**, select a platform.

      Solution Deployment Manager displays the host name in the **Platform FQDN** field.
5. In **Data Store**, select a data store, if not displayed upon host selection.

   The Capacity Details section displays the capacity details.

6. Click **Next**.
7. On the **OVA** tab, click **Browse Pre-stage Location**, and do the following:
   a. In **Select Pre-stage Directory**, click **Browse**.
   b. In the DataStore Explorer dialog box, select the data store folder where the System Manager OVF file are stored, and click **Select**.

      For information about prestaging the System Manager files, see “Creating a prestaging job for deployment”.
   c. To validate the checksum of the OVA file, click **Validate checksum of OVA files**.

   This option is enabled when you deploy System Manager in the VMware virtualized environment. This option is applicable only for System Manager.

   When you select the OVA, the system:

   - Displays the CPU, memory, and other parameters in the Capacity Details section.
   - Disables the **Flexi Footprint** field.
8. To install the System Manager bin file, click **Service or Feature Pack**, and do the following:
   a. Click **Browse Pre-stage Location**.
   b. In **Select Pre-stage Directory**, click **Browse**.
   c. In the DataStore Explorer dialog box, select the data store folder where the System Manager bin file is stored, and click **Select**.

      For information about prestaging the System Manager files, see “Creating a prestaging job for deployment”.

   You can install the System Manager Release 10.2.x bin file now or after completing the System Manager OVA deployment.

   If you do not provide the System Manager Release 10.2.x patch file at the time of deploying the System Manager OVA, the system displays the following message:

   ```
   Installation of the latest System Manager patch is mandatory. Are
   you sure you want to skip the patch installation?
   If Yes, ensure to manually install the System Manager patch later.
   ```
9. Click **Next**.

   In Configuration Parameters and Network Parameters sections, Solution Deployment Manager displays the fields that are specific to the application that you deploy.
10. In the Configuration Parameters section, complete the fields.

    For more information, see “Application Deployment field descriptions”.

11. In the Network Parameters section:
    - For Appliance Virtualization Platform, the system auto populates the following fields and these fields are read only:
      - **Public**
      - **Out of Band Management**
    - For the ESXi host, select the required port groups.
12. Click **Deploy**.
13. Click **Accept the license terms**.

    In the Platforms for Selected Location <location name> section, Solution Deployment Manager displays the deployment status in the **Current Action Status** column.

    Solution Deployment Manager displays the virtual machine on the Applications for Selected Location <location name> page.
14. To view details, click the **Status Details** link.

Next steps

To configure System Manager, log on to the System Manager web console. At your first log in, change the System Manager web console credentials.

Update the user password for the system to synchronize the data from applications.

When System Manager is operational, you can use Solution Deployment Manager from System Manager to deploy all other Avaya Aura® applications or continue to use the Solution Deployment Manager client.

Cloned and copied OVAs are not supported

To redeploy a virtual machine, do *not* create a copy of the virtual machine or clone the virtual machine. These processes have subtle technical details that require a thorough understanding of the effects of these approaches. To avoid any complexities and unexpected behavior, deploy a new OVA. At this time, Avaya only supports the deployment of new OVAs.

Installing the System Manager patch, service pack, or feature pack from CLI

About this task

Note:

- If you upgrade System Manager from an older release like 7.1.3.x, 8.0.x, 8.1.x, or 10.1.x to Release 10.2.x, and the goal is to apply the latest Feature Pack or Service pack of 10.2.x, then you can install the latest service pack or feature pack of System Manager Release 10.2.x as part of the migration process. For an upgrade/migration, you should not install the mandatory patch manually. The data migration utility prompts you to install the mandatory patch or the latest service pack

  For example, if you upgrade System Manager from Release 10.1.x to Release 10.2.x, then you can directly apply the Release 10.2.x patch as part of data migration. You do not need to apply the 10.2 GA patch (`System_Manager_10.2.0.0_GA_Patch_rxxxxxxxxx.bin`) in the intermediate step.
- If you perform the fresh deployment of System Manager Release 10.2 and the goal is to be on the latest Feature Pack or Service Pack of 10.2.x that is available, then after deploying the Release 10.2 OVA you can directly install the latest feature pack or service pack of System Manager Release 10.2.x. You do not have to install the 10.2 GA patch first.
- After enabling data encryption and installing the System Manager 8.1.2 and later patch, if the local or remote key store is not enabled, the Data Encrypted server prompts for the encryption passphrase. After you enter the encryption passphrase, System Manager automatically reboots. This happens only after the first reboot and prompts you to add the encryption passphrase again.

Before you begin

- Ensure that System Manager is running on Release 10.2.
- Download the System Manager patch bin file from the Avaya Support website at https://support.avaya.com/ and copy the file to the `/swlibrary` location on System Manager.

Procedure

1. Log in to the System Manager command-line interface with administrator privilege credentials.
2. Create a snapshot of the System Manager application.

   This activity might impact the service.
3. Type the following: `SMGRPatchdeploy <absolute path to the patch, service pack, or feature pack for System Manager>`

   If you do not provide the name of the patch, service pack, or feature pack, the console displays menu items. Provide the absolute path to the System Manager patch, service pack, or feature pack.

   System Manager displays the license information.

4. Read the End User License Agreement carefully, and to accept the license terms, type `Y`.

   The patch installation takes about 45 minutes to complete.

   If the installation is successful, the system displays a warning message on the dashboard and on the command line interface to restart System Manager, if the kernel is updated.

5. Perform one of the following:

   - If the patch installation is successful, remove the patch bin file, log off from the system, and remove the snapshot.

     Note:

     Snapshots occupy the system memory and degrade the performance of the virtual application. Therefore, delete the snapshot after you verify the patch installation or the system upgrade.

   - If the patch installation fails, first collect logs and then use the snapshot to restore the system to the original state.

     To collect logs, you can run the **`collectLogs`** command. The system creates a `LogsBackup_xx_xx_xx_xxxxxx.tar.gz` file in the `/swlibrary` directory. Copy the `LogsBackup_xx_xx_xx_xxxxxx.tar.gz` file to the remote server and share the file with Avaya Support Team.

Next steps

Note:

Modifying the network or management configuration is not recommended before the patch deployment.

Log on to the System Manager web console. At your first login, change the System Manager web console credentials.

Installing service packs and software patches on System Manager by using the Pre-staging feature of Solution Deployment Manager Client

About this task

Use the procedure to install service packs, feature packs, or software patches on System Manager by using the Pre-staging feature of Solution Deployment Manager Client.

For more information about the Pre-staging feature, see *Using the Solution Deployment Manager client*.

Before you begin

- Install the Solution Deployment Manager client.

- Create a pre-staging job for update.

  For more information, see “Creating a pre-staging job for update”.

Procedure

1. To start the Solution Deployment Manager client, click **Start** > **All Programs** > **Avaya** > **Avaya SDM Client** or the SDM icon () on the desktop.
2. Click **Application Management**.
3. In **Application Management Tree**, select a location.
4. On the **Applications** tab, in the Applications for Selected Location <location name> section, select System Manager on which you want to install the patch.
5. Click **More Actions** > **Refresh App**.

   If **Refresh App** is disabled or fails, proceed to next step.
6. **(Optional)** If updating from a different client, perform the following:
   a. Click **More Actions** > **Re-establish connection**.
   b. Click **More Actions** > **Refresh App**.
   c. To view the status, in the **Current Action** column, click **Status Details**.
   d. Proceed with the next step.
7. Click **More Actions** > **Update App**.

   If Solution Deployment Manager detects a previous uncommitted patch, the system displays a dialog box with **Commit** and **Rollback**. You need to either commit previous uncommitted patch or rollback. Only after this, the system displays the System Manager Update dialog box to provide the patch file.
8. Click **Browse Pre-stage Location** and do the following:
   a. In **Select Pre-stage Directory**, click **Browse**.
   b. In the DataStore Explorer dialog box, select the data store folder where the System Manager patch file is stored, and click **Select**.

      For information about pre-staging the System Manager files, see “Creating a pre-staging job for update”.
9. **(Optional)** Click the **Auto commit the patch** check box.
10. Click **Install**.

    In the Applications for Selected Location <location name> section, the system displays the status.
11. To view the details, in the **Current Action** column, click **Status Details**.

    SMGR Patching Status window displays the details. The system displays the Installed Patches page. The patch installation takes some time.

12. On the Installed Patches page, do the following:
    a. In **Action to be performed**, click **Commit**.

       The system installs the patch, service pack or feature pack that you selected.
    b. Click **Get Info**.
    c. Select the patch, service pack or feature pack, and click **Commit**.

Starting the System Manager virtual machine

About this task

The system packages System Manager and other products for VMware in the .OVA package format. You can install the OVA file using vSphere Client (HTML5).

Before you begin

Deploy the System Manager OVA.

Procedure

On vSphere Client (HTML5), start the System Manager virtual machine by doing one of the following:

- Click VM radio option, and click **Actions** > **Power** > **Power On**.
- Right-click the virtual machine, and click **Power** > **Power On**.
- On the **Inventory** menu, click **Virtual Machine** > **Power** > **Power On**.

The system starts the System Manager virtual machine.

Chapter 5: Deploying System Manager on ASP R6.0.x (KVM on RHEL 8.10)

Deploying System Manager on ASP R6.0.x (KVM on RHEL 8.10) using KVM Cockpit

About this task

You can deploy System Manager on ASP R6.0.x (KVM on RHEL 8.10) using Cockpit. System Manager provides a KVM OVA that contains a `qcow2` file.

Before you begin

- Install ASP R6.0.x (KVM on RHEL 8.10).

  For more information, see *Installing the Avaya Solutions Platform 130 Series* at https://support.avaya.com/css/public/documents/101091802.
- Download the System Manager KVM image from PLDS to your computer.
- Login to the ASP R6.0.x CLI with **`custadm`** credentials.
- Ensure that the staging folder exist: `/var/lib/libvirt/staging`.

  ```
  sudo ls -ld /var/lib/libvirt/staging
  ```

  Ensure to remove the older images from the staging folder.

  Ensure sufficient space is available in the staging folder to copy the KVM image.

  If the staging folder does not exist, create it using the following commands:

  - `sudo mkdir /var/lib/libvirt/staging`
  - `sudo chown custadm:wheel /var/lib/libvirt/staging`

  The **`chown`** command now allows **`custadm`** to write into the `staging` directory with **`sudo`**. The permissions should appear as follows:

  ```
  drwxr-x---. 2 custadm wheel 6 Oct 23 14:32 /var/lib/libvirt/staging
  ```
- Copy the System Manager KVM image to the ASP R6.0.x host in `/var/lib/libvirt/staging` using the winscp tool and **`custadm`** credentials.
- Ensure you are logged into the CLI. If not, login to the ASP R6.0.x CLI with **`custadm`** credentials.

Note:

All the following commands *must* be prefaced with **sudo**:

- Run the following command to verify the System Manager KVM image available in the staging folder: **sudo ls -lr /var/lib/libvirt/staging**
- Go to `/var/lib/libvirt/staging` folder, and run the following command to extract the ova file: **sudo tar --xvf SMGR-10.2.0.0.439670-KVM-4E.ova**

  KVM OVA file extracts the following files:

  - SMGR-10.2.0.0.439670-KVM-4E.ovf
  - SMGR-10.2.0.0.439670-KVM-4E.mf
  - README.txt
  - SMGR-installer.sh
  - SMGR-installer.py
  - SMGR-10.2.0.0.439670-KVM-4E-disk.qcow2

The extracted qcow2 images are in thin provision format. The qcow2 images *MUST* be converted to thick provision.

Go to `/var/lib/libvirt/staging` folder, and run the following command to convert `SMGR-10.2.0.0.439670-KVM-4E-disk.qcow2` (thin) to `SMGR-10.2.0.0.439670-KVM-4E-THICKdisk.qcow2` (thick) image:

- **sudo qemu-img convert -O qcow2 -o preallocation=full SMGR- 10.2.0.0.439670-KVM-4E-disk.qcow2 SMGR-10.2.0.0.439670-KVM-4E-THICKdisk.qcow2**

To verify that the conversion is successful and verify the disk size, run the following commands:

- sudo qemu-img info SMGR-10.2.0.0.439670-KVM-4E-THICKdisk.qcow2 should show disk size 170 GB

  Based on the profile, the disk file changes

  - P2 = 170GB
  - P3 = 270GB
  - P4 = 850GB

Go to `/var/lib/libvirt/staging` folder and run the following command to copy the `SMGR-10.2.0.0.439670-KVM-4E-THICKdisk.qcow2` to the `/var/lib/libvirt/images` directory:

- **sudo cp SMGR-10.2.0.0.439670-KVM-4E-THICKdisk.qcow2 /var/lib/libvirt/images**

Go to `/var/lib/libvirt/images` directory and run the following command to verify the qcow2 images are present:

- **cd /var/lib/libvirt/images**

  sudo ls -lrt

From the `/var/lib/libvirt/images` directory, run the following command to change the owner and permissions to 640 on the files:

- **`sudo chown qemu:qemu SMGR-10.2.0.0.439670-KVM-4E-THICKdisk.qcow2`**

  `sudo chmod 640 SMGR-10.2.0.0.439670-KVM-4E-THICKdisk.qcow2`

  Go to `/var/lib/libvirt/staging` directory and remove all the extracted images and converted images. This is important to ensure that there is sufficient space for future deployments of KVM images. Do NOT remove files from the “images” directory.

  - **`cd /var/lib/libvirt/staging`**

    `sudo ls -lr`

    `sudo rm *SMGR*`

    `sudo rm *README*`

Procedure

1. Log in to the KVM Cockpit web console as **`custadm`** in the following format: https://<*IP address or FQDN of KVM host*>:9090.
2. For administration actions, on the top-right of the window, click on the **Limited access** button.

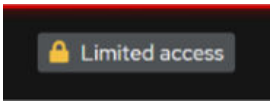


Figure 1: Limited access button

Note:

You require administrator access in order to view virtual machines. Administrator access is like root access. Ensure that you take care making updates.

3. In the Switch to administrative access window, enter the password for **`custadm`**.

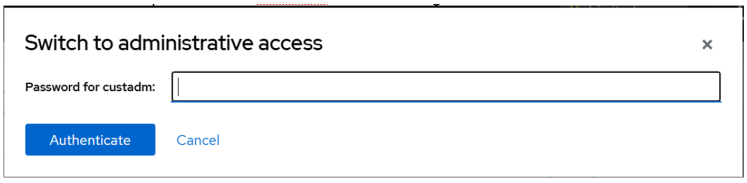


Figure 2: Switch to administrative access

The **Limited access** button on the top-right of the window changes to **Administrative access**.

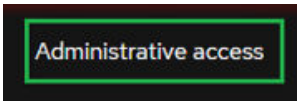


Figure 3: Administrative access button

4. Navigate to **System** > **Virtual Machines** > **Import VM**.
5. In the Import a virtual machine window, do the following:
   a. In the **Name** field, enter a name for the System Manager virtual machine.
   b. In the **Disk Image** field, select the `SMGR-10.2.0.0.439670-KVM-4E-THICKdisk.qcow2` image of the System Manager on the KVM Cockpit host under `/var/lib/libvirt/images/` directory.
   c. In the **Operating System** field, select **RHEL 8 Unknown** version.
   d. In the **Memory** field, select the required memory in MiB format.

      Note:

      Based on the required footprint, enter a value in the **Memory** field.

   e. Click **Import and edit**.

      Virtual Machine details page appears.

      Under the Disks section, verify the `SMGR-10.2.0.0.439670-KVM-4E-THICKdisk.qcow2` disk image size is correctly displayed in the **Capacity** field.

      Note:

      By default, **virtio** is selected under the **Bus** field, and this needs to be modified.
6. Under the Disks section, click **Edit**.
7. In the Edit <attributes name> window, do the following:
   a. in the **Bus** field, select **scsi**.
   b. In the **Cache** field, select **directsync**.
   c. click **Save**.

      In the Disks section, ensure that **scsi** appears under the **Bus** field and **directsync** appears under the **Additional Cache** field.
8. In the Overview section, in the **Firmware** field, select **UEFI** and click **Save**.
9. In the Overview section, in the **CPU** field, click **edit**.

   CPU Details window opens.
10. In the CPU details window, based on the required footprint, enter a value in the **vCPU Maximum** and **vCPU Count** fields.
11. In the **Mode** field, keep the default **host-model** as is. Do Not change it.
12. Click **Apply**.
13. In the Network interfaces section, click **Edit** and select the Network Bridge, and click **Save**.
14. On the virtual machine, click **Run** to start the System Manager virtual machine.

Next steps

On first boot of the System Manager virtual machine, configure the System Manager network parameters.

Deploying System Manager on ASP R6.0.x (KVM on RHEL 8.10) using Script

About this task

Use this procedure to run a Command Line Interface (CLI) script to create a virtual machine. Verify that you successfully created the virtual machine by logging in to KVM Cockpit to view the list of virtual machines.

System Manager provides a KVM OVA that contains one `qcow2` file. The `qcow2` file is named as `SMGR-*.qcow2`

Note:

- Disk encryption is possible using the script-based deployment.
- Always follow A1SC output for deployment of applications on the host(s). There should never be more than one instance of a specific application on the same host.
- Deployment of applications *MUST* be performed one at a time and delete the artifacts prior to deploying the next application.

  Solution Deployment Manager and Solution Deployment Manager Client does not support KVM on RHEL 8.10 images for a virtualized environment.

Before you begin

- Install ASP R6.0.x (KVM on RHEL 8.10).

  For more information, see *Installing the Avaya Solutions Platform 130 Series* at https://support.avaya.com/css/public/documents/101091802.
- Download the System Manager KVM image from PLDS to your computer.
- Login to the ASP R6.0.x CLI with **`custadm`** credentials.
- Ensure that the staging folder exist:

  `sudo ls -ld /var/lib/libvirt/staging`
- Ensure to remove the older images from the staging folder.
- Ensure sufficient space is available in the staging folder to copy the KVM image.
- If the staging folder does not exist, create it using the following commands:

  `sudo mkdir /var/lib/libvirt/staging`

  `sudo chown custadm:wheel /var/lib/libvirt/staging`

- The chown command now allows **custadm** to write into the staging directory with **sudo**. For example, the permissions should look as follows:

```
drwxr-x---. 2 custadm wheel 6 Oct 23 14:32 /var/lib/libvirt/staging
```

- Copy the System Manager KVM image to the ASP R6.0.x host in `/var/lib/libvirt/staging` using winscp and **custadm** credentials.
- Run the following command to verify the System Manager KVM image is available in the staging folder:

  sudo ls -lr /var/lib/libvirt/staging

Procedure

1. Log in to the ASP R6.0.x CLI as a **custadm** user and verify the ASP version using the following command: **swversion**
2. Go to the staging folder;

   sudo cd /var/lib/libvirt/staging
3. Do the following:

ASP is on R6.0.0.0	ASP is on R6.0.0.1
a. Run the following command to extract the OVA file: **sudo tar -xvf SMGR-*.ova** KVM OVA extracts the following files: • SMGR-*.ovf • SMGR-*.mf • SMGR-*.cert • install_vm.py • ovf.py • SMGR-*.qcow2 b. Run the following script to deploy System Manager: **sudo python3 install_vm.py**	Run the following script to deploy System Manager: **installVM SMGR-*.ova** ASP completes the auto-verification to ensure the following files are available: SMGR-*-KVM-4E.ovf SMGR-*-KVM-4E.mf SMGR-*-KVM-4E.cert install_vm.py ovf.py SMGR-*-KVM-4E-disk.qcow2 SMGR-*-KVM-4E.cert: OK Verified OK SMGR-*-KVM-4E.ovf: OK install_vm.py: OK ovf.py: OK SMGR-*-KVM-4E-disk.qcow2: OK

4. Press **ENTER** to read the **EULA**.
5. Press **Y** to accept the **EULA**.
6. Enter a name for the System Manager virtual machine. For example, `SMGR_Main`.
7. Select the network interfaces.

   ASP 6.0.x CLI displays the currently available network interface bridges and select the required bridge for System Manager.

   ASP 6.0.x CLI displays the currently available disk space and the required disk space to deploy System Manager.

8. To configure the VM properties, enter `Y` in the **Would you like to configure the VM properties? [y/n]:** field, and continue providing the property details:
    a. In the **Management IPv4 address (or Out of Band Management IPv4 Address**) field, enter a valid IPv4 address to assing to VM. For example, x.x.x.x
    b. In the **Management Netmask** field, enter a valid management IPv4 netmask to assign to the VM. For example, m.m.m.m
    c. In the **Management Gateway** field, enter a valid IPv4 Address to assign to the VM. For example, x.x.x.x
    d. In the **Enter the IP Address of DNS server** field, enter a valid DNS server. For example, x.x.x.x

       You can type multiple IP's separated by a comma.
    e. In the **Management FQDN** field, enter a valid Fully Qualified Domain Name(FQDN) to assign to the VM.
    f. **(Optional)** In the **IPv6 Address** field, enter the valid IPv6 address.
    g. **(Optional)** In the **IPv6 Network Prefix** field, enter the valid IPv6 network prefix.
    h. **(Optional)** In the **IPv6 Gateway** field, enter the valid IPv6 gateway.
    i. **(Optional)** In the **Enter the Default Search List** field, enter the required value.
    j. In the **Provide NTP Server IP/FQDN** field, enter the valid NTP server IP or FQDN.

       You can type multiple IP or FQDN separated by a comma.

       You can optionally enable public access on a different interface in a similar way.
    k. **(Optional)** In the **Public IP Address** field, enter the valid IPv4 address to enable public access on a different interface.
    l. **(Optional)** In the **Public Netmask** field, enter the valid Public interface IPv4 netmask.
    m. **(Optional)** In the **Public Gateway** field, enter Public interface Gateway IPv4 Address.
    n. **(Optional)** In the **Public FQDN** field, enter the Public interface Fully Qualified Domain Name (FQDN).
    o. **(Optional)** In the **Public IPv6Address** field, enter the valid IPv6 address to enable public access on a different interface.
    p. **(Optional)** In the **Public IPv6 Network Prefix** field, enter the required public interface IPv6 netmask.
    q. **(Optional)** In the **Public IPv6 Gateway** field, enter the valid public interface Gateway IPv6 Address.
    r. In the **Please enter the Virtual Hostname** field, enter the virtual hostname.
    s. In the **Please enter the Virtual Domain** field, enter the virtual domain. For example, avaya.com.
    t. In the **Please enter the SNMPv3 User Name Prefix** field, type a username. Do not use initials.

u. In the **Please enter the SNMPv3 User Authentication Protocol Password** field, enter the authentication protocol password.

v. In the **Confirm Please enter the SNMPv3 User Authentication Protocol Password** field, re-enter the password to confirm.

w. In the **Please enter the SNMPv3 User Privacy Protocol Password** field, enter the privacy protocol password

x. In the **Confirm Please enter the SNMPv3 User Privacy Protocol Password** field, re-enter the password to confirm.

9. In the **Please enter the SMGR command line user name** field, enter user name for the System Manager. For example: cust.

   Do not use: initial, admin, csadmin, postgres, root, bin, daemon, adm, sync, dbus, vcsa, ntp, chrony, saslauth, sshd, tcpdump, xfs, rpc, rpcuser, nfsnobody, craft, inads, init, rasaccess, sroot, postgres, smgr, nortel.

   a. In the **Please enter the SMGR command line user password** field, enter the password for System Manager command line user.

   b. In the **Confirm Please enter the SMGR command line user password** field, re-enter the password

10. In the **Schedule SMGR backup?** field, enter **Yes** to schedule a remote backup.

    Important:

    Avaya recommends to schedule a remote backup.

11. Enable or disable Enhanced Avaya Security Gateway (EASG).

    Important:

    Avaya recommends to enable **EASG**.

    Note:

    Enable: (Recommended)

    By enabling Avaya Logins you are granting Avaya access to your system. This is necessary to maximize the performance and value of your Avaya support entitlements, allowing Avaya to resolve product issues in a timely manner.

    In addition to enabling the Avaya Logins, this product should be registered with Avaya and technically onboarded for remote connectivity and alarming. Please see the Avaya support site (support.avaya.com/registration) for additional information for registering products and establishing remote access and alarming.

    Disable:

    By disabling EASG, you are denying Avaya access to the system. This setting is not recommended as it can impact Avaya's ability to provide support for the product.

Unless the customer can manage the product, Avaya Services Logins should not be disabled.

- Enter `1` to enable EASG.
- Enter `2` to disable EASG.

12. Enable or disable Data Encryption.

    By enabling Data Encryption, your Communication Product's Operational data, Configuration data, along with all of the Log Files will be encrypted. You will be prompted to enter a pass-phrase that will be used to create/access an encryption key. Secondly, you will be asked to configure the option for local key storage.

    It is important to note that the encryption of the disk may have a performance impact. For further information, contact the Administration guide(s). Before you select an encryption option, please read the Data Privacy Guideline so that you may better understand these options.

    Enter 1 to Enable Encryption or enter 2 to Disable Encryption.

    a. In the **Data Encryption Active** field, if `1` is entered, do the following

       - In the **Enter Encryption Passphrase** field, enter the passphrase.
       - In the **Confirm Enter Encryption Passphrase** field, re-enter the passphrase.
       - In the **Require Encryption Passphrase at Boot-Time: (yes/no)**, enter the required value.

       If **`1`** is entered, you must enter the encryption passphrase whenever the System Manager reboots.

       If **`2`** is entered, there is no need to enter the encryption passphrase whenever the System Manager reboots.

       Important:

       You *MUST* remember the data encryption passphrase as the system prompts you to enter the encryption passphrase with every reboot of the application. If you lose the data encryption passphrase, the only option is to reinstall the OVA.

    b. In the **Data Encryption Active** field, if `2` is entered, no action is required.

13. In the **`Do you want to set a root password?(yes/no)`** field, enter the required value.
14. In the **Root Password** field, enter the root password. Re-enter the root password in the **Confirm Root Password** field
15. In the **`Power on VM automatically after deploy?: [y/n]`** field, enter one of the following:

    - **`y`**: Indicates System Manager virtual machine is automatically powered-on after deployment.

- **n**: Indicates user has to manually power on the System Manager virtual machine on KVM cockpit.

16. In the **Proceed?[y/n]** field, enter one of the following:
    - **y**: System Manager deployment begins.
    - **n**: System Manager deployment cancels.

    Note:

    Once the System Manager virtual machine is successfully deployed, ASP R6.0.x displays the following message: `Domain creation completed`. Otherwise, repeat step 2 onwards.

    If you have selected the option to power on the virtual machine automatically after deployment, it restarts. Otherwise, you can restart it using `virsh --connect qemu:///system start PerfSMGR_<version number>`
17. Log in to the KVM Cockpit web console as **custadm** in the following format: https://*<IP address or FQDN of KVM host>*:9090.
18. If Web console is in **Limited access** mode, click on **Turn on administrative access** button.

    Note:

    VMs are not visible when in **Limited access** mode.
19. For administration actions, on the top-right of the window, click on the **Limited access** or **Turn on administrative access** button.
20. Navigate to **System** > **Virtual Machines**.

    The System Manager is deployed.
21. Click on the System Manager virtual machine.
22. If the **Power on VM automatically after deploy?: [y/n]** field is set to n, then click **Run** to power on the virtual machine.

    If the **Power on VM automatically after deploy?: [y/n]** field is set to y, the virtual machine starts automatically.
23. Log in to System Manager from the Console using user access. At the first login, change the **cust** user password.
24. Apply any System Manager mandatory patch, for example, a feature or service pack.

Updating the CPU resources for KVM Cockpit

Procedure

1. Log in to the KVM Cockpit web console as **custadm** in the following format: https://<*IP address or FQDN of KVM host*>:9090.
2. For administration actions, on the top-right of the window, click on the **Limited access** button.

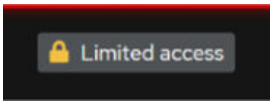


Figure 4: Limited access button

Note:

You require administrator access in order to view virtual machines. Administrator access is like root access. Ensure that you take care making updates.

3. In the Switch to administrative access window, enter the password for **custadm**.

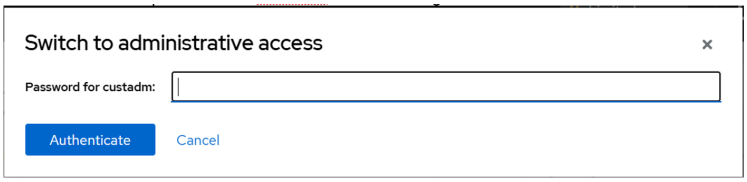


Figure 5: Switch to administrative access

The **Limited access** button on the top-right of the window changes to **Administrative access**.

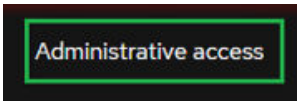


Figure 6: Administrative access button

4. Navigate to **System** > **Virtual Machines**.
5. If the virtual machine is running, right-click on the virtual machine to update and select **Shut Down**.
6. Right-click on the virtual machine and choose **Open/Edit**, and go to Overivew section.

   KVM Cockpit displays the CPU details window.
7. Update the CPU reservation details such as vCPU maximum, vCPU count, Sockets, Core per socket, and Threads per core.
8. Click **Apply**.
9. Click **Run** to start the virtual machine.

Chapter 6: Managing the ESXi host by using SDM

Adding a location

About this task

You can define the physical location of the host and configure the location-specific information. You can update the information later.

Procedure

1. On the System Manager web console, click **Services** > **Solution Deployment Manager** > **Application Management**.
2. On the desktop, click the SDM icon (), and then click **Application Management**.
3. On the **Locations** tab, in the Locations section, click **New**.
4. In the New Location section, do the following:
   a. In Required Location Information, type the location information.
   b. In Optional Location Information, type the network parameters for the virtual machine.
5. Click **Save**.

   System Manager displays the new location in the **Application Management Tree** section.

Adding an Appliance Virtualization Platform, ESXi, or Avaya Solutions Platform 130 host

About this task

Use this procedure to add an Appliance Virtualization Platform Release 8.x or earlier, ESXi, or Avaya Solutions Platform 130 Release 5.1 host. You can associate an ESXi host with an existing location.

If you add a standalone ESXi host to the System Manager Solution Deployment Manager or the Solution Deployment Manager client, add the standalone ESXi host using its FQDN.

Note:

You can add a VMware ESXi host in Solution Deployment Manager if the Standard or Enterprise VMware license is applied on the VMware ESXi host.

If the VMware vSphere Hypervisor Free License is applied on the VMware ESXi host or the VMware ESXi host is in the evaluation period, you cannot add that VMware ESXi host in Solution Deployment Manager.

Solution Deployment Manager supports the Avaya Aura® Appliance Virtualization Platform and VMware ESXi hosts. If you try to add another host, System Manager displays the following error message:

```
Retrieving host certificate info is failed: Unable to communicate with
host. Connection timed out: connect. Solution Deployment Manager only
supports host management of VMware-based hosts and Avaya Appliance
Virtualization Platform (AVP).
```

Solution Deployment Manager 10.2.1 does not support ASP 130/S8300 R6.0.x (KVM on RHEL 8.10). You can add Avaya Solutions Platform 130 Release 5.0 (Avaya Supplied ESXi) similar to VMware ESXi host.

Note:

- To add an Appliance Virtualization Platform host, ensure that you accept the AVP EULA before you add the host to the SDM inventory.
- To add an ESXi host in Solution Deployment Manager, set the vmk0 interface as the IP Address of the ESXi host. Otherwise, Solution Deployment Manager does not support adding the ESXi host in Solution Deployment Manager.
- To add an Avaya Solutions Platform host, ensure that you use the FQDN. Do not use the IP address to add an Avaya Solutions Platform host.

Before you begin

Add a location.

Procedure

1. On the System Manager web console, click **Services** > **Solution Deployment Manager** > **Application Management**.
2. On the desktop, click the SDM icon (), and then click **Application Management**.
3. In **Application Management Tree**, select a location.
4. On the **Platforms** tab, in the Platforms for Selected Location <location name> section, click **Add**.
5. In the New Platform section, do the following:
   a. Provide details such as the platform name, platform FQDN or IP address, username, and password.

      For Appliance Virtualization Platform and VMware ESXi deployment, you can also provide the root username.

b. In **Platform Type**, select **AVP/ESXi**.

c. Set the Platform IP address of Appliance Virtualization Platform to 192.168.13.6, if you are connected through the services port.

6. Click **Save**.
7. In the Certificate dialog box, click **Accept Certificate**.

   System Manager generates the certificate and adds the Appliance Virtualization Platform host. For the ESXi host, you can accept the certificate. If the certificate is invalid, Solution Deployment Manager displays the error. To generate the certificate, see the VMware documentation.

   In the Application Management Tree section, System Manager displays the new host in the specified location and discovers applications.
8. To view the discovered application details, such as name and version, do the following to establish trust between the application and System Manager:

   a. On the **Applications** tab, in the Applications for Selected Location <location name> section, select the required application.

   b. Click **More Actions** > **Re-establish connection**.

      For more information, see “Re-establishing trust for Solution Deployment Manager elements”.

   c. Click **More Actions** > **Refresh App**.

   Important:

   To change the IP address or FQDN of the Appliance Virtualization Platform host from the local inventory, you require AVP Utilities. To get the AVP Utilities application name during the IP address or FQDN change, refresh AVP Utilities to ensure it is available.
9. On the **Platforms** tab, select the required platform and click **Refresh Host**.

Next steps

After adding a new host under Application Management Tree, the **Refresh Platform** operation might fail to add the virtual machine entry under **Manage Element** > **Inventory**. This is due to the absence of the **Application Name** and **Application Version** for the virtual machines discovered as part of the host addition. After adding the host, do the following:

1. In Application Management Tree, establish trust for all the virtual machines deployed on the host.
2. Ensure that System Manager populates the **Application Name** and **Application Version** for each virtual machine.

Adding an Avaya Solutions Platform 130 Release 5.1 host

About this task

Use this procedure to add an Avaya Solutions Platform 130 Release 5.1 host. You can associate an Avaya Solutions Platform 130 Release 5.1 host with an existing location.

Before you begin

- If you are connected to the Avaya Solutions Platform 130 host through the services port using the SDM client, perform the following:
  1. Edit the `C:\Windows\System32\Drivers\etc\hosts` file in your laptop to add the IP Address and FQDN of the host.
  2. Add the host in the format 192.11.13.6 <*changed FQDNname*>

     For example: `192.11.13.6 esxihost6.hostdomain.com`
- If Appliance Virtualization Platform that was migrated to Avaya Solutions Platform 130 Release 5.1 is available in Solution Deployment Manager on the **Platforms** tab, remove that Appliance Virtualization Platform and then add the Avaya Solutions Platform 130 Release 5.1 host.
- Regenerate the self-signed certificate using the FQDN.

  See "Regenerating Avaya Solutions Platform 130 self-signed certificate with FQDN using the command line interface".
- Add Avaya Solutions Platform 130 host to an existing location or associate it with a new location.
- Install a valid license file on the Avaya Solutions Platform 130 Release 5.1 host.

Procedure

1. To add an Avaya Solutions Platform 130 host using System Manager SDM or SDM client, choose one of the following:
   - For System Manager SDM, on the System Manager web console, click **Services** > **Solution Deployment Manager** > **Application Management**.

     On the desktop, click the SDM icon (), and then click **Application Management**.
   - For SDM client, on the **SDM Client** web console, click **Application Management**.
2. In **Application Management Tree**, select an existing location or add a new location.
3. On the **Platforms** tab, in the Platforms for Selected Location <location name> section, click **Add**.
4. In the New Platform section, do the following:
   a. Provide details of Platform name, Platform FQDN, username, and password.

      For Avaya Solutions Platform 130 deployment, you can also provide the root username.

   b. In **Platform Type**, select **ASP 130/S8300**.

5. Click **Save**.

   The Avaya Solutions Platform 130 certificate is updated based on the platform FQDN.

After adding an Avaya Solutions Platform 130 host using System Manager SDM or SDM client, perform the following:

6. Deploy the required virtual machines.
7. In the Certificate dialog box, click **Accept Certificate**.

   System Manager generates the certificate and adds the Avaya Solutions Platform 130 host.

   In the **Application Management Tree**, System Manager displays the new host in the specified location and discovers applications.
8. To view the discovered application details, such as name and version, establish trust between the application and System Manager doing the following:
   a. On the **Applications** tab, in the Applications for Selected Location <location name> section, select the required application.
   b. Click **More Actions** > **Re-establish connection**.

      See “Re-establishing trust for Solution Deployment Manager elements”.
   c. Click **More Actions** > **Refresh App**.
9. On the **Platforms** tab, select the required platform and click **Refresh**.

Next steps

After adding a new host under Application Management Tree, the **Refresh Platform** operation might fail to add the virtual machine entry under **Manage Element** > **Inventory**. This is due to the absence of **Application Name** and **Application Version** for the virtual machines discovered as part of the host addition. After adding the host, do the following:

1. In Application Management Tree, establish trust for all the virtual machines deployed on the host.
2. Ensure that the system populates **Application Name** and **Application Version** for each virtual machine.

Managing vCenter

Creating a role for a user

About this task

To manage a vCenter or ESXi in Solution Deployment Manager, you must provide complete administrative-level privileges to the user.

Use the following procedure to create a role with administrative-level privileges for the user.

Procedure

1. Log in to vCenter Server.
2. On the Home page, click **Administration** > **Roles**.

   The system displays the Create Role dialog box.
3. In **Role name**, type a role name for the user.
4. To provide complete administrative-level privileges, select the **All Privileges** check box.
5. **(Optional)** To provide minimum mandatory privileges, do the following.
   a. In All Privileges, select the following check boxes:
      - **Datastore**
      - **Datastore cluster**
      - **Distributed switch**
      - **Folder**
      - **Host profile**
      - **Network**
      - **Resource**
      - **Tasks**
      - **Virtual machine**
      - **vApp**

      Note:

      You must select all the subprivileges under the list of main set of privileges. For example, when you select the **Distributed switch** check box, ensure that you select all the related subprivileges. This is applicable for all the main privileges mentioned above. If you do not select all the subprivileges, the system might not work properly.

   b. In All Privileges, expand **Host**, and select the **Configuration** check box.

      Note:

      You must select all the subprivileges under **Configuration**.
6. Click **OK** to save the privileges.

Next steps

Assign this role to the user for mapping vCenter in Solution Deployment Manager. To assign the role to the user, see the VMware documentation.

Adding a vCenter to Solution Deployment Manager

About this task

System Manager Solution Deployment Manager supports virtual machine management in vCenter 6.0, 6.5, 6.7, 7.0, and 8.0. When you add vCenter, System Manager discovers the ESXi hosts that

this vCenter manages, adds them to the repository, and displays in the Managed Hosts section. Also, System Manager discovers virtual machines running on the ESXi host and adds to the repository.

System Manager displays vCenter, ESXi host, and virtual machines on the Manage Elements page.

Before you begin

Ensure that you have the required permissions.

Procedure

1. On the System Manager web console, click **Services** > **Solution Deployment Manager** > **Application Management**.
2. On the desktop, click the SDM icon (), and then click **Application Management**.
3. In the lower pane, click **Map vCenter**.
4. On the Map vCenter page, click **Add**.
5. In the New vCenter section, provide the following vCenter information:
   a. In **vCenter FQDN**, type FQDN of vCenter.
      - For increased security when using a vCenter with Solution Deployment Manager, use an FQDN for the vCenter. vCenter does not put IP addresses in its certificates. Therefore, you need FQDN to confirm the server identity through the certificate in Solution Deployment Manager.
      - The FQDN value must match the value of the **SAN** field of the vCenter certificate. The FQDN value is case-sensitive.

   b. In **User Name**, type the username to log in to vCenter.
   c. In **Password**, type the password to log in to vCenter.
   d. In **Authentication Type**, select **SSO** or **LOCAL** as the authentication type.

      If you select the authentication type as **SSO**, Solution Deployment Manager displays the **Is SSO managed by Platform Service Controller (PSC)** field.

   e. **(Optional)** If PSC is configured to facilitate the SSO service, select **Is SSO managed by Platform Service Controller (PSC)**.

      PSC must have a valid certificate.

      The system enables **PSC IP or FQDN**, and you must provide the IP or FQDN of PSC.

   f. **(Optional)** In **PSC IP or FQDN**, type the IP or FQDN of PSC.
6. Click **Save**.
7. On the certificate dialog box, click **Accept Certificate**.

   The system generates the certificate and adds vCenter.

   In the Managed Hosts section, the system displays the ESXi hosts that this vCenter manages.

Note:

- System Manager does not support vCenter with Cluster level.
- If there is a large data center with multiple hosts in a vCenter, there can be a delay in discovering all the VMs of those hosts when mapping that vCenter in the Solution Deployment Manager. If you select a smaller number of hosts rather than all hosts, this process can be faster.

Related links

Editing vCenter on page 64
Map vCenter field descriptions on page 65
New vCenter and Edit vCenter field descriptions on page 66

Editing vCenter

Before you begin

Ensure that you have the required permissions.

Procedure

1. On the System Manager web console, click **Services** > **Solution Deployment Manager** > **Application Management**.
2. On the desktop, click the SDM icon (), and then click **Application Management**.
3. In the lower pane, click **Map vCenter**.
4. On the Map vCenter page, select a vCenter server and click **Edit**.
5. In the Edit vCenter section, change the vCenter information as appropriate.
6. If vCenter is migrated from an earlier release, on the Certificate page, click **Save**, and then click **Accept Certificate**.
7. To edit the location of ESXi hosts, in the Managed Hosts section, do one of the following:
   - Select an ESXi host and click the edit icon ().
   - Select one or more ESXi hosts, select the location, click **Bulk Update** > **Update**.
8. Click **Commit** to get an updated list of managed and unmanaged hosts.

   If you do not click **Commit** after you move the host from Managed Hosts to Unmanaged Hosts or vice versa, and you refresh the table, the page displays the same host in both the tables.

Deleting vCenter from Solution Deployment Manager

Before you begin

Ensure that you have the required permissions.

Procedure

1. On the System Manager web console, click **Services** > **Solution Deployment Manager** > **Application Management**.
2. On the desktop, click the SDM icon (), and then click **Application Management**.
3. In the lower pane, click **Map vCenter**.
4. On the Map vCenter page, select one or more vCenter servers and click **Delete**.
5. Click **Yes** to confirm the deletion of servers.

   The system deletes the vCenter from the inventory.

Map vCenter field descriptions

Name	Description
Name	The name of the vCenter server.
IP	The IP address of the vCenter server.
FQDN	The FQDN of the vCenter server. **Note:** Use FQDN to successfully map and log in to vCenter from Solution Deployment Manager. With IP address, the system displays an error message about the incorrect certificate and denies connection.
License	The license type of the vCenter server.
Status	The license status of the vCenter server.
Certificate Status	The certificate status of the vCenter server. The options are: • : The certificate is correct. • : The certificate is not accepted or invalid.

Button	Description
View	Displays the certificate status details of the vCenter server.
Generate/Accept Certificate	Displays the certificate dialog box where you can generate and accept a certificate for vCenter. For vCenter, you can only accept a certificate. You cannot generate a certificate.

Button	Description
Add	Displays the New vCenter page where you can add a new ESXi host.
Edit	Displays the Edit vCenter page where you can update the details and location of ESXi hosts.
Delete	Deletes the ESXi host.

Table continues…

Button	Description
Refresh	Updates the list of ESXi hosts in the Map vCenter section.

New vCenter and Edit vCenter field descriptions

Name	Description
vCenter FQDN	The FQDN of vCenter.
User Name	The user name to log in to vCenter.
Password	The password that you use to log in to vCenter.
Authentication Type	The authentication type that defines how Solution Deployment Manager performs user authentication. The options are: • **SSO**: Global username used to log in to vCenter to authenticate to an external Active Directory authentication server. • **LOCAL**: User created in vCenter If you select the authentication type as **SSO**, Solution Deployment Manager displays the **Is SSO managed by Platform Service Controller (PSC)** field.
Is SSO managed by Platform Service Controller (PSC)	The check box to specify if PSC manages SSO service. When you select the check box, the system enables **PSC IP or FQDN**.
PSC IP or FQDN	The IP or FQDN of PSC.

Button	Description
Save	Saves any changes you make to FQDN, username, and authentication type of vCenter.
Refresh	Refreshes the vCenter details.

Managed Hosts

Name	Description
Host IP/FQDN	The name of the ESXi host.
Host Name	The IP address of the ESXi host.
Location	The physical location of the ESXi host.
IPv6	The IPv6 address of the ESXi host.
Host Path	The hierarchy of the host in vCenter and also includes the host name.

Button	Description
Edit	The option to edit the location and host.

Table continues…

Button	Description
Bulk Update	Provides an option to change the location of more than one ESXi hosts. **Note:** You must select a location before you click **Bulk Update**.
Update	Saves the changes that you make to the location or hostname of the ESXi host.
Commit	Commits the changes that you make to the ESXi host with location that is managed by vCenter.

Unmanaged Hosts

Name	Description
Host IP/FQDN	The name of the ESXi host.
ESXi Version	Displays the versions of the ESXi host linked to **vCenter FQDN**. **Note:** • For Release 10.2 and later, do not select the 6.7 version. • For Release 10.1 and later, do not select the 6.0 and 6.5 versions. • For Release 8.1 and later, do not select the 5.0 and 5.1 versions.
IPv6	The IPv6 address of the ESXi host.
Host Path	The hierarchy of the host in vCenter and also includes the host name.

Button	Description
Commit	Saves all changes that you made to vCenter on the Map vCenter page.

Chapter 7: Configuration

Configuring Out of Band Management on System Manager

About this task

If you do not configure Out of Band Management during the deployment of System Manager OVA from Solution Deployment Manager on an Avaya-provided server, you can use the **configureOOBM** command to configure Out of Band Management anytime after the deployment.

Before you begin

- Configure Out of Band Management on Avaya Solutions Platform 130, see *Installing the Avaya Solutions Platform 130 Series*.
- Install System Manager on the Avaya Solutions Platform 130 host on which Out of Band Management is configured.
- Ensure that IP address or hostname of Public network and Management network are different.

  If both are in the same network, Out of Band Management configuration might not function as expected.
- Log in to System Manager by using an SSH client utility.

  When you enable Out of Band Management configuration, you might lose the connection as the system does a network restart. You can login to System Manager from the Console of VMware vSphere to connect to the Avaya Solutions Platform host server.

Procedure

1. To enable Out of Band Management, type `configureOOBM -EnableOOBM`.

   The system enables Out of Band Management on the System Manager virtual machine. With **EnableOOBM**, the system configures the additional Ethernet interface, updates network configuration, and sets the firewall rules.
2. To disable Out of Band Management, type `configureOOBM -DisableOOBM`.

   The system disables Out of Band Management on the System Manager virtual machine. With **DisableOOBM**, the system disables the additional Ethernet interface that you configured earlier and sets the firewall rules to default.

Configuring Out of Band Management on System Manager in the Geographic Redundancy setup

About this task

Note:

You cannot enable Out of Band Management on secondary System Manager server when Out of Band Management on primary System Manager server is disabled.

Before you begin

Identify one of the following:

- Enable Out of Band Management on both the primary and secondary System Manager server.
- Enable Out of Band Management on the primary System Manager server and not enable Out of Band Management on the secondary System Manager server.
- Disable Out of Band Management on secondary System Manager server.
- Disable Out of Band Management on both the primary and secondary System Manager server.

Procedure

1. To enable Out of Band Management on both primary and secondary System Manager server, perform the following:
   a. Disable Geographic Redundancy replication on primary System Manager server.
   b. Convert primary System Manager server to standalone System Manager server and activate the secondary System Manager server.
   c. Enable Out of Band Management on both primary and secondary System Manager server.
   d. Reconfigure the Geographic Redundancy on the secondary System Manager server.
   e. Enable Geographic Redundancy replication on primary System Manager server.
2. To enable Out of Band Management on the primary System Manager server and not enable Out of Band Management on secondary System Manager server, perform the following:
   a. Disable Geographic Redundancy replication on primary System Manager server.
   b. Convert primary System Manager server to standalone System Manager server.
   c. Enable Out of Band Management on primary System Manager server.
   d. Once Out of Band Management on primary System Manager server is enabled, reconfigure Geographic Redundancy on secondary System Manager server.
   e. Enable Geographic Redundancy replication on primary System Manager server.

3. To disable Out of Band Management on secondary server, perform the following:
    a. Disable Geographic Redundancy replication on primary System Manager server.
    b. Convert primary System Manager server to standalone System Manager server.
    c. Activate secondary System Manager server and disable Out of Band Management.
    d. Reconfigure primary System Manager server from the web console of the secondary System Manager server.
    e. Enable Geographic Redundancy replication on primary System Manager server.
4. To disable Out of Band Management on both servers, perform the following:
    a. Disable Geographic Redundancy replication on primary System Manager server.
    b. Convert primary System Manager server to standalone System Manager server and disable Out of Band Management.
    c. Activate secondary System Manager server and disable Out of Band Management.
    d. Reconfigure Geographic Redundancy on secondary System Manager server with old primary System Manager server which is now standalone.
    e. Enable Geographic Redundancy replication on primary System Manager server.

Enabling Multi Tenancy on Out of Band Management-enabled System Manager

About this task

By default, the Multi Tenancy feature is disabled on System Manager when Out of Band Management is enabled. You must enable Multi Tenancy on Out of Band Management-enabled System Manager for the Tenant Management administrator to manage tenant users.

Before you begin

Start an SSH session.

Procedure

1. Log in to System Manager by using the command line utility.
2. Type `opt/vsp/OOBM/ enableMultitenancyInPublicInterface.sh`.

Configuring Out of Band Management using the configureOOBM command

After the deployment of System Manager, use **`configureOOBM`** to configure Out of Band Management. You can enable or disable Out of Band Management.

Syntax

```
configureOOBM [-EnableOOBM|-DisableOOBM]
```

Option	Description
EnableOOBM	Enables Out of Band Management on System Manager virtual machine. With **EnableOOBM**, the additional Ethernet interface is configured, network configuration is updated, and firewall rules are set.
DisableOOBM	Disables Out of Band Management on System Manager virtual machine. With **DisableOOBM**, the system disables the additional Ethernet interface that you configured earlier and sets the firewall rules to default.

Configuring the virtual machine automatic startup settings on VMware

About this task

When a vSphere ESXi host restarts after a power failure, the virtual machines that are deployed on the host do not start automatically. You must configure the virtual machines to start automatically.

In high availability (HA) clusters, the VMware HA software does not use the startup selections.

Before you begin

Verify with the ESXi system administrator that you have the permissions to configure the automatic startup settings.

Procedure

1. In the web browser, type the vSphere vCenter host URL.
2. Click one of the following icons: **Hosts and Clusters** or **VMs and Templates** icon.
3. In the navigation pane, click the host where the virtual machine is located.
4. Click **Manage**.
5. In Virtual Machines, click **VM Startup/Shutdown**, and then click **Edit**.

   The software displays the Edit VM Startup and Shutdown window.
6. Click **Automatically start and stop the virtual machines with the system**.
7. Click **OK**.

SAL Gateway

You require a Secure Access Link (SAL) Gateway for remote access and alarming.

Through SAL, support personnel or tools can gain remote access to managed devices to troubleshoot and debug problems.

A SAL Gateway:

1. Receives alarms from Avaya products in the customer network.
2. Reformats the alarms.
3. Forwards the alarms to the Avaya support center or a customer-managed Network Management System.

For more information about SAL Gateway and its deployment, see the Secure Access Link documentation on the Avaya Support website at https://support.avaya.com.

Configuring hardware resources to support VE footprint flexibility

Virtualized Environment footprint flexibility

Virtualized applications provide a fixed profile based on maximum capacity requirements. However, many customers require only a fraction of the maximum capacity.

Certain virtualized applications offer a flexible footprint profile based on the number of users that are supported. The customer can configure VMware CPU and RAM of a virtual machine according to a particular capacity line size requirement.

The applications that currently support Virtualized Environment footprint flexibility are:

- Avaya Aura® System Manager
- Avaya Aura® Communication Manager
- Avaya Aura® Session Manager
- Avaya Aura® Application Enablement Services

Related links

Capability and scalability specification on page 73

Reconfiguring hardware resources for flexible footprint

About this task

Reconfigure the CPU and RAM resources for the System Manager virtual machine.

Procedure

1. Connect to the host or cluster by using the VMware vSphere.
2. Log in by using the admin login name and password.
3. To power off the virtual machine, perform the following:
   a. Right-click on the virtual machine name.
   b. Select **Power** > **Shut Down Guest**.
   c. Click **Yes** in the Shutdown Confirmation dialog box.
4. On the virtual machine name, right-click and select **Edit Settings**.
5. Click the Hardware tab.
6. Click **Memory** and change the **Memory Size** to the appropriate limit.

   For more information, see System Manager Virtualized Environment footprint hardware resource matrix.
7. Click on the Resources tab.
8. Select **Memory** and verify the **Reservation** is set correctly.
9. Clear the **unlimited** check box and verify the **Limit** slide is set to the same value as the **Reservation**.
10. Click the Hardware tab.
11. Select **CPUs** and change the **Number of sockets** according to the limit requirement.

    For more information, see System Manager Virtualized Environment footprint hardware resource matrix.
12. Click the Resources tab.
13. Select **CPUs** and verify that the **Reservation** is set correctly.
14. Clear the **unlimited** check box and verify that the **Limit** slide is set to the same value as the **Reservation** field.
15. Click **OK** and wait until the virtual machine completes the reconfiguration process.
16. Power on the virtual machine.

Related links

Capability and scalability specification on page 73

Capability and scalability specification

The table provides the maximum capacities supported for each element type.

Note:

Only one System Manager is available with each Avaya Aura® deployment. Therefore, the solution number is not the sum of all supported elements listed in the table.

Capacity	Maximum limit	Notes
Administrator logins	250	
Simultaneous logins	50	
Total administered endpoints of all types	300,000	To see the total number of endpoints, go to the **Elements** > **Communication Manager** > **Endpoints** > **Manage Endpoints** page on the System Manager web console.
Total administered users defined in the System Manager database	300,000	The total number of administered users with an Identity is configured in System Manager and might not have a communication profile defined. To see the defined users, go to the **Users** > **User Management** > **Manage Users** page on the System Manager web console.
Messaging mailboxes	300,000	
Contacts per user	250	
Public contacts	1,000	
Personal contact lists per user	1	
Members in a personal contact list	250	
Groups	300	
Members in a group	400	
Elements	25,000	
Communication Manager or CS 1000 or both	500	Specifies the capacity counts against the total number of elements.
Main Communication Manager	100	
Session Managers	28	
Branch Session Manager	5,000	
SIP Users	300,000	Total number of SIP users.
Total SIP devices	1,000,000	Total number of SIP devices.
IP Office	3,500	To support central licensing of 3500 IP Office 9.x and later, local WebLM licensing servers that are slaved to System Manager licensing are required. For more information, see the IP Office 9.x and later product offer.
IP Office Unified Communication Module or Application servers as part of Branch deployments	3,500	
Roles	200	
Roles per user	20	
Licensing clients	1,000	

Table continues…

Capacity	Maximum limit	Notes
Concurrent License requests per WebLM	300	
License requests during any 9 minute window per WebLM	50,000	
Local WebLM	22	
Trust management clients	2,500	
Tenants (System Manager Multi-Tenant)	250	

Geographic Redundancy configuration

Prerequisites for the Geographic Redundancy setup

In a Geographic Redundancy setup, the two standalone System Manager servers that you designate as primary and secondary servers must meet the following requirements:

- Contain the same version of the software that includes software packs.
- Contain the same profile for primary and secondary System Manager Geographic Redundancy virtual machines. For example, if the primary System Manager contains Profile 2, the secondary System Manager must also contain Profile 2.
- Contain the same version of the System Manager software that includes service pack and software patches.
- Contain the same parent domain names for two System Manager systems. For example, smgr.abc.com and smgr.xyz.com are invalid domain names because the parent domain names abc and xyz are different.
- Communicate with each other over the network by using the IP address and FQDN.
- In the Geographic Redundancy setup, the primary and secondary System Manager must use the same VFQDN.
- Have a synchronized network time.
- Use DNS to ensure that the name resolution is automatic. Otherwise, you must resolve the IP address and the host name in the `/etc/hosts` file on the primary and secondary System Manager servers.
- Have open required ports to support the Geographic Redundancy feature. For port usage information, see *Avaya Port Matrix: Avaya Aura® System Manager* on the Avaya Support website at http://support.avaya.com/.
- Have T1 as the minimum data pipe between the primary and the secondary System Manager server. T1 provides 1.544 Mbps.

- Have network latency that is less than 500 ms.
- In the Geographic Redundancy setup, if you need to configure the outbound firewall rules, then you need to add the peer IP addresses on the primary and secondary System Manager servers.

Prerequisites for System Manager on VMware in the Geographic Redundancy setup

In a Geographic Redundancy-enabled system running on VMware, ensure that System Manager that you designate as primary and secondary systems meet the following requirements:

- Contain the same profile for primary and secondary System Manager Geographic Redundancy virtual machines. For example, if the primary System Manager contains Profile 2, the secondary System Manager must also contain Profile 2.
- Contain the same version of the System Manager software that includes service pack and software patches.
- Contain the same parent domain names for two System Manager systems. For example, smgr.abc.com and smgr.xyz.com are invalid domain names because the parent domain names abc and xyz are different.
- Communicate with each other over the network by using the IP address and FQDN.
- Have a synchronized network time.
- Use DNS to ensure that the name resolution is automatic. Otherwise, you must resolve the IP address and the host name in the `/etc/hosts` file on the primary and secondary System Manager servers.
- Have open required ports to support the Geographic Redundancy feature. For port usage information, see *Avaya Port Matrix: Avaya Aura® System Manager* on the Avaya Support website at http://support.avaya.com/.
- Have network latency that is less than 500 ms.
- Have T1 as the minimum data pipe between the primary and the secondary System Manager server. T1 provides 1.544 Mbps.

Key tasks for Geographic Redundancy

Prerequisites

Ensure that the two System Manager servers meet the requirements that are defined in “Prerequisites for the Geographic Redundancy setup”.

Key tasks

Only the system administrator can perform Geographic Redundancy-related operations.

- Configure Geographic Redundancy.

  Configure Geographic Redundancy to handle the situation when the primary System Manager server fails or when the managed element loses connectivity to the primary System Manager server.

Important:

During the configuration of Geographic Redundancy, the primary System Manager replicates the data between the primary and the secondary System Manager servers. Therefore, ensure that the system maintenance activities such as backup, restore, and shutdown are not in progress.

- Enable the Geographic Redundancy replication between the two servers.

  Enable the replication in the following scenarios:

  - After you configure the two standalone System Manager servers for Geographic Redundancy, you must enable the Geographic Redundancy replication between the two servers to ensure that the secondary System Manager server contains the latest copy of the data from the primary System Manager server.
  - During the system maintenance or upgrades, Geographic Redundancy replication must be disabled. After maintenance activity is complete, you must enable Geographic Redundancy replication if it was manually or automatically disabled due to the maintenance activity.

    Note:

    If the heartbeat between the two System Manager servers in which the Geographic Redundancy replication is enabled stops due to network connectivity failure or the server failure, the system automatically disables the Geographic Redundancy replication within a preconfigured time. The default is 5 minutes. If the primary and secondary System Manager servers are running and if the network connectivity between the two servers fails, the system triggers auto-disable on both servers. If one of the two servers becomes nonoperational, the system triggers auto-disable on the server that is operational.

    When the network connectivity is restored, enable the Geographic Redundancy replication. For information about the network latency and bandwidth, see “Prerequisites for the Geographic Redundancy setup”.

    For information about the auto-disable scenarios, see Scenarios of auto-disable for the Geographic Redundancy system on page 90.

  - After the primary System Manager server recovers from failure.

    Important:

    During the bulk activities such as import, export, and full synchronization of Communication Manager, the system might disable the Geographic Redundancy replication for reasons, such as the size of the data involved in the bulk activity and the bandwidth between the primary and the secondary System Manager server. After you complete the bulk activity, enable the Geographic Redundancy replication if the replication is disabled.

- Disable the Geographic Redundancy replication between the two servers.

  Disable the Geographic Redundancy replication before you start the maintenance activities such as upgrades, installation of software patches or hot fixes. If the primary and the secondary System Manager servers disconnect from each other for more than the threshold period, the system automatically disables the Geographic Redundancy replication. The default threshold period is 5 minutes.

- Activate the secondary System Manager server.

  Activate the secondary System Manager server in the following scenarios:

  - The primary System Manager becomes nonoperational.
  - The enterprise network splits.

- Deactivate the secondary System Manager server.

  Deactivate the secondary System Manager server in the following situations:

  - The primary System Manager server becomes available.
  - The element network restores from the split.

- Restore the primary System Manager server.

  After you activate the secondary System Manager server, to return to the active-standby mode, you must restore the primary System Manager server. You can choose to restore from the primary System Manager or the secondary System Manager server.

  Note:

  The system does not merge the data from the primary and secondary server.

- Reconfigure Geographic Redundancy.

  You can reconfigure Geographic Redundancy when the secondary System Manager is in the standby mode or active mode. The reconfiguration process copies the data from the primary System Manager server to the secondary System Manager server.

- Convert the primary System Manager server to the standalone server.

  Perform this procedure to convert the primary System Manager server in the Geographic Redundancy-enabled system to a standalone server or if you have to configure a new secondary server.

For detailed instructions to complete each task, see the appropriate section in this document.

Prerequisites before configuring Geographic Redundancy

Geographic Redundancy prerequisites overview

Before enabling and configuring Geographic Redundancy, do the following:

1. Configure CRL download on the secondary System Manager server.

   Note:

   By default, CRL is valid only for 7 days. Therefore, you must configure Geographic Redundancy before the expiry date of CRL.

2. Add the trusted certificate of the primary server to the secondary System Manager server.

   Note:

   This step is mandatory. Complete this step even if you are replacing the certificates with third-party signed certificates.

3. If the certificate is replaced on the primary server by a third-party signed certificate, then the same certificate type must be replaced on the secondary server by the same third-party CA.

   For example, If a third-party CA replaces *Management Container TLS Service* signed certificate on the primary server, then the same type of certificate must be replaced on the secondary server by the same third-party CA.

4. Install a third-party certificate on both servers on both servers before and after the Geographic Redundancy configuration.
5. Ensure that a third-party CA certificate is added to the trust store of both System Manager servers.
6. The replaced certificate must have a full chain (id certificate ->inter CA (if present) certificate -> root CA certificate) and must contain the correct FQDN/VFQDN in the required places.
7. **Note:**

   Configuring CRL download is mandatory for Geographic Redundancy.

   If the CRL URL for the third-party is not accessible from System Manager, then set **Certificate Revocation Validation** from **BEST_EFFORT** to **NONE** on the **Security** > **Configuration** > **Security Configuration** > **Revocation Configuration** page.

   When you click **Commit**, System Manager displays the following message:

   ```
   Changes are updated successfully. An Application server restart is required for changes to take effect. Click Ok to restart it now. Click Cancel to restart it later. Web Console would be unavailable for 10-15 minutes during a restart.
   ```

Related links

Configuring CRL download on the secondary System Manager server on page 80
Adding the trusted certificate of primary server to the secondary System Manager server on page 81

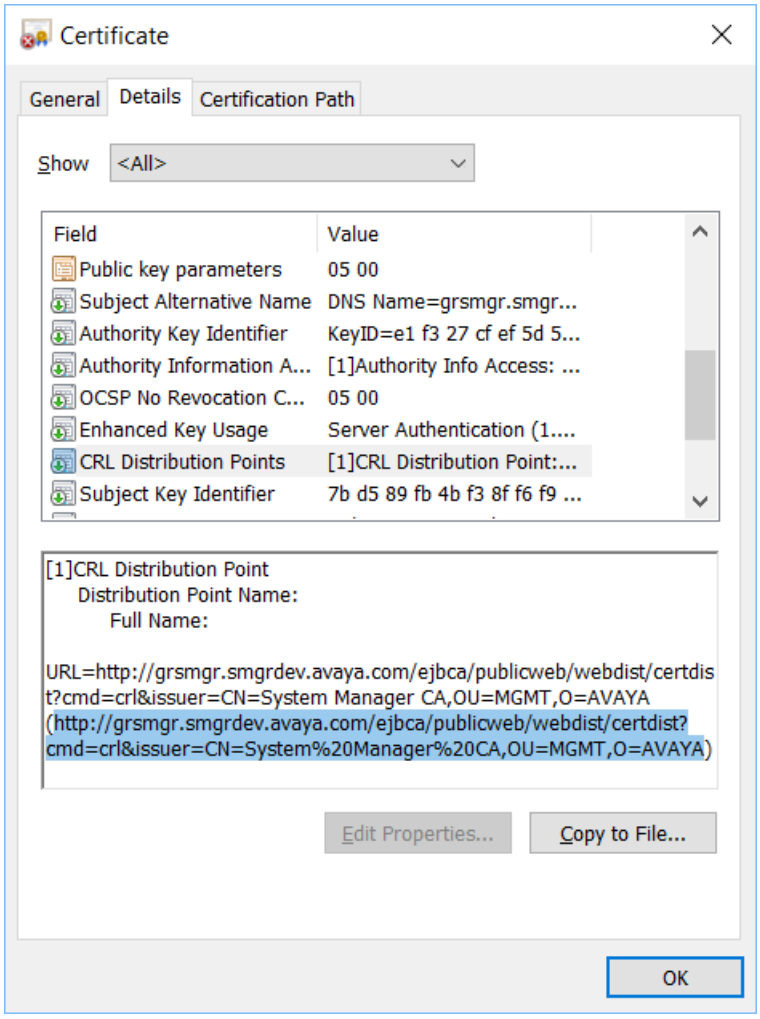
Copying the CRL URL

Procedure

1. On the web browser, type `https://<Fully Qualified Domain Name>/SMGR`, the System Manager URL.
2. On the address bar, click the Lock icon.
3. Click **View certificates**.
4. On the Certificate dialog box, do the following:
   a. Click on the **Details** tab.
   b. Scroll down and click the **CRL Distribution Points** field.

      The system displays the CRL URL in the text box.

For example: http://<vFQDN>/ejbca/publicweb/webdist/certdist?cmd=crl&issuer=CN=System%20Manager%20CA,OU=MGMT,O=AVAYA



c. Press **Ctrl+C** and copy the URL in Notepad for configuring CRL download in the Geographic Redundancy set up.

d. Click **OK**.

Configuring CRL download on the secondary System Manager server

Procedure

1. Access the login page of the primary System Manager server.
2. Copy the CRL of the browser certificate.

   For information about copying the CRL URL, see “Copying the CRL URL.”
3. Replace the vFQDN in the CRL with the IP address of the primary System Manager server.

For example, the CRL in the certificate is:

```
http://<vFQDN>/ejbca/publicweb/webdist/certdist?
cmd=crl&issuer=CN=System%20Manager%20CA,OU=MGMT,O=AVAYA
```

The new CRL for the certificate will be:

```
http://<ip-address>/ejbca/publicweb/webdist/certdist?
cmd=crl&issuer=CN=System%20Manager%20CA,OU=MGMT,O=AVAYA
```

Where, *<vFQDN>* and *<ip-address>* are the respective vFQDN and IP address.

Note:

If you installed a third-party certificate on System Manager servers, this step is not required. If third-party certificate, then configure CRL URL of the third-party certificate for CRL download.

4. Log on to the secondary System Manager web console.
5. On the System Manager web console, click **Services** > **Security**.
6. In the navigation pane, click **Configuration** > **CRL Download**.
7. On the CRL Download Configuration page, click **Add**.

   System Manager displays the Schedule CRL Download page.
8. In **Job Name**, type the job name.
9. In **Job Frequency**, set the frequency and recurrence to schedule the job within a few minutes after the CRL addition.

   For more information, see Schedule CRL Download field descriptions.
10. Copy the new CRL URL from Notepad and paste the URL in the **Configure CRL Distribution Point** field.

    For information about copying the CRL URL, see “Copying the CRL URL.”

    CRL URL example:

    ```
    http://<ip-address>/ejbca/publicweb/webdist/certdist?
    cmd=crl&issuer=CN=System%20Manager%20CA,OU=MGMT,O=AVAYA
    ```
11. Click **Add**, and then click **Commit**.

    Ensure that the job is completed successfully.

Next steps

Add the trusted certificate of the primary server to the secondary System Manager server.

Adding the trusted certificate of primary server to the secondary System Manager server

Procedure

1. Log in to the primary System Manager web console.
2. On the System Manager web console, click **Services** > **Security**.

3. In the navigation pane, click **Certificates** > **Authority**.
4. Click **CA Functions** > **CA Structure & CRLs**.
5. Click **Download PEM file**.
6. Log in to the secondary System Manager web console.
7. On the System Manager web console, click **Services** > **Inventory**.
8. In the navigation pane, click **Manage Elements**.
9. On the Manage Elements page, select the System Manager certificate and click **More Actions** > **Manage Trusted Certificates**.
10. On the Manage Trusted Certificates page, click **Add**.
11. Click **Choose File** and select the previously downloaded PEM file.
12. Click **Retrieve Certificate**, and then click **Commit**.

Configuring Geographic Redundancy

Before you begin

- For the new installation of System Manager, ensure that you change the default password for the system administrator user.
- Ensure that you change CLI passwords on primary and secondary System Manager servers.

  60 days after the System Manager CLI password expires, Geographic Redundancy becomes nonoperational. You must set a new password on primary and secondary System Manager servers for Geographic Redundancy to become operational again.
- Ensure that the two System Manager servers meet the requirements that are defined in “Prerequisites for the Geographic Redundancy setup”.

About this task

For resiliency, from the pair of standalone System Manager servers, you can configure Geographic Redundancy.

Important:

- During the configuration of Geographic Redundancy, the primary System Manager replicates the data between the primary and the secondary System Manager servers. Therefore, ensure that the system maintenance activities such as backup, restore, and shutdown are not in progress.
- After the Geographic Redundancy configuration is complete, the credentials used for logging in to the secondary System Manager becomes identical to the login credentials of the primary System Manager.

Procedure

1. Log on to the System Manager web console of the standalone server that you require to designate as the secondary server and perform the following:
   a. On the System Manager web console, click **Services** > **Geographic Redundancy**.

b. Click **Configure**.

c. In the dialog box, provide the details of the primary System Manager server in the following fields:

- **Primary Server Username**

  Enter the system administrator user name that you use to log on to the primary System Manager server.

- **Primary Server Password**

  Enter the system administrator password that you use to log on to the primary System Manager server.

- **Primary Server IP**
- **Primary Server FQDN**

d. Click **OK**.

The configuration process takes about 30 minutes. However, the duration might vary depending on the size of the data on the primary System Manager server.

Note:

Because the server becomes unavailable, you cannot gain access to the web console. Wait until the process is complete before you continue with the next step.

The server that you configured becomes the secondary server and the other standalone server becomes the primary System Manager server.

2. To view the status of the Geographic Redundancy configuration during the restart of the two application servers, perform one of the following:

- Log on to the web console of the primary System Manager server and perform the following:

  a. On the System Manager web console, click **Services** > **Geographic Redundancy**.

  b. Refresh the GR Health page.

  If **Enable** is available, the configuration is complete.

  Note:

  Log off and log on to the primary System Manager server to view the updated status of Geographic Redundancy health.

- Log in to the secondary System Manager server as system administrator by using the command line interface and perform the following:

  a. Type `tail -f /home/ucmdeploy/quantum/autoReconfig.log`.

  The system displays the progress during the restart of the two application servers. When the second application server restart completes, the system displays the following messages:

```
SMGR :: operationStatus=success
```

```
                SMGR  ::  Quantum has been successfully
        configured as a secondary.
```

Next steps

On the web console of the primary System Manager server, enable the Geographic Redundancy replication.

Related links

Converting the primary System Manager server to the standalone server on page 89
Prerequisites for System Manager on VMware in the Geographic Redundancy setup on page 76

Enabling the Geographic Redundancy replication

Enable the Geographic Redundancy replication between the two servers to ensure that the data gets continuously replicated between the primary and secondary System Manager servers.

Before you begin

- Log on to the System Manager web console of the primary server.
- Ensure that CLI passwords on primary and secondary System Manager servers do not expire.

  60 days after the System Manager CLI password expires, Geographic Redundancy becomes nonoperational. You must set a new password on primary and secondary System Manager servers for Geographic Redundancy to become operational again.

About this task

Important:

During the configuration of Geographic Redundancy, the primary System Manager replicates the data between the primary and the secondary System Manager servers. Therefore, ensure that the system maintenance activities such as backup, restore, and shutdown are not in progress.

Procedure

1. On the System Manager web console, click **Services** > **Geographic Redundancy**.
2. Click **Enable Replication**.

   The system displays the progress information in the **Enable GR Status** section.

   Note:

   Because the server becomes unavailable, you cannot gain access to the web console. Wait until the process is complete before you continue with the next step.

   If the enabling process is successful, the system displays the Geographic Redundancy replication status as `Enabled`. If the process fails, the system displays an error message with the replication status as `Failed` on the primary the System Manager web console. The primary server remains in the failed state while the secondary server rolls back to the previous state. Verify if the system has raised an alarm for a temporary network

connectivity failure. Retry when the network connectivity is restored. If the problem persists, contact Avaya service personnel.

Related links

Disabling the Geographic Redundancy replication on page 85
Geographic Redundancy field descriptions on page 90

Disabling the Geographic Redundancy replication

Before you begin

Log on to the System Manager web console of the primary server.

Procedure

1. On the System Manager web console, click **Services** > **Geographic Redundancy**.
2. Click **Disable Replication**.
3. In the dialog box, click **Yes**.

   The system displays the progress information in the **Disable GR Status** section.

   If the disabling process is successful, the system displays the Geographic Redundancy replication status as `Disabled`. The system stops replicating the data from the primary and secondary System Manager server. If the disabling process fails, the system displays an error message on the web console of the primary System Manager.

Related links

Enabling the Geographic Redundancy replication on page 84
Geographic Redundancy field descriptions on page 90

Activating the secondary System Manager server

About this task

- When you activate the secondary System Manager server, the system stops replicating the data from the primary System Manager server to the secondary System Manager server. During activation, you cannot gain access to the web console of the secondary System Manager server for some time.
- In the same browser instance, do not open the primary and secondary System Manager server in different tabs. The system might display an unknown error after the activation, deactivation, or recovery is complete. You can ignore this error message.

Before you begin

Log on to the System Manager web console of the secondary server.

Procedure

1. On the System Manager web console, click **Services** > **Geographic Redundancy** > **GR Health**.
2. Click **Activate Secondary Server**.

The system displays the Geographic Redundancy (GR) Health Current status dialog box.

3. In the Select the reason for activation, choose one of the following options:
   - **Primary Down**: When the primary System Manager server becomes nonoperational, the server hardware is faulty and unusable, or the application server fails to recover.
   - **Network Split**: When the enterprise network splits and servers fail to communicate with each other.
   - **Maintenance**: When the maintenance activities such as backup, restore, upgrade, and shutdown are in progress.
   - **Other**: Any other reason where the primary System Manager server becomes unusable and needs the secondary System Manager server to become operational.
4. Click **Yes**.

   The system displays the initialization of the activation process.
5. Click **Yes**.

   The activation process takes about 15–20 minutes to complete.

   If the activation process fails, the system displays an error message on the secondary System Manager web console and rolls back to the previous state. If the activation process is successful, the secondary System Manager server changes to the active mode and provides complete System Manager functionality.

   Because the server becomes unavailable, you cannot gain access to the web console. Wait until the process is complete before you continue with the next step.

Related links

Deactivating the secondary System Manager server on page 86
Geographic Redundancy field descriptions on page 90

Deactivating the secondary System Manager server

Before you begin

Log on to the System Manager web console of the secondary server.

Procedure

1. On the System Manager web console, click **Services** > **Geographic Redundancy** > **GR Health**.
2. Click **Deactivate Secondary Server**.

   The system displays the Deactivate Secondary Server dialog box and the progress while performing the deactivation process.
3. Click **OK**.

   If the deactivation process is complete, the secondary System Manager server goes to the standby mode. If the deactivation process fails, the system displays an error message on the secondary System Manager web console and the server remains in the active mode.

Next steps

Restore primary System Manager. For information, see “Restoring the primary System Manager server”.

Related links

Activating the secondary System Manager server on page 85
Geographic Redundancy field descriptions on page 90

Restoring the primary System Manager server

Before you begin

- Create the snapshot of the primary and secondary System Manager servers.

  Note:

  Delete the snapshot after the data is successfully restored.

- Log on to the System Manager web console of the primary server.

About this task

You can restore the data when the secondary System Manager server is active or in the standby mode. However, for minimum system nonfunctional time during data restoration or an emergency or both, you can restore the data when the secondary System Manager server is active.

Note:

It is recommended to first deactivate secondary System Manager server and then start the **Restore Data** operation. If the Geo Data Restore operation is performed using Secondary Data while Secondary is in active state, then there could be data loss or inconsistency if changes are made on the secondary System Manager server while the Geo Data Restore operation is in progress.

If you choose to retain the primary System Manager database as part of Geo Data Restore then this note does not apply to you.

Important:

After you restore the system with the secondary System Manager data, if you want to revert to the primary System Manager data, you can restore to the primary System Manager data using the procedure in Step 4. However, you must restore to the primary System Manager data, before you enable the Geographic Redundancy replication. After you enable the Geographic Redundancy replication, you cannot restore to the primary System Manager server data.

Procedure

1. On the System Manager web console, click **Services** > **Geographic Redundancy**.
2. Click **Restore Data**.
3. On the Restore GR dialog box, select a server whose data you want to retain:
   - **Primary Server**

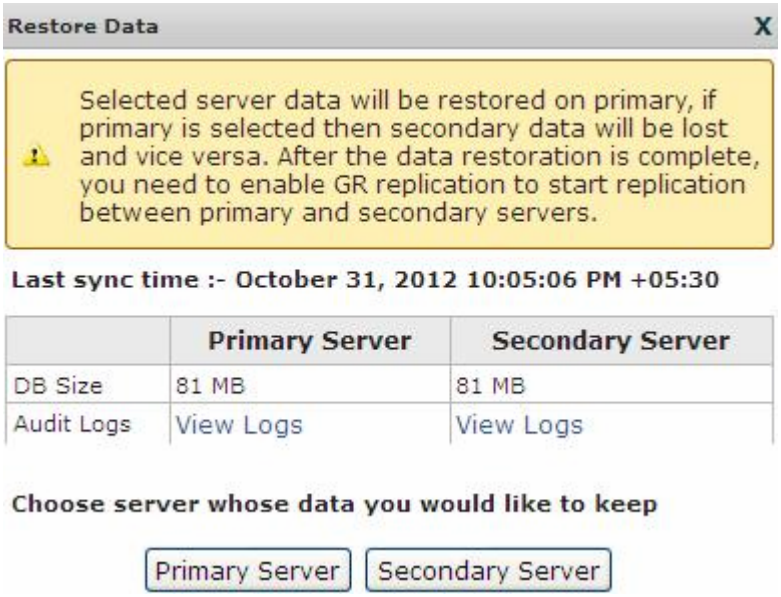
     The system keeps the primary System Manager server data. The data on the secondary System Manager server is lost.

Select the secondary System Manager server if the secondary System Manager server data changes significantly during the interval between activation and deactivation and the administrator wants to retain those changes even after restoring the data using **Restore Data**.

- **Secondary Server**

  The system restores the data from the secondary server on the primary System Manager server. the System Manager web console is unavailable for some time. The time that the system takes to restore depends on the network speed and the size of the data that the system must restore.

  After the system recovery, select the secondary System Manager server if the secondary System Manager server data changes significantly during the interval between the system recovery and the deactivation and if you want to retain the changes from the secondary System Manager server after restoring the data by using **Restore Data**.



System Manager displays the Restore Status dialog box.

System Manager displays the restore operation status and the status of the primary and the secondary System Manager server.

Important:

After you restore the data, all changes that you make on the secondary System Manager server that is active will not be available on the primary System Manager server.

4. If you later decide to revert to the database of the primary System Manager server, perform the following steps after the restore is complete:

   a. Using the command line interface, log in to System Manager of the primary server with administrator privilege CLI user credentials.

b. Change to the `$MGMT_HOME/geo/bin` directory.

c. Type `sh backupandrestore.sh recovery secondaryIP secondaryFQDN`.

When the script completes, System Manager restarts and contains the data from the primary System Manager server that was available before you restored with the secondary System Manager data.

Note:

- To restore with the secondary System Manager server data again, activate and deactivate the secondary System Manager server.
- Because the server becomes unavailable, you cannot gain access to the web console. Wait until the process is complete before you continue with the next step.

Next steps

Verify the data and deactivate the secondary System Manager server if the server is active during the restoration process.

Enable the Geographic Redundancy replication to synchronize the primary and secondary System Manager servers.

Related links

Enabling the Geographic Redundancy replication on page 84
Deactivating the secondary System Manager server on page 86
Geographic Redundancy field descriptions on page 90

Converting the primary System Manager server to the standalone server

Before you begin

- Log on to the System Manager web console of the primary server.
- Disable the Geographic Redundancy replication if you have not already disabled.

Note:

You can also reconfigure secondary System Manager to the standalone server by performing the same steps.

Procedure

1. On the System Manager web console, click **Services** > **Geographic Redundancy**.
2. Select the primary System Manager server, and click **Convert To Standalone**.

   The system displays a dialog box.
3. Click **OK**.

   If the conversion is successful, the system displays `Converted to Standalone successfully` and converts the primary System Manager server to a standalone server.

The system displays the status of the server as `Unconfigured` on the Manage Elements page. The administrator can configure the server when required.

Related links

[Configuring Geographic Redundancy](#) on page 82
[Enabling the Geographic Redundancy replication](#) on page 84
[Geographic Redundancy field descriptions](#) on page 90

Scenarios of auto-disable for the Geographic Redundancy system

System Manager triggers the auto-disable and automatically disables the Geographic Redundancy replication within a preconfigured time. The default is 5 minutes.

- If the primary and secondary System Manager servers are running and if the network connectivity between the two servers fails, the system triggers auto-disable on both servers.

  When the network connectivity is restored, enable the Geographic Redundancy replication.

  For information about the network latency and bandwidth, see “Prerequisites for the Geographic Redundancy setup”.
- If one of the two servers becomes nonoperational, the system triggers auto-disable on the server that is operational.
- If the PostgreSQL database disk partition utilization reaches threshold limit of 75%, System Manager generates a Warning alarm.

  If the PostgreSQL database disk partition utilization reaches threshold limit of 85%, System Manager triggers auto-disable and generates a Critical alarm.

Note:

If auto-disable is due to PostgreSQL database disk space issue, contact Avaya Support. Do not enable the Geographic Redundancy until the database disk partition space issue is resolved.

Geographic Redundancy field descriptions

The Geographic Redundancy and the GR Health pages remain blank on a standalone server or until you configure a secondary System Manager.

Primary Server Details

The system displays the IP address and the FQDN of the primary System Manager server.

Name	Description
Convert to Standalone	Converts to a standalone server. The system displays the **Convert to Standalone** button only when the replication is disabled.

Table continues…

Name	Description
Configure	Configures Geographic Redundancy. The system displays the **Configure** button only on the standalone System Manager server.
Reconfigure	Configures Geographic Redundancy. The system displays the **Reconfigure** button only on the secondary System Manager server.

Secondary Server Configured

You can use the **Enable Replication**, **Disable Replication**, and **Restore Data** buttons only from the primary System Manager server.

Button	Description
Enable Replication	Continuously replicates the data between the primary and the secondary System Manager server. The system displays the **Enable Replication** button after the following events: • State of Geographic Redundancy is Disable. • Geographic Redundancy configuration. • Restoration of the primary Geographic Redundancy server is complete.
Disable Replication	Stops replicating the data between the primary and the secondary System Manager server. The system displays the **Disable Replication** button when the state of Geographic Redundancy is Enable.
Restore Data	Recovers the server after the failback. The system displays the **Restore Data** button when the secondary System Manager server is deactivated.

Name	Description
IP	Displays the IP address of the secondary System Manager server.
FQDN	Displays FQDN of the secondary System Manager server.
Replication Status	Displays the status of replication. The values are Disabled and Enabled.
Last Action	Displays the last action that you performed on the secondary System Manager server.
Last Action Status	Displays the status of the last action that you performed on the secondary System Manager server.

GR Health field descriptions

The information available on the GR Health page is read-only.

The Geographic Redundancy and the GR Health pages remain blank on a standalone server or until you configure a secondary System Manager.

GR Health

Name	Description
GR Health Status	Displays the health status of the monitored services. The page displays: • ■, if the monitored service stops. • ✔, if the monitored service is running. • ✘, if the monitored service fails to run.
Activate Secondary Server	Click to make the secondary server provide full System Manager functionality when the primary System Manager server fails, or the data network splits. **Note:** • The system displays **Activate Secondary Server** only on the secondary System Manager server. • The system displays the **Activate Secondary Server** or the **Deactivate Secondary Server** button on the page.
Deactivate Secondary Server	Click to make the primary System Manager resume operation. You use this option when the primary System Manager server restores operation or recovers from a network failure. **Note:** The system displays **Deactivate Secondary Server** only on the secondary System Manager server.
Service Name	Displays the name of the service for which the system provides the status of the health.
View Detail	Click **View Graph**. • For database and directory replication, the system displays the graph for default interval. If no graph is present for the default interval, using the calendar, you can set the period for which you require to check the health status, and click **Generate** to view health details in a graph. For database replication, the system displays graphs for time lag and the size lag. For directory replication, the system displays graph for time lag only. • For file replication, the system displays the last replication time and the size of the lag.

HeartBeat status

Click **View Heartbeat Status** to view the details. The system displays the GR Heartbeat page.

Name	Description
Service Name	The name of the monitored service. The services are: • **System Health**: The heartbeat status indicates if the primary or the secondary System Manager server can communicate with the peer System Manager server over the network. • **Database Replication**: The heartbeat status indicates if the data stored in the System Manager database is getting replicated between the primary and the secondary System Manager server. • **Application System Health**: The heartbeat status indicates if the application server of primary or secondary System Manager can query the application server of the peer System Manager. • **File Replication**: The heartbeat status indicates if the configuration files are getting replicated between the primary and the secondary System Manager server. • **Directory Replication**: The heartbeat status indicates if the data stored in the internal LDAP server is getting replicated in the respective System Manager server.
Last Successful Heartbeat Time	The last time the heartbeat was successful for the monitored service.
Last Missed Heartbeat Time	The last time when the monitored service missed the heartbeat.
View Details	The **View Graph** link to view the health status of the monitored service over a period of time. To configure the time period, click **Edit Dates**. The graph displays the status in 0 and 1. • 0 indicates that the monitored service is either stopped or failed at that point of time • 1 indicates that the monitored service is running at that point of time.

Configuring the network parameters from console

About this task

When first started, the System Manager virtual machine collects the network parameters. When the system prompts, enter the network parameters.

Before you begin

Deploy System Manager.

Procedure

1. To provide configuration input, type `y`.

   At this prompt, if you type n thrice, the system displays the following message and also displays the prompt for configuration input.

```
WARNING - Number of re-attempts exceeded the allowed limit.
```

- To enter the configuration details, type `y`.
- To shut down the application, type `n`.

2. Read the End User License Agreement (EULA).
3. To accept the EULA, in **Do you accept the Avaya Software License Terms? (Y)es/(N)o**, type `Y`.
4. At the prompt, enter the management network parameters, public network parameters, virtual FQDN parameters, SMGR CLI User parameters, and SNMPv3 parameters of the System Manager virtual machine.
5. To schedule the remote backup during the System Manager installation, in **Schedule SMGR Backup**, type the backup definition parameters for the System Manager virtual machine.
6. At the Data Encryption prompt, perform one of the following:
   - To enable data encryption, type `1`.
   - To disable data encryption, type `2`.
7. At the **Enhanced Access Security Gateway (EASG)** prompt, read the following messages, and do one of the following:

   Enable: (Recommended)

   ```
   By enabling Avaya Logins you are granting Avaya access to your
   system.
   This is necessary to maximize the performance and value of your
   Avaya support entitlements, allowing Avaya to resolve product
   issues in a timely manner.
   In addition to enabling the Avaya Logins, this product should
   be registered with Avaya and technically onboarded for remote
   connectivity and alarming. Please see the Avaya support site
   (support.avaya.com/registration) for additional information for
   registering products and establishing remote access and alarming.
   ```

   Disable:

   ```
   By disabling Avaya Logins you are preventing Avaya access to your
   system.
   This is not recommended, as it impacts Avaya’s ability to provide
   support for the product. Unless the customer is well versed
   in managing the product themselves, Avaya Logins should not be
   disabled.
   ```

   - Select 1 to enable EASG.
   - Select 2 to disable EASG.

   Avaya recommends that you enable EASG.

   You can also enable EASG after deploying or upgrading the application using the command: **`EASGManage --enableEASG`**.

8. To confirm the network parameters, type `Y`.

   System Manager starts the configuration of the network parameters.

   From the time you power on the system, the deployment process takes about 30–40 minutes to complete. Do not reboot the system until the configuration is complete. You can monitor the post deployment configuration from the `/var/log/Avaya/PostDeployLogs/post_install_sp.log` file. Once the configuration is complete, the log file displays the following message: `SMGR Post installation configuration is completed`

Next steps

Once the first boot configuration is complete, it is mandatory to deploy the latest patch.

To verify that the System Manager installation is complete and the system is ready for patch deployment, do one of the following:

- On the web browser, type `https://<Fully Qualified Domain Name>/SMGR`, and ensure that the system displays the System Manager Log on page.

  The system displays the message: Installation of latest System Manager patch is mandatory.

- On the Command Line Interface, log on to the System Manager console, and verify that the system does not display the message: `Maintenance: SMGR Post installation configuration is In-Progress`.

  It should only display the message: `Installation of latest System Manager patch is mandatory`.

Note:

Modifying the network or management configuration is not recommended before the patch deployment.

Related links

Network and configuration field descriptions on page 95

Network and configuration field descriptions

Name	Description
Management IPv4 Address (or Out of Band Management IPv4 Address)	The IPv4 address of the System Manager application for Out of Band Management. This field is an optional network interface to isolate management traffic on a separate interface from the inbound signaling network.
Management Netmask	The Out of Band Management subnetwork mask to assign to the System Manager application.
Management Gateway	The gateway IPv4 address to assign to the System Manager application.
IP Address of DNS Server	The DNS IP addresses to assign to the primary, secondary, and other System Manager applications. Separate the IP addresses with commas (,).

Table continues…

Name	Description
Management FQDN	The FQDN to assign to the System Manager application. **Note:** System Manager hostname is case sensitive. The restriction applies only during the upgrade of System Manager.
IPv6 Address	The IPv6 address of the System Manager application for out of band management. This field is optional.
IPv6 Network prefix	The IPv6 subnetwork mask to assign to the System Manager application. This field is optional.
IPv6 Gateway	The gateway IPv6 address to assign to the System Manager application. This field is optional.
Default Search List	The search list of domain names. This field is optional.
NTP Server IP/FQDN	The IP address or FQDN of the NTP server. This field is optional. Separate the IP addresses with commas (,). This field is not applicable for software-only deployment. The application supports only the NTP server. It does not support the NTP pool.
Time Zone	The timezone where the System Manager application is located. A list is available where you select the name of the continent and the name of the country. This field is not applicable for the software-only deployment.

Note:

You must configure Public network configuration parameters only when you configure Out of Band Management. Otherwise, Public network configuration is optional.

Name	Description
Public IP Address	The IPv4 address to enable public access to different interfaces. The field is optional.
Public Netmask	The IPv4 subnetwork mask to assign to System Manager application. The field is optional.
Public Gateway	The gateway IPv4 address to assign to the System Manager application. The field is optional.
Public FQDN	The FQDN to assign to the System Manager application. The field is optional.
Public IPv6 Address	The IPv6 address to enable public access to different interfaces. The field is optional.
Public IPv6 Network Prefix	The IPv6 subnetwork mask to assign to System Manager application. The field is optional.
Public IPv6 Gateway	The gateway IPv6 address to assign to the System Manager application. The field is optional.

Name	Description
Virtual Hostname	The virtual hostname of the System Manager application. **Note:** • The VFQDN value must be unique and different from the FQDN value of System Manager and the elements. • VFQDN is a mandatory field. • By default, VFQDN entry gets added in the `/etc/hosts` file during installation. Do not remove VFQDN entry from the `/etc/hosts` file. • VFQDN entry will be below FQDN entry and mapped with IP address of system. Do not manually change the order and value. • You must keep VFQDN domain value same as of FQDN domain value. • If required, VFQDN value can be added in DNS configuration, ensure that the value can be resolved. • Secondary Server (Standby mode) IP address value is mapped with VFQDN value in hosts file of Primary server IP address. After Secondary Server is activated, then the IP address gets updated with Secondary Server IP address. • In Geographic Redundancy, the primary and secondary System Manager must use the same VFQDN. • After System Manager installation, if you require to change the System Manager VFQDN value, perform the following: 1. Log in to System Manager with administrator privilege credentials. 2. Run the **`changeVFQDN`** command. **Important:** When you run the **`changeVFQDN`** command on System Manager, data replication synchronization between System Manager with Session Manager and other elements fails To correct VFQDN on other elements and to retrieve new VFQDN from System Manager, see product-specific Administering document.
Virtual Domain	The virtual domain name of the System Manager application.

Name	Description
SNMPv3 User Name Prefix	The prefix for SNMPv3 user.
SNMPv3 User Authentication Protocol Password	The password for SNMPv3 user authentication.

Table continues…

Name	Description
Confirm Password	The password that you retype to confirm the SNMPv3 user authentication protocol.
SNMPv3 User Privacy Protocol Password	The password for SNMPv3 user privacy.
Confirm Password	The password that you must provide to confirm the SNMPv3 user privacy protocol.

Name	Description
SMGR command line user name	The user name of the System Manager CLI user. **Note:** Do not provide the common user names, such as admin, csaadmin, postgres, root, bin, daemon, adm, sync, dbus, vcsa, ntp, saslauth, sshd, tcpdump, xfs, rpc, rpcuser, nfsnobody, craft, inads, init, rasaccess, sroot, postgres, smgr, and nortel.
SMGR command line user password	The password for the System Manager CLI user.
Confirm Password	The password that you retype to confirm the System Manager CLI user authentication.

Name	Description
Schedule Backup?	• **Yes**: To schedule the backup jobs during the System Manager installation. • **No**: To schedule the backup jobs later. **Note:** If you select **No**, the system does not display the remaining fields.
Backup Server IP	The IP address of the remote backup server. **Note:** The IP address of the backup server must be different from the System Manager IP address.
Backup Server Login Id	The login ID of the backup server to log in through the command line interface.
Backup Server Login Password	The SSH login password to log in to the backup server from System Manager through the command line interface.
Confirm Password	The password that you reenter to log in to the backup server through the command line interface.
Backup Directory Location	The location on the remote backup server.
File Transfer Protocol	The protocol that you can use to create the backup. The values are SCP and SFTP.

Table continues…

Name	Description
Repeat Type	The type of the backup. The possible values are: • Hourly • Daily • Weekly • Monthly
Backup Frequency	The frequency of the backup taken for the selected backup type. If there is no successful backup in the last ‘n’ days, where ‘n’ is configurable, then System Manager raises an alarm. The default number of days is set to 7, but it can be configured to any number from 1 to 30 using the 'Alarm Threshold for number of days since last successful SMGR Backup' parameter.
Backup Start Year	The year in which the backup must start. The value must be greater than or equal to the current year.
Backup Start Month	The month in which the backup must start. The value must be greater than or equal to the current month.
Backup Start Day	The day on which the backup must start. The value must be greater than or equal to the current day.
Backup Start Hour	The hour in which the backup must start. The value must be six hours later than the current hour.
Backup Start Minutes	The minute when the backup must start. The value must be a valid minute.
Backup Start Seconds	The second when the backup must start. The value must be a valid second.

Name	Description
Public	The port number that is mapped to public port group. You must configure Public network configuration parameters only when you configure Out of Band Management. Otherwise, Public network configuration is optional.
Out of Band Management	The port number that you must assign to the Out of Band Management port group. The field is mandatory.

Enhanced Access Security Gateway (EASG) - EASG User Access

Name	Description

Table continues…

Enter 1 to Enable EASG (Recommended) or 2 to Disable EASG	Enables or disables Avaya Logins for Avaya Services to perform the required maintenance tasks. The options are: • 1: To enable EASG. • 2: To disable EASG. Avaya recommends that you enable EASG. You can also enable EASG after deploying or upgrading the application using the command: **`EASGManage --enableEASG`**.

Customer Root Account

Note:

The **Customer Root Account** field is applicable only in case of deploying application OVA on Appliance Virtualization Platform Release 8.x or earlier, Avaya Solutions Platform 130, and VMware by using Solution Deployment Manager. The system does not display the **Customer Root Account** field, when you deploy an application:

- OVA on VMware by using vSphere Client (HTML5).
- ISO on Red Hat Enterprise Linux by using Solution Deployment Manager.

Name	Description
Enable Customer Root Account for this Application	Enables or disables the customer root account for the application. Displays the ROOT ACCESS ACCEPTANCE STATEMENT screen. To accept the root access, click **Accept**. When you accept the root access statement, the system displays the **Customer Root Password** and **Re-enter Customer Root Password** fields.
Customer Root Password	The root password for the application
Re-enter Customer Root Password	The root password for the application

Data Encryption

Note:

Data Encryption is supported only for Appliance Virtualization Platform Release 8.x or earlier, Avaya Solutions Platform 130, and VMware Virtualized Environment.

For more information, see the application-specific Data Privacy Guidelines on the Avaya Support website.

Name	Description
Data Encryption	Enables or disables the data encryption. The options are: • **1**: To enable the data encryption. • **2**: To disable the data encryption. **Important:** • An encrypted system cannot be changed to a non-encrypted system without a new OVA installation and vice-versa. • While using vCenter, when you enable data encryption and do not enter the encryption passphrase, the system does not block the deployment due to vCenter limitation. Therefore, ensure that you enter the encryption passphrase, if data encryption is enabled. • **On Solution Deployment Manager:** When the **Data Encryption** field is set to 1, the system enables the **Encryption Pass-Phrase** and **Re-enter Encryption Pass-Phrase** fields to enter the encryption passphrase. • **On vCenter or ESXi:** When the **Data Encryption** field is set to 1, enter the encryption passphrase in the **Password** and **Confirm Password** fields.
Encryption Pass-Phrase	This field is applicable when data encryption is enabled. The passphrase for data encryption. When you deploy the application by using Solution Deployment Manager, the system applies the passphrase complexity rules. When you deploy the application by using vCenter or ESXi, the system does not apply the passphrase complexity rules.
Re-enter Encryption Pass-Phrase	The passphrase for data encryption.

Table continues…

Name	Description
Require Encryption Pass-Phrase at Boot-Time	If the check box is selected, you need to type the encryption passphrase whenever the application reboots. By default, the **Require Encryption Pass-Phrase at Boot-Time** check box is selected. **Important:** You must remember the data encryption pass-phrase as the system prompts you to enter the encryption passphrase with every reboot of the application. If you lose the data encryption passphrase, the only option is to reinstall the OVA. If the check box is not selected, the application creates the Local Key Store and you are not required to type the encryption passphrase whenever the application reboots. This might make the system less secure. You can also set up the remote key server by using the **`encryptionRemoteKey`** command after the deployment of the application.

Related links

Configuring the network parameters from console on page 93

Chapter 8: Post-installation verification

Post-installation steps

Procedure

Recreate all licenses with the new host ID format, and install the new license files.

System Manager uses a new host ID format for Avaya WebLM server. Therefore, all previously installed licenses become invalid. For instructions to install the license file, see Managing licenses in *Administering Avaya Aura® System Manager*.

Verifying the installation of System Manager

About this task

Perform the following verification procedure after installing the System Manager patch and configure System Manager.

Procedure

1. On the web browser, type `https:// <fully qualified domain name of System Manager>`.
2. To log on to the System Manager web console, do the following:
   a. In **User ID**, type the default user name “admin”.
   b. In **Password**, type the default password “admin123”.
   c. Click **Log On**.
3. On the Password Change page, do the following:
   a. In **User ID**, type the default user name.
   b. In **Current password**, type the default password.
   c. In **New password**, type a new password.
   d. In **Confirm new password**, retype the new password.
   e. Click **Save**.

   System Manager displays the following confirmation message:

   `User (admin) password changed successfully.`

4. Click the **Primary Login** link.
5. On the System Manager log on page, type the user name and new password.
6. On the upper-right corner, click  and click **About**.

   The system displays a pop up window with the build details.
7. Verify the System Manager version number.

Installing language pack on System Manager

About this task

After you install, upgrade, or apply a service or a feature pack, run the language pack to get the localization support for the French language.

Note:

After installing the language pack, you cannot uninstall the language pack.

Procedure

1. Log in to the System Manager command line interface with administrator privilege CLI user credentials.
2. Type `locate LocalizationScript.sh`, and press `Enter`.

   System Manager displays the path of the localization script.

   For example: `/opt/Avaya/Mgmt/10.2.x/CommonConsole/script/LocalizationScript.sh`
3. Type `locate FrenchResourceBundle.zip`, and press `Enter`.

   The System Manager displays the path of the `FrenchResourceBundle.zip` script.

   For example: `/opt/Avaya/Mgmt/10.2.x/CommonConsole/localization/common_console/FrenchResourceBundle.zip`

   This is just an example of the path; the path might vary based on actual path that you get.
4. Type `cd $MGMT_HOME/CommonConsole/script/` to go to the localization script folder.
5. To run the localization script, type `sudo ./LocalizationScript.sh $MGMT_HOME/CommonConsole/localization/common_console/FrenchResourceBundle.zip`.
6. If you are installing the language pack through SSH connection, then do not close the SSH session or terminate the connection.

   If you close the SSH session or terminate the connection, System Manager kills the process and the installation fails.

Note:

During this activity, System Manager restarts the Application server. Therefore, the System Manager web console will not be accessible. If System Manager is in the Geographic Redundancy mode, then apply these steps on the secondary System Manager server also after secondary server is active.

7. Change the browser language setting to French.

Enhanced Access Security Gateway (EASG) overview

EASG provides a secure method for Avaya services personnel to access the Avaya Aura® application remotely and onsite. Access is under the control of the customer and can be enabled or disabled at any time. EASG must be enabled for Avaya Services to perform tasks necessary for the ongoing support, management and optimization of the solution. EASG is also required to enable remote proactive support tools such as Avaya Expert Systems® and Avaya Healthcheck.

Managing EASG from CLI

About this task

After deploying or upgrading an Avaya Aura® application, you can enable, disable, remove, restore or view the status of EASG.

Before you begin

Log in to the application CLI interface.

Procedure

1. To view the status of EASG, run the command: **`EASGStatus`**.

   The system displays the status of EASG.

2. To enable EASG, do the following:

   a. Run the command: **`EASGManage --enableEASG`**.

      The system displays the following message:

      ```
      By enabling Avaya Services Logins you are granting Avaya access
      to your system. This is required to maximize the performance
      and value of your Avaya support entitlements, allowing Avaya to
      resolve product issues in a timely manner.

      The product must be registered using the Avaya Global
      Registration Tool (GRT, see https://grt.avaya.com) to be
      eligible for Avaya remote connectivity. Please see the
      Avaya support site (https://support.avaya.com/ registration)
      for additional information for registering products and
      establishing remote access and alarming.
      ```

b. When the system prompts, type `yes`.

   The system displays the message: `EASG Access is enabled`.

3. To disable EASG, do the following:

   a. Run the command: **`EASGManage --disableEASG`**.

      The system displays the following message:

      ```
      By disabling Avaya Services Logins you are denying Avaya access
      to your system. This is not recommended, as it can impact
      Avaya's ability to provide support for the product. Unless the
      customer is well versed in managing the product themselves,
      Avaya Services Logins should not be disabled.
      ```

   b. When the system prompts, type `yes`.

      The system displays the message: `EASG Access is disabled`.

Viewing the EASG certificate information

Procedure

1. Log in to the application CLI interface.
2. Run the command: **`EASGProductCert --certInfo`**.

   The system displays the EASG certificate details, such as, product name, serial number, and certificate expiration date.

EASG product certificate expiration

The Avaya Aura® application raises an alarm if the EASG product certificate has expired or is about to expire in 365 days, 180 days, or 30 days. To resolve this alarm, the customer must apply the patch for a new certificate or upgrade to the latest release. Else, the customer loses the ability for Avaya to provide remote access support.

If the EASG product certificate expires, EASG access is still possible through the installation of EASG site certificate.

EASG site certificate

EASG site certificates are used by the onsite Avaya technicians who do not have access to the Avaya network to generate a response to the EASG challenge. The technician will generate and provide the EASG site certificate to the customer. The customer loads this EASG site certificate on each server to which the customer has granted the technician access. The EASG site certificate will only allow access to systems on which it has been installed, and will only allow access to the given Avaya technician and cannot be used by anyone else to access the system including other Avaya technicians. Once this is done, the technician logs in with the EASG challenge or response.

Managing site certificates

Before you begin

1. Obtain the site certificate from the Avaya support technician.
2. You must load this site certificate on each server the technician needs to access. Use a file transfer tool, such as WinSCP to copy the site certificate to /home/*cust* directory, where *cust* is the login ID. The directory might vary depending on the file transfer tool used.
3. Note the location of this certificate and use in place of *installed_pkcs7_name* in the commands.
4. You must have the following before loading the site certificate:
   - Login ID and password
   - Secure file transfer tool, such as WinSCP
   - Site Authentication Factor

Procedure

1. To install the site certificate:
   a. Run the following command: `sudo EASGSiteCertManage --add <installed_pkcs7_name>`.
   b. Save the Site Authentication Factor to share with the technician once on site.
2. To view information about a particular certificate, run the following command:
   - `sudo EASGSiteCertManage --list`: To list all the site certificates currently installed on the system.
   - `sudo EASGSiteCertManage --show <installed_pkcs7_name>`: To display detailed information about the specified site certificate.
3. To delete the site certificate, run the following command:
   - `sudo EASGSiteCertManage --delete <installed_pkcs7_name>`: To delete the specified site certificate.
   - `sudo EASGSiteCertManage --delete all`: To delete all the site certificates currently installed on the system.

Chapter 9: Maintenance

Monitoring a host and virtual machine

Monitoring a platform

Procedure

1. On the System Manager web console, click **Services** > **Solution Deployment Manager** > **Application Management**.
2. On the desktop, click the SDM icon (), and then click **Application Management**.
3. Click **Monitor Platforms**.
4. On the Monitor Hosts page, do the following:
   a. In **Hosts**, click a host.
   b. Click **Generate Graph**.

   The system displays the graph regarding the CPU/memory usage of the host that you selected.

Monitoring an application

Procedure

1. On the System Manager web console, click **Services** > **Solution Deployment Manager** > **Application Management**.
2. On the desktop, click the SDM icon (), and then click **Application Management**.
3. Click **Monitor Applications**.
4. In the Monitor VMs page, do the following:
   a. In **Hosts**, click a host.
   b. In **Virtual machines**, click a virtual machine on the host that you selected.
5. Click **Generate Graph**.

   The system displays the graph regarding the CPU/memory usage of the virtual machine that you selected.

changeIPFQDN command

Use the **changeIPFQDN** command to change the Management IP address when Out of Band Management is enabled. With this command, you can change the IP address, FQDN, DNS address, Gateway, Netmask address for Management network configuration of System Manager, and the search list for the DNS address. You can also use this command to enable or configure to IPv4 or IPv6 network details.

Note:

On the System Manager Release 7.1 and later, if you change the IP Address of System Manager using the **changeIPFQDN** command, the system changes the host ID of System Manager and invalidates the existing installed license file. Therefore, you must reinstall the license file on System Manager after changing the IP Address of System Manager.

To change the Public IP address when Out of Band Management is enabled, use the **changePublicIPFQDN** command.

Syntax

```
changeIPFQDN -IP < >  -FQDN < > -GATEWAY < >-NETMASK < > -DNS < > -SEARCH < >-IPV6 < >
-IPV6GW < >-IPV6PREFIX < >
```

#	Option	Description	Usage
1	IP	The new Management IPv4 address of System Manager.	**changeIPFQDN -IP 10.11.12.13**
2	FQDN	The new Management FQDN of System Manager.	**changeIPFQDN -FQDN a.mydomain.smgr.com**
3	GATEWAY	The new Management Gateway IPv4 address of System Manager.	**changeIPFQDN -GATEWAY 10.11.1.1**
4	NETMASK	The new Management netmask address of System Manager.	**changeIPFQDN -NETMASK 255.255.203.0**
5	DNS	The new Management DNS address of System Manager. You can provide multiple DNS addresses. Separate each address by a comma.	**changeIPFQDN -DNS 10.11.1.2** **changeIPFQDN -DNS 10.11.12.5,10.11.12.3**
6	SEARCH	The new search list of domain names.	**changeIPFQDN -SEARCH smgr.com**
7	IPV6	The new Management IPv6 address of System Manager.	**changeIPFQDN -IPV6 2001:b00d:dead:1111:1111:1111:1234:8080**
8	IPV6GW	The new Management Gateway IPv6 address of System Manager.	**changeIPFQDN -IPV6GW 2001:b00d::1**
9	IPV6PREFIX	The new Management netmask prefix of System Manager. The default value is 64.	**changeIPFQDN -IPV6PREFIX 64**

Example

You can provide options in any combination that the system supports:

```
changeIPFQDN -IP 10.11.y.z -FQDN a.domain.weblm.com -GATEWAY 10.11.1.1 -NETMASK
255.255.255.0 -DNS 10.11.1.2 -SEARCH platform.avaya.com
```

```
changeIPFQDN -FQDN a.domain.weblm.com -GATEWAY 10.11.1.1
```

```
changeIPFQDN -IP 10.11.y.z
```

```
changeIPFQDN -IPV6 2001:b00d:dead:1111:1111:1111:1234:8080 -IPV6GW 2001:b00d::1
-IPV6PREFIX 64
```

changePublicIPFQDN command

Use the **changePublicIPFQDN** command to change the Public IP address when Out of Band Management is enabled. With this command, you can change the IP address, FQDN, Gateway, and Netmask address for Public network configuration of System Manager.

To change the Management IP address when Out of Band Management is enabled, use the **changeIPFQDN** command.

Syntax

```
changePublicIPFQDN -publicIP < > -publicFQDN < > -publicGATEWAY < > -publicNETMASK < >
```

#	Option	Description	Usage
1	publicIP	The new Public IPv4 address of System Manager.	**changePublicIPFQDN -IP 10.11.12.13**
2	IPV6	The new public IPv6 address of System Manager.	**changePublicIPFQDN -IPV6 2001:b00d:dead:1111:1111:1111:1234:8080**
3	IPV6GW	The new public IPv6 Gateway address of System Manager.	**changePublicIPFQDN -IPV6GW 2001:b00d::1**
4	IPV6PREFIX	The new public IPv6 Prefix address of System Manager.	**changePublicIPFQDN -IPV6PREFIX 64**
5	publicFQDN	The new Public FQDN of System Manager.	**changePublicIPFQDN -FQDN a.mydomain.smgr.com**
6	publicGATEWAY	The new Public Gateway IPv4 address of System Manager.	**changePublicIPFQDN -GATEWAY 10.11.1.1**
7	publicNETMASK	The new Public netmask address of System Manager.	**changePublicIPFQDN -NETMASK 255.255.203.0**

Example

You can provide options in any combination that the system supports:

```
changePublicIPFQDN -publicIP 10.11.y.z -publicFQDN a.domain.weblm.com -publicGATEWAY
10.11.1.1 -publicNETMASK 255.255.255.0
```

```
changePublicIPFQDN -publicFQDN a.domain.weblm.com -publicGATEWAY 10.11.1.1
```

```
changePublicIPFQDN -publicIP 10.11.y.z
```

Configuring the NTP server

About this task

This is not applicable for the Software-Only deployment.

Before you begin

- To reach the System Manager command-line interface, use one of the following methods:
  - Open vSphere Client (HTML5) and click the **Console** tab or the  icon.
  - Use PuTTY.
- Log in to System Manager with administrator privilege credentials.

Procedure

Type `configureNTP <IP address of NTP server>`.

The application supports only the NTP server. It does not support the NTP pool.

Configuring the time zone

About this task

When you run the **`configureTimeZone`** command, it restarts the database connection.

Before you begin

- To reach the System Manager command-line interface, use one of the following methods:
  - Open vSphere Client (HTML5) and click the **Console** tab or the  icon.
  - Use PuTTY.
- Log in to System Manager with administrator privilege credentials.

Procedure

1. Type `configureTimeZone` on the System Manager command line interface.
2. Select the time zone from the list.

   For example, America/Denver.

3. Reboot the system to reflect the time zone changes.

Rebooting the System Manager virtual machine through command-line interface

About this task

When you start the reboot process, you cannot access the System Manager web console.

Important:

If you configured a NFS mount on System Manager for Session Manager Performance Data (perfdata) collection, then, if and when you reboot/boot System Manager virtual machine, you need to ensure that you manually re-mount the NFS store once the System Manager VM is up and you are able to log in to the VM through SSH. Failure to re-mount the NFS partition will result in the Session Manager perfdata to go, by default, into a folder which is in the root (/) partition of the System Manager file system. This might cause the partition to get full which in-turn might cause issues with the System Manager application.

Procedure

1. Log in to the System Manager command-line interface.
2. Type **`rebootVM`** and press **Enter**.
3. At the **Do you want to continue ? .. (Yes/No)** prompt, type **Yes** and press **Enter**.

   System Manager starts the reboot process.

System Manager command line interface operations

#	Command	Parameters	Description	Usage
1	**changeIPFQDN**	• **-IP <new Management interface or Out of Band Management IP address for System Manager>** • **-FQDN <new Management or Out of Band Management fully qualified domain name for System Manager>** • **-GATEWAY <new Management interface or Out of Band Management Gateway address for System Manager>** • **-NETMASK <new Management interface or Out of Band Management netmask address for System Manager>** • **-DNS <new DNS address for System Manager>** • **-SEARCH <new search list for DNS address>**	Updates the existing Management interface or Out of Band Management IP address, FQDN, Gateway, Netmask, DNS, and the search list with the new value. **Note:** On the System Manager Release 7.1 and later, if you change the IP Address of System Manager using the **changeIPFQDN** command, the system changes the host ID of System Manager and invalidates the existing installed license file. Therefore, you must reinstall the license file on System Manager after changing the IP Address of System Manager.	• **changeIPFQDN -IP <new IP address>** • **changeIPFQDN -FQDN <new fully qualified domain name>** • **changeIPFQDN -IP <new IP address> -GATEWAY <new Gateway address for System Manager> -SEARCH <new search list for DNS address>**

Table continues…

#	Command	Parameters	Description	Usage
2	**changePublicIPFQDN**	• **-publicIP <new IP address for System Manager>** • **-publicFQDN <new fully qualified domain name for System Manager>** • **-publicGATEWAY <new Gateway address for System Manager>** • **-publicNETMASK <new netmask address for System Manage>**	Updates the existing Public IP address, FQDN, Gateway, and Netmask with the new value.	• **changePublicIPFQDN -publicIP <new Public IP address>** • **changePublicIPFQDN -publicFQDN <new fully qualified domain name for public interface>** • **changePublicIPFQDN -publicIP <new Public IP address> -publicGATEWAY <new Public Gateway address for System Manager>**
3	**upgradeSMGR**	**<absolute path to the dmutility.bin> -m –v**	Upgrades System Manager using the data migration utility.	**upgradeSMGR dmutility *.bin -m –v**
4	**SMGRPatchdeploy**	**<absolute path to the System Manager service pack or the software patch>**	Installs the software patch or the service pack for System Manager.	**SMGRPatchdeploy <absolute path to SMGRservicepackName>** **Note:** Copy the System Manager service pack or patches that you must install to `/swlibrary`.
5	**configureTimeZone**	**Time zone that you select**	Configures the time zone with the value that you select.	**configureTimeZone** **Select a time zone. For example, America/Denver**

Table continues…

#	Command	Parameters	Description	Usage
6	**configureNTP**	**<IP address of NTP server>**	Configures the NTP server details.	**configureNTP <IP address of NTP server>** Separate IP addresses or hostnames of NTP servers with commas (,).
7	**createCA**		Creates a new Certificate Authority by using SHA2 signing algorithm and 2048 key size. For more information, see, Creating a new Certificate Authority by using SHA2 signing algorithm and 2048 key size.	**createCA** You must provide the desired Common Name (CN)
8	**configureOOBM**		Enables or disables the Out of Band Management configuration.	• To enable Out of Band Management: **configureOOBM –EnableOOBM** • To disable Out of Band Management: **configureOOBM -DisableOOBM**
9	**enableOOBMMultiTenancy**		If Out of Band Management and MultiTenancy are enabled on system, use this command to provision tenant administrators to available on public interface.	
10	**setSecurityProfile**		Enabling the commercial and military grade hardening.	• Enabling commercial grade hardening: **setSecurityProfile --enable-commercial-grade** • Enabling military grade hardening: **setSecurityProfile --enable-military-grade**

Table continues…

#	Command	Parameters	Description	Usage
11	**EASGManage**		Enables or disables EASG.	• **EASGManage --enableEASG** • **EASGManage --disableEASG**
12	**EASGStatus**		Displays the status of EASG.	
13	**EASGProductCert**		Displays the EASG certificate details.	**EASGProductCert --certInfo**
14	**EASGSiteCertManage**		To manage EASG Certificates.	
15	**editHosts**		To add, replace, and delete the IP Address, FQDN, or hostname entries in the `/etc/hosts` file.	
16	• **swversion** • **swversion -s**		• swversion: Displays the System Manager software information. • swversion -s: Displays the System Manager software version and also displays information about the application name, profile, and deployment type. • **Note:** The output varies based on the application deployment and the virtualization environment.	

Table continues…

#	Command	Parameters	Description	Usage
17	**changeVFQDN**		To change the System Manager Virtual FQDN.	**changeVFQDN** Type the System Manager Virtual FQDN. **Note:** When you run the **changeVFQDN** command on System Manager, data replication synchronization between System Manager with Session Manager and other elements fails To correct VFQDN on other elements and to retrieve new VFQDN from System Manager, see product-specific Administering document.

Table continues…

#	Command	Parameters	Description	Usage
18	**pairIPFQDN**		Changing the IP address and FQDN on the secondary System Manager server when the secondary is in the standby or active mode.	• If you changed both the IP address and FQDN of primary server, type the following on the secondary server: `#sh $MGMT_HOME/utils/ipfqdnchange/pairIpFqdnChange.sh -OLDIP <Old IP of the primary server> -NEWIP <New IP of the primary server> -OLDFQDN <Old FQDN of the primary server> -NEWFQDN <New FQDN of the primary server>` • If you changed the IP address of primary server, type the following on secondary server: `#sh $MGMT_HOME/utils/ipfqdnchange/pairIpFqdnChange.sh -OLDIP <Old IP of the primary server> -NEWIP <New IP of the primary server>` • If you changed FQDN of primary server, type the following on secondary server: `#sh $MGMT_HOME/utils/ipfqdnchange/pairIpFqdnChange.sh -OLDFQDN <Old FQDN of`

Table continues…

#	Command	Parameters	Description	Usage
				the primary server> -NEWFQDN <New FQDN of the primary server>
19	**smgr**		Starts, stops, and checks the status of the Application server.	**smgr** start/stop/status
20	**smgr-db**		Starts, stops, and checks the status of postgresql.service.	**smgr-db** start/stop/status
21	**getUserAuthCert**		Generates a user specific certificate for System Manager to facilitate certificate-based authentication.	
22	**changeCipherSuiteList**		Configures cipher suite mode for System Manager	• To configure strict cipher suite list, type the following command. This would disable CBC ciphers: **changeCipherSuiteList LIST2** • To configure relax cipher suite list, type the following command. This would enable CBC ciphers: **changeCipherSuiteList LIST1**
23	**collectLogs**		Collects the required logs.	• To collect all the logs: **collectLogs** • To collect all the logs along with backup: **collectLogs -Db** • To collect all the logs along with CND data: **collectLogs -CND**

Table continues…

#	Command	Parameters	Description	Usage
24	**rebootVM**		Reboots the System Manager virtual machine. **Important:** If you configured a NFS mount on System Manager for Session Manager Performance Data (perfdata) collection, then, if and when you reboot/boot System Manager virtual machine, you need to ensure that you manually re-mount the NFS store once the System Manager VM is up and you are able to log in to the VM through SSH. Failure to re-mount the NFS partition will result in the Session Manager perfdata to go, by default, into a folder which is in the root (/) partition of the System Manager file system. This might cause the partition to get full which in-turn might cause issues with the System Manager application.	Type `y` or `n` to reboot the System Manager virtual machine.
25	**powerOffVM**		Power off the System Manager virtual machine.	Type `y` or `n` to power off the System Manager virtual machine.
26	sudo /bin/ systemctl (parameter) snmpd	start/stop/restart/status	To start or stop, and to check status of the SNMP service.	
27	sudo /bin/ systemctl (parameter) spiritAgent	start/stop/restart/status	To start or stop, and to check status of the Spirit Agent service.	

Table continues…

#	Command	Parameters	Description	Usage
28	sudo /bin/ systemctl (parameter) cnd	start/stop/restart/status	To start or stop, and to check status of the CND service.	
29	encryptionPassphrase	[add | change | remove | list]	To add, change, remove, and display the encryption passphrase.	• **encryptionPassphrase add**: To add encryption passphrase. • **encryptionPassphrase change**: To change existing encryption passphrase. • **encryptionPassphrase remove**: To remove encryption passphrase. • **encryptionPassphrase list**: To display the encryption passphrase and slot assignment.
30	encryptionRemoteKey	[add | remove | list]	To add, remove, and display the remote key server.	• **encryptionRemoteKey add**: To add remote key server. • **encryptionRemoteKey remove**: To remove remote key server. • **encryptionRemoteKey list**: To display the remote key server and slot assignment.
31	encryptionLocalKey	[enable | disable]	To enable and disable the local key store.	• **encryptionLocalKey enable**: To enable local key store. • **encryptionLocalKey disable**: To disable local key store.

Table continues…

#	Command	Parameters	Description	Usage
32	encryptionStatus		Displays information about encryption on the system.	**encryptionStatus** displays information about encryption on the system.
33	**updateLogRetention.sh**	[-p] [-v] [maxRetentionTime]	Manages the log retention time.	
34	**pruneAllLogs.sh**	[-b] [-t] [-v] [-h] [maxRetentionTime]	Manages the deletion of log files.	
35	**manageEntityClassWhitelist**	[-h] [addAll *-e* <ENTITY_CLASS_NAME> *-f* <INPUT_FILE> *-u* <USERNAME> *-p* <PASSWORD>] [add *-e* <ENTITY_CLASS_NAME> *-s* <SUBJECT_NAME> *-u* <USERNAME> *-p* <PASSWORD>] [list *-e* <ENTITY_CLASS_NAME> *-f* <OUTPUT_FILE> *-u* <USERNAME> *-p* <PASSWORD> *-pn* <PAGENUMBER> *-ps* <PAGESIZE>] [view *-e* <ENTITY_CLASS_NAME> *-s* <SUBJECT_NAME> *-f* <OUTPUT_FILE> *-u* <USERNAME> *-p* <PASSWORD>] [subjectCheck *-e* <ENTITY_CLASS_NAME> *-u* <USERNAME> *-p* <PASSWORD>] [deleteAll *-e* <ENTITY_CLASS_NAME> *-u* <USERNAME> *-p* <PASSWORD>] [delete *-e* <ENTITY_CLASS_NAME> *-s* <SUBJECT_NAME> *-u* <USERNAME> *-p* <PASSWORD>]	You can add, list, view, and delete the subject names for the provided entity class. You can add and delete the bulk entries of subject names and check the status of the subject name validation for the entity class.	
36	**outboundConnectionLogging**	[enable] [disable]	If you enable this, you can capture the logs in the `/var/log/Avaya/connections` file for every new outgoing connections initiated from System Manager.	

Table continues…

#	Command	Parameters	Description	Usage
37	**configureOutboundFirewall**	[add {*-s*} {*-f*}] [list] [status] [remove {*-e*} {*-f*}] [disable] [overwrite {*-s*} {*-f*}] [enable-logging] [disable-logging] [logging-status]	If you enable this, you can configure System Manager outbound firewall.	
38	**setSecurityPolicy**	[--status] [--display-only] [--restore-standard] [--refresh-custom]	You can modify the default password policy settings of System Manager by using the **setSecurityPolicy** command. This command is only applicable for changing or setting up the password for the CLI user or root user that gets created at the time of deployment.	
39	**configureSyslog**	-h [-e] [-s <*syslog server destination*> *""*]	You can configure, list, and delete the remote syslog server by using the **configureSyslog** command.	
40	**ASP_SSH**	[enable] [status]	If System Manager is deployed on the Avaya Solutions Platform 130 Release 5.1 host, you can enable SSH and check the SSH status of the Avaya Solutions Platform 130 host.	

Table continues…

#	Command	Parameters	Description	Usage

41	**toggleOldWebLMClientCommunication**	Run this utility as the following:
		• Type `1` to check the old WebLM client communication status
		• Type `2` to enable the old WebLM client communication status
		• Type `3` to disable the old WebLM client communication status
		Note:
		The user can enter the values specified above based on their usage.
			This utility is used to check, enable, and disable the old WebLM client communication status with releases 10.1.3.1 and later. For the older WebLM client communication, the default status is ENABLED.	• Type `1` to check the old WebLM client communication status.
				• Type `2` to enable the old WebLM client communication status.
				• Type `3` to disable the old WebLM client communication status.
				If your input is 1 and the current status is enabled, the message
				`Old WebLM client communication status is ENABLED`
				is displayed.
				If the current status is disabled, the message
				`Old WebLM client communication status is DISABLED`
				is displayed.
				If your input is 2, the message
				`Old WebLM client communication is now ENABLED`
				is displayed.
				If your input is 3, the message
				`Old WebLM client communication is now DISABLED`
				is displayed.

Generating test alarms

Test alarms

You can generate a test alarm and a clear event corresponding to the generated test alarm. The severity level of the test alarm is minor. The clear event generated has no definite severity level. The clear event updates the status of the test alarms from Raised to Cleared. If Secure Access Link (SAL) Enterprise is configured to forward alarms to Avaya Data Center (ADC), the system also forwards the test alarm and the clear event for the ADC test alarm.

Test Alarm Event

Test Alarm property	Value
Alarm.Message	Test alarm
Alarm.Severity	Minor
Alarm.Status	Raised
Alarm.Log.ProcessName	TESTALARM
Alarm.Log.EventCode	TEST_ALARM_GEN_0001

Test Clear Event

Test Clear Event property	Value
Alarm.Message	Clear event for test alarm
Alarm.Severity	Indeterminate
Alarm.Status	Cleared
Alarm.Log.ProcessName	TESTALARM
Alarm.Log.EventCode	TEST_ALARM_CLR_0000

Related links

Generating the test alarm from the web console on page 125
Generating the test alarm from CLI on page 126

Generating the test alarm from the web console

About this task

You can generate test alarms from the System Manager web console for agents, hosts, or elements installed with Serviceability Agents running version 6.3.2.4-6706-SDK-1.0 or later.

Procedure

1. On the System Manager web console, click **Services** > **Inventory**.
2. In the navigation pane, click **Manage Serviceability Agents** > **Serviceability Agents**.
3. In the **Agent List** section, select one or more agents for which you want to generate alarms.

4. Click **Generate Test Alarm**.

   The system generates an alarm.

5. To view the alarm, click **Events** > **Alarms**.

   To view the alarm details, wait until the system displays the alarms on the Alarming page.

Generating the test alarm from CLI

Procedure

1. Log in to the computer where System Manager is installed.
2. At the command prompt, perform the following:
   a. To check the status of spiritAgent service, type `service spiritAgent status` and press `Enter`.

      The system displays `SPIRIT Agent is running`.

      Note:

      If the system displays `SPIRIT Agent is not running`, then start spiritAgent service.

   b. To start spiritAgent service, type `service spiritAgent start` and press `Enter`.

      The `utils` directory contains spiritAgent service command line utilities.
3. To navigate to the `utils` directory, at the prompt, type `cd $SPIRIT_HOME/scripts/utils/`and press `Enter`.
4. Do one of the following:
   - To generate the test alarm for System Manager, type `sh generateTestAlarm.sh` and press `Enter`.
   - To generate the clear alarm for System Manager, type `sh generateTestAlarm.sh -c` and press `Enter`.
   - To generate alarms on other products, repeat steps 1 to 4. You can use the **Generate Test Alarm** button on the System Manager web console Manage Serviceability Agents page for generating test alarms for all elements, including System Manager, with a click.

Network Management Systems Destinations

The Session Manager serviceability agent can send SNMPv2c/v3 traps or informs for alarms to multiple destinations such as:

- SAL Gateway, mandatory trap destination
- System Manager trap listener

- Third-party NMS
- Avaya SIG server

SAL Gateway is a mandatory trap destination for traps sent to Avaya Services for system maintenance. SAL Gateway converts the traps to alarms and forwards the alarms to the Avaya Data Centre for ticketing purposes. Therefore, after you install or upgrade from release earlier than 6.2 to Session Manager Release 6.2 or later, you must configure the serviceability agent with SAL Gateway as a trap destination. You can configure the serviceability agent by using the System Manager web console. You must also configure Session Manager as a managed device on SAL Gateway.

Optionally, you can configure any third-party Network Management Systems (NMS) as a trap destination. Based on customer requirements, Avaya technicians can also configure the Avaya SIG server as another trap destination.

For upgrades from Release 6.2 or later, the configuration of the serviceability agent persists through the Session Manager upgrade.

You can add an NMS destination using the System Manager web console. To add an NMS destination, you must create a target profile for the NMS destination and then attach the target profile to a serviceability agent. For more information on activating agents and attaching target profiles, see Managing Serviceability Agents in *Administering Avaya Aura® System Manager*.

Adding Network Management Systems Destination

You can add an NMS destination using the System Manager web console. To add an NMS destination, you must create a target profile for the NMS destination and then attach the target profile to a serviceability agent. For more information on activating agents and attaching target profiles, see “Managing Serviceability Agents” in *Administering Avaya Aura® System Manager*.

Deleting the virtual machine snapshot from the vCenter managed host or standalone host

Procedure

1. Log in to the vSphere Client for the vCenter managed host or the standalone host.
2. Depending on the host, perform one of the following:

- On the vCenter managed host, select the host, and then select the virtual machine.
- On the Standalone host, select the virtual machine.

3. Right-click the selected virtual machine and click **Snapshot** > **Snapshot Manager**.

   The vSphere Client displays the Snapshot for the <Virtual machine name> dialog box.

4. Select the snapshot and click **Delete**.

   The vSphere Client deletes the selected snapshot.

Chapter 10: Resources

System Manager documentation

The following table lists the documents related to System Manager. Download the documents from the Avaya Support website at http://support.avaya.com.

Title	Description	Audience
Design		
Avaya Aura® System Manager Overview and Specification	Understand high-level product features and functionality.	Customers and sales, services, and support personnel
Administering Avaya Aura® System Manager	Administering System Manager applications and install patches on System Manager applications.	Customers and sales, services, and support personnel
Avaya Aura® System Manager Certificate Management	Understand certificate management.	Customers and sales, services, and support personnel
Avaya Aura® System Manager Data Privacy Guidelines	Describes how to administer System Manager to fulfill Data Privacy requirements.	System administrators and IT personnel
Using		
Using the Solution Deployment Manager client	Deploy System Manager applications and install patches on System Manager applications.	System administrators
Avaya Aura® System Manager Solution Deployment Manager Job-Aid	Deploy System Manager applications and install patches on System Manager applications.	System administrators
Implementation		
Upgrading Avaya Aura® System Manager	Upgrade Avaya Aura® System Manager.	Implementation personnel
Deploying Avaya Aura® System Manager in Virtualized Environment	Deploy System Manager applications in Virtualized Environment.	Implementation personnel

Table continues…

Title	Description	Audience
Deploying Avaya Aura® System Manager in Software-Only and Infrastructure as a Service Environments	Deploy System Manager applications in Software-Only and Infrastructure as a Service environments.	Implementation personnel
Maintenance and Troubleshooting		
Avaya Aura® System Manager SNMP Whitepaper	Monitor System Manager using SNMP.	System administrators and IT personnel
Troubleshooting Avaya Aura® System Manager	Perform maintenance and troubleshooting tasks for System Manager and Avaya Aura® applications that System Manager supports.	System administrators and IT personnel

Finding documents on the Avaya Support website

Procedure

1. Go to https://support.avaya.com.
2. To log in, click **Sign In** at the top of the screen and then enter your login credentials when prompted.
3. Click **Product Support** > **Documents**.
4. In **Search Product**, start typing the product name and then select the appropriate product from the list displayed.
5. In **Select Release**, select the appropriate release number.

   This field is not available if there is only one release for the product.
6. **(Optional)** In **Enter Keyword**, type keywords for your search.
7. From the **Select Content Type** list, select one or more content types.

   For example, if you only want to see user guides, click **User Guides** in the **Select Content Type** list.
8. Click to display the search results.

Accessing the port matrix document

Procedure

1. Go to https://support.avaya.com.
2. To log in, click **Sign In** at the top of the screen and then enter your login credentials when prompted.
3. Click **Product Support** > **Documents**.
4. In **Select Release**, select the appropriate release number.

This field is not available if there is only one release for the product.

5. From the **Select Content Type** list. select one or both of the following options:
   - **Application & Technical Notes**
   - **Design, Development & System Mgt**

Avaya Documentation Center navigation

For many programs, the latest customer documentation is available on the Avaya Documentation Center website at https://documentation.avaya.com. Some functionality is only available when you log in to the Avaya Documentation Center. The available functionality depends on your role.

Important:

If the documentation you are looking for is not available on the Avaya Documentation Center, you can find it on the Avaya Support website.

While navigating through the Documentation Center, you can click the **Avaya Documentation Center** logo at the top of the screen to return to the home page anytime. On the Avaya Documentation Center, you can do the following:

- Click **Avaya Links** in the top menu bar to access other Avaya websites, including the Avaya Support website.
- Click **Languages** ( ) in the top menu bar to change the display language and view localized documents.
- In the **Search Documentation** field, search for keywords and click **Filter** to filter by solution category, product, or user role.

  You can select multiple items in each filter category. For example, you can select a product and multiple user roles.
- Click **Library** in the top menu bar to access the complete library of documents. Use the filtering options to refine your results.
- After performing a search or accessing the library, you can sort content on the search results page. When you find the item you want to view, click it to open it.
- Use the table of contents in a document for navigation. You can also click **<** or **>** next to the document title to navigate to the previous topic or the next topic.
- Click **Share** ( ) to share a topic by email or copy the URL.
- Download a PDF of the current topic in a document, the topic and its subtopics, or the entire document.
- Print the section you are viewing.
- Add content to a collection by clicking **Add to My Topics** ( ). You can add the topic and its subtopics or add the entire publication.
- View the topics in your collections. To access your collections, click your name in the top menu bar and then click **My Topics**.

You can do the following:

- Create, rename, and delete a collection.
- Set a collection as the default or favorite collection.
- Save a PDF of the selected content in a collection and download it to your computer.
- Share content in a collection with others through email.
- Receive collections that others have shared with you.

- Click **Watch** ( ) to add a topic to your watchlist so you are notified when the content is updated or removed.
- View and manage your watchlist by clicking **Watchlist** from the top menu with your name.

  You can do the following:

  - Enable **Email notifications** to receive email alerts.
  - Unwatch the selected content or all topics.
- Send feedback for a topic.

Training

The following courses are available on the Avaya Learning website at http://www.avaya-learning.com. After you login to the website, enter the course code or the title in the **Search** field and click **Go** to search for the course.

Course code	Course title
20460W	Virtualization and Installation Basics for Avaya Team Engagement Solutions
71201V	Integrating Avaya Aura® Core Components
72201V	Supporting Avaya Aura® Core Components
61131V	Administering Avaya Aura® System Manager
61451V	Administering Avaya Aura® Communication Manager

Viewing Avaya Mentor videos

Avaya Mentor videos provide technical content on how to install, configure, and troubleshoot Avaya products.

About this task

Videos are available on the Avaya Support website, listed under the video document type, and on the Avaya-run channel on YouTube.

- To find videos on the Avaya Support website, go to https://support.avaya.com/ and do one of the following:
  - In **Search**, type `Avaya Mentor Videos`, click **Clear All** and select **Video** in the **Select Content Type**.
  - In **Search**, type the product name. On the Search Results page, click **Clear All** and select **Video** in the **Select Content Type**.

    The **Video** content type is displayed only when videos are available for that product.

  In the right pane, the page displays a list of available videos.
- To find the Avaya Mentor videos on YouTube, go to www.youtube.com/AvayaMentor and do one of the following:
  - Enter a keyword or keywords in the **Search Channel** to search for a specific product or topic.
  - Scroll down Playlists, and click a topic name to see the list of videos available. For example, Contact Centers.

Note:

Videos are not available for all products.

Support

Go to the Avaya Support website at https://support.avaya.com for the most up-to-date documentation, product notices, and knowledge articles. You can also search for release notes, downloads, and resolutions to issues. Use the online service request system to create a service request. Chat with live agents to get answers to questions, or request an agent to connect you to a support team if an issue requires additional expertise.

Related links

Using the Avaya InSite Knowledge Base on page 133

Using the Avaya InSite Knowledge Base

The Avaya InSite Knowledge Base is a web-based search engine that provides:

- Up-to-date troubleshooting procedures and technical tips.
- Information about service packs.
- Access to customer and technical documentation.
- Information about training and certification programs.

- Links to other pertinent information.

If you are an authorized Avaya Partner or a current Avaya customer with a support contract, you can access the Knowledge Base without extra cost. You must have a login account and a valid Sold-To number.

Use the Avaya InSite Knowledge Base for any potential solutions to problems.

1. Go to https://support.avaya.com.
2. To log in, click **Sign In** at the top of the screen and then enter your login credentials when prompted.
3. Click **Product Support** > **Products**.
4. In **Search Product**, start typing the product name and then select the appropriate product from the list displayed.
5. Select the release number, if applicable.
6. Click the **Technical Solutions** tab to view articles for resolving technical issues.

Related links

Support on page 133

Appendix A: Best practices for VM performance and features

BIOS

For optimal performance, turn off power saving server options. See the technical data provided by the manufacturer for your particular server regarding power saving options.

For information about how to use BIOS settings to improve the environment for latency-sensitive workloads for an application, see the technical white paper, “Best Practices for Performance Tuning of Latency-Sensitive Workloads in vSphere VMs” at https://www.vmware.com/.

The following sections describe the recommended BIOS settings for:

- Intel Virtualization Technology
- Dell PowerEdge Servers

Related links

Intel Virtualization Technology on page 135
Dell PowerEdge Server on page 136

Intel Virtualization Technology

Intel CPUs require EM64T and Virtualization Technology (VT) support in the chip and in the BIOS to run 64–bit virtual machines.

All Intel Xeon processors include:

- Intel Virtualization Technology
- Intel Extended Memory 64 Technology
- Execute Disable Bit

Ensure that VT is enabled in the host system BIOS. The feature is also known as VT, Vanderpool Technology, Virtualization Technology, VMX, or Virtual Machine Extensions.

Note:

The VT setting is locked as either **On** or **Off** when the server starts. After enabling VT in the system BIOS, save your changes to the BIOS settings and exit. The BIOS changes take effect after the host server reboots.

Other suggested BIOS settings

Servers with Intel Nehalem class and newer Intel Xeon CPUs offer two more power management options: C-states and Intel Turbo Boost. These settings depend on the OEM make and model of the server. The BIOS parameter terminology for current Dell servers are described in the following sections. Other server models might use other terminology for the same BIOS controls.

- Disabling C-states lowers latencies to activate the CPUs from halt or idle states to a fully active state.
- Intel Turbo Boost steps up the internal frequency of the processor if the workload requires more power. The default for this option is **enabled**. Do not change the default.

Related links

BIOS on page 135

Dell PowerEdge Server

The following are the BIOS recommendations for Dell PowerEdge Servers supported by Avaya SBC:

When the Dell server starts, press F2 to display the system setup options.

- Set the Power Management Mode to **Maximum Performance**.
- Set the CPU Power and Performance Management Mode to **Maximum Performance**.
- In Processor Settings, set:
  - **Turbo Mode** to **enable**.
  - **C States** to **disabled**.

Related links

BIOS on page 135

VMware Tools

The VMware Tools utility suite is built into the application OVA. The tools enhance the performance of the guest operating system on the virtual machine and improve the management of the virtual machine.

VMware tools provide:

- VMware Network acceleration
- Host to Guest time synchronization
- Disk sizing

For more information about VMware tools, see *Overview of VMware Tools* at http://kb.vmware.com/kb/340.

Important:

Do not upgrade the VMware tools software that is packaged with each OVA unless instructed to do so by Avaya. The supplied version is the supported release and has been thoroughly tested.

Timekeeping

For accurate timekeeping, use the Network Time Protocol (NTP) as a time source instead of the ESXi hypervisor.

The NTP servers can be local or over the Internet. If the NTP servers are on the Internet, the corporate firewall must open UDP port 123 so that the NTP service can communicate with the external NTP servers.

The VMware tools time synchronization method is disabled at application deployment time to avoid dueling clock masters. You must configure the NTP service first because the applications are not receiving clock updates from the hypervisor. To verify that VMware Tools Timesync is disabled, run the command `/usr/bin/vmware-toolbox-cmd timesync status`.

In certain situations, the ESXi hypervisor pushes an updated view of its clock into a virtual machine. These situations include starting the virtual machine and resuming a suspended virtual machine, If this view differs more than 1000 seconds from the view that is received over the network, the NTP service might shutdown. In this situation, the guest OS administrator must manually set the guest clock to be the same or as close as possible to the network time source clock. To keep the NTP service active, the clock on the ESXi host must also use an accurate clock source, such as the same network time source that is used by the guest operating system. The VMware recommendation is to add **tinker panic 0** to the first line of the **ntp.conf** file so that the NTP can adjust to the network time even with large differences.

If you use the names of the time servers instead of the IP address, you must configure the Domain Name Service in the guest OS before you administer the NTP service. Otherwise, the NTP service cannot locate the time servers. If you administer the NTP service first, you must restart the NTP service after administering the DNS service.

After you administer the NTP service in the application, run the **`chronyc sources -v`** command from a command window. The results from this command:

- Verify if the NTP service is getting time from a network time source.
- Indicate which network time source is in use.
- Display how closely the guest OS matches the network time.
- Display how often the guest OS checks the time.

The guest OS polls the time source every 65 to 1024 seconds. Larger time intervals indicate that the guest clock is tracking the network time source closely. If the time source is **local**, then the NTP service is not using a network time source and a problem exists.

If the clock value is consistently wrong, look through the system log for entries regarding **chronyd**. The NTP service writes the activities it performs to the log, including when the NTP service loses synchronization with a network time source.

VMware networking best practices

You can administer networking in a VMware environment for many different configurations. The examples in this section describe some of the VMware networking possibilities.

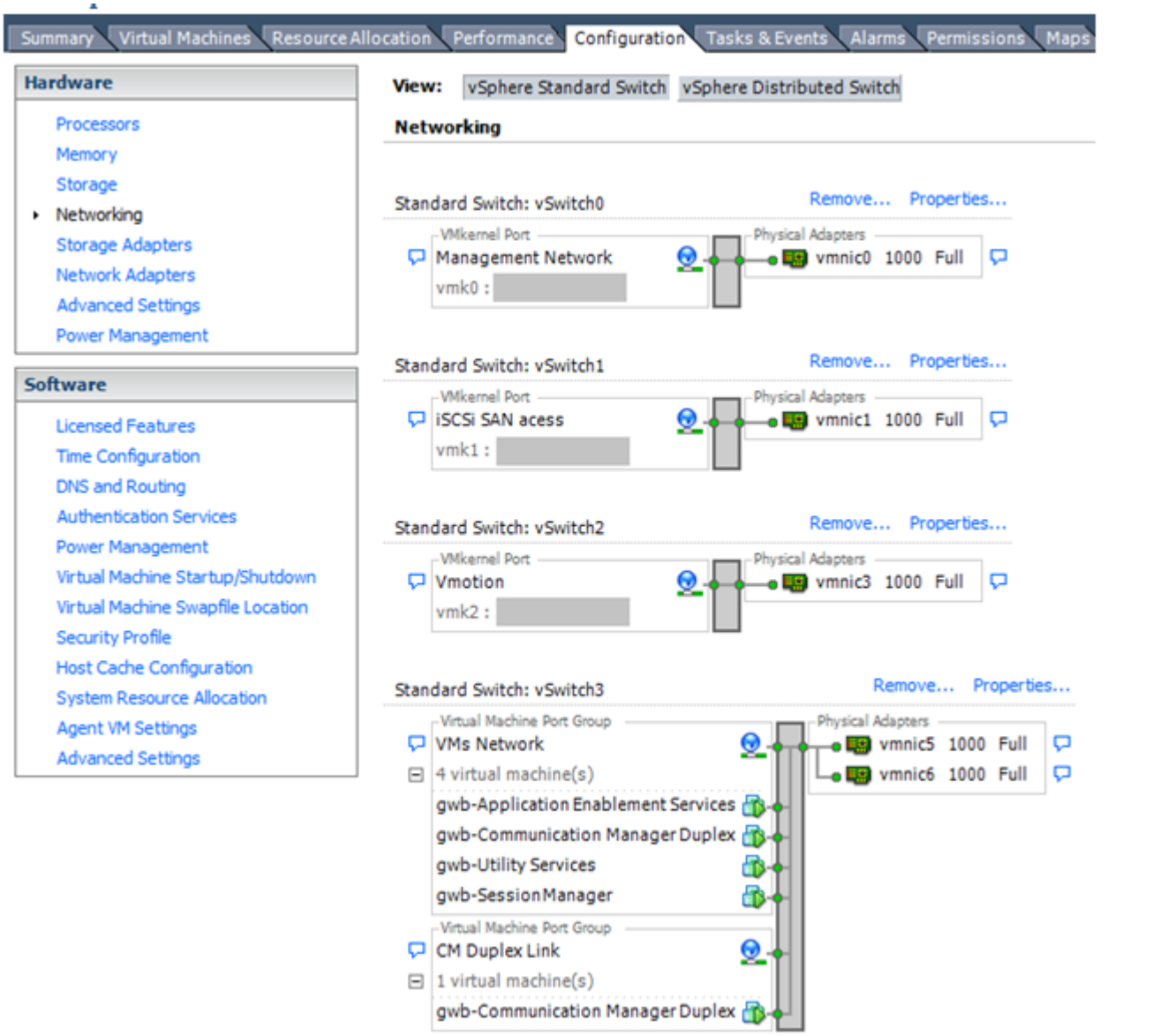
This section is not a substitute for the VMware documentation. Review the VMware networking best practices before deploying any applications on an ESXi host.

The following are the suggested best practices for configuring a network that supports deployed applications on VMware Hosts:

- Separate the network services to achieve greater security and performance by creating a vSphere standard or distributed switch with dedicated NICs for each service. If you cannot use separate switches, use port groups with different VLAN IDs.
- Configure the vMotion connection on a separate network devoted to vMotion.
- For protection, deploy firewalls in the virtual machines that route between virtual networks that have uplinks to physical networks and pure virtual networks without uplinks.
- Specify virtual machine NIC hardware type **vmxnet3** for best performance.
- Connect all physical NICs that are connected to the same vSphere standard switch to the same physical network.
- Connect all physical NICs that are connected to the same distributed switch to the same physical network.
- Configure all VMkernel vNICs to be the same IP Maximum Transmission Unit (MTU).

Disclaimer: The images in this section represent older ESXi versions and may vary for the latest ESXi versions.

Networking Avaya applications on VMware ESXi – Example 1

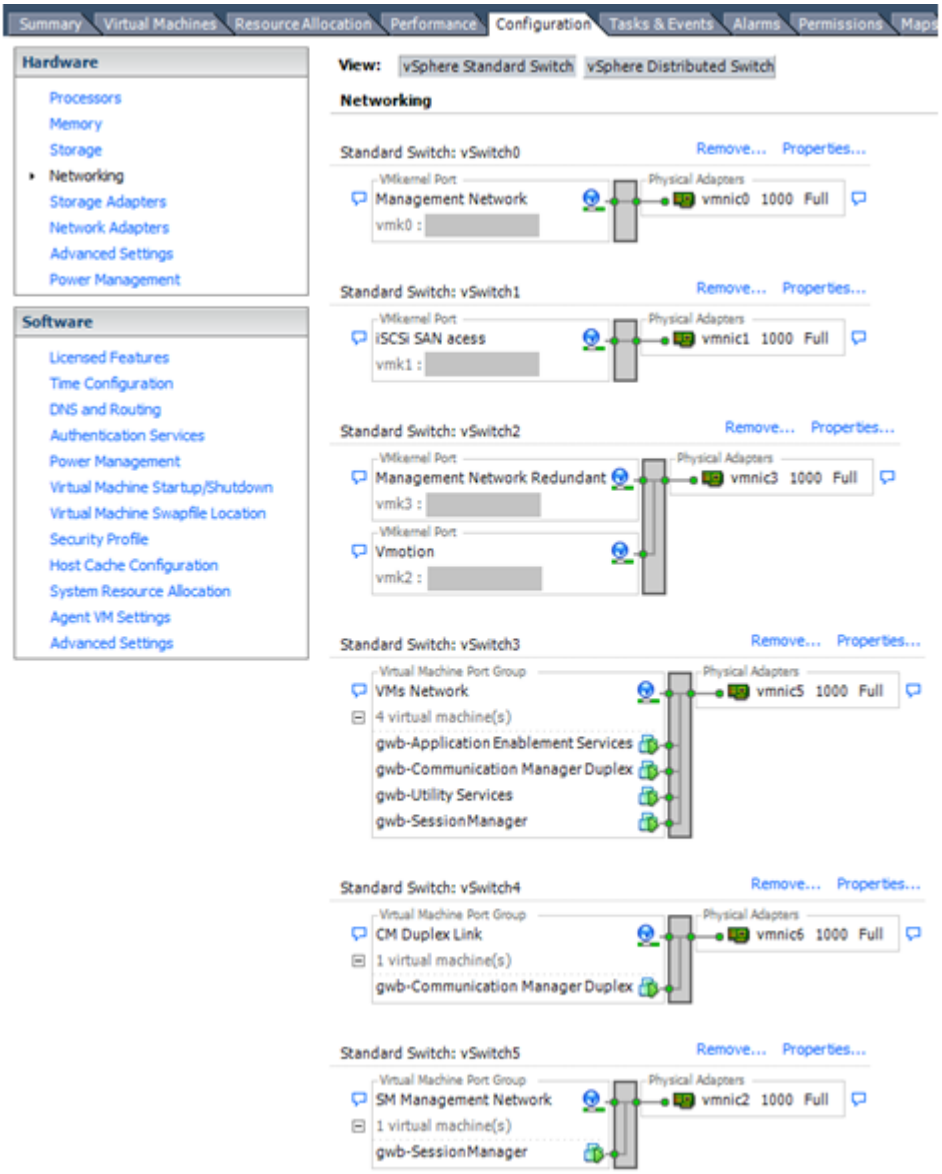


This configuration describes a simple version of networking Avaya applications within the same ESXi host. Highlights to note:

- Separation of networks: VMware Management, VMware vMotion, iSCSI (SAN traffic), and virtual machine networks are segregated to separate physical NICs.
- Teamed network interfaces: vSwitch 3 in Example 1 displays use of a load-balanced NIC team for the Virtual Machines Network. Load balancing provides additional bandwidth for the Virtual Machines Network, while also providing network connectivity for the virtual machines in the case of a single NIC failure.
- Virtual networking: The network connectivity between virtual machines that connect to the same vSwitch is entirely virtual. In example 2, the virtual machine network of vSwitch3

can communicate without entering the physical network. Virtual networks benefit from faster communication speeds and lower management overhead.

Networking Avaya applications on VMware ESXi – Example 2



This configuration shows a complex situation using multiple physical network interface cards. The key differences between example 1 and example 2 are:

- VMware Management Network redundancy: Example 2 includes a second VMkernel Port at vSwitch2 to handle VMware Management Network traffic. In the event of a failure of vmnic0, VMware Management Network operations can continue on this redundant management network.
- Removal of Teaming for Virtual Machines Network: Example 2 removes the teamed physical NICs on vSwitch3. vSwitch3 was providing more bandwidth and tolerance of a single NIC failure instead of reallocating this NIC to other workloads.

References

Title	Link
Product Support Notice PSN003556u	Go to https://support.avaya.com and search for PSN003556u.
VMware vSphere 8.0 Documentation	Go to https://www.vmware.com/support/pubs/ and search for *VMware vSphere 8.0 Documentation*.
VMware vSphere 7.0 Documentation	Go to https://www.vmware.com/support/pubs/ and search for *VMware vSphere 7.0 Documentation*.
VMware Documentation Sets	https://www.vmware.com/support/pubs/

Storage

For best performance, use System Manager on disks local to the ESXi Host, Storage Area Network (SAN) storage devices, or Network File System (NFS) shares. Network storage system performance (IOPS and latency) must not impact the ability of the System Manager virtual machine to perform I/O operations in a timely fashion. CPU I/O wait times of the virtual machine should be zero or very close to zero. Slow network I/O performance can cause serious stability issues with the OS and the System Manager application.

Thin vs. thick deployments

VMware ESXi uses a thick virtual disk by default when it creates a virtual disk file.. The thick disk preallocates the entire amount of space specified during the creation of the disk. For example, if you create a 10 megabyte disk, all 10 megabytes are preallocated for that virtual disk.

- Thin-provisioned disks can grow to the full size as specified at the time of virtual disk creation, but they cannot shrink. Once you allocate the blocks, you cannot deallocate them.
- Thin-provisioned disks run the risk of overallocating storage. If storage is over-allocated, thin virtual disks can grow to fill an entire datastore if left unchecked.
- If a guest operating system needs to make use of a virtual disk, the guest operating system must first partition and format the disk to a file system it can recognize. Depending on the type of format selected within the guest operating system, the formatting process may cause the thin-provisioned disk to grow to full size. For example, if you present a thin-provisioned disk to a Microsoft Windows operating system and format the disk, unless you explicitly select the Quick Format option, the format tool in Microsoft Windows writes information to all sectors on the disk, which in turn inflates the thin-provisioned disk to full size.

VMware snapshots

A snapshot preserves the state and data of a virtual machine at a specific point in time. You can create a snapshot before upgrading or installing a patch.

The best time to take a snapshot is when no applications in the virtual machine are communicating with other computers. The potential for problems is greatest if the virtual machine is communicating with another computer. For example, if you take a snapshot while the virtual machine is downloading a file from a server on the network, the virtual machine continues downloading the file and communicating its progress to the server. If you revert to the snapshot, communications between the virtual machine and the server are confused and the file transfer fails.

Caution:

Snapshot operations can adversely affect service. Before performing a snapshot operation, you must stop the application that is running on the virtual machine or place the application out-of-service. When the snapshot operation is complete, start or bring the application back into service.

Only take snapshots during a maintenance window.

Snapshots can:

- Consume large amounts of data resources.
- Increase CPU loads on the host.
- Affect performance.
- Affect service.

To prevent adverse behaviors, consider the following recommendations when using the Snapshot feature:

- Do not rely on VMware snapshots as a robust backup and recovery method. Snapshots are not backups. The snapshot file is only a change log of the original virtual disk.
- Do not run a virtual machine from a snapshot. Do not use a single snapshot for more than 24 to 72 hours.

  If your virtual machine contains snapshots that are more than 72 hours old, system performance might be impacted. When you no longer need a snapshot, remember to delete it.
- Take the snapshot, make the changes to the virtual machine, and delete or commit the snapshot after you verify the virtual machine is working properly. These actions prevent snapshots from growing so large as to cause issues when deleting or committing the snapshots to the original virtual machine disks.
- When taking a snapshot, do not save the memory of the virtual machine. The time that the host takes to write the memory to the disk is relative to the amount of memory that the virtual machine is configured to use. Saving the memory can add several minutes to the time taken to complete the operation. If the snapshot is active, saving memory can make calls appear

to be active or in progress and can cause confusion to the user. To create a clean snapshot image from which to boot, do the following when you create a snapshot:

- In the Take Virtual Machine Snapshot window, clear the **Snapshot the virtual machine's memory** check box.
- Select the **Quiesce guest file system (Needs VMware Tools installed)** check box to ensure that all write instructions to the disks are complete. You have a better chance of creating a clean snapshot image from which to boot.

- If you are going to use snapshots for a long time, you must consolidate the snapshot files regularly to improve performance and reduce disk usage. Before merging the snapshot delta disks back into the base disk of the virtual machine, you must first delete stored snapshots.

Note:

If a consolidation failure occurs, end-users can use the actual Consolidate option without opening a service request with VMware. If a commit or delete operation does not merge the snapshot deltas into the base disk of the virtual machine, the system displays a warning on the user interface.

Related resources

Title	Link
Best practices for virtual machine snapshots in the VMware environment	Best Practices for virtual machine snapshots in the VMware environment
Understanding virtual machine snapshots in VMware ESXi and ESX	Understanding virtual machine snapshots in VMware ESXi and ESX
Working with snapshots	Working with snapshots
Configuring VMware vCenter Server to send alarms when virtual machines are running from snapshots	Send alarms when virtual machines are running from snapshots

VMware vMotion

VMware uses the vMotion technology to migrate a running virtual machine from one physical server to another physical server without incurring down time. The migration process, also known as a hot migration, migrates running virtual machines with zero downtime, continuous service availability, and complete transaction integrity.

With vMotion, you can:

- Schedule migration to occur at predetermined times and without the presence of an administrator.
- Perform hardware maintenance without scheduled downtime.
- Migrate virtual machines away from failing or underperforming servers.

Before using vMotion, you must:

- Ensure that each host that migrates virtual machines to or from the host uses a licensed vMotion application and the vMotion is enabled.

- Ensure that you have identical vSwitches. You must enable vMotion on these vSwitches.
- Ensure that the Port Groups are identical for vMotion.
- Use a dedicated NIC to ensure the best performance.

Note:

If WebLM is being used either as a master WebLM server or a local WebLM server in an enterprise licensing deployment for a product, after migration of virtual machine to another physical server using vMotion, validate connectivity from the master WebLM server for all the added local WebLM servers to ensure that the master WebLM server can communicate with the local WebLM servers.

VMware cloning

WebLM supports VMware cloning. However, WebLM does not support the Guest Customization feature. Therefore, do not use the Guest Customization wizard in the VMware cloning wizard while cloning WebLM.

Note:

Do not perform WebLM cloning. If a clone of a WebLM VMware is created, all existing licenses become invalid. You must rehost all the licenses.

If WebLM is the master server in an enterprise licensing deployment for a product, after cloning the master WebLM server, the enterprise license file is invalidated on the clone. You must then rehost the enterprise license file on the cloned WebLM server and redo the enterprise configurations. The administrator must add the local WebLM server again and change allocations for each WebLM server to use the cloned master WebLM server with the existing local WebLM servers.

If WebLM is the local WebLM server in an enterprise licensing deployment for a product, after cloning the local WebLM server, the allocation license file on the local WebLM server is invalidated due to the changed host ID. The administrator must validate the connectivity for the local WebLM server from the master WebLM server and change allocations to push a new allocation license file to the local WebLM server with a valid host ID.

VMware high availability

In a virtualized environment, you must use the VMware High Availability (HA) method to recover WebLM in the event of an ESXi Host failure. For more information, see “High Availability documentation for VMware”.

Note:

High Availability will not result in HostID change and all the installed licenses are valid.

VMware features supported by Avaya Aura®

This section does not cover Avaya Solutions Platform (ASP) 130 and ASP S83000. Avaya does not support advanced VMware features on its ASP 130 and ASP S8300 hardware. It supports the basic VMware features as listed in the following table. For more information about support and limitations on ASP 130 and ASP S8300, see https://download.avaya.com/css/public/documents/101062774.

Note:

For more information about Avaya Aura® Media Server, see *Deploying and Updating Avaya Aura® Media Server Appliance*.

The following table lists the VMware features supported on customer-provided Virtualized Environment for various Avaya Aura® Release10.2 components.

Product or feature	Communication Manager	Session Manager	System Manager	Application Enablement Services	Avaya SBC	Avaya Aura® Device Services
ESXi 7.0	Yes	Yes	Yes	Yes	Yes	Yes
ESXi 8.0	Yes	Yes	Yes	Yes	Yes	Yes
vCenter See foot note[1]	Yes	Yes	Yes	Yes	Yes	Yes
vSphere WebClient (HTML5)	Yes	Yes	Yes	Yes	Yes	Yes
VMFS 6	Yes	Yes	Yes	Yes	Yes	Yes
VMware vMotion See foot note[2]	Yes	Yes	Yes	Yes	Yes	Yes
Storage vMotion	Yes	Yes	Yes	Yes	Yes	Yes
VMware Snapshot See foot note[3]	Yes	Yes	Yes	Yes	Yes	Yes
VMware Live Snapshot	Not supported	Not supported	Not supported	Not supported	Not supported	No
VMware High Availability	Yes	Yes	Yes	Yes	Yes	Yes

Table continues…

[1] Limited to deployment, managing VMs, basic monitoring, and making VMs part of a vCenter cluster.
[2] Ensure that vMotion occurs when an Avaya Aura® application virtual machine is in maintenance mode.

Product or feature	Communication Manager	Session Manager	System Manager	Application Enablement Services	Avaya SBC	Avaya Aura® Device Services
Proactive High Availability	Best effort basis support (Not tested)	Best effort basis support (Not tested)	Best effort basis support (Not tested)	Best effort basis support (Not tested)	Best effort basis support (Not tested)	Best effort basis support (Not tested)
Storage DRS	Yes	Yes	Yes	Yes	Yes	Yes
Hyperthreading	Yes	Yes	Yes	Yes	Yes	Yes
Hyperthreading ratio for Virtual CPUs and Physical CPU	2:1	2:1	2:1	2:1	2:1	2:1
VMware DRS (Compute and Memory) See foot note[4]	Yes	Yes	Yes	Yes See foot note[5]	Yes	Yes
Secure boot for virtual machine	Yes	Yes	Yes	Yes	Yes	Yes
Content Library	Yes	Yes	Yes	Yes	Yes	Yes
VMware Fault Tolerance (FT)	Not supported	Not supported	Not supported	Yes See foot note[6]	Not supported	Yes
vSphere Standard Switch	Yes	Yes	Yes	Yes	Yes	Yes
vSphere Distributed Switch	Yes	Yes	Yes	Yes	Yes	Yes
Hot Pluggable Virtual Hardware	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported

Table continues…

[3] Snapshots should be used when patching the products. As per the backup mechanism provided in the product-specific documentation, you should perform daily backups instead of using snapshots of the products. Applicable for Communication Manager, Session Manager, System Manager, and Application Enablement Services.

[4] With two conservative modes - Applicable for Communication Manager, Session Manager, System Manager, and Application Enablement Services.

[5] DRS supports In-cluster migration - Applicable for Avaya SBC for Enterprise.

[6] For more information about the Fault Tolerance for Application Enablement Services, see *Avaya Aura Application Enablement (AE) Services 7.x, 8.x, and 10.x High Availability (HA) White Paper.*

Product or feature	Communication Manager	Session Manager	System Manager	Application Enablement Services	Avaya SBC	Avaya Aura® Device Services
Reservation Required see foot note[7]	Yes	Yes	Yes	Yes	Yes	Yes
vSAN support See foot note[8]	Yes	Yes	Yes	Yes	Yes	Yes
Thin Provisioning	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported

[7] Avaya Aura® does not support reservationless deployments on ASP 130. Avaya recommends always making reservations when choosing a reservationless deployment. It is crucial to strictly adhere to the guidelines outlined in the Application Notes. For more information on reservationless deployment, see the *"Application Notes on Best Practices for Reservationless deployment of Avaya Aura® software release 10.1 on VMware"* at https://support.avaya.com .

[8] If you are using vSAN, use Thick Provisioning. Even though VMware supports vSAN with Thin Provisioning, Avaya Aura® does not support it.

Appendix B: PCN and PSN notifications

PCN and PSN notifications

Avaya issues a product-change notice (PCN) for any software update. For example, a PCN must accompany a service pack or an update that must be applied universally. Avaya issues a product-support notice (PSN) to alert Avaya Direct, Business Partners, and customers of a problem or a change in a product. A PSN can also be used to provide a work around for a known problem, steps to recover logs, or steps to recover software. Both these notices alert you to important issues that directly impact Avaya products.

Viewing PCNs and PSNs

About this task

To view PCNs and PSNs, perform the following steps:

Procedure

1. Go to the Avaya Support website at https://support.avaya.com and log in.
2. On the top of the page, in **Search Product**, type the product name.

   The Avaya Support website displays the product name.
3. Select the required product name.
4. In the **Choose Release** field, select the specific release from the drop-down list.
5. On the product page, click **Product Documents**.
6. In the Latest Support, Service and Product Correction Notices section, click **View All Notices**.
7. Select the appropriate filters as per your search requirement.

   For example, if you select Product Support Notices, the system displays only PSNs in the documents list.

   You can apply multiple filters to search for the required documents.

Signing up for PCNs and PSNs

About this task

Manually viewing PCNs and PSNs is helpful, but you can also sign up for receiving notifications of new PCNs and PSNs. Signing up for notifications alerts you to specific issues you must be aware of. These notifications also alert you when new product documentation, new product patches, or new service packs are available. The Avaya Notifications process manages this proactive notification system.

To sign up for notifications:

Procedure

1. Go to https://support.avaya.com and search for “Guide to Managing Your Avaya Access Profile for Customers and Partners”.

   Under the Search Results section, click Guide to Managing Your Avaya Access Profile for Customers and Partners.

2. Set up e-notifications.

   For detailed information, see the **Subscribe to E-Notifications** procedure.

Glossary

Application	A software solution development by Avaya that includes a guest operating system.
Blade	A blade server is a stripped-down server computer with a modular design optimized to minimize the use of physical space and energy. Although many components are removed from blade servers to save space, minimize power consumption and other considerations, the blade still has all of the functional components to be considered a computer.
EASG	Enhanced Access Security Gateway. The Avaya Services Logins to access your system remotely. The product must be registered using the Avaya Global Registration Tool for enabling the system for Avaya Remote Connectivity.
ESXi	A virtualization layer that runs directly on the server hardware. Also known as a *bare-metal hypervisor.* Provides processor, memory, storage, and networking resources on multiple virtual machines.
Hypervisor	A hypervisor is also known as a Virtual Machine Manager (VMM). A hypervisor is a hardware virtualization technique which runs multiple operating systems on the same shared physical server.
MAC	Media Access Control address. A unique identifier assigned to network interfaces for communication on the physical network segment.
OVA	Open Virtualization Appliance. An OVA contains the virtual machine description, disk images, and a manifest zipped into a single file. The OVA follows the Distributed Management Task Force (DMTF) specification.
PLDS	Product Licensing and Download System. The Avaya PLDS provides product licensing and electronic software download distribution.
Reservation	A reservation specifies the guaranteed minimum required amounts of CPU or memory for a virtual machine.
SAN	Storage Area Network. A SAN is a dedicated network that provides access to consolidated data storage. SANs are primarily used to make

	storage devices, such as disk arrays, accessible to servers so that the devices appear as locally attached devices to the operating system.
Snapshot	The state of a virtual appliance configuration at a particular point in time. Creating a snapshot can affect service. Some Avaya virtual appliances have limitations and others have specific instructions for creating snapshots.
Storage vMotion	A VMware feature that migrates virtual machine disk files from one data storage location to another with limited impact to end users.
vCenter Server	An administrative interface from VMware for the entire virtual infrastructure or data center, including VMs, ESXi hosts, deployment profiles, distributed virtual networking, and hardware monitoring.
virtual appliance	A virtual appliance is a single software application bundled with an operating system.
VM	Virtual Machine. Replica of a physical server from an operational perspective. A VM is a software implementation of a machine (for example, a computer) that executes programs similar to a physical machine.
vMotion	A VMware feature that migrates a running virtual machine from one physical server to another with minimal downtime or impact to end users. vMotion cannot be used to move virtual machines from one data center to another.
VMware HA	VMware High Availability. A VMware feature for supporting virtual application failover by migrating the application from one ESXi host to another. Since the entire host fails over, several applications or virtual machines can be involved. The failover is a reboot recovery level which can take several minutes.
vSphere Web Client	The vSphere Web Client is an interface for administering vCenter Server and ESXi. Downloadable versions are VMware 5.5 and 6.0. A browser-based Web client version is VMware 6.5 and later.

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