Oracle® SD-WAN OS

Release Notes and Upgrade Guide

Release 7.0

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ORACLE

Oracle SD-WAN OS Release Notes and Upgrade Guide, Release 7.0

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About This Guide

This document describes how to install a full OS Partition Image or OS Patch on an appliance in order to migrate to a new version of OS or to apply fixes to an existing version. This document covers the configuration commands and sequences required for both operations.

Audience

This document is meant for network administrators.

Documentation Set

This table lists related documentation.

Document Name	Document Description
Oracle SD-WAN Edge Release Notes	Contains information about added features, resolved issues, requirements for use, and known issues in the latest Oracle SD-WAN Edge release.
Oracle SD-WAN OS Release Notes and Upgrade Guide	Contains information about inserting an OS Partition Image or OS Patch on an appliance in order to migrate to a new OS version or apply fixes to an existing version.
Oracle SD-WAN Security Guide	Contains information about security methods within the Oracle SD-WAN solution.
Oracle SD-WAN Edge Features Guide	Contains feature descriptions and procedures for all incremental releases of Oracle SD-WAN Edge. This guide is organized by release version.

My Oracle Support

My Oracle Support (https://support.oracle.com) is your initial point of contact for all product support and training needs. A representative at Customer Access Support (CAS) can assist you with My Oracle Support registration.

Call the CAS main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. When calling, make the selections in the sequence shown below on the Support telephone menu:

1. Select 2 for New Service Request.
2. Select 3 for Hardware, Networking, and Solaris Operating System Support.
3. Select one of the following options:
   - For technical issues such as creating a new Service Request (SR), select 1.
   - For non-technical issues such as registration or assistance with My Oracle Support, select 2.

You are connected to a live agent who can assist you with My Oracle Support registration and opening a support ticket.

My Oracle Support is available 24 hours a day, 7 days a week, 365 days a year.

Emergency Response

In the event of a critical service situation, emergency response is offered by the Customer Access Support (CAS) main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical situations affect service and/or system operation resulting in one or several of these situations:

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with Oracle.

Locate Product Documentation on the Oracle Help Center Site

Oracle Communications customer documentation is available on the web at the Oracle Help Center (OHC) site, http://docs.oracle.com. You do not have to register to access these documents. Viewing these files requires Adobe Acrobat Reader, which can be downloaded at http://www.adobe.com.

1. Access the Oracle Help Center site at http://docs.oracle.com.
2. Click **Industries**.
3. Click the **Oracle Communications** link.
   Under the **SD-WAN** header, select a product.
4. Select the Release Number.
   A list of the entire documentation set for the selected product and release appears.
5. To download a file to your location, right-click the **PDF** link, select **Save target as** (or similar command based on your browser), and save to a local folder.

Revision History

This section provides a revision history for this document.

Date	Description
September 2019	• Initial release.
March 2020	• Updates for OS 7.0.1 release • Adds Enhancements/Features in Oracle SD-WAN OS 7.0.1 section • Adds Known Issues topic

1

Introduction to SD-WAN OS 7.0

The Oracle SD-WAN Edge software package sits on top of the SD-WAN OS on all Oracle SD-WAN Appliances. An OS Partition Image is used to update the OS image on an Oracle SD-WAN Appliance. For instructions on how to install an OS Partition Image, see the OS Partition Update chapter.

An OS Patch is used to apply enhancements or bug fixes to the OS image on an Oracle SD-WAN Appliance without requiring a full OS update. For instructions on how to install an OS Patch, see the OS Patch Installation chapter.

Who Should Update to Oracle SD-WAN Edge OS 7.0?

- Customers who would like to take advantage of the enhanced security and stability of Oracle Linux based Oracle SD-WAN Edge OS 7.0 and who are willing to run Oracle SD-WAN Edge 8.2 GA (or later) on their network. Please refer to Oracle SD-WAN Edge OS 7.0 Release Notes for more details.

Supported Software and OS Combinations

The following devices are supported by this OS release. If an appliance is not listed, it is not supported by this OS version.

OS 7.0 is supported on the following hardware appliances:

- D2000
- D6000
- E50
- E100
- E500
- E1000
- T860
- T3010
- T5000
- T5200

OS 7.0 is supported on the following virtual appliances:

- CT800 AWS
- VT800 Hyper-V
- VT800 Azure
- VT800 ESXi
- CT800_128 AWS
- VT800_128 Azure

- VT800_128 ESXi
- VT800_128 Hyper-V

Enhancements/Features in Oracle SD-WAN OS 7.0

The following items are new in this release.

Oracle Enterprise Linux

The underlying operating system used to power Oracle SD-WAN OS 7.0 has been upgraded to Oracle Enterprise Linux. This change provides a more secure and supportable platform for Oracle SD-WAN customers.

- ID: 19324

Enhancements/Features in Oracle SD-WAN OS 7.0.1

The following items are new in this patch release.

Collecting ILOM Diagnostics for D2000 and D6000

See the Hardware Guides for the Oracle Talari D2000 and D6000 to learn how to enable and take ILOM snapshots.

- ID: 30897344

Known Issues - SD-WAN OS

This table lists the known issues across this version of SD-WAN OS.

ID	Description	Severity	Found In

31000664	• This problem is specific to VT800_128 deployed on Azure. Note that VT800 works fine.
	• User will not be able to find the talariuser password that will allow them to log in to the UI. This Auto-generated Password is expected to be in "Boot diagnostics -> Serial Log", but due to this bug it will not be there.
	There are two work-arounds to this problem.
	1. As ssh login should be configured, so you can log in via ssh and issue this command to find the password:
	`talariuser@Talari-:~# dmesg |grep talariuser`
	`[ 32.323749] dhclient-exit-hook: Configuring default talariuser password.`
	`[ 32.831851] dhclient-exit-hook: Configuring talariuser password to:`
	`talari-01cf3f56`
	`[ 33.129197] dhclient-exit-hook: Disabling ssh password access to talariuser.`
	2. Alternatively, one can reset the talariuser password through the Azure UI. The "Reset Password" menu item is available under the VM's "Support + troubleshooting" Section.
		3	OS 7.0.1

2
OS Partition Update

This chapter illustrates the process of updating a Oracle SD-WAN Edge Appliance to OS 7.0. See the Oracle SD-Wan Edge Release Notes to find supported OSes and upgrade paths.

Check OS Partition Update Requirements

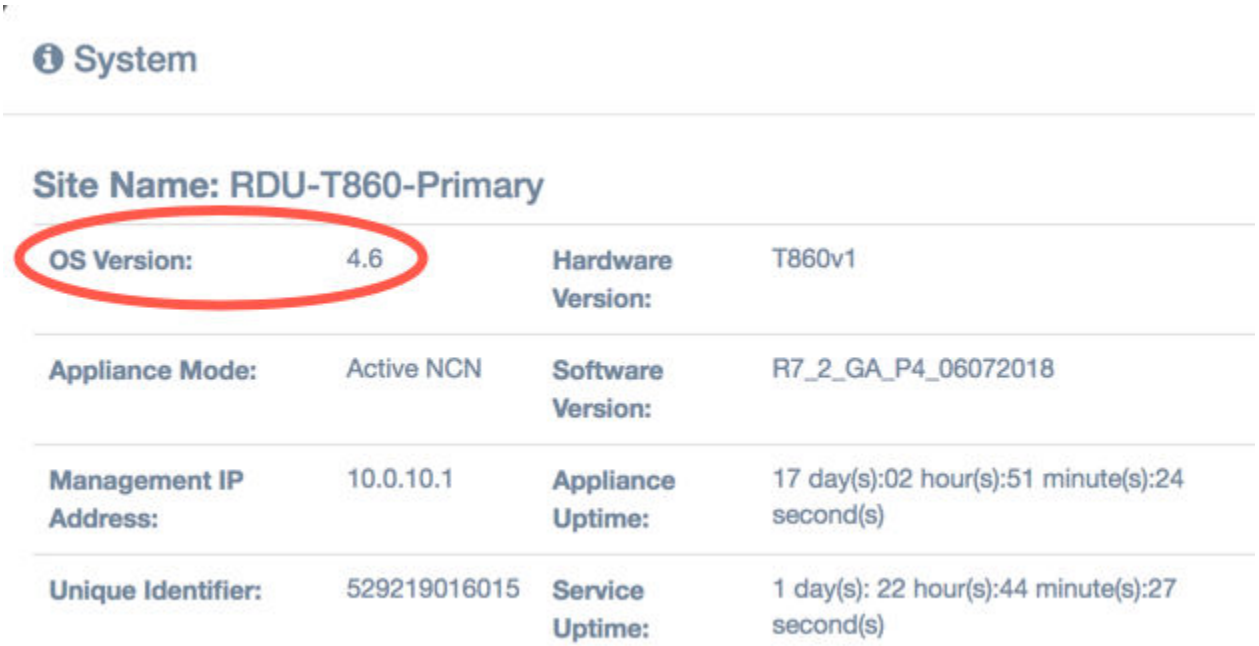
Before starting the OS Partition Update process, ensure that your Oracle SD-WAN Appliance meets the necessary requirements. Oracle SD-WAN Edge OS versions are supported in combination with certain Oracle SD-WAN Appliance models and Oracle SD-WAN Edge software versions. Refer to the appropriate Oracle SD-WAN Edge Release Notes for details.

> **Note:**
>
> Oracle SD-WAN Edge OS Partition Images are quite large (~705-~750 MB). In order to avoid upload timeout, we recommend downloading the image to a local host before uploading it to the Oracle SD-WAN Appliance. If local upload fails, we recommend attempting a remote upload. If both measures timeout, please request a copy of the Oracle SD-WAN Edge OS Partition Image on a USB flash drive from Support.

> **Note:**
>
> Activating a new Oracle SD-WAN Edge OS image requires an appliance reboot and should be scheduled during a maintenance window.

Check Current Talari OS Image

To see which OS image is currently running on your Oracle SD-WAN Appliance, log into the appliance web console and look at the OS Partition Version displayed on the home screen.



If the Talari OS image on your Talari Appliance is older than the OS version required for your operating environment or older than the version you prefer to run, download a newer Talari OS Partition Image or Talari OS Patch from the Talari Support site, or contact Talari Support to request a copy of the new Talari OS Partition Image on a USB flash drive. Once you have obtained the correct image or patch, use this Partition Update chapter or the following Patch Installation chapter, as appropriate, for instructions on how to proceed.

Updating an OS Partition Image

This is an overview of the procedure that is detailed in the following section.

> **Note:**
>
> Note: The following steps must be performed for each Oracle SD-WAN Appliance that you wish to update. There is no centralized mechanism for updating all appliances in your network.

1. Update to Oracle SD-WAN Edge version 8.2.0.0.0 or higher.
2. Upload and install the new OS Partition Image. This will install the new Oracle SD-WAN Edge OS image to the backup OS partition.
3. Switch OS partitions to activate the new OS image on the active OS partition. This will require a reboot of the appliance.
4. After the reboot, verify that the Oracle SD-WAN Edge software version and OS image version are correct, and that any previously established Conduits have been brought back up.

Oracle SD-WAN Appliances have two OS partitions: active and backup. Upon successful completion of an OS partition update procedure, the new Oracle SD-WAN Edge OS image will be installed on the active partition and the old OS image will be moved on the backup.

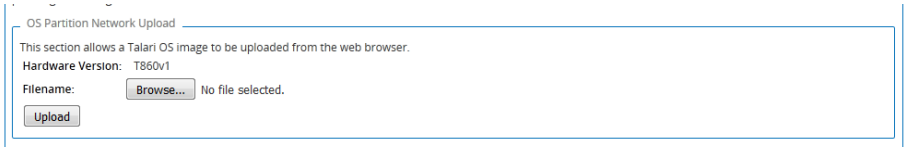
Procedure Details - Network Upload

Follow this procedure if you are able to connect to the Oracle SD-WAN Appliance from your workstation across a network connection.

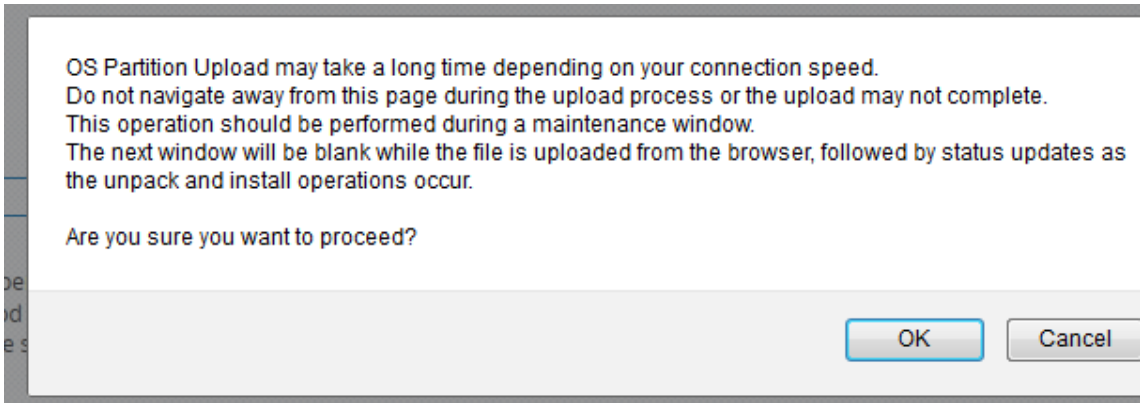
1. Download the OS version you plan to upgrade to (e.g., OS 5.0).
2. Click the link for your specific Oracle Talari Appliance model to download the OS Partition Image file (e.g., `talari_t860v1_OS_Partition_Update_50.img`) to your workstation or to a host that is on the same local network as the Oracle Talari Appliance.

> **Note:**
>
> If your workstation is not on the same local network as the Oracle Talari Appliance, we recommend copying the image to a local host before uploading it to the Oracle Talari Appliance to avoid upload timeout.

3. Log into the appliance web console and locate the OS Partition Network Upload section under **Manage SD-Wan Edge → OS Partition**.

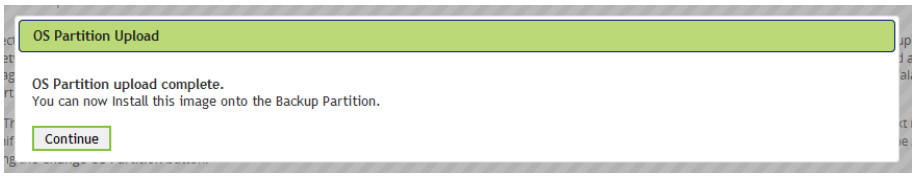


4. Click **Browse...** and locate the new OS Partition Image on your workstation or the local host on which you downloaded it, then click **Upload** to upload the image to the Oracle SD-WAN Appliance. When asked to confirm, click **OK**.

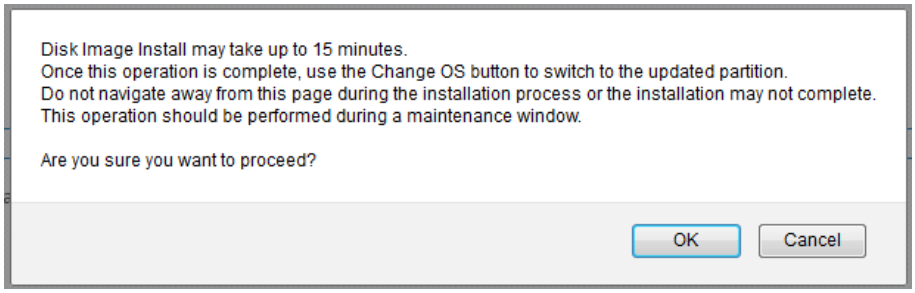


5. Wait for the upload to complete. Do not leave the upload status page until the **Continue** button becomes active. Click **Continue** to return to **Manage SD-WAN Edge → OS Partition**.

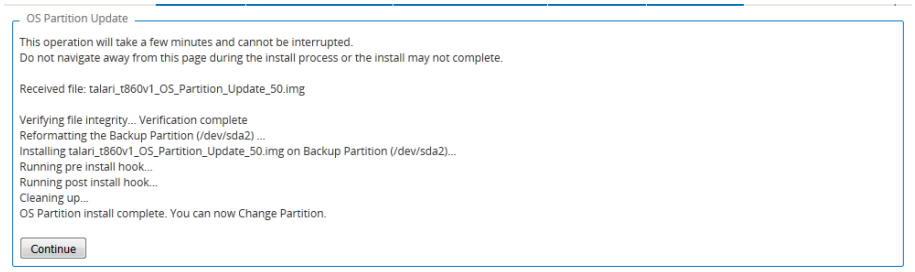
> **Note:**
>
> Upload progress can be monitored via the CLI. Please refer to Appendix A - Monitor OS Upload via CLI for more details.



6. The OS Partition Upload section of the screen now displays an **Install** option. Click **Install** to install the image to the backup OS partition and click **OK** on the confirmation dialog box.

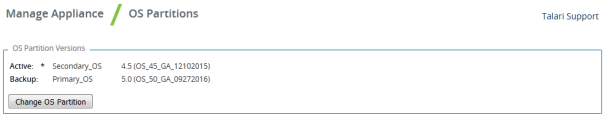


7. Wait for installation to complete. Do not leave the install status page until the **Continue** button is active. Click **Continue** to return to **Manage SD-WAN Edge → OS Partition**.

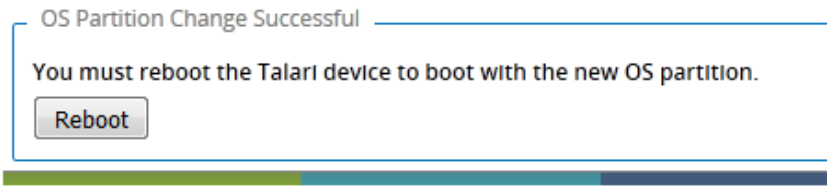


8. The OS Partition Versions section will display the newly installed OS image on the backup partition. Click **Change OS Partition** to swap the backup partition with the active partition. An appliance reboot is required. Click **OK** to confirm.

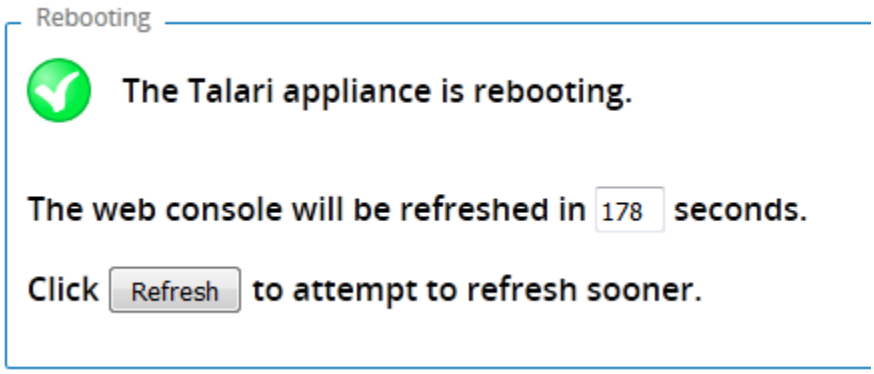
> **Note:**
>
> Activating a new OS image requires an appliance reboot and should be scheduled during a maintenance window.



9. When prompted, reboot the appliance and click **OK** to confirm.

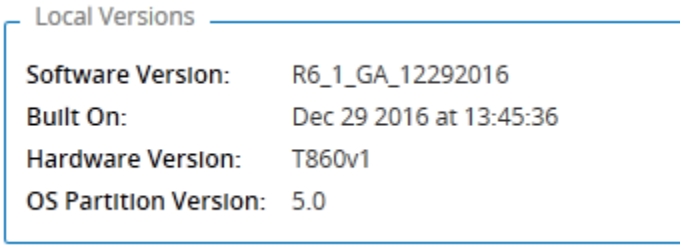


10. Wait for the reboot to complete. This may take several minutes, during which time the appliance will be inaccessible.



> **Note:**
>
> Following the reboot, the old OS image will still be available on the backup OS partition should you need to revert. Please contact Support before attempting to revert to the previous OS image.

11. When reboot is complete, log into the appliance web console and verify that the **Software Version** and **OS Version** are correct, and that any previously established Conduits have been brought back up.

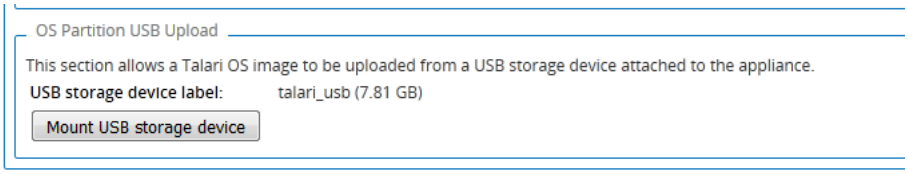


Procedure Details - USB Upload

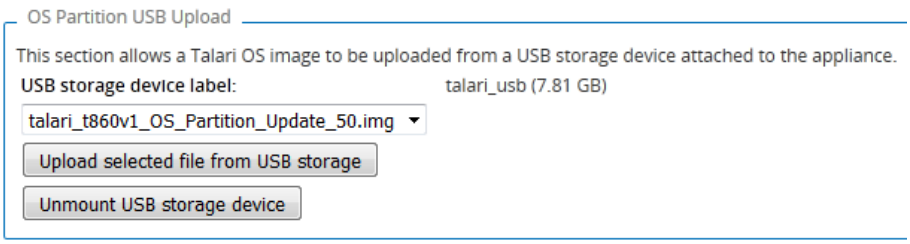
Follow this procedure if you have received a specially-formatted USB flash drive from Support that contains the OS Partition Image.

> **Note:**
>
> The screen shots in this chapter were taken from an T860 Appliance.

1. Connect the USB flash drive to the Oracle SD-WAN Appliance and refresh the **Manage SD-WAN Edge → OS Partition** screen. Locate the OS Partition USB Upload section and click **Mount USB storage device**.

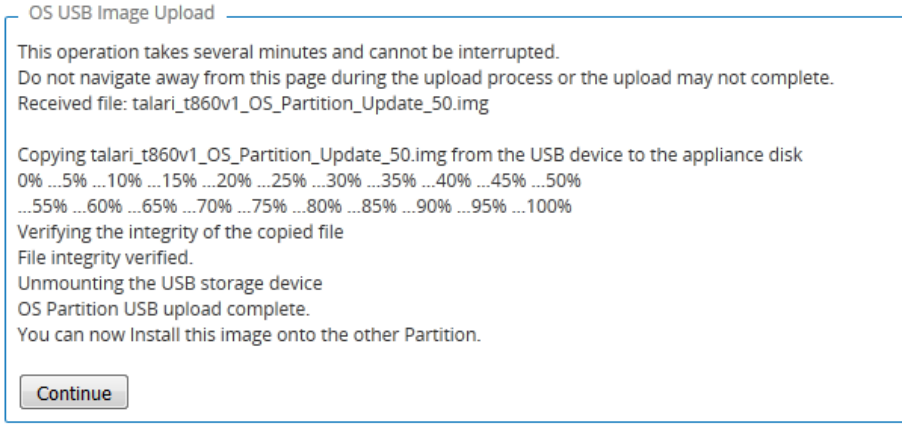


2. Select the new OS Partition Image from the drop-down menu and click **Upload Selected File from USB Storage**.

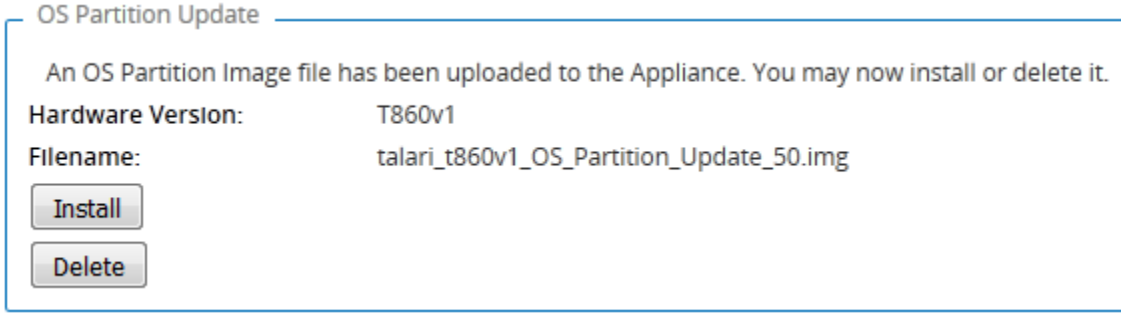


3. Wait for upload to complete. Do not leave the upload status page until the **Continue** button becomes active. Click **Continue** to return to **Manage SD-WAN Edge → OS Partition**.

> **Note:**
>
> Upload progress can be monitored via the CLI. Please refer to Appendix A - Monitor OS Upload via CLI for more details.



4. The OS Partition USB Upload section now displays an **Install** option. Click **Install** to install the image to the backup OS partition and click OK to confirm.

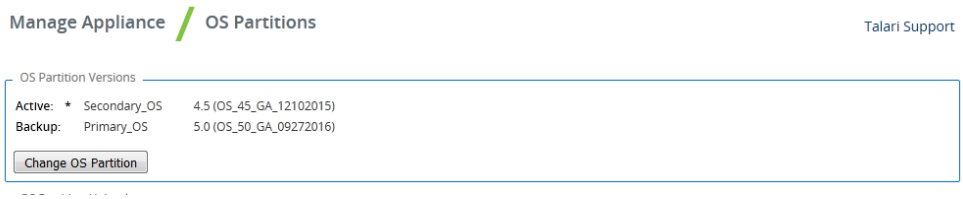


5. Wait for install to complete. Do not leave the install status page until the **Continue** button becomes active. Click **Continue** to return to **Manage SD-WAN Edge → OS Partition.**
6. Remove the USB flash drive from your Oracle SD-WAN Appliance and refresh the **Manage SD-WAN Edge → OS Partition** screen.

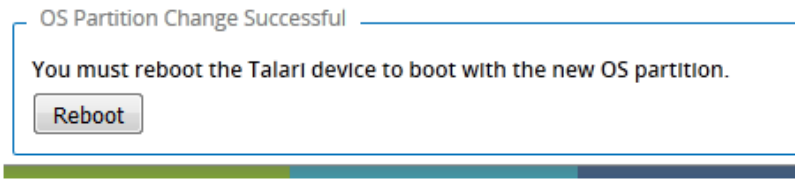
> **Note:**
>
> Removal of the USB flash drive does not require un-mounting or ejecting it. The drive can simply be removed.

7. The OS Partition Versions section will display the newly installed OS image on the backup partition. Click **Change OS Partition** to swap the backup partition with the active partition. An Appliance reboot is required. Click **OK** to confirm.

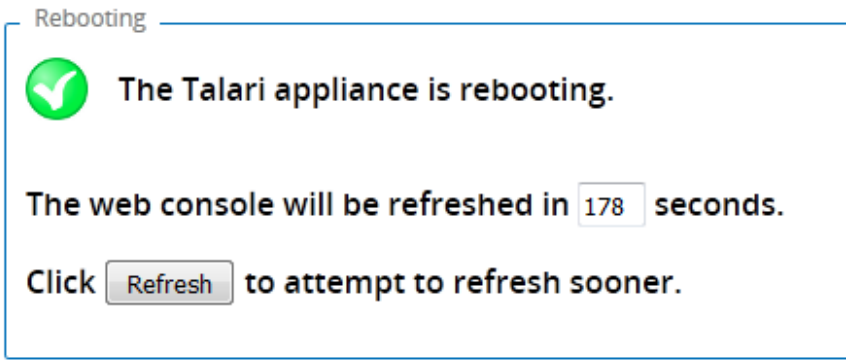
> **Note:**
>
> Activating a new OS image requires an appliance reboot and should be scheduled during a maintenance window.



8. When prompted, reboot the appliance and click **OK** to confirm.



9. Wait for reboot to complete. This may take several minutes, during which time the appliance will be inaccessible.



> **Note:**
>
> Following the reboot, the old OS image will still be available on the backup OS partition, should you need to revert. Please contact Support before attempting to revert to the previous OS image.

10. When reboot is complete, log into the appliance web console and verify that the Edge Software version and OS image version are correct, and that any previously established Conduits have been brought back up.

3
OS Patch Installation

This chapter illustrates the process of installing an Oracle SD-WAN Edge OS Patch on an Oracle SD-WAN Appliance with OS 4.6 on its active OS partition, but the steps described apply to all patch installations, regardless of OS version.

Oracle SD-WAN Edge OS Patches are uploaded and installed directly to the active OS partition. They are versioned, with each new patch building on the previous version. For this reason, OS Patches cannot be explicitly downgraded; however, if the active and backup OS partitions are switched after a patch has been installed on the active OS partition, the patch is preserved but no longer active.

> **Note:**
>
> Oracle SD-WAN Edge OS Patches can only be installed on top of OS 4.1 and later versions.

> **Note:**
>
> An OS Patch can only be installed on top of its specified base version (e.g., OS Patch 4.6P1 can only be installed on top of OS 4.6).

Procedure Overview

This is an overview of the procedure that is detailed in the following section.

1. Upload and install the Oracle SD-WAN Edge OS Patch from your local workstation to Oracle SD-WAN Edge. This will install the patch to the active OS partition.
2. If prompted to do so, reboot the Oracle SD-WAN Appliance in order to activate the patch. This is only required for patches that update critical system libraries.
3. After installation is complete, verify that the OS Partition version is correct (e.g., 4.6P1) and that any previously established Conduits are still up.

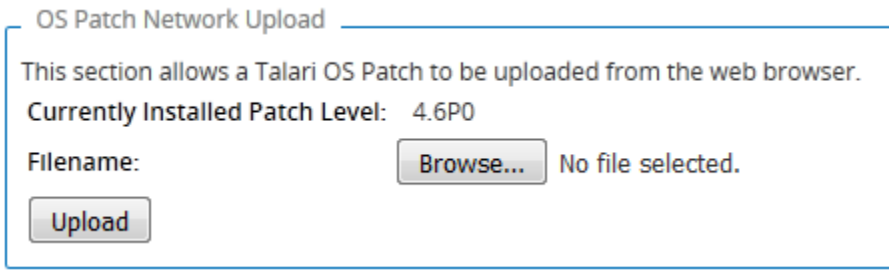
Procedure Details - Network Upload

Follow this procedure if you are able to connect to the Oracle SD-WAN Appliance from your local workstation across a network connection.

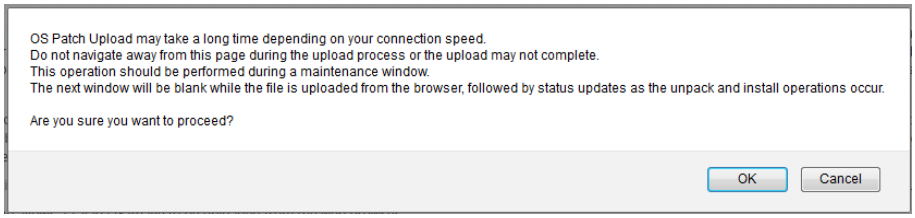
1. Download the OS version you want to patch (e.g., **OS 4.6**).
2. Click the link for the patch you are interested in to download the OS Patch file (e.g., `talari-os-patch-4.6P1.tar.gz`).

> **Note:**
>
> Unlike OS Partition Images, patches are not tied to specific Oracle Talari Appliance models.

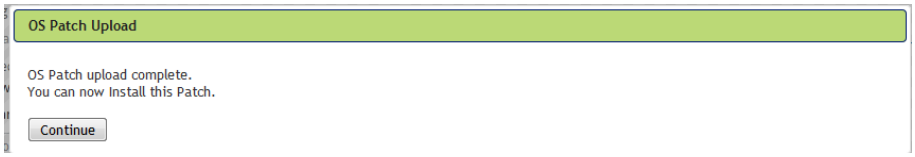
3. Log into the appliance web console and locate the OS Patch Network Upload section under **Manage Appliance → OS Partitions**. If no patches have been previously installed, the base OS version (e.g., **4.6P0**) is displayed as the Currently Installed Patch Level.



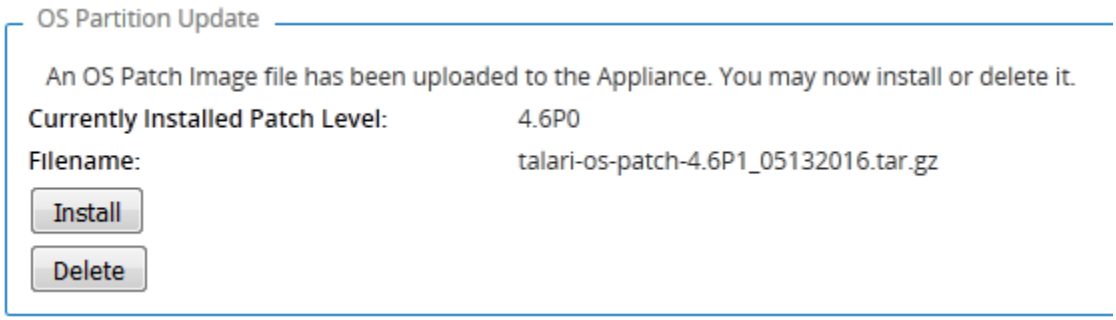
4. Click **Browse...** and locate the OS Patch on your local workstation, then click **Upload** to upload the image to the appliance. When asked to confirm, click **OK**.



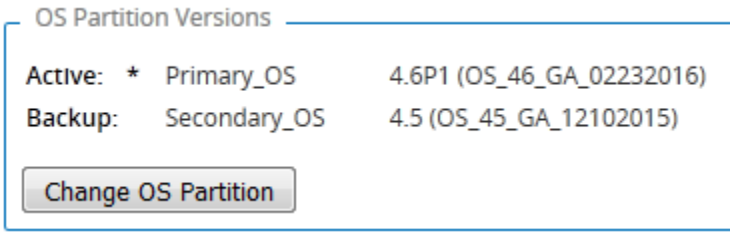
5. Wait for the upload to complete. Click **Continue** to return to **Manage Appliance → OS Partitions**.



6. The OS Partition Update section of the screen now displays an **Install** option. Click **Install** to install the patch to the active OS partition and click **OK** on the confirmation dialog box.

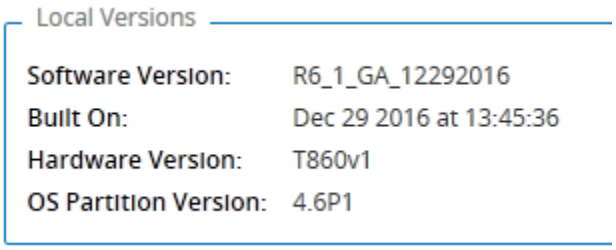


7. Wait for installation to complete. You will then be returned automatically to **Manage Appliance → OS Partitions**, where the patch version (e.g., **4.6P1**) will now be displayed as the active version in the OS Partition Versions section.



> **Note:**
>
> If prompted to do so, reboot the Oracle SD-WAN Appliance in order to activate the patch. This is only required for patches that update critical system libraries and should be scheduled during a maintenance window.

8. After installation is complete, verify on the appliance home page that the OS Partition version is correct (e.g., **4.6P1**) and that any previously established Conduits are still up.



A

Monitor OS Upload via CLI

To monitor the progress of an OS image upload, SSH into the Oracle SD-WAN Appliance and issue the command `cd /var/tmp/`. Then issue the `ls -al` command periodically to monitor the growth of the temporary file.

```
talariuser@NYC:~# cd /var/tmp/
talariuser@NYC:/var/tmp# ls -al
total 4444
drwxrwxrwt  2 root     root        4096 Apr 15 09:39 .
drwxr-xr-x 13 root     root        4096 Feb 23 12:20 ..
-rw-------  1 www-data www-data 4530176 Apr 15 09:40 CGItemp11970
talariuser@NYC:/var/tmp# ls -al
total 34088
drwxrwxrwt  2 root     root        4096 Apr 15 09:39 .
drwxr-xr-x 13 root     root        4096 Feb 23 12:20 ..
-rw-------  1 www-data www-data 34856960 Apr 15 09:40 CGItemp11970
talariuser@NYC:/var/tmp# ls -al
total 114180
drwxrwxrwt  2 root     root        4096 Apr 15 09:39 .
drwxr-xr-x 13 root     root        4096 Feb 23 12:20 ..
-rw-------  1 www-data www-data 116793344 Apr 15 09:40 CGItemp11970
talariuser@NYC:/var/tmp#
```

When the upload is complete, issue the `ls /home/talariuser/install/image/` command in order to display the contents of that folder. If the upload was successful, the OS image zipped tar file will be displayed (e.g., talari-t860v1-root-45.tgz).

B
FAQ

1. Who Should Update to Oracle SD-WAN Edge OS 7.0?

   Customers who would like to take advantage of the enhanced security and stability of Oracle Linux based Oracle SD-WAN Edge OS 7.0 and who are willing to run Oracle SD-WAN Edge 8.2 GA (or later) on their network. Please refer to Oracle SD-WAN Edge OS 7.0 Release Notes for more details.

2. Sometimes, depending on settings, the browser will cache the old security certificate and prevent the user from accepting a new one. Deleting the cache on the browser will resolve the issue and can be done by typing CTL + SFT + DEL.

3. OS Partition Failure – Next Steps?

   On the rare occasion that the OS Partition Update process does not complete, please capture a diagnostics file and contact Support:

   - SSH into the appliance.
   - Issue the `tcon` command to acquire the console.
   - Issue the `diagnostics` command from the console and wait for process to complete.

```
talariuser@NYC:~# tcon
Console to Talari acquired


NYC>diagnostics
Creating the APN_Diagnostics.log file
Running diagnostics commands.
Packaging up the diagnostics results
All done.
The diagnostics file is in /home/talariuser/backup/diagnostics//home/talariuser/
backup/diagnostics//NYC-2016-4-15-10-9-diagnostics.tar.gz
```

> **Note:**
>
> After the diagnostics file is created, you will be asked if you would like to automatically send the file to Support via FTP. This is optional.