Deploying Avaya Aura® AVP Utilities

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Contents

Chapter 1: Introduction

Purpose

This document provides installation, initial configuration, basic maintenance checklists and procedures, and troubleshooting procedures. This document is intended for people who install and configure at a customer site.

Change history

Issue	Date	Summary of changes
6	December 2019	Updated the "Deploying AVP Utilities and virtual machines on the services port" section.
5	September 2019	"Accessing the port matrix document" section is added.
4	April 2019	Updated "Installing patches and service packs using CLI" section.
3	January 2019	Added "Installing patches and service packs using CLI" section.
2	December 2018	Following sections are added: • Installing software patches • Installed patches field descriptions Following sections are updated: • Release details of AVP Utilities • Supported servers • Supported migration paths • Checklist to migrate from Utility Services 7.x to AVP Utilities 8.0.1 • Checklist to migrate from Utility Services 6.x to AVP Utilities 8.0.1
1	July 2018	Initial release.

Chapter 2: Overview

AVP Utilities overview

In Avaya Aura® Release 8.0, Utility Services is replaced by AVP Utilities. While some of the Utility Services features are migrated to other Avaya Aura® applications, the following features of Utility Services are migrated to AVP Utilities:

- Services Port access for virtual machines
- Appliance Virtualization Platform log collection and alarming
- SSH access for Appliance Virtualization Platform

The following features of Utility Services are migrated to other Avaya Aura® applications:

Features of Utility Services 7.x	Migrated to	Description
Enterprise System Directory (ESD)	Avaya Aura® System Manager 8.0 and later.	Only LDAP integration with Avaya Aura® System Manager is supported. Searching the LDAP directory is supported for SIP phones only.
File Server	Avaya Aura® Device Services 8.0 and later.	Avaya Aura® Device Services provides this feature for IP Phones, but not for Gateway Firmware. .
MyPhone	Avaya Aura® Unified User Portal 8.0 and later.	Existing configurations must be re-applied, if any.

You can use the following features of Utility Services through third-party applications:

Features of Utility Services 7.x	Description
Call Detail Recordings collection	You must use third-party applications. You can also use the Call Detail Recordings data with third-party solutions.
Dynamic Host Configuration Protocol (DHCP)	You must use a separate DHCP server.

Chapter 3: Planning

Planning checklist

Use the following checklist to plan your deployment process:

#	Task	Reference	✔
1	Verify the network interface requirements.	See Network requirements on page 9	
2	Verify the release details of the AVP Utilities OVA file.	See Release details of AVP Utilities on page 9	
3	Download the OVA.	See Downloading software from PLDS on page 10	
4	Ensure that the supported servers are available.	See Supported servers on page 11	
5	Ensure that the supported footprints are available.	See Supported footprints for AVP Utilities on page 11	

Network requirements

The following network interfaces are used for AVP Utilities.

Network Adapter	Ethernet Port	Interface	Function
1	eth0	Public	VM Public Interface
2	eth1	Services	Avaya Services Port, 192.11.13.6/30
	eth1:1		Avaya Services Port, 192.168.13.1/29
3	eth2	Out of Band Management	VM Out of Band Management

Release details of AVP Utilities

Details of AVP Utilities OVA file are as follows:

Release version	File name
8.1	`AVPU-8.1.0.0.0.xx-xxx-xx_xxxxx.ova`

Downloading software from PLDS

When you place an order for an Avaya 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 http://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. Enter http://plds.avaya.com in your Web browser 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 on the search icon (magnifying glass) for **Company Name**.

6. In the **%Name** field, enter **Avaya** or the Partner company name.

7. Click **Search Companies**.

8. Locate the correct entry and click the **Select** link.

9. Enter the Download Pub ID.

10. Click **Search Downloads**.

11. Scroll down to the entry for the download file and click the **Download** link.

12. 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.

13. If you use Internet Explorer and get an error message, click the **install ActiveX** message at the top of the page and continue with the download.

14. Select a location where you want to save the file and click **Save**.

15. If you used the Download Manager, click **Details** to view the download progress.

Supported servers

AVP Utilities supports deployment on the following servers:

- Avaya Converged Platform 120 server
- S8300E
- HP ProLiant DL360p G8
- HP ProLiant DL360 G9
- Dell™ PowerEdge™ R620
- Dell™ PowerEdge™ R630

Supported footprints for AVP Utilities

To deploy AVP Utilities, the following footprints are required on the ESXi host:

AVP Utilities	Minimum CPU speed based on Xeon E5620 or equivalent processor	vCPUs	RAM (GB)	HDD (GB)
Standard mode	2.2 GHz	1	1	20
Hardened mode	2.2 GHz	1	1	20
Hardened mode (DoD)	2.2 GHz	1	1	20

Chapter 4: Deploying

Deployment modes

You can deploy AVP Utilities in one of the following modes:

- Standard mode
- Hardened mode
- Hardened mode DoD

You can select the deployment mode while deploying AVP Utilities. By default, Out of Band Management (OOBM) is disabled in all the modes.

Supported security hardening grades

The following security hardening grade is supported for each deployment mode:

Deployment mode	Security hardening grade
Standard mode	Standard
Hardened mode	Commercial
Hardened mode (DoD)	Military

Supported security attributes

Depending on the deployment mode selected, the following security attributes are applied on AVP Utilities :

Security attribute	Standard mode	Hardened mode	Hardened mode (DoD)
VMX hardening ✱ **Note:** VM ESXi VMX file hardening is applied as part of Solution Deployment Manager deployment.	Y	Y	Y
DoD Banner	N/A	N/A	Y
Password management	Y	Y (more restrictive)	Y (more restrictive)

Table continues…

Security attribute	Standard mode	Hardened mode	Hardened mode (DoD)
Login and session management	Y	Y	Y
System and Application files hardening	Y	Y	Y
Multifactor Authentication (PIV and CAC support) ✳ **Note:** You must have root access to configure the use of authorized keys from a "Smart" card for user accounts.	Y (manual)	Y (manual)	Y (manual)
Support for TLS 1.2	Y	Y	Y
FIPS 140-2 compliance	Y (optional)	Y	Y
SELinux enabled	Y (optional)	Y	Y
Audit management	Y (optional)	Y	Y
AIDE (File Tampering Prevention)	Y (optional)	Y	Y

Deployment scenarios

AVP Utilities supports the following deployment scenarios for a fresh deployment:

Deployment scenario	Description
Scenario 1	For a complete fresh deployment, do the following: • Deploy Appliance Virtualization Platform 8.1. • After successful registration of Appliance Virtualization Platform 8.1 on the Solution Deployment Manager client, deploy AVP Utilities 8.1.
Scenario 2	If you already deployed the Appliance Virtualization Platform 8.1, then do the following: • Add Appliance Virtualization Platform 8.1 host on Solution Deployment Manager. • Deploy AVP Utilities 8.1.

Table continues…

Deployment scenario	Description
Scenario 3	If the existing AVP Utilities application is corrupted or inaccessible, then do the following: • Roll back to Utility Services. • Re-deploy AVP Utilities. Rolling back to Utility Services on page 47 Retrying Utility Services to AVP Utilities upgrade on page 47

> **Note:**
>
> While the AVP Utilities deployment is in progress, do not deploy other virtual machines.

Deploying AVP Utilities

About this task

Use this procedure to deploy AVP Utilities on Appliance Virtualization Platform .

To deploy AVP Utilities, you can use Solution Deployment Manager from System Manager or the Solution Deployment Manager client, when System Manager is unavailable.

Before you begin

- Add a location.

  See "Adding a location" in *Administering Avaya Aura® System Manager*.

- Add Appliance Virtualization Platform.

  See "Adding an Appliance Virtualization Platform or ESXi host" in *Administering Avaya Aura® System Manager*.

- Download the AVP Utilities OVA file.

Procedure

1. To access Solution Deployment Manager, do one of the following:

   - On the System Manager web console, click **Services** > **Solution Deployment Manager**.

   - On the desktop, click the Solution Deployment Manager icon ( ).

2. In **Application Management Tree**, select a platform.

3. On the Applications tab, in the Applications for Selected Location <location name> section, click **New**.

   The system displays the Applications Deployment section.

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.

      The system displays the host name in the **Platform FQDN** field.

5. In **Data Store**, select a data store, if not displayed upon host selection.

   The page displays the capacity details.

6. Click **Next**.

7. To get the OVA file, select the **OVA** tab, and click one of the following:

   • **URL**, in **OVA File**, type the absolute path to the application OVA file, and click **Submit**.

   • **S/W Library**, in **File Name**, select the application OVA file.

   • **Browse**, select the required application OVA file from a location on the computer, and click **Submit File**.

   If the OVA file does not contain a valid Avaya certificate, then the system does not parse the OVA and displays the message: `Invalid file content. Avaya Certificate not found or invalid.`

8. Click **Next**.

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

9. In the Network Parameters section, ensure that the following fields are preconfigured:

   • **Public**

   • **Services**

   • **Out of Band Management**.

   For more information, see "Application Deployment field descriptions".

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

    For more information about Configuration Parameters, see "Network Parameters and Configuration Parameters field descriptions".

11. Click **Deploy**.

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

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

    The system displays the virtual machine on the Applications for Selected Location <location name> page.

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

Next steps

1. To activate the serviceability agent registration, reboot the AVP Utilities virtual machine.
2. Deploy all other Avaya Aura® applications at a time.

Related links

[Network Parameters and Configuration Parameters field descriptions](#) on page 16

Network Parameters and Configuration Parameters field descriptions

> ✱ **Note:**
>
> During the AVP Utilities deployment, if you do not know the **System Manager IP Address** or **Enrollment Password**, then use the dummy values. Dummy values must pass validation. Use the localhost default 127.0.0.1 for the IP address, and `Dummy` as the password.

Name	Description
Networking Properties	
Hostname	Linux hostname or fully qualified domain name for AVP Utilities virtual machine. ✱ **Note:** The host name is regardless of the interface that is used to access. The Public interface is the default interface.
Public IP address	The IP address for this interface. Required field unless you use DHCP.
Public Netmask	The netmask for this interface. Required field unless you use DHCP.
Public Default Gateway	The IP address of the default gateway. Required field unless you use DHCP. ✱ **Note:** The default gateway should be configured for the Public network. You can use the `ovf_set_static` command to allow a static route to be assigned to the OOBM network, enabling OOBM network to reach a second subnet.
Public IPv6 address	The IP address for this interface. Required field unless you use DHCP.
Public IPv6 Prefix	The netmask for this interface. Required field unless you use DHCP.

Table continues…

Name	Description
Default IPv6 Gateway	The IP address of the default gateway.
	Required field unless you use DHCP.
Out of Band Management IP Address	The IP address for this interface.
Out of Band Management Netmask	The netmask for this interface.
Out of Band Management IPv6 Address	The IPv6 address for this interface. This field is optional.
Out of Band Management IPv6 Prefix	The IPv6 prefix for this interface. This field is optional.
Network Time Protocol IP	IP address of a server running Network Time Protocol that Communication Manager can use for time synchronization.
TImezone setting	The selected timezone setting for the AVP Utilities virtual machine.
DNS	The IP address of domain name servers for the AVP Utilities virtual machine. Separate each IP address by a comma.
	Required field unless you use DHCP.
	You can specify up to three DNS Servers.
Primary System Manager IP address for application registration	The IP address of System Manager that is required for application registration.
Enrollment Password	The enrollment password.
Confirm Password	The confirmation password.
Application Properties	
AVP Utilities Mode	The mode in which you want to deploy AVP Utilities. You can set the mode during the deployment only. You cannot change the mode after the virtual machine is deployed. The options are:
	• **standard_mode**: AVP Utilities and services port enabled. The default mode for Appliance Virtualization Platform.
	• **hardened_mode**: Sets up the system for commercial hardening.
	• **hardened_mode (dod)**: Sets up the system for military hardening.
Admin User Password	The admin user password.
Confirm Password	The confirmation password.

Table continues…

Deploying Avaya Aura® AVP Utilities

Name	Description
Out of Band Management Mode	The Out of Band Management mode in which you want to deploy. The options are as follows: • **OOBM_Enabled**: To enable Out of Band Management. • **OOBM_Disabled**: To disable Out of Band Management. ⊛ **Note:** **OOBM_Disabled** is the default setting. If the mode is set to **OOBM_Disabled**, then you do not need to configure Out of Band Management.

Enhanced Access Security Gateway (EASG) - EASG User Access

Name	Description
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 to enable EASG. You can also enable EASG after deploying or upgrading the application by using the command: `EASGManage --enableEASG`.

Customer Root Account

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

Related links

[Deploying AVP Utilities](#) on page 14

Enabling FIPS mode

Before you begin

When AVP Utilities is deployed in a Hardened mode or Hardened mode (DoD), FIPS mode is automatically enabled. However, when AVP Utilities is deployed in standard mode, you must enable the FIPS mode manually.

⚠️ **Warning:**

After you enable FIPS mode, AVP Utilities is rebooted and you cannot disable the reboot.

Procedure

1. Log in to AVP Utilities CLI as an administrator.

2. Run the following script: `fips_mode_enable`.

   After the script is executed, AVP Utilities is rebooted.

3. After the reboot, log in to AVP Utilities again as an administrator.

4. Run the following command to ensure that the FIPS mode is enabled: `sysctl crypto.fips_enabled`.

   AVP Utilities displays **crypto.fips_enabled = 1** where 1 indicates that the FIPS mode is enabled.

Security hardening features

About this task

Although AVP Utilities can be deployed in hardened mode, there are options to selectively enable various hardening features when deployed in standard mode. These include:

- FIPS compliance
- AIDE for file integrity check
- Secure Linux (SELinux)
- Auditing at operating system level (Auditd)

✳️ **Note:**

These features may have a performance impact and should only be enabled if required.

⚠️ **Warning:**

After you enable FIPS mode, AVP Utilities is rebooted and you cannot disable the reboot.

You can use the following security hardening commands:

- To enable FIPS mode, run the following script: `fips_mode_enable`
- To enable aide, run the following command: `aide_enable`.

- To disable aide, run the following command: `aide_disable`.

- To enable auditd, run the following command: `auditd_enable`.

- To disable aide, run the following command: `auditd_disable`.

- To enable SELinux, run the following command: `selinux_enable`.

- To disable SELinux, run the following command: `selinux_disable`.

Enabling Out of Band Management

About this task

Services running on the management interface provide an opportunity for an attacker to gain privileged access to the systems. Out of Band Management (OOBM) is a physically and logically separate network connection. OOBM connects to a customer's private management network and provides secure management and administration of Avaya products.

If OOBM is not enabled as part of the deployment, enable AVP Utilities OOBM as part of a solution-level OOBM implementation. When you enable OOBM on AVP Utilities, the following services connect to the OOBM network with physical connection on the eth2 port. Do not enable OOBM applications individually. Coordinate Enablement of OOBM with all other components that form the solution.

Application	Interfaces for traffic
SSH	Out of Band Management / Services
Alarm source	Out of Band Management
SAL connection (SSH)	Out of Band Management

Procedure

1. Log in to AVP Utilities as an administrator.

2. Run the following commands as required:

   - To enable Out of Band Management, run `sudo /opt/avaya/common_services/ ovf_set_oobm OOBM_Enabled`.

   - To disable Out of Band Management, run `sudo /opt/avaya/common_services/ ovf_set_oobm OOBM_Disabled`.

Installing software patches

About this task

Use the procedure to install software patches and service packs that are entitled for an Avaya Aura® application, and commit the patches that you installed.

> **Note:**
>
> When you are installing an element patch and the patch installation fails or the patch information is unavailable in **Upgrade Actions** > **Installed Patches** on the Upgrade Management page, then perform the following:
>
> 1. Ensure that the element is reachable on System Manager Solution Deployment Manager.
> 2. Refresh the element.

Before you begin

- Perform the preupgrade check.
- If you upgrade an application that was not deployed from Solution Deployment Manager:
  1. Select the virtual machine.
  2. To establish trust, click **More Actions** > **Re-establish Connection**.
  3. Click **Refresh VM**.

Procedure

1. On the System Manager web console, click **Services** > **Solution Deployment Manager**.
2. In the navigation pane, click **Upgrade Management**.
3. Select an Avaya Aura® application on which you want to install the patch.
4. Click **Upgrade Actions** > **Upgrade/Update**.
5. On the Upgrade Configuration page, click **Edit**.
6. In the General Configuration Details section, in the **Operation** field, click **Update**.
7. In **Upgrade Source**, select the software library where you have downloaded the patch.
8. **(Optional)** Click the **Auto Commit** check box, if you want the system to automatically commit the patch.

   > **Note:**
   >
   > If an application is unreachable, the auto commit operation might fail and the Update Patch Status window displays a warning message. You must wait for some time, select the same patch in the Installed Patches section, and perform the commit operation again.

9. In the Upgrade Configuration Details section, in the Select patches for update table, select the software patch that you want to install.
10. Click **Save**.
11. On the Upgrade Configuration page, ensure that the **Configuration Status** field displays ⊘.

    If the field displays ⊗, review the information on the Edit Upgrade Configuration page.
12. Click **Upgrade**.

13. On the Job Schedule page, click one of the following:

    - **Run Immediately**: To perform the job.
    - **Schedule later**: To perform the job at a scheduled time.

14. Click **Schedule**.

    On the Upgrade Management page, the **Update status** and **Last Action Status** fields display ⊘.

15. To view the update status, click ⊘.

    The **Upgrade Job Details** page displays the detailed update checks that are in progress. Click **Done** to close the window.

    When the update is complete, the **Update status** and **Last Action Status** fields displays ⊘.

16. Click **Upgrade Actions** > **Installed Patches**.

17. On the Installed Patches page, in the Patch Operation section, click **Commit**.

    The page displays all software patches that you can commit.

    You can use **Rollback** and **Uninstall** options if you must rollback and uninstall the software patch.

18. Select the patch that you installed, in the Job Schedule section, click **Run Immediately**.

    You can schedule to commit the patch at a later time by using the **Schedule later** option.

19. Click **Schedule**.

    The Upgrade Management page displays the last action as **Commit**.

20. Ensure that **Update status** and **Last Action Status** fields display ⊘.

Related links

Installed Patches field descriptions

Name	Description
Commit	The option to select the patches that you can commit.
Uninstall	The option to select the patches that you can uninstall.
Rollback	The option to select the patches that you can rollback.
Show All	The option to display all the available options.

Name	Description
Name	The name of the software patch.
Element Name	The element on which the software patch is installed.
Patch Version	The version of the software patch.
Patch Type	The type of the software patch. The options are: • service pack or software patch • Kernel
Patch State	The state of the software patch. The options are: • Installed • Activated • Deactivated • Removed • Uninstall • Pending

Name	Description
Schedule Job	The option to schedule a job: • **Run immediately**: To run the upgrade job immediately. • **Schedule later**: To run the upgrade job at the specified date and time.
Date	The date on which you want to run the job. The date format is mm:dd:yyyy. Use the calendar icon to choose a date. This field is available when you select the **Schedule later** option for scheduling a job.
Time	The time when you want to run the job. The time format is hh:mm:ss and 12 (AM or PM) or 24-hour format. This field is available when you select the **Schedule later** option for scheduling a job.
Time Zone	The time zone of your region. This field is available when you select the **Schedule later** option for scheduling a job.

Name	Description
Schedule	Runs the job or schedules to run at the time that you configured in Job Schedule.

Related links

Installing patches and service packs using CLI

About this task

You can install the software patches and service packs using:

- AVP Utilities CLI
- Solution Deployment Manager

Use this procedure to install software patches by using AVP Utilities CLI.

Before you begin

- You must uninstall the previous feature pack or service pack, if available.

  For more information on uninstalling the feature pack or service pack by using the Solution Deployment Manager, see [Uninstalling the feature pack or service pack by using Solution Deployment Manager](#) on page 49.

- Do the following by using AVP Utilities CLI:

  - To view the list of patch versions installed, run the following command: **swversion**.

    The last line of the command output provides the patch number, if installed.

    You can also run the following command to view the list of patches or service packs installed: **/opt/avaya/common_services/update -l**.

    If the patches or service packs are not installed, then there will no output.

  - To uninstall the previous feature pack or service pack, run the following command: **update -r <patch tag>**.

    For example, update -r 8011002.

Procedure

1. Using an SCP client, copy the AVP Utilities update to the /tmp directory.

2. Log in to AVP Utilities CLI as an administrator and run the following command: /opt/ avaya/common_services/update -i /tmp/<US update zip filename>.

3. Respond to the prompt accordingly.

4. After the patch is installed, check the list of patch versions installed using the following command: **swversion**.

5. Reboot AVP Utilities to ensure all updates take effect by using Solution Deployment Manager or the Embedded Host Client.

For information about installing software patches by using the Solution Deployment Manager, see

Chapter 5: Configuring

Enabling or disabling EASG

About this task

Use this procedure to enable or disable EASG. By enabling EASG, you grant Avaya access to your system. The access maximizes the performance and value of your Avaya support entitlements, and Avaya can resolve product issues in a timely manner. Avaya recommends that you do not disable EASG, because it impacts Avaya's ability to provide support for the product and customers will then have to manage the product themselves.

Procedure

1. Log in to the AVP Utilities as an administrator.
2. Run one of the following scripts as required:
   - To enable EASG: `Enable_EASG.sh`.
   - To disable EASG: `Disable_EASG.sh`.
   - To permanently disable EASG: `PermanentEASGRemoval.sh`.

Viewing the EASG status

About this task

Use this procedure to know whether EASG is enabled or disabled.

Procedure

1. Log in to the AVP Utilities CLI interface as an administrator.
2. Run the following script: `sudo EASGStatus`.

Removing EASG

About this task

Use this procedure to remove Enhanced Access Security Gateway (EASG) and Avaya Services logins. You can use the OVA deployment process to reinstall EASG.

✴ **Note:**

If you remove EASG, Avaya cannot access your system to provide support.

Procedure

1. Log in to the AVP Utilities as an administrator.

2. Run the following command: `/opt/avaya/permanentEASGRemoval.sh.`

Linux kernel configuration

AVP Utilities includes the Red Hat updates to support mitigation of the Meltdown and Spectre vulnerabilities. However, this can affect the performance of AVP Utilities. So a script `kernel_opts.sh` is introduced so that the script can control how these vulnerabilities are handled through the setting of kernel options. The effect of running the kernel configuration script is immediate and continues across reboots. You can run the script as an admin user by using the AVP Utilities CLI.

The script has the following arguments:

- status: Displays the current status of the kernel options.
- enable: Enables all flags to provide maximum protection.
- disable: Disables all flags to provide maximum performance.

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/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 that 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 that are 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 that are currently installed on the system.

Chapter 6: Migrating

Supported migration paths

The following migration paths are supported:

From Utility Services	To AVP Utilities
8.0.x	8.1
7.x.x	8.1
6.x	8.1

Supported features of Utility Services after migrating to AVP Utilities

About this task

After you migrate from Avaya Aura® Utility Services to Avaya Aura® AVP Utilities, only the following Utility Services features are supported in AVP Utilities.

- Services Port access for VMs (IP Forwarding enabled).
- AVP alarming and log harvesting.
- Enabling SSH access for Appliance Virtualization Platform.

If Utility Services is deployed in "Services Port Only" mode or "Hardened Mode Services port only" mode, then the hardening settings configured for Utility Services will be retained for AVP Utilities. The mapping of Utility Services modes to AVP Utilities modes is as follows:

Avaya Aura® Utility Services mode	Avaya Aura® AVP Utilities mode
Full functionality	Standard mode
Utility Services only	Standard mode
Services port only	Standard mode
Hardened mode services port only	Hardened mode (Department of Defence)

During migration, you can restore only applicable configuration data from the Utility Services backup file.

Checklist to migrate from Utility Services 7.x to AVP Utilities 8.1

About this task

If you are using Utility Services 7.x, then you can migrate to AVP Utilities 8.1.

Task	Link	✔
Back up the Utility Services configuration files.	See [Creating a backup of Utility Services](#) on page 33 ⊛ **Note:** Before you migrate from Utility Services 7.x to AVP Utilities 8.1, you must perform a full back up of Utility Services and save it on to a remote server. Ensure that you do NOT leave the back up data on the Utility Services virtual machine.	
Upgrade Appliance Virtualization Platform from 7.x to 8.x	See [Upgrading Utility Services 7.x to AVP Utilities Release 8.1 in bulk during Appliance Virtualization Platform upgrade](#) on page 34	
Deploy AVP Utilities	See [Deploying AVP Utilities](#) on page 14	

Checklist to migrate from Utility Services 6.x to AVP Utilities 8.1

Perform the following tasks to migrate from Utility Services 6.x to AVP Utilities 8.1:

Task	Link	✔
Migrate from System Platform 6.x to Appliance Virtualization Platform 8.x	See [Migrating System Platform-based system and elements in bulk to Appliance Virtualization Platform remotely by using System Manager Solution Deployment Manager](#) on page 31	

Table continues…

Task	Link	✔
Backup Utility Services	See [Creating a backup of Utility Services](#) on page 33 ⊛ **Note:** Before you migrate from Utility Services 6.x to AVP Utilities 8.1, you must perform a full back up of Utility Services and save it on to a remote server. Ensure that you do NOT leave the back up data on the Utility Services virtual machine.	
Deploy AVP Utilities	See [Deploying AVP Utilities](#) on page 14	

Migrating System Platform-based system and elements in bulk to Appliance Virtualization Platform remotely by using System Manager Solution Deployment Manager

About this task

Use this procedure to remotely migrate System Platform-based system and elements in bulk to Appliance Virtualization Platform Release 8.1. You can remotely migrate:

- Communication Manager, Branch Session Manager, and Utility Services that are running on System Platform.
- Communication Manager Release 5.2.1 bare metal system.

Before you begin

- On the Manage Elements page, add the System Platform system and required elements. For information about adding a new element, see *Administering Avaya Aura® System Manager*.
- Refresh the element.
- Analyze the software.
- Perform the pre-upgrade check.
- Download a copy of the `AVP_Bulk import spread sheet.xlsx` spreadsheet from Avaya PLDS website at https://plds.avaya.com/or from Avaya Support website at https://support.avaya.com. Fill the required system details in the spreadsheet.

  ⊛ **Note:**

  If you provide the incorrect data in the spreadsheet, the upgrade might fail.

Procedure

1. On the System Manager web console, click **Services** > **Solution Deployment Manager**.

2. In the navigation pane, click **Upgrade Management**.

   The system displays the Upgrade Management page.

3. Select the required element.

   When you select an element, the system selects the parent of the element and all child elements of the element in the hierarchy.

4. Click **Upgrade Actions** > **Upgrade/Update**.

5. On the Upgrade Configuration page, click **Import AVP Configuration(s)**.

6. On the Upload AVP Xlsx File Configuration dialog box, perform the following:

   a. Click **Browse** and select the file from the local computer.

   b. To upload the spreadsheet, click **Upload**.

   c. Click **Submit**.

      The system displays the file size, timestamp, and percentage complete for the uploaded file. When the file upload is in-progress, do not navigate away from the page.

      On the Upgrade Management page, the system displays the message: `Please Wait - Saving Import AVP Configuration ....` You must wait until the system stops showing this message.

7. On the Upgrade Management page, click ⟳.

   The **Configuration Status** column displays ✅.

8. To save the configuration, click **Save Configuration**.

   The update configuration is saved as a job in the Upgrade Jobs Status page.

9. On the Upgrade Configuration page, click **Upgrade**.

10. To view the upgrade status, perform the following:

    a. In the navigation pane, click **Upgrade Job Status**.

    b. In the **Job Type** field, click **Upgrade**.

    c. Click the upgrade job that you want to view.

11. On the Upgrade Management page, click ⟳.

    The **Last Action** column displays **Upgrade**, and **Last Action Status** column displays ✅.

Creating a backup of Utility Services

About this task

You can backup Utility Services configuration files to transfer the configuration files or to rollback when required. When you backup the Utility Services when it is Hardened Mode, the following configuration files are included:

- SSH
- AIDE: /etc/aide.conf
- Audit: /etc/audit/auditd.conf
- Login defs: /etc/login.defs
- Password auth: /etc/pam.d/password-auth
- Password settings: /etc/security/pwquality.conf
- User passwords and group membership:
  - /etc/passwd
  - /etc/shadow
  - /etc/group
  - /etc/gshadow
- rsyslog: /etc/rsyslog.conf
- selinux: /etc/selinux/config
- Access Control List (ACL):
  - /etc/hosts.allow
  - /etc/hosts.deny
- Banner: /etc/issue

Procedure

1. Log in to the Utility Services CLI as an administrator.

2. Run one of the following scripts:
   - For back-end, use: **/opt/avaya/common_services/backup -b <backup file name>**
   - For front-end, use: **/opt/avaya/common_services/backup.sh**

Result

Utility Services backup files are stored in `/tmp` folder.

Upgrading Utility Services 7.x to AVP Utilities Release 8.1 in bulk during Appliance Virtualization Platform upgrade

About this task

Use this procedure to upgrade Utility Services 7.x to AVP Utilities Release 8.1 in bulk when you are upgrading one or more Appliance Virtualization Platform to Release 8.1.

Before you begin

- Take a backup of Utility Services manually.

- Add a location.

  For more information, see "Adding a location" section in *Administering Avaya Aura® System Manager*.

- Select Location and add a host.

  For more information, see "Adding an Appliance Virtualization Platform or ESXi host" section in *Administering Avaya Aura® System Manager*.

- Download a copy of the `hostUSUpgradeInfo.xlsx` spreadsheet from Avaya PLDS website at https://plds.avaya.com/ or from Avaya Support website at https://support.avaya.com. Fill the required system details in the spreadsheet.

  ✱ Note:

     If you provide the incorrect data in the spreadsheet, the upgrade might fail.

Procedure

1. In **Application Management Tree**, select a location.

2. On the **Platforms** tab, in the Platforms for Selected Location <location name> section, select the Appliance Virtualization Platform host, and click **More Actions** > **AVP Update/Upgrade Management**.

   If Utility Services is not deployed on Appliance Virtualization Platform Release 7.x or trust is not established with the Utility Services application, and you click **Upgrade/Update**, then the system displays the following message.

   ```
   [AVP - <AVP Name in SDM>] Required Utility Services (US) VM is
   absent or not registered with this SDM instance. If absent, deploy
   US. If not registered, refresh host and then select US VM, and
   click More Options > Reestablish Connection.
   ```

3. In **Select patch file**, provide the absolute path to the patch file of the host, and click **AVPU Configuration Import**.

   For example, the absolute path on your computer can be `C:\tmp\avp\upgrade-avaya-avp-8.1.0.0.0.xx.zip`.

4. In the Import Configuration Excel File dialog box, do the following:

   a. Click **Browse** and select the file from the local computer.

      b. To upload the spreadsheet, click **Open**.

         The system displays the file size and percentage complete for the uploaded file. When the file upload is in-progress, do not navigate away from the page.

      c. Click **Submit File**.

5. Click **Update Host** and accept the EULA.

6. To view the details, in the **Current Action** column, click **Status Details**.

   Host Create/Update Status window displays the details. The patch installation takes some time. When the patch installation is complete, the **Current Action** column displays the status.

   In the Platforms for Selected Location <location name> section, the system displays the update status in the **Current Action** column.

Upgrading Appliance Virtualization Platform from Solution Deployment Manager

About this task

Upgrade Appliance Virtualization Platform from Release 7.0.x, 7.1.x, or 8.0.x to Release 8.1 by using the upgrade bundle from the Solution Deployment Manager client or System Manager Solution Deployment Manager.

✳ **Note:**

- From System Manager Solution Deployment Manager, you cannot update Appliance Virtualization Platform that hosts this System Manager.

- When you update Appliance Virtualization Platform, the system shuts down all the associated virtual machines and restarts the Appliance Virtualization Platform host. During the update process, the virtual machines will be out of service. After the Appliance Virtualization Platform update is complete, the system restarts the virtual machines.

- If you are upgrading or updating the Appliance Virtualization Platform host, then you must not restart, shutdown, upgrade, or install the patch on the virtual machine that is hosted on the same Appliance Virtualization Platform host.

  If you are deploying or upgrading a virtual machine, then you must not restart, shutdown, or upgrade the Appliance Virtualization Platform host on which the same virtual machine is hosted.

  If you are installing a patch on a virtual machine, then you must not restart, shutdown, or upgrade the Appliance Virtualization Platform host on which the same virtual machine is hosted.

- If you are using services port to update or upgrade Appliance Virtualization Platform, connect the system directly with the Appliance Virtualization Platform services port (Gateway 192.168.13.1). If you connect the system using the AVP Utilities services port (Gateway 192.11.13.6), the Appliance Virtualization Platform update or upgrade fails.

Before you begin

1. Add a location.
2. Select Location and add an Appliance Virtualization Platform host.

To upgrade from Appliance Virtualization Platform Release 7.x or 8.0.x to Release 8.1, ensure that:

- AVP Utilities is deployed on Release 8.1.
- Utility Services 7.x is deployed on Appliance Virtualization Platform Release 7.x and trust is established with the application.
- Appliance Virtualization Platform 7.x is not deployed on S8300D, Dell™ PowerEdge™ R610, or HP ProLiant DL360 G7 as the upgrade to Appliance Virtualization Platform 8.0 and later is not supported on these servers.

> ✱ **Note:**
>
> Install only Avaya-approved service packs or software patches on Appliance Virtualization Platform. Do not install the software patches that are downloaded directly from VMware®.

Procedure

1. In **Application Management Tree**, select a location.

2. On the **Platforms** tab, in the Platforms for Selected Location <location name> section, select the Appliance Virtualization Platform host, and click **More Actions** > **AVP Update/ Upgrade Management**.

   If Utility Services is not deployed on Appliance Virtualization Platform Release 7.x or trust is not established with the Utility Services application, and you click **Upgrade/Update**, then the system displays the following message.

   ```
   [AVP - <AVP Name in SDM>] Required Utility Services (US) VM is
   absent or not registered with this SDM instance. If absent, deploy
   US. If not registered, refresh host and then select US VM, and
   click More Options > Reestablish Connection.
   ```

3. In **Select patch file**, provide the absolute path to the patch file of the host, and click **Update Host**.

   For Solution Deployment Manager Client, the patch file must be available on windows machine where the Solution Deployment Manager client is hosted.

   For example, the absolute path on your computer can be `C:\tmp\avp\upgrade-avaya-avp-8.1.0.0.0.xx.zip`.

   For System Manager Solution Deployment Manager, the patch file must be in the System Manager `swlibrary` directory.

4. Note that, if you attempt to upgrade Appliance Virtualization Platform to Release 8.0 and later on S8300D, Dell™ PowerEdge™ R610, or HP ProLiant DL360 G7 server, the system displays the following message.

   ```
   [AVP - <IP_Address>] You are attempting to Update / Upgrade this
   AVP on host hardware that is not supported for this software
   version: Avaya Common Server R1 (HP DL360G7 or Dell R610) and the
   ```

```
Avaya S8300D blade are deprecated for this release.
Please refer to the Release Notes for this release for details of
the supported host hardware.
```

5. **(Optional)** On the AVP Update/Upgrade - Enhanced Access Security Gateway (EASG) User Access window, read the following messages, and do one of the following:

When you upgrade Appliance Virtualization Platform from Release 7.0.x to Release 7.1 and later, the system display the AVP Update/Upgrade - Enhanced Access Security Gateway (EASG) User Access window.

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.
```

a. To enable EASG, click **Enable EASG**.

   Avaya recommends to enable EASG.

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

b. To disable EASG, click **Disable EASG**.

6. If Utility Services is deployed on Appliance Virtualization Platform Release 7.x, the system upgrades Appliance Virtualization Platform to Release 8.1, and then updates Utility Services to AVP Utilities.

This step is applicable when you upgrade from Release 7.x to Release 8.1.

The system displays the Utility Services Upgrade window.

7. On the Utility Services Upgrade window, do the following:

a. In Platform Details, the data store is auto-selected as server-local-disk, and then click **Next**.

b. In **OVA**, provide the AVP Utilities OVA file details, and then click **Next**.

> For AVP Utilities OVA, the system automatically performs the resource check and disables the **Flexi Footprint** field.

   c. In Config Parameters, provide the network and configuration parameters details, and click **Update**.

8. On the EULA Acceptance page, read the EULA, and do one of the following:

This step is applicable when you upgrade from Release 7.x to Release 8.1.

   a. To accept the EULA, click **Accept**.

   b. To decline the EULA, click **Decline**.

Once Appliance Virtualization Platform is upgraded, the system updates Utility Services to AVP Utilities.

9. To view the details, in the **Current Action** column, click **Status Details**.

Host Create/Update Status window displays the details. The patch installation takes some time. When the patch installation is complete, the **Current Action** column displays the status.

In the Platforms for Selected Location <location name> section, the system displays the update status in the **Current Action** column.

Next steps

If the virtual machines that were running on the Appliance Virtualization Platform host do not automatically start, manually start the machines.

Chapter 7: Troubleshooting

Checklist to rollback to previous version of Utility Services

After Appliance Virtualization Platform is upgraded and AVP Utilities is successfully deployed, the Utility Services virtual machine is automatically removed and the AVP Utilities virtual machine is available. However, for any reason, if you want to rollback to the previous version of Utility Services, then you must rollback Appliance Virtualization Platform and restore Utility Services.

Perform the following tasks to rollback to previous version of Utility Services:

No.	Task	Link	✔
1	Delete AVP Utilities	See Deleting an application on page 40	
2	Rollback Appliance Virtualization Platform to previous version	See Removing the Appliance Virtualization Platform patch from the ESXi host CLI on page 40	
3	Do one of the following: 1. Remove the Appliance Virtualization Platform host certificate 2. Add the Appliance Virtualization Platform platform OR 1. Accept the Appliance Virtualization Platform host certificate 2. Refresh the Appliance Virtualization Platform platform	See Generating and accepting the Appliance Virtualization Platform host certificates on page 43 See Adding a software-only platform on page 44 ✳ **Note:** Before adding the Appliance Virtualization Platform platform, delete the existing Appliance Virtualization Platform platform.	

Table continues…

No.	Task	Link	✔
4	Deploy Utility Services	See [Deploying the Utility Services](#) on page 45 ✱ **Note:** Ensure that the deployed version of Utility Services should match previous version of Utility Services that was running prior to the Appliance Virtualization Platform upgrade.	
5	Restore Utility Services	See [Restoring AVP Utilities backup files](#) on page 49	

Deleting an application

Procedure

1. On the System Manager web console, click **Services** > **Solution Deployment Manager** > **Application Management**.

2. In **Application Management Tree**, select a location.

3. On the **Applications** tab, select one or more application.

4. On the Delete page, click **Delete**, and click **Yes** to confirm the deletion.

   The system turns off the applications, and deletes the selected applications from the platform.

Removing the Appliance Virtualization Platform patch from the ESXi host CLI

About this task

Use the procedure to restore the Appliance Virtualization Platform software to the earlier version.

In this procedure, the command installs the older release on the new release that you want to replace.

> ⊛ **Note:**
>
> You can remove the Appliance Virtualization Platform patch only from the host CLI. You cannot use System Manager Solution Deployment Manager or the Solution Deployment Manager client.

Before you begin

- Create a backup of each Avaya Aura® application that is deployed on Appliance Virtualization Platform by using the application's native backup procedures.

  If a problem occurs with the Appliance Virtualization Platform rollback, you can use the application backups to reinstall the applications and to restore its data.
- Start an SSH session.
- Log in to the Appliance Virtualization Platform host command line with admin user credentials.
- Copy the Appliance Virtualization Platform patch of the earlier version to the `/vmfs/volumes/server-local-disk` folder on the system.

Procedure

1. To stop all virtual machines that are running on the Appliance Virtualization Platform host, at the prompt, type `/opt/avaya/bin/stopallvms.py`.

2. To rollback from Appliance Virtualization Platform Release 8.0 and later to any of the previous releases, perform the following:

   a. Type the `/opt/avaya/bin/rollback_bootbank.sh /vmfs/volumes/server-local-disk/<complete path name of the rollback patch>` command.

      Ensure to type the complete path name of the rollback patch. Do not use a relative path.

      For example, to rollback from Appliance Virtualization Platform Release 8.0 to Release 7.0.0.x (`avaya-avp-7.0.0.1.0.x.zip`), type the following command:

      `/opt/avaya/bin/rollback_bootbank.sh /vmfs/volumes/server-local-disk/avaya-avp-7.0.0.1.0.x.zip`

   b. To reboot the system, type `/opt/avaya/bin/avpshutdown.sh -r`.

      The system must be rebooted.

3. To rollback from Appliance Virtualization Platform Release 7.1.3 and later to any of the previous releases, perform the following:

   a. Type the `/opt/avaya/bin/rollback_bootbank.sh /vmfs/volumes/server-local-disk/<complete path name of the rollback patch>` command.

      Ensure to type the complete path name of the rollback patch. Do not use a relative path.

      For example, to rollback from Appliance Virtualization Platform Release 7.1.3 to Release 7.0.0.x (`avaya-avp-7.0.0.1.0.x.zip`), type the following command:

```
/opt/avaya/bin/rollback_bootbank.sh /vmfs/volumes/server-local-
disk/avaya-avp-7.0.0.1.0.x.zip
```

b. To reboot the system, type `/opt/avaya/bin/avpshutdown.sh -r`.

The system must be rebooted.

4. To rollback from Appliance Virtualization Platform Release 7.1.2 to Release 7.1.0.x, perform the following:

   a. Type the `/opt/avaya/bin/rollback_bootbank.sh /vmfs/volumes/ server-local-disk/<avaya-avp-7.1.0.0.0.x.zip>` command.

   Ensure to type the complete path name of the rollback patch. Do not use a relative path.

   b. To reboot the system, type `/opt/avaya/bin/avpshutdown.sh -r`.

   The system must be rebooted.

   When the system is rebooted, start a new Appliance Virtualization Platform SSH session.

   c. To re-enable SSH by using the Solution Deployment Manager client, on Application Management, click **More Actions** > **Enable SSH**.

   You can also enable SSH by using the VMware vSphere client.

   Issue the following commands after reboot:

```
/opt/avaya/bin/reduceReservation.sh
/opt/avaya/bin/installvibs.sh
reboot
```

5. To rollback from Appliance Virtualization Platform Release 7.1.2 to Release 7.0.0.x, perform the following:

   a. Type the `/opt/avaya/bin/rollback_bootbank.sh /vmfs/volumes/ server-local-disk/<avaya-avp-7.0.0.1.0.x.zip>` command.

   Ensure to type the complete path name of the rollback patch. Do not use a relative path.

   b. Run the following by typing line-by-line or using cut and paste on the Appliance Virtualization Platform CLI.

```
ramgb=$((($(esxcli --formatter=keyvalue hardware memory get \
 | grep -e "Memory\.PhysicalMemory\.integer" \
 | cut -d "=" -f 2) / (1024 * 1024 * 1024)))
if [ "$ramgb" -le 48 ]; then
memMinFreePct=1
if [ "$ramgb" -le 16 ]; then
memMinFreePct=2
fi
esxcli system settings advanced set -o /Mem/MemMinFreePct -i $memMinFreePct
fi
```

   c. To reboot the system, type `/opt/avaya/bin/avpshutdown.sh -r`.

   The system must be rebooted.

When the system is rebooted, start a new Appliance Virtualization Platform SSH session.

d. To re-enable SSH by using the Solution Deployment Manager client, on Application Management, click **More Actions** > **Enable SSH**.

You can also enable SSH by using the VMware vSphere client.

Issue the following commands after reboot:

```
/opt/avaya/bin/reduceReservation.sh
/opt/avaya/bin/installvibs.sh
reboot
```

6. To rollback from Appliance Virtualization Platform Release 7.0.1.0.5 or 7.1.0.x to Release 7.0.0.0.0.21, type `/opt/avaya/bin/rollback_bootbank.sh /vmfs/volumes/ server-local-disk/<avaya-avp-7.0.0.0.0.21.zip>`.

Next steps

Verify the Appliance Virtualization Platform software release and the ESXi version by using the `cat /opt/avaya/etc/avaya-avp.version` command.

Generating and accepting the Appliance Virtualization Platform host certificates

About this task

With Solution Deployment Manager, you can generate certificates only for Appliance Virtualization Platform hosts.

If the certificate is invalid:

• Get a correct certificate for the host and add the certificate.

• Regenerate a self-signed certificate on the host.

Before you begin

Get permissions to add a host to generate certificates.

Procedure

1. To access Solution Deployment Manager, do one of the following:

• On the System Manager web console, click **Services** > **Solution Deployment Manager**.

•
On the desktop, click the Solution Deployment Manager icon ().

2. In **Application Management Tree**, select a location.

3. On the **Platforms** tab, in the Platforms for Selected Location <location name> area, select an Appliance Virtualization Platform host.

4. Click **More Actions** > **Generate/Accept Certificate**.

5. In the Certificate dialog box, click the following:

    a. **Generate Certificate**

       You can generate certificate only for the Appliance Virtualization Platform host.

    b. **Accept Certificate**

Appliance Virtualization Platform places an IP address and FQDN in generated certificates. Therefore, from Solution Deployment Manager, you can connect to Appliance Virtualization Platform hosts through IP address or FQDN.

In the Platforms for Selected Location <location name> section, the **Platform Certificate Status** column must display a check mark ✔.

Adding a software-only platform

About this task

Use this procedure to add an operating system on Solution Deployment Manager. In Release 8.1, the system supports the Red Hat Enterprise Linux Release 7.5 64-bit operating system.

Before you begin

Add a location.

Procedure

1. On the **Platforms** tab, click **Add**.

2. In **Platform Name**, type the name of the platform.

3. In **Platform FQDN or IP**, type the FQDN or IP address of the platform or the base operating system.

4. In **User Name**, type the user name of the platform.

For a software-only deployment, the user name must be a direct access admin user. If the software-only application is already deployed, provide the application cli user credentials.

5. In **Password**, type the password of the platform.

6. In **Platform Type**, select **OS**.

7. Click **Save**.

If the platform has some applications running, the system automatically discovers those applications and displays the applications in the **Applications** tab.

• If Solution Deployment Manager is unable to establish trust, the system displays the application as Unknown.

• If you are adding OS, only **Add** and **Remove** operations are available on the **Platforms** tab. You cannot perform any other operations. On the **Applications** tab, the system

enables the **New** option. If the application is System Manager, the system enables **Update App** on Solution Deployment Manager Client

The system displays the added platform on the **Platforms** tab.

Deploying the Utility Services

About this task

Use the procedure to create a virtual machine on the ESXi host, and deploy Utility Services OVA on the Avaya-provided server.

To deploy Utility Services, you can use Solution Deployment Manager from System Manager or the Solution Deployment Manager client, when System Manager is unavailable. First deploy the Utility Services OVA and then deploy all other applications one at a time.

Before you begin

- Complete the deployment checklist.

  For information about the deployment checklist, see *Deploying Avaya Aura® applications from System Manager*.

- Add a location.
- Add Appliance Virtualization Platform
- Download the required OVA file

Procedure

1. To access Solution Deployment Manager, do one of the following:

   - On the System Manager web console, click **Services** > **Solution Deployment Manager**.

   - On the desktop, click the Solution Deployment Manager icon ().

2. In **Application Management Tree**, select a platform.

3. On the Applications tab, in the Applications for Selected Location <location name> section, click **New**.

   The system displays the Applications Deployment section.

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.

      The system displays the host name in the **Platform FQDN** field.

5. In **Data Store**, select a data store, if not displayed upon host selection.

   The page displays the capacity details.

6. Click **Next**.

7. In the Deploy OVA section, perform the following:

   a. In **Select Software Library**, select the local or remote library where the OVA file is available.

      If you are deploying the OVA from the Solution Deployment Manager client, you can use the default software library that is set during the client installation.

   b. In **Select OVAs**, select the OVA file that you want to deploy.

   c. In **Flexi Footprint**, select the footprint size that the application supports.

      • **Default**: For all other server platforms.

8. Click **Next**.

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

9. In the Network Parameters section, ensure that the following fields are preconfigured:

   • **Public**
   • **Services**: Only for Utility Services
   • **Out of Band Management**: Only if Out of Band Management is enabled

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

    For more information about Configuration Parameters, see Network Parameters and Configuration Parameters field descriptions.

11. Click **Deploy**.

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

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

    The system displays the virtual machine on the Applications for Selected Location <location name> page.

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

    For information about Application Management field descriptions, see *Deploying Avaya Aura® applications from System Manager*.

14. Reboot the Utility Services virtual machine.

Restoring a backup of Utility Services
Procedure

1. Use an account with administrator-level privileges to log on to the Avaya Aura® Utility Services System Management Interface (SMI) webpage.

2. Click **Utility Services** > **Utility Admin**.

3. In the navigation pane on the left side of the page, click **Miscellaneous** > **Utility Services Backup and Restore**.

4. Click **Browse** and select the backup file that you want to restore from the local machine.

5. Click **Upload Backup**.

   The system restores the backup file.

6. Click **Continue**.

Rolling back to Utility Services

About this task

Use this procedure to rollback Utility Services to 7.x if the upgrade from Utility Services to AVP Utilities fails from Release 7.x to Release 8.1 and later.

Before you begin

- Add a location.
- Select Location and add a host.

Procedure

1. In **Application Management Tree**, select a location.

2. On the **Applications** tab, in the Applications for Selected Location<location name> section, select the Utility Services application, and click **More Actions** > **Rollback/Retry**.

   If the **Current Action Status** column displays the `VM Upgrade Failed` message, the system enables **More Actions** > **Rollback/Retry** after selecting the Utility Services application.

3. In the Import Configuration Excel File dialog box, click **Rollback**.

   To upgrade Utility Services to AVP Utilities, use the Upgrade Management page of System Manager Solution Deployment Manager.

   The system displays the confirmation message to accept the rollback.

Retrying Utility Services to AVP Utilities upgrade

About this task

If the upgrade from Utility Services to AVP Utilities fails, use this procedure to retry the upgrade of Utility Services to AVP Utilities.

Before you begin

- Add a location.

- Select Location and add a host.

- Download a copy of the `hostUSUpgradeInfo.xlsx` spreadsheet from Avaya PLDS website at https://plds.avaya.com/or from Avaya Support website at https://support.avaya.com. Fill the required system details in the spreadsheet.

  ⊛ **Note:**

    If you provide the incorrect data in the spreadsheet, the upgrade might fail.

Procedure

1. In **Application Management Tree**, select a location.

2. On the **Applications** tab, in the Applications for Selected Location<location name> section, select the Utility Services application, and click **More Actions** > **Rollback/Retry**.

   If the **Current Action Status** column displays the `VM Upgrade Failed` message, the system enables **More Actions** > **Rollback/Retry** after selecting the Utility Services application.

3. On the Import Configuration Excel File dialog box, do the following:

   a. Click **Browse** and select the file from the local computer.

   b. To upload the spreadsheet, click **Open**.

      The system displays the file size and percentage complete for the uploaded file. When the file upload is in-progress, do not navigate away from the page.

   c. Click **Submit File**.

      Once the file is successfully uploaded, the system enables the **Retry** button.

   d. Click **Retry**.

      The system starts the upgrade of Utility Services to AVP Utilities.

Creating a backup of AVP Utilities

About this task

When you backup AVP Utilities, the following configuration files are included:

- SSH

- AIDE: /etc/aide.conf

- Audit: /etc/audit/auditd.conf

- Login defs: /etc/login.defs

- Password auth: /etc/pam.d/password-auth

- Password settings: /etc/security/pwquality.conf
- User passwords and group membership:
  - /etc/passwd
  - /etc/shadow
  - /etc/group
  - /etc/gshadow
- rsyslog: /etc/rsyslog.conf
- selinux: /etc/selinux/config
- Access Control List (ACL):
  - /etc/hosts.allow
  - /etc/hosts.deny
- Baner: /etc/issue

Procedure

1. Log in to the AVP Utilities CLI as an administrator.

2. To create a backup, run the following script: /opt/avaya/common_services/backup -b

Result

- Backup files are placed in the `/tmp` folder.

Restoring AVP Utilities backup files

Procedure

1. Log in to the AVP Utilities CLI as an administrator.

2. To restore the backup file, run the following script: /opt/avaya/common_services/backup -r

Result

Backup files must be restored in the `/tmp` folder.

Uninstalling the feature pack or service pack by using Solution Deployment Manager

Procedure

1. On the System Manager web console, click **Services** > **Solution Deployment Manager**.

2. In the left navigation pane, click **Upgrade Management**.

3. Select AVP Utilities, and click **Upgrade Actions** > **Installed Patches**.

4. In the **Patch Operation**, select **Uninstall**.

5. Select the patch that you want to uninstall.

6. Set the **Schedule Job** options as required, and click **Schedule**.

Deploying Avaya Aura® AVP Utilities

Chapter 8: Resources

AVP Utilities documentation

The following table lists the documents related to Avaya Aura® AVP Utilities. Download the documents from the Avaya Support website at http://support.avaya.com.

Title	Description	Audience
Avaya Aura® AVP Utilities Overview and Specifications	Provides an overview of the Avaya Aura® AVP Utilities features.	Sales Engineers
Deploying Avaya Aura® AVP Utilities in a virtual appliance	Describes the instructions for deploying and migrating to Avaya Aura® AVP Utilities.	Sales Engineers, Solution Architects, Implementation Engineers, Support Personnel
Administering Avaya Aura® AVP Utilities	Describes the instructions for administering Avaya Aura® AVP Utilities.	Sales Engineers, Solution Architects, Implementation Engineers, Support Personnel

Finding documents on the Avaya Support website

Procedure

1. Go to https://support.avaya.com.

2. At the top of the screen, type your username and password and click **Login**.

3. Click **Support by Product** > **Documents**.

4. In **Enter your Product Here**, type the product name and then select the product from the list.

5. In **Choose Release**, select an appropriate release number.

6. In the **Content Type** filter, click a document type, or click **Select All** to see a list of all available documents.

   For example, for user guides, click **User Guides** in the **Content Type** filter. The list displays the documents only from the selected category.

7. Click **Enter**.

Comments on this document? infodev@avaya.com

Accessing the port matrix document

Procedure

1. Go to https://support.avaya.com.

2. Log on to the Avaya website with a valid Avaya user ID and password.

3. On the Avaya Support page, click **Support By Product** > **Documents**.

4. In **Enter Your Product Here**, type the product name, and then select the product from the list of suggested product names.

5. In **Choose Release**, select the required release number.

6. In the **Content Type** filter, select one or more of the following categories:

   • **Application & Technical Notes**

   • **Design, Development & System Mgt**

   The list displays the product-specific Port Matrix document.

7. Click **Enter**.

Avaya Documentation Portal navigation

Customer documentation for some programs is now available on the Avaya Documentation Portal at https://documentation.avaya.com.

> 🛈 **Important:**
>
> For documents that are not available on the Avaya Documentation Portal, click **Support** on the top menu to open https://support.avaya.com.

Using the Avaya Documentation Portal, you can:

• Search for content in one of the following ways:

  - Type a keyword in the **Search** field.

  - Type a keyword in **Search**, and click **Filters** to search for content by product, release, and document type.

  - Select a product or solution and then select the appropriate document from the list.

• Find a document from the **Publications** menu.

• Publish a PDF of the current section in a document, the section and its subsections, or the entire document.

• Add content to your collection by using **My Docs** (☆).

Navigate to the **My Content** > **My Docs** menu, and do any of the following:

- Create, rename, and delete a collection.

- Add content from various documents to a collection.

- Save a PDF of selected content in a collection and download it to your computer.

- Share content in a collection with others through email.

- Receive content that others have shared with you.

- Add yourself as a watcher by using the **Watch** icon ( ).

  Navigate to the **My Content** > **Watch list** menu, and do the following:

  - Set how frequently you want to be notified, starting from every day to every 60 days.

  - Unwatch selected content, all content in a document, or all content on the Watch list page.

  As a watcher, you are notified when content is updated or deleted from a document, or the document is removed from the portal.

- Share a section on social media platforms, such as Facebook, LinkedIn, Twitter, and Google +.

- Send feedback on a section and rate the content.

> ✳ **Note:**
>
> Some functionality is only available when you log in to the portal. The available functionality depends on the role with which you are logged in.

Training

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

Course code	Course title
20460W	Virtualization and Installation Basics for Avaya Team Engagement Solutions
20980W	What's New with Avaya Aura® Release 8.1

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` to see a list of the available videos.

  - In **Search**, type the product name. On the Search Results page, select **Video** in the **Content Type** column on the left.

- To find the Avaya Mentor videos on YouTube, go to www.youtube.com/AvayaMentor and do one of the following:

  - Enter a key word or key words in the **Search Channel** to search for a specific product or topic.

  - Scroll down Playlists, and click the name of a topic to see the available list of videos posted on the website.

  ⊛ **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.

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 http://www.avaya.com/support.
2. Log on to the Avaya website with a valid Avaya user ID and password.

   The system displays the Avaya Support page.
3. Click **Support by Product** > **Product Specific Support**.
4. In **Enter Product Name**, enter the product, and press `Enter`.
5. Select the product from the list, and select a release.
6. Click the **Technical Solutions** tab to see articles.
7. Select relevant articles.

Appendix A: Deploying AVP Utilities and other virtual machines

Deploying AVP Utilities and virtual machines when Out of Band Management is enabled

Before you begin

Install the Solution Deployment Manager client on your computer.

Procedure

1. Connect the computer to the Out of Band Management network with access to the Appliance Virtualization Platform Management Network IP address that you configured in the kick start generator file.

2. Using the Solution Deployment Manager client, create a location.

3. In the location that you created, create a host of Appliance Virtualization Platform by using the Management Network IP address of Appliance Virtualization Platform.

4. Ensure that AVP Utilities OVA is saved in the sub-folder in the `Default_Artifacts` directory during the Solution Deployment Manager client installation.

   You can save OVA files of all virtual machines that you want to deploy.

5. Create a new virtual machine in the host that you created in Step 3.

6. To set the OVA software library, select the complete path to the `Default_Artifacts` directory.

   In the Configuration Parameters section, the page displays parameters that are specific to AVP Utilities.

7. Fill in the AVP Utilities parameters.

   Provide the IP address that you want to allocate to Communication Manager.

   If Out of Band Management is enabled, provide information in the Out of Band Management-related fields. If Out of Band Management is disabled, leave the fields blank.

8. Deploy AVP Utilities, and wait for the virtual machine to deploy successfully.

9. Install the AVP Utilities 8.1 feature pack.

> **⊛ Note:**
>
> Before installing any service pack or feature pack, you must remove any pre-installed Service packs or Feature packs from the system. To verify the pre-installed service pack or feature pack installation status, run the `swversion` command from the command line interface. To remove the pre-installed service packs/feature packs run the `update -e <service tag>` command. Service and Feature packs are cumulative and include all of the security remediation and bug fixes of previous service or feature packs.

10. Deploy all other virtual machines in the solution one after the other.

11. Install the feature pack for Avaya Aura® applications.

12. Validate the system.

Related links

[Enabling IP forwarding using Services Port VM for AVP Utilities](#)

Deploying AVP Utilities and virtual machines on the services port

Before you begin

- Download the Solution Deployment Manager client from the PLDS website.
- Install the Solution Deployment Manager client on your computer.

Procedure

1. Using the Solution Deployment Manager client, create a location.

2. To connect the computer to the services port on the server, configure the following:

   - **IP address**: 192.168.13.5
   - **Netmask**: 255.255.255.248
   - **Gateway**: 192.168.13.1

   On the Solution Deployment Manager client, in the Appliance Virtualization Platform host, provide the IP address 192.168.13.6.

3. In the location that you created, create a host of Appliance Virtualization Platform by using the Management Network IP address of Appliance Virtualization Platform.

4. Ensure that AVP Utilities OVA is saved in the sub-folder in the `Default_Artifacts` directory during the Solution Deployment Manager client installation.

   You can save OVA files of all virtual machines that you want to deploy.

5. Create a new virtual machine in the host that you created in Step 3.

6. To set the OVA software library, select the complete path to the `Default_Artifacts` directory.

   In the Configuration Parameters section, the page displays parameters that are specific to AVP Utilities.

7. Enter the IP address details for AVP Utilities, deploy AVP Utilities, and wait for the virtual machine to deploy successfully.

8. Install the AVP Utilities 8.1 feature pack.

   ⊛ **Note:**

   Before installing any service pack or feature pack, you must remove any pre-installed Service packs or Feature packs from the system. To verify the pre-installed service pack or feature pack installation status, run the **swversion** command from the command line interface. To remove the pre-installed service packs/feature packs run the **update -e <service tag>** command. Service and Feature packs are cumulative and include all of the security remediation and bug fixes of previous service or feature packs.

9. Change the AVP Utilities configuration parameters to the following:

   • **IP address**: 192.11.13.5

   • **Netmask**: 255.255.255.252

   • **Gateway**: 192.11.13.6

   On the Solution Deployment Manager client, in the Appliance Virtualization Platform host, leave the IP address as 192.168.13.6.

10. **(Optional)** If you want to deploy or access virtual machine using services port while Wi-Fi or other network connection is enabled, then go to **Network & Internet settings** of your computer and enter the values as shown below.

11. Ensure that the IP forwarding feature is enabled on AVP Utilities.

12. Deploy all other virtual machines in the solution one after the other.

13. **(Optional)** During the deployment, if the sanity check fails, verify the host network configuration.

    The deployment might be successful, however, sanity check can fail due to a bad network connection.

14. Install the feature pack for Avaya Aura® applications.

15. Validate the system.

Related links

    Enabling IP forwarding using Services Port VM for AVP Utilities

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