

AOS-W 8.6.0.0



Migration Guide

Copyright Information

Alcatel-Lucent and the Alcatel-Lucent Enterprise logo are trademarks of Alcatel-Lucent. To view other trademarks used by affiliated companies of ALE Holding, visit:

<https://www.al-enterprise.com/en/legal/trademarks-copyright>

All other trademarks are the property of their respective owners. The information presented is subject to change without notice. Neither ALE Holding nor any of its affiliates assumes any responsibility for inaccuracies contained herein. (2019)

Open Source Code

This product includes code licensed under the GNU General Public License, the GNU Lesser General Public License, and/or certain other open source licenses.

Contents	3
Revision History	4
About this Guide	5
Related Documents	5
Supported Browsers	5
Contacting Support	5
Migration Overview	7
Introduction	7
Migration Strategy	7
Migration Tool Installation and Login	11
System Requirements to Install Migration Tool	11
Installing the Migration Tool	11
Logging into Migration Tool	16
Using the Migration Tool	18
Tasks Performed on Migration Tool	18
Preview Configuration	18
Prerequisites for Migrating to AOS-W 8.x	18
Migrate AOS-W 6.x to AOS-W 8.x	19
Orchestrate Mobility Controller Virtual Appliance	27
Perform Other Operations	29
Downgrade AOS-W 8.x to AOS-W 6.x	29
Known Issues and Limitations	30

Revision History

The following table lists the revisions of this document.

Table 1: *Revision History*

Revision	Change Description
Revision 01	Initial release.

This document describes the strategy and procedure for migrating existing Alcatel-Lucent Switch deployments to Mobility Master-based deployment.

This chapter includes the following sections:

- [Related Documents on page 5](#)
- [Supported Browsers on page 5](#)
- [Contacting Support on page 5](#)

Related Documents

The following guides are part of the complete documentation for the Alcatel-Lucent user-centric network:

- *AOS-W 8.6.0.0 Release Notes*
- *AOS-W Getting Started Guide*
- *AOS-W User Guide*
- *AOS-W CLI Reference Guide*
- *AOS-W API Guide*
- *Alcatel-Lucent Mobility Master Licensing Guide*
- *Alcatel-Lucent Virtual Appliance Installation Guide*
- *Alcatel-Lucent Mobility Master Hardware Appliance Installation Guide*
- *Alcatel-Lucent Wireless Access Point Installation Guide*

Supported Browsers

The following browsers are officially supported for use with the AOS-W WebUI:

- Microsoft Internet Explorer 11 on Windows 7 and Windows 8
- Firefox 48 and higher on Windows 7, Windows 8, Windows 10 and Mac OS
- Apple Safari 8.0 or later on Mac OS
- Google Chrome

Contacting Support

Table 2: *Contact Information*

Contact Center Online	
Main Site	https://www.al-enterprise.com
Support Site	https://businessportal2.alcatel-lucent.com
Email	ebg_global_supportcenter@al-enterprise.com
Service & Support Contact Center Telephone	

Contact Center Online	
North America	1-800-995-2696
Latin America	1-877-919-9526
EMEA	+800 00200100 (Toll Free) or +1(650)385-2193
Asia Pacific	+65 6240 8484
Worldwide	1-818-878-4507

Introduction

Mobility Master is the next-generation Switch architecture that distinctly separates the management, control, and forwarding functions. It also provides centralized management functions across all deployment types. To move existing deployments to Mobility Master, management data from existing Switches need to be migrated to Mobility Master and populated on it in the format that conforms with the new architecture.

Manually doing that task requires considerable resources and is error prone. To overcome these issues, Mobility Master provides an interactive migration tool to migrate the AOS-W 6.x Switches deployed in various scenarios to a managed device under Mobility Master. The supported deployment scenarios are as follows:

- Migrating Master-Local setup to Mobility Master
- Migrating All-Master setup to Mobility Master
- Migrating Master-Local setup to Master Controller Mode in AOS-W 8.x
- Migrating to a stand-alone Switch

Multiple deployments of the same type or different types can be migrated to the same Mobility Master. For instance, multiple Master-Local and All-Master deployments can be consolidated under a single Mobility Master.

Migration Strategy

The migration tool provides a Graphical User Interface (GUI) to guide the users through the following migration steps:

1. Collects the existing deployment information from the user either manually or through an XML file.
2. Logs on to the Switches running AOS-W 6.x and collects the required data.
3. Exports the data to Mobility Master.
4. Programs the Mobility Master to serve the devices after migration.
5. Programs the migrated devices to start communicating with Mobility Master.

The same process is applicable for All-Master and Stand-alone Switch migration.

The migration tool fetches the following key management data from the Switches in an existing deployment to Mobility Master:

- Configuration
- Databases
- Certificates
- Licenses

The subsequent sections describe the migration of each management component from the existing deployment to Mobility Master.

Configuration Migration

Configurations from Switches running AOS-W 6.x are populated in the Mobility Master configuration hierarchy. The subsequent sections describe how the configuration from various deployments are mapped to the nodes

in the configuration hierarchy.

Master-Local Deployment

A common node is created for a Master-Local deployment. The global configurations from the master Switch are applied to the common node irrespective of whether the master Switch is migrated or not. The local Switches are migrated as managed devices under the common node with the respective local configurations.

Note that for the migration purpose, configurations from various deployments are migrated as is after the required configuration upgrades across versions. Configurations are not optimized during migration to limit the number of variables during the migration process.

All-Master Deployment

A unique node is created for each master Switch under a common node. These nodes are populated with the global configurations from the respective devices. Individual master Switches are then added as managed devices along with the local configuration under the corresponding nodes.

Stand-alone Switch Deployment

Switches from any topology in AOS-W 6.x can be migrated as a stand-alone Switch in AOS-W 8.x. A migrated stand-alone Switch resides under the node path **/mm/mynode**, where **/mm** node is populated with the global configuration and the device under **/mm/mynode** is populated with the local configuration.

Database Migration

The following databases are migrated to Mobility Master from the Switches in the existing deployment:

- Whitelist database—From the existing deployment, the whitelist database in the master Switch alone is migrated because the whitelist database is always synchronized between master and local Switches.
- Local User database—The local user database from the master Switch alone is migrated to Mobility Master. The local user database on the other Switches are retained with the individual Switches. After migration, the master user authentication requests are processed by Mobility Master. The local user authentications continue to be processed the same way.
- WMS Database—Client related entries are migrated to this database. The WMS database is a one time migration. From second time onwards, the migration tool does not migrate the WMS DB.
- GAP Database—Global AP entries are migrated to this database. While downgrading, these entries are removed.

Postgres Database

The MySQL databases used in the AOS-W 6.x and earlier release trains have been migrated to the Postgres database for the Mobility Master. The Postgres database infrastructure is available on both hardware and x86-based Switches.

The branch whitelist that is maintained in the MySQL database is translated to a managed device whitelist on Mobility Master. The managed device whitelist is not maintained in a database. Instead, the whitelist is represented by the corresponding devices that are added to the configuration hierarchy.

The Mobility Master uses the Postgres database to store and maintain application data and perform functions in the UI:

Table 3: Postgres Database Usage in Mobility Master Applications

Application	Persistence	UI Functionality
WLAN Management System (WMS)	<ul style="list-style-type: none"> ■ Maintains a list of previously classified rogues and valid APs 	<ul style="list-style-type: none"> ■ Provides visibility on rogues and IDS events ■ Provides visibility on locations and neighbor APs ■ Executes relational operations on multiple tables
STM	<ul style="list-style-type: none"> ■ Provides visibility on previously connected APs through a global AP table across all reboots ■ Maintains a blacklisted client table 	<ul style="list-style-type: none"> ■ Displays a combined AP and radio table under the Web Monitor page ■ Executes relational operations on AP and radio tables
Auth	<ul style="list-style-type: none"> ■ Maintains UserDB for the internal user database ■ Maintains whitelistDB for eligible CAPs, RAPs, and Switches ■ Maintains a DeviceID table to designate a device type to all connected devices ■ Maintain SurvivalDB for cached credentials 	<ul style="list-style-type: none"> ■ Provides the configuration for UserDB/WhitelistDB ■ Displays the DeviceID table
AirGroup Manager	<ul style="list-style-type: none"> ■ Stores policies 	N/A
License Manager	<ul style="list-style-type: none"> ■ Stores licenses 	N/A
IAP Manager	<ul style="list-style-type: none"> ■ Maintains information on IAPs 	<ul style="list-style-type: none"> ■ Provides VPN concentrator functionality
Managed Device	<ul style="list-style-type: none"> ■ Maintains the state and information on each managed device 	N/A

Certificates Migration

The master and local Switches use one of the following methods to authenticate each other:

- Pre-Shared Key (PSK)
- Custom Certificate
- Factory Certificate

When PSK is used, the keys and information about each Local Switch is migrated from the master Switch to the Mobility Master. So, the local Switches continue to communicate with the new master (Mobility Master) the same way they used to communicate with their previous master Switch.

In case of custom certificate, the CA certificates and information about each Local Switch are migrated from the master Switch to the Mobility Master. For deployments based on factory certificates, Mobility Master is programmed to authenticate managed devices using factory certificate.

Mobility Master cannot be authenticated using Alcatel-Lucent factory certificate because it does not have TPM to store factory certificate. The migration tool allows you to select one of the following options for the managed device to authenticate Mobility Master:

- Custom CA certificate
- Mobility Master's self-signed certificate

If you select custom CA certificate, you need to upload the custom CA certificate file on the migration tool server. You may optionally provide the corresponding server certificate file, if the certificate is not already uploaded on the Mobility Master. If you select self-signed certificate, then the migration tool automatically fetches that from the Mobility Master. The migration tool loads the Mobility Master's self-signed certificate or custom CA certificate on the managed device and programs the node to use it for authenticating Mobility Master. It also programs the Mobility Master to present the corresponding certificate.

License Migration

The tool provides an option to automate the process of migrating the AOS-W 6.x licenses to AOS-W 8.x licenses. The tool uses the APIs provided by My Network Portal (MNP) to communicate with the MNP license server.

System Requirements to Install Migration Tool

Listed below are the minimum hypervisor host system requirements for AOS-W to run as a guest virtual machine (VM) and the resources required for the VM to be functional:

- Quad-core Core i5 1.9 GHz processors with hyper threading enabled
- 8 GB RAM

Migration Tool VM Requirement

Listed below are the minimum resources required for the migration tool VM to function:

- 1 CPU
- 2 GB memory
- 16 GB disk space
- 1 virtual NICs
- Minimum 2 physical NIC ports on the hypervisor.

The hypervisor host should not be oversubscribed in terms of number of VMs configured on a host as it adversely impacts the functionality and performance of AOS-W.

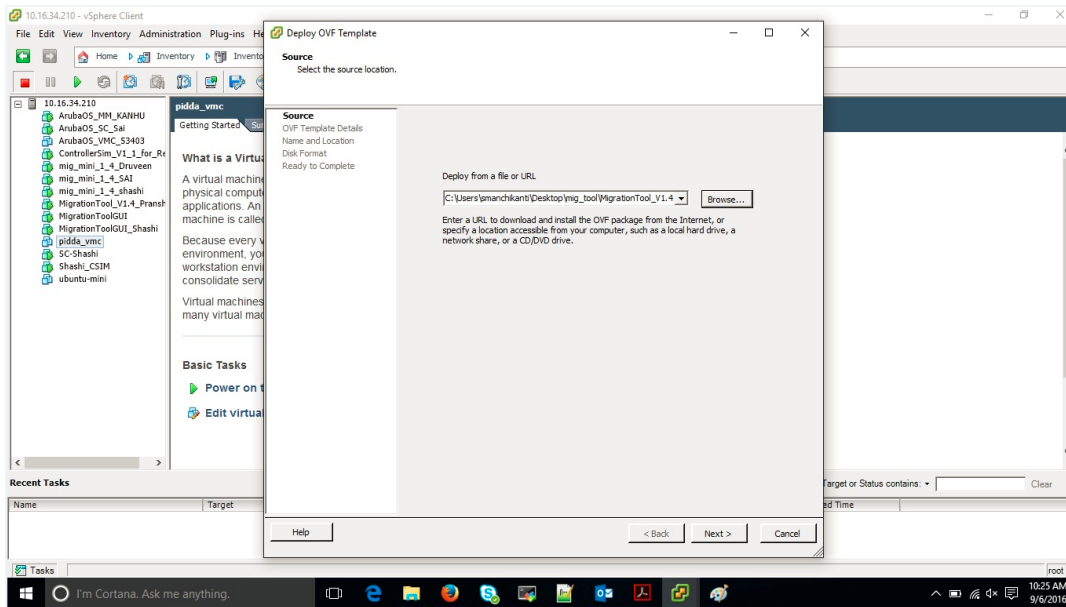
The migration tool provides a Graphical User Interface (GUI) to execute the migration process. The tool is available as *MigrationTool_V3.2.0.3.ova* on the customer support site.

Installing the Migration Tool

Install the migration tool using the following procedure:

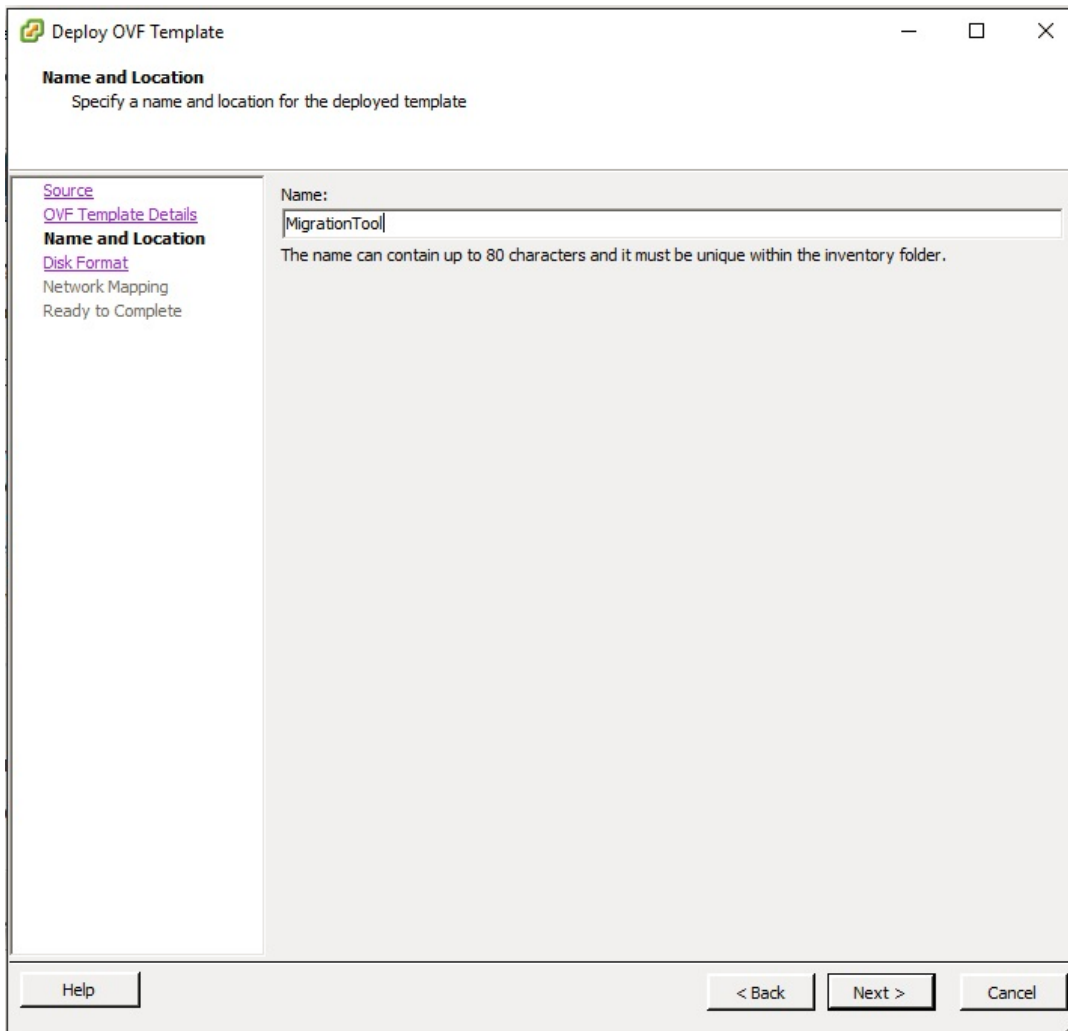
1. Download the *MigrationTool_V3.2.0.3.ova* file from support.esd.alcatel-lucent.com.
2. Open the vSphere client and select **File > Deploy > OVF Template**.

Figure 1 Deploy OVA File



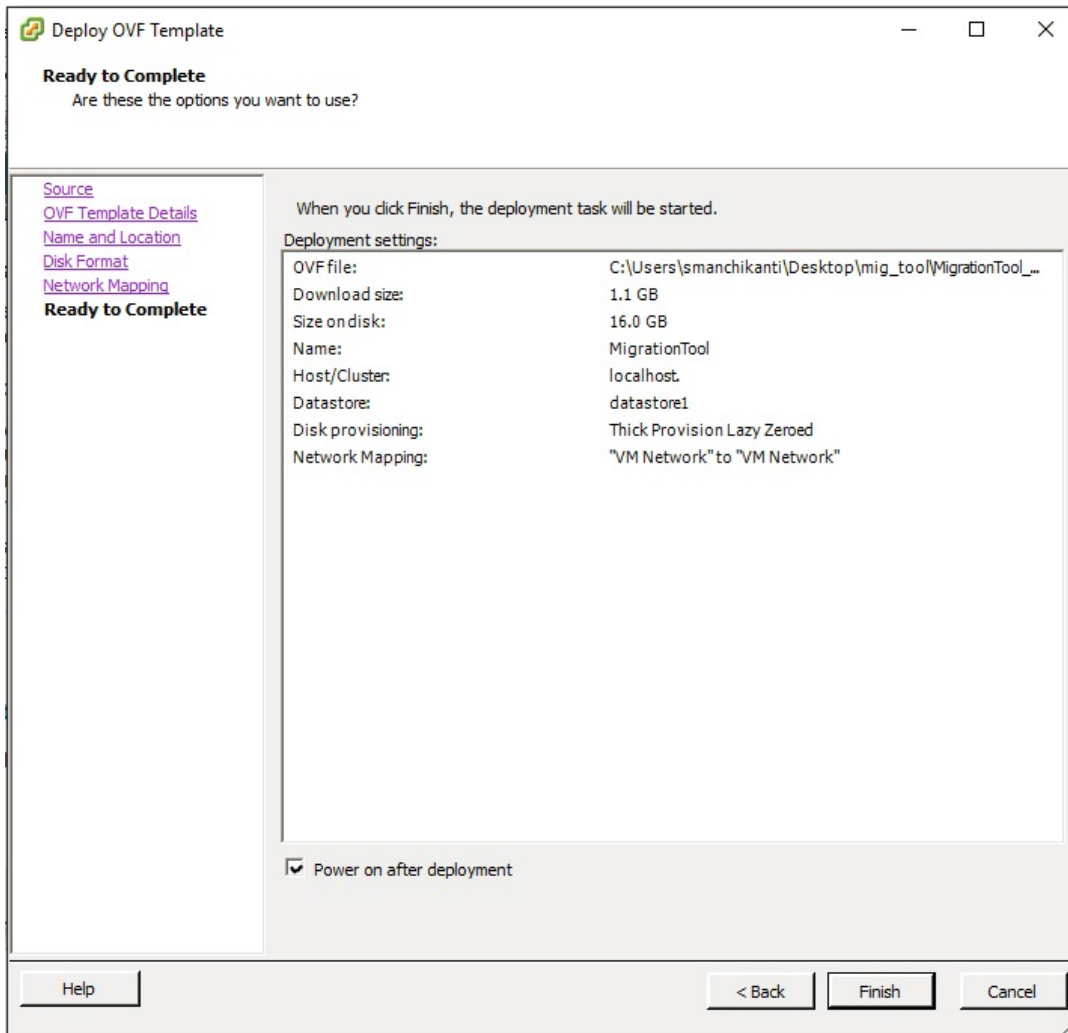
3. Browse and open the *MigrationTool_V3.2.0.3.ova* file from the downloaded path and click **Next**. The **Name and Location** screen appears.

Figure 2 *Name and Location*



4. Enter a name for the migration tool VM instance and click **Next**.
5. Click **Next** in the **Disk Format** screen.
6. Select the appropriate network mapping details in the **Network Mapping** screen.
7. Select the **Power on after deployment check** box and then click **Finish** in the **Ready to Complete** screen.

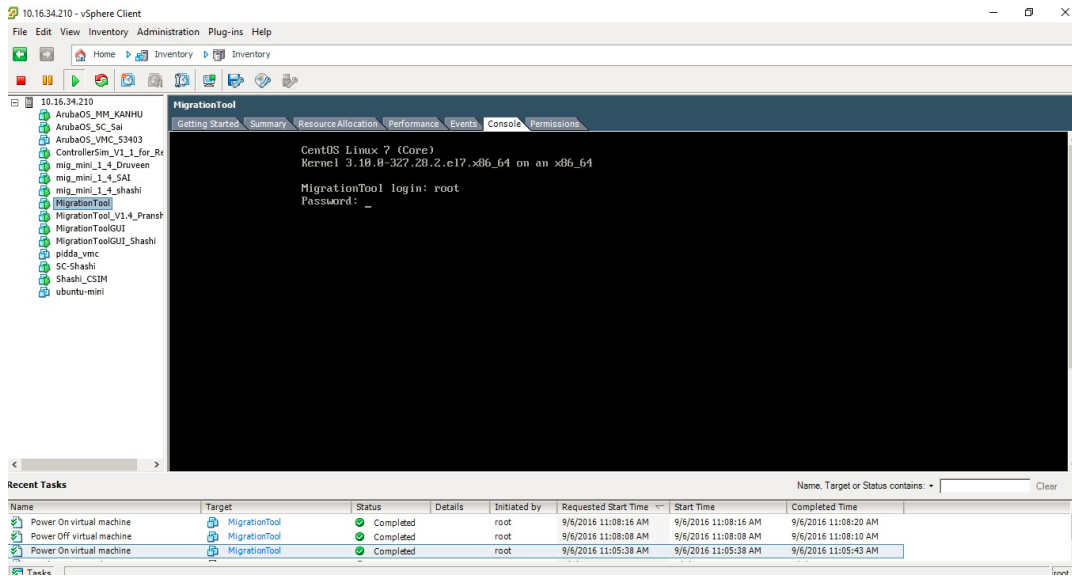
Figure 3 *Finish and Power-on*



The tool powers on after a successful deployment.

8. Select the **Console** tab and login to the VM using the credentials root / root123.

Figure 4 Migration Tool Console Login

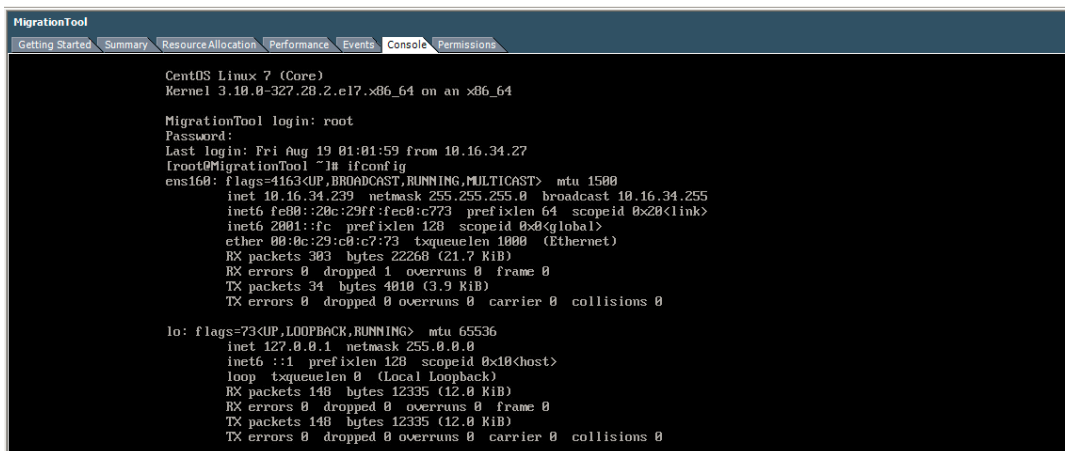


9. Note down the IP address assigned to the tool VM (ens160) by DHCP.
 - a. If not assigned by DHCP, configure an IP address for the ethernet interface using the **ifconfig** command. The following sample command configures 182.168.1.1 as the static IP address for the ethernet interface.

```
ifconfig ens160 182.168.1.1 netmask 255.255.255.0
```
 - b. Configure the default gateway, if it is not configured by DHCP. The following sample command configures 192.168.1.254 as the default gateway.

```
route add default gw 192.168.1.254 ens160
```

Figure 5 Migration Tool IP Address



Ensure that the IP address is reachable by the Mobility Master and all the Switches to be migrated.

10. Configure the DNS server using the following command as a root user, if it is not configured by DHCP.

```
echo "nameserver <dns-ip>" >> /etc/resolv.conf
```
11. Execute the following command to ensure that the My Networking Portal (MNP) is reachable by the tool:

```
ping https://cf.passport.hpe.com/
```

12. Login to the IP address assigned to the migration tool using SSH as a root user.

13. (Optional) Navigate to *Migration/Image* folder and copy the following image files using SCP to automatically populate the file names in the tool at the time of migration :

- The AOS-W 8.x image to which you are migrating the AOS-W 6.x setup.
- All the AOS-W 6.x images in the setup that require migration.



Alternately, you can also upload the image file directly using the migration tool GUI at the time of migration.

Figure 6 Copy Images

```
[root@MigrationTool ~]# cd Migration/Image/
[root@MigrationTool Image]# scp root@10.16.34.246:/root/Migration/Image/ArubaOS_MM_8.0.0.0_55647 ArubaOS_MM_8.0.0.0_55647
root@10.16.34.246's password:
ArubaOS_MM_8.0.0.0_55647
[root@MigrationTool Image]#
```

100% 215MB 107.4MB/s 00:02

0 186 1 181 2 root@MigrationTool:~ 3 MM-158 4 Linux 5 71 6 75 7 76 8 root@MigrationTool:~ root@MigrationTool:~/Migration/Image 11:09

You can now launch the migration tool from a browser to initiate the migration process. For more information, see [Logging into Migration Tool on page 16](#).

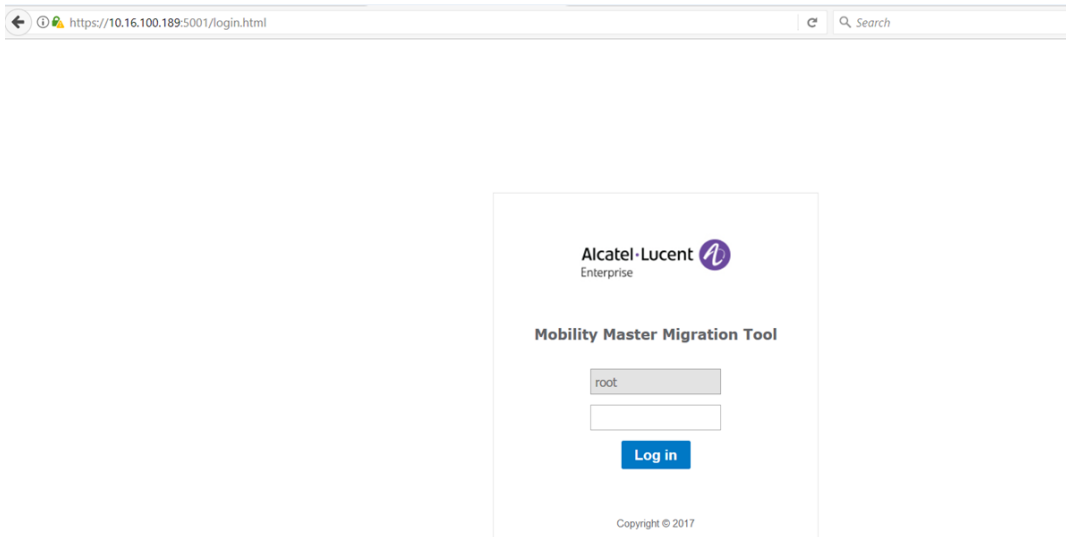
Logging into Migration Tool

Follow the steps below to launch the migration tool installed on your VM:

1. Open the migration tool VM using **https://<Tool_IP_address>:5001** on any browser. The **<Tool_IP_address>** refers to the IP address assigned to the migration tool VM instance.

The web login page of the migration tool appears as shown in the following figure:

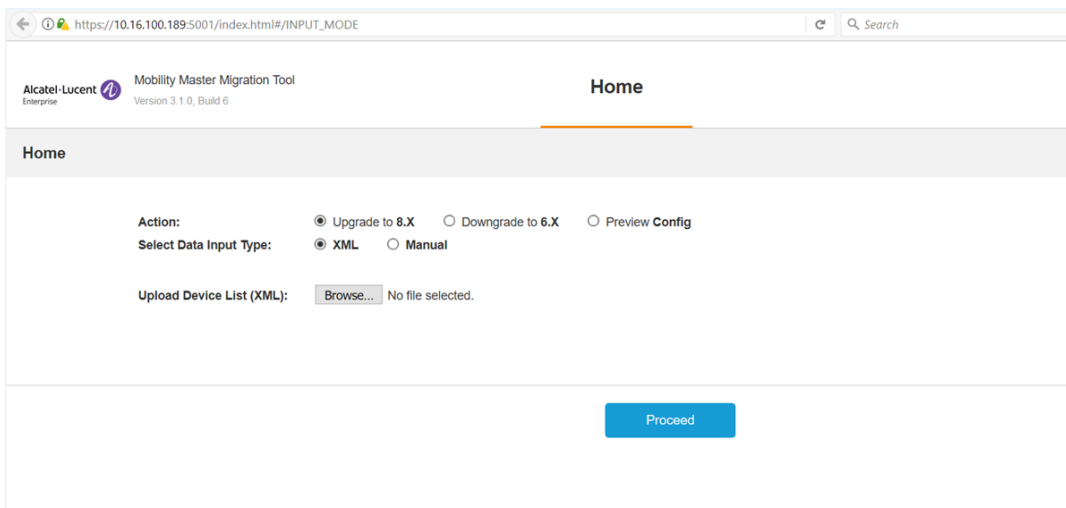
Figure 7 Migration Tool Login Page



Do not refresh the browser throughout the migration process to avoid loss of information.

2. Enter the root credentials (username: **root** and password: **root123**) to log in to the **Migration Tool** page. The **Home** screen appears as shown in [Figure 8](#).

Figure 8 Migration Tool Home Page



Tasks Performed on Migration Tool

The migration tool allows you to perform the following tasks:

- Preview Configuration Before Migration
- Migrate from AOS-W 6.x to AOS-W 8.x
- Orchestrate Mobility Controller Virtual Appliance
- Perform Other Operations
- Downgrade from AOS-W 8.x to AOS-W 6.x

This topic covers the following sections:

- [Preview Configuration on page 18](#)
- [Prerequisites for Migrating to AOS-W 8.x on page 18](#)
- [Migrate AOS-W 6.x to AOS-W 8.x on page 19](#)
- [Orchestrate Mobility Controller Virtual Appliance on page 27](#)
- [Perform Other Operations on page 29](#)
- [Downgrade AOS-W 8.x to AOS-W 6.x on page 29](#)
- [Known Issues and Limitations on page 30](#)

Preview Configuration

Starting from AOS-W 8.2.0.0, the migration tool allows you to do a preview of the configuration file in AOS-W 8.x before migrating an AOS-W 6.x setup. The tool takes the configuration file from an AOS-W 6.x setup to be migrated as an input and generates the corresponding AOS-W 8.x configuration file. This gives you an idea about how your configuration would look like in AOS-W 8.x even before you actually migrate.

Previewing the Configuration Using the Migration Tool

To preview the configuration using the tool, follow the procedure given below:

1. Login to the migration tool by following the steps provided in [Logging into Migration Tool on page 16](#).
2. Select the **Preview Config** option.
3. Browse and select a valid AOS-W 6.x configuration file.
4. Click **Convert&Download** to generate and download configuration files that would be created in the AOS-W 8.x setup after the migration.

On processing, a tar is created which contains *default-local.cfg* and *default-global.cfg* files.

- *Default-global.cfg* gets applied on `/md/<creatednode>`.
- *Default-local.cfg* gets applied on `/md/<creatednode>/<mac-address>`.

Prerequisites for Migrating to AOS-W 8.x

The prerequisites for migrating the Switches in existing deployments to Mobility Master are as follows:

- Ensure that the devices to be migrated are running AOS-W 6.x version.

- Ensure that the Switches to be migrated are reachable from the server on which the migration tool is running as well as the Mobility Master.
- Update any change in access point (AP) provisioning information, if the master Switch is not migrated to Mobility Master. APs might be receiving the master information from DHCP, DNS, ADP, or manual provisioning. However, it is recommended that you update any changes before starting the migration procedure.
- If the master Switch from a Master-Local deployment is not migrated to Mobility Master, ensure that no APs terminate on the master Switch even in any failover scenario.
- For migrating a Master-Local deployment to Master Controller Mode, ensure that the master Switch does not terminate any APs. A Switch in Master Controller Mode cannot terminate APs.
- To migrate a Master-Local deployment to Master Controller Mode, ensure that the master Switch in the AOS-W 6.x setup is a OAW-4030 or OAW-4x50 Series Switch. The Switch platforms such as OAW-4010, OAW-4024, and OAW-40xx Series Switches cannot be migrated as a master Switch in Master Controller Mode. However, you can migrate these Switches as managed devices in this mode. The same platform specifications are applicable for migrating a stand-alone Switch to Master Controller Mode.
- Ensure that the uplink port on the AOS-W 6.x set up is configured as **trusted-port**.
- Ensure that the Mobility Master Virtual Appliance is installed and is running on a reachable server in the same network, unless you are using the migration tool for orchestration.
- Ensure that the **controller-ip vlan/controller-ipv6 vlan** and **ip default-gateway** are configured on the Switch before it is migrated.
- Ensure that the Switch IP address is not the loopback IP address.
- In a VRRP setup, ensure that the VRRP priority value is set at a higher value for the master Switch.
- Ensure that the hostname of the Switch to be migrated does not contain special characters, such as # or >.
- Ensure that the Switch does not have **cfgfile** variable set in CP Boot.
- Ensure that you have internet access for the tool to access the WebUI of the Switches that are migrated.
- Ensure that you have a purchased license for ESXi server if you want to set up a VM using ESXi server.

Migrate AOS-W 6.x to AOS-W 8.x

The migration tool supports the following migration scenarios:

- [Migrating Master-Local Setup to Mobility Master Virtual Appliance on page 19](#)
- [Migrating All-Master Setup to Mobility Master Virtual Appliance on page 21](#)
- [Migrating Master-Local Setup to Mobility Master Hardware Appliance on page 23](#)
- [Migrating All-Master Setup to Mobility Master Virtual Appliance on page 21](#)
- [Migrating Master-Local Setup to Master Controller Mode in AOS-W 8.x on page 25](#)
- [Migrating to Stand-alone Switch on page 26](#)

Migrating Master-Local Setup to Mobility Master Virtual Appliance

Follow the steps below to migrate a Master-Local setup in AOS-W 6.x to AOS-W 8.x Mobility Master Virtual Appliance:

1. Login to the migration tool by following the steps provided in [Logging into Migration Tool on page 16](#).
2. Select the **Upgrade to 8.X** option in the **Action** field.
3. Select **Manual** for first time migration. The **Add Details** wizard opens.



You can use the **XML** data input type only if you have the XML file with the AOS-W 6.x setup details. You have an

option to download the XML file after the first migration which you can edit for later use. For more information, see [Perform Other Operations on page 29](#).

4. Specify the following information in the **Deployment Mode** screen:
 - a. Select the IP address of the migration tool in the **IP address** field
 - b. Select **VMM** from the **Migration mode** drop-down list.
 - c. Select **Master-Local** from the **Deployment mode** drop-down list.
 - d. Click **Next**. The **Orchestration** screen appears.
5. If Mobility Master is already setup, then select **No** from the **Orchestrate MM VM** drop-down list and click **Next**. The **Mobility Master** screen appears.
6. If you want to set up the Mobility Master using orchestration, select **Yes** from the **Orchestrate MM VM** drop-down list and perform the following substeps.



Ensure that the prerequisites for the hypervisor, such as ESXi server, vCenter, or KVM are met. For more information, refer to the Alcatel-Lucent *Virtual Appliance Installation Guide*.

- a. From the **Device type** drop-down list, select an option based on the type of the device you have.
- b. Select the required hypervisor from the **Orchestrate MM VM** drop-down list and specify the server details.
- c. If you want to set up the standby Mobility Master using orchestration, select **Yes** from the **Orchestrate standby MM** drop-down list and enter the standby Mobility Master details.



For setting up Mobility Master through orchestration, you must browse and provide the appropriate AOS-W 8.x image from the *Migration/Image* folder of the migration tool in the **MM image file name** field.

7. Click **Next**. The **Mobility Master** screen appears.
8. Enter the Mobility Master details. Enter the standby Mobility Master details, if applicable.
9. If you want to automatically migrate AOS-W 6.x licenses using the migration tool, perform the following substeps:
 - a. Select **Yes** from the **Migrate Licenses** drop-down list.
 - b. Enter your My Networking Portal (MNP) username in the **MNP username** field. For more information on the **My Networking Portal** website, refer to the *Mobility Master Licensing Guide*.
10. To register a new license for your Mobility Master Virtual Appliance, select **Yes** from **Register Licenses** drop-down list. You are prompted to enter the following information:
 - license order ID
 - email ID
 - passphrase
 - redeem quantity
 - User password for the **My Networking Portal** website.
11. Click **Next**. The **Device Details** page appears.
12. Click **Add Device**, specify the following details for the master Switch to be migrated and click **Submit**.
 - **Device type**—The type of the device to be migrated can be Master or Local
 - **IP address**—The IP address of the device to be migrated.
 - **User name**—The credentials to login to the device to be migrated.
 - **8.x image file name**—The AOS-W 8.x image file to be loaded on the device.

- **6.x image file name**—The AOS-W 6.x image file running on the device to be migrated. Ensure that you select the appropriate platform-specific image file.
 - **Image partition**—The partition on the device in which the image is to be loaded.
13. Repeat the previous step for all the local Switches to be migrated.
 14. In **General Details**, specify the following details:
 - a. Select **Yes** in the **Migrate master** field to migrate the master Switch as a managed device under the Mobility Master.
 - b. Specify a name for the node under which the device is to be migrated.
 15. Click **Proceed**. A dialog box appears.
 16. After ensuring that the AP discovery configuration points only to managed devices, click **OK** in the dialog box. The **Home** screen appears.
 17. If you chose orchestration to set up the Mobility Master, perform the following substeps. Else, skip this step.
 - a. Enter the root credentials for the migration tool and hypervisor.
 - b. Enter the admin credentials for the Mobility Master.
 - c. Click **Start Orchestrating**. An alert appears when the Mobility Master Virtual Appliance is up and running.
 - d. Click **Close**.



If you chose not to migrate the licenses using the tool, then ensure that you manually install the licenses on the Mobility Master. For more information on configuring the licenses, refer to the *Mobility Master Licensing Guide*.

18. In the **Home** screen, enter the following details:
 - a. Root credentials for the migration tool and hypervisor.
 - b. Admin credentials for the Mobility Master.
 - c. MNP credentials for installing the licenses.
 - d. Admin and **Enable** mode credentials for the devices to be migrated.
19. Click **Start Upgrade** to proceed and complete the migration process.

Migrating All-Master Setup to Mobility Master Virtual Appliance

Follow the steps below to migrate an all master setup in AOS-W 6.x to AOS-W 8.x Mobility Master Virtual Appliance:

1. Login to the migration tool by following the steps provided in [Logging into Migration Tool on page 16](#).
2. Select the **Upgrade to 8.X** option in the **Action** field.
3. Select **Manual** for first time migration. The **Add Details** wizard opens.



You can use the **XML** data input type only if you have the XML file with the AOS-W 6.x setup details. You have an option to download the XML file after the first migration which you can edit for later use. For more information, see [Migrate AOS-W 6.x to AOS-W 8.x on page 19](#).

4. Specify the following information in the **Deployment Mode** screen:
 - a. Select the IP address of the migration tool in the **IP address** field
 - b. Select **VMM** from the **Migration mode** drop-down list.
 - c. Select **All Master** from the **Deployment mode** drop-down list.
 - d. Click **Next**. The **Orchestration** screen appears.

5. If Mobility Master is already setup, then select **No** from the **Orchestration MM VM** drop-down list and click **Next**. The **Mobility Master** screen appears.
6. If you want to set up the Mobility Master Virtual Appliance using orchestration, select **Yes** from the **Orchestration MM VM** drop-down list and perform the following substeps.



Ensure that the prerequisites for the hypervisor, such as ESXi server, vCenter, or KVM are met. For more information, refer to the *Virtual Appliance Installation Guide*.

- a. From the **Device type** drop-down list, select an option based on the type of the device you have.
- b. Select the required hypervisor from the **Orchestrate MM VM** drop-down list and specify the server details.
- c. If you want to set up the standby Mobility Master using orchestration, select **Yes** from the **Orchestrate standby MM** drop-down list and enter the standby Mobility Master details.



For setting up Mobility Master through orchestration, you must browse and provide the appropriate AOS-W 8.x image from the *Migration/Image* folder of the migration tool in the **MM image file name** field.

7. Click **Next**. The **Mobility Master** screen appears.
8. Enter the Mobility Master details. Enter the standby Mobility Master details, if applicable.
9. If you want to automatically migrate AOS-W 6.x licenses using the migration tool, perform the following substeps:
 - a. Select **Yes** from the **Migrate Licenses** drop-down list.
 - b. Enter your My Networking Portal (MNP) username in the **MNP** field. For more information on the **My Networking Portal** website, refer to the *Mobility Master Licensing Guide*.
10. To register a new license for your Mobility Master Virtual Appliance, select **Yes** from **Register Licenses** drop-down list. You are prompted to enter the following information:
 - license order ID
 - email ID
 - passphrase
 - redeem quantity
 - User password for the **My Networking Portal** website.
11. Specify a name for the common node under which the devices are to be migrated.
12. Click **Next**. The **Device Details** page appears.
13. Click **Add Device**, specify the following details for the master Switch to be migrated and click **Submit**.
 - **IP address**—The IP address of the device to be migrated.
 - **User name**—The credentials to login to the device to be migrated.
 - **8.x image file name**—The AOS-W 8.x image file to be loaded on the device.
 - **6.x image file name**—The AOS-W 6.x image file running on the device to be migrated. Ensure that you select the appropriate platform-specific image file.
 - **Image partition**—The partition on the device in which the image is to be loaded.
 - **Authentication**—The authentication method used between the Mobility Master and the managed device.
 - **IP Sec Key**—The IPsec key used for authentication. This is applicable for PSK authentication.
 - **Custom certificate**—The custom certificate used for authentication. Browse and select the appropriate certificate.
 - **Factory certificate**—The factory certificate is used for authentication.

- **Node name**—A unique node name for the device.
14. Repeat the previous step for all the master Switches to be migrated.
 15. Click **Proceed**. A dialog box appears.
 16. After ensuring that the AP discovery configuration points only to managed devices, click **OK** in the dialog box. The **Home** screen appears.
 17. If you chose orchestration to set up the Mobility Master, perform the following substeps. Else, skip this step.
 - a. Enter the root credentials for the migration tool and hypervisor.
 - b. Enter the admin credentials for the Mobility Master.
 - c. Click **Start Orchestrating**. An alert appears when the Mobility Master Virtual Appliance is up and running.
 - d. Click **Close**.



If you chose not to migrate the licenses using the tool, then ensure that you manually install the licenses on the Mobility Master. For more information on configuring the licenses, refer to the *Mobility Master Licensing Guide*.

18. In the **Home** screen, enter the following details:
 - a. Root credentials for the migration tool and hypervisor.
 - b. Admin credentials for the Mobility Master.
 - c. MNP credentials for installing the licenses.
 - d. Admin and **Enable** mode credentials for the devices to be migrated.
19. Click **Start Upgrade** to proceed and complete the migration process.

Migrating Master-Local Setup to Mobility Master Hardware Appliance

Follow the steps below to migrate a Master-Local setup in AOS-W 6.x to AOS-W 8.x Mobility Master Hardware Appliance:

1. Login to the migration tool by following the steps provided in [Logging into Migration Tool on page 16](#).
2. Select the **Upgrade to 8.X** option in the **Action** field.
3. Select **Manual** for first time migration. The **Add Details** wizard opens.



You can use the **XML** data input type only if you have the XML file with the AOS-W 6.x setup details. You have an option to download the XML file after the first migration which you can edit for later use. For more information, see [Migrate AOS-W 6.x to AOS-W 8.x on page 19](#).

4. Specify the following information in the **Deployment Mode** screen:
 - a. Select the IP address of the migration tool in the **IP address** field
 - b. Select **HMM** from the **Migration mode** drop-down list.
 - c. Select **Master-Local** from the **Deployment mode** drop-down list.
 - d. Click **Next**. The **Mobility Master** screen appears.
5. Enter the Mobility Master details. Optionally, you can enter the standby Mobility Master details, if any.
6. If you want to automatically migrate AOS-W 6.x licenses using the migration tool, perform the following substeps:
 - a. Select **Yes** from the **Migrate Licenses** drop-down list.
 - b. Enter your My Networking Portal (MNP) username in the **MNP** field. For more information on the **My Networking Portal** website, refer to the *Mobility Master Licensing Guide*.

7. Click **Next**. The **Device Details** page appears.
8. Click **Add Device**, specify the following details for the master Switch to be migrated and click **Submit**.
 - **Device type**—The type of the device to be migrated can be Master or Local
 - **IP address**—The IP address of the device to be migrated.
 - **User name**—The credentials to login to the device to be migrated.
 - **8.x image file name**—The AOS-W 8.x image file to be loaded on the device.
 - **6.x image file name**—The AOS-W 6.x image file running on the device to be migrated. Ensure that you select the appropriate platform-specific image file.
 - **Image partition**—The partition on the device in which the image is to be loaded.
9. Repeat the previous step for all the local Switches to be migrated.
10. In **General Details**, specify the following details:
 - a. Select **Yes** in the **Migrate master** field to migrate the master Switch as a managed device under the Mobility Master.
 - b. Specify a name for the node under which the device is to be migrated.
11. Click **Proceed**. A dialog box appears.
12. After ensuring that the AP discovery configuration points only to managed devices, click **OK** in the dialog box. The **Home** screen appears.
13. In the **Home** screen, enter the following details:
 - a. Root credentials for the migration tool.
 - b. Admin credentials for the Mobility Master.
 - c. MNP credentials for installing the licenses.
 - d. Admin and **Enable** mode credentials for the devices to be migrated.
14. Click **Start Upgrade** to proceed and complete the migration process.

Migrating All-Master Setup to Mobility Master Hardware Appliance

Follow the steps below to migrate an all master setup in AOS-W 6.x to AOS-W 8.x Mobility Master Hardware Appliance:

1. Login to the migration tool by following the steps provided in [Logging into Migration Tool on page 16](#).
2. Select the **Upgrade to 8.X** option in the **Action** field.
3. Select **Manual** for first time migration. The **Add Details** wizard opens.



You can use the **XML** data input type only if you have the XML file with the AOS-W 6.x setup details. You have an option to download the XML file after the first migration which you can edit for later use. For more information, see [Migrate AOS-W 6.x to AOS-W 8.x on page 19](#).

4. Specify the following information in the **Deployment Mode** screen:
 - a. Select the IP address of the migration tool in the **IP address** field
 - b. Select **HMM** from the **Migration mode** drop-down list.
 - c. Select **All Master** from the **Deployment mode** drop-down list.
 - d. Click **Next**. The **Mobility Master** screen appears.
5. Enter the Mobility Master details and the standby Mobility Master details, if any.
6. Specify a name for the common node under which the devices are to be migrated.
7. If you want to automatically migrate AOS-W 6.x licenses using the migration tool, perform the following substeps:

- a. Select **Yes** from the **Migrate Licenses** drop-down list.
 - b. Enter your My Networking Portal (MNP) username in the **MNP** field. For more information on the **My Networking Portal** website, refer to the *Mobility Master Licensing Guide*.
8. Click **Next**. The **Device Details** page appears.
 9. Click **Add Device**, specify the following details for the master Switch to be migrated and click **Submit**.
 - **IP address**—The IP address of the device to be migrated.
 - **User name**—The credentials to login to the device to be migrated.
 - **8.x image file name**—The AOS-W 8.x image file to be loaded on the device.
 - **6.x image file name**—The AOS-W 6.x image file running on the device to be migrated. Ensure that you select the appropriate platform-specific image file.
 - **Image partition**—The partition on the device in which the image is to be loaded.
 - **Authentication**—The authentication method used between the Mobility Master and the managed device.
 - **IP Sec Key**—The IPsec key used for authentication. This is applicable for PSK authentication.
 - **Custom certificate**—The custom certificate used for authentication. Browse and select the appropriate certificate.
 - **Factory certificate**—The factory certificate is used for authentication.
 - **Node name**—A unique node name for the device.
 10. Repeat the previous step for all the master Switches to be migrated.
 11. Click **Proceed**. A dialog box appears.
 12. After ensuring that the AP discovery configuration points only to managed devices, click **OK** in the dialog box. The **Home** screen appears.
 13. In the **Home** screen, enter the following details:
 - a. Root credentials for the migration tool.
 - b. Admin credentials for the Mobility Master.
 - c. MNP credentials for installing the licenses.
 - d. Admin and **Enable** mode credentials for the devices to be migrated.
 14. Click **Start Upgrade** to proceed and complete the migration process.

Migrating Master-Local Setup to Master Controller Mode in AOS-W 8.x



The tool does not migrate licenses for Master Controller Mode. Ensure that you manually migrate the licenses.

In Master Controller Mode, the local Switches in AOS-W 6.x are migrated as managed devices under the master Switch which is migrated to Master Controller Mode in AOS-W 8.x.

Follow the steps below to migrate a Master-Local setup in AOS-W 6.x to Master Controller Mode in AOS-W 8.x:

1. Login to the migration tool by following the steps provided in [Logging into Migration Tool on page 16](#).
2. Select the **Upgrade to 8.X** option in the **Action** field.
3. Select **Manual** for first time migration. The **Add Details** wizard opens.



You can use the **XML** data input type only if you have the XML file with the AOS-W 6.x setup details. You have an option to download the XML file after the first migration which you can edit for later use. For more information, see [Migrate AOS-W 6.x to AOS-W 8.x on page 19](#).

4. Specify the following information in the **Deployment Mode** screen:

- a. Select the IP address of the migration tool in the **IP address** field
 - b. Select **MCM** from the **Migration mode** drop-down list.
 - c. Select **Master-Local** from the **Deployment mode** drop-down list based on your deployment.
5. Click **Next**. The **Device Details** page appears.
 6. Click **Add Device**, specify the following details for the master Switch to be migrated and click **Submit**.
 - **Device type**—The type of the device to be migrated can be master or local.
 - **IP address**—The IP address of the device to be migrated.
 - **User name**—The credentials to login to the device to be migrated.
 - **8.x image file name**—The AOS-W 8.x image file to be loaded on the device.
 - **6.x image file name**—The AOS-W 6.x image file running on the device to be migrated. Ensure that you select the appropriate platform-specific image file.
 - **Image partition**—The partition on the device in which the image is to be loaded.
 7. Repeat the previous step for all the local Switches to be migrated.
 8. In **General Details**, perform the following substeps if you want to automatically migrate the AOS-W 6.x licenses using the migration tool:
 - a. Select **Yes** from the **Migrate Licenses** drop-down list.
 - b. Enter the MNP username in the **MNP** field. For more information on My Network Portal, refer to the *Mobility Master Licensing Guide*.
 - c. Enter the node name in the **Node name** field.
 9. Click **Proceed**. A dialog box appears.
 10. After ensuring that the AP discovery configuration points only to managed devices, click **OK** in the dialog box. The **Home** screen appears.
 11. In the **Home** screen, enter the following details:
 - a. Root credentials for the migration tool.
 - b. MNP credentials for installing the licenses.
 - c. Admin and **Enable** mode credentials for the devices to be migrated.
 12. Click **Start Upgrade** to proceed and complete the migration process.

Migrating to Stand-alone Switch



The tool does not migrate licenses for stand-alone Switch mode. Ensure that you manually migrate the licenses.

Follow the steps below to migrate a Switch running AOS-W 6.x to a stand-alone Switch running AOS-W 8.x.

1. Login to the migration tool by following the steps provided in [Logging into Migration Tool on page 16](#).
2. Select the **Upgrade to 8.X** option in the **Action** field.
3. Select **Manual** for first time migration. The **Add Details** wizard opens.



You can use the **XML** data input type only if you have the XML file with the AOS-W 6.x setup details. You have an option to download the XML file after the first migration which you can edit for later use. For more information, see [Migrate AOS-W 6.x to AOS-W 8.x on page 19](#).

4. Specify the following information in the **Deployment Mode** screen:
 - a. Select the IP address of the migration tool in the **IP address** field
 - b. Select **MCM** from the **Migration mode** drop-down list.
 - c. Select **Standalone** from the **Deployment mode** drop-down list.

5. Click **Next**. The **Device Details** page appears.
6. Click **Add Device**, specify the following details for the master Switch to be migrated and click **Submit**.
 - **IP address**—The IP address of the device to be migrated.
 - **User name**—The credentials to login to the device to be migrated.
 - **8.x image file name**—The AOS-W 8.x image file to be loaded on the device.
 - **6.x image file name**—The AOS-W 6.x image file running on the device to be migrated. Ensure that you select the appropriate platform-specific image file.
 - **Image partition**—The partition on the device in which the image is to be loaded.
7. In **General Details**, perform the following substeps if you want to automatically migrate the AOS-W 6.x licenses using the migration tool:
 - a. Select **Yes** from the **Migrate Licenses** drop-down list.
 - b. Enter the MNP username in the **MNP** field. For more information on My Network Portal , refer to the *Mobility Master Licensing Guide*.
8. Click **Proceed**. A dialog box appears.
9. After ensuring that the AP discovery configuration points only to managed devices, click **OK** in the dialog box. The **Home** screen appears.
10. In the **Home** screen, enter the following details:
 - a. Root credentials for the migration tool.
 - b. MNP credentials for installing the licenses.
 - c. Admin and **Enable** mode credentials for the devices to be migrated.
11. Click **Start Upgrade** to proceed and complete the migration process.

Orchestrate Mobility Controller Virtual Appliance

Starting from AOS-W 8.2.0.0, the migration tool provides an option to the users to orchestrate the Mobility Controller Virtual Appliance installation. The users can either bring up the Mobility Controller Virtual Appliance as a managed device under an existing Mobility Master Virtual Appliance or as a standalone Switch.

The procedures for performing the following tasks using the migration tool is discussed below:

- [Orchestrate Mobility Controller Virtual Appliance as Managed Device on page 27](#)
- [Orchestrate Stand-alone Mobility Controller Virtual Appliance on page 28](#)

Orchestrate Mobility Controller Virtual Appliance as Managed Device



Ensure that a *Mobility Master Virtual Appliance* is already up and running before orchestrating a *Mobility Controller Virtual Appliance* as a managed device.

Follow the steps below to bring up a Mobility Controller Virtual Appliance as a managed device to AOS-W 8.x Mobility Master Virtual Appliance:

1. Login to the migration tool by following the steps provided in [Logging into Migration Tool on page 16](#).
2. Select the **Orchestrate MC-VA** option in the **Action** field.
3. Select **Manual** for the data input type. The **Add Details** wizard opens.
4. Specify the following information in the **Orchestration Mode** screen:
 - a. Select the IP address of the migration tool in the **IP address** field
 - b. Select **VMC** from the **Type** drop-down list.
 - c. Select **MD** from the **Deployment mode** drop-down list.

- d. Click **Next**. The **Hypervisor Details** screen appears.
5. Click **Add Hypervisor** and provide the hypervisor details for deploying the Mobility Controller Virtual Appliance.



Ensure that the prerequisites for the hypervisor, such as ESXi server, vCenter, or KVM are met. For more information, refer to the *Alcatel-Lucent Virtual Appliance Installation Guide*.

6. Click **Submit** and then click **Next**. The **Virtual Appliances** screen appears.
7. Select the required hypervisor row from the **Hypervisor Table**.
8. Click **Add VA** and enter the Mobility Controller Virtual Appliance details in the **VA Details** section.
9. Click **Submit** and then click **Proceed**. The **Home** screen appears.
10. In the **Home** screen, enter the following details:
 - a. Root credentials for the migration tool and hypervisor.
 - b. Admin credentials for the Mobility Master.
 - c. MNP credentials for installing the licenses, if you chose to register the license using the tool in the previous screen.
 - d. Admin credentials for the Mobility Controller Virtual Appliance.
11. Click **Start Orchestrating**. An alert appears when the Mobility Controller Virtual Appliance is up and running.
12. Click **Close**.



If you did not register the license using the tool, then you must manually install the licenses on the Mobility Master. For more information on configuring the licenses, refer to the *Mobility Master Licensing Guide*.

Orchestrate Stand-alone Mobility Controller Virtual Appliance

Follow the steps below to bring up a Mobility Controller Virtual Appliance as a stand-alone device running AOS-W 8.x:

1. Login to the migration tool by following the steps provided in [Logging into Migration Tool on page 16](#).
2. Select the **Orchestrate MC-VA** option in the **Action** field.
3. Select **Manual** for the data input type. The **Add Details** wizard opens.
4. Specify the following information in the **Orchestration Mode** screen:
 - a. Select the IP address of the migration tool in the **IP address** field.
 - b. Select **VMC** from the **Type** drop-down list.
 - c. Select **Standalone** from the **Deployment mode** drop-down list.
 - d. Click **Next**. The **Hypervisor Details** screen appears.
5. Click **Add Hypervisor** and provide the hypervisor details for deploying the Mobility Controller Virtual Appliance.



Ensure that the prerequisites for the hypervisor, such as ESXi server, vCenter, or KVM are met. For more information, refer to the *Alcatel-Lucent Virtual Appliance Installation Guide*.

6. Click **Submit** and then click **Next**. The **Virtual Appliances** screen appears.
7. Select the required hypervisor row from the **Hypervisor Table**.
8. Click **Add VA** and enter the Mobility Controller Virtual Appliance details in the **VA Details** section.

9. Click **Submit** and then click **Proceed**. The **Home** screen appears.
10. In the **Home** screen, enter the following details:
 - a. Root credentials for the migration tool and hypervisor.
 - b. MNP credentials for installing the licenses, if you chose to register the license using the tool in the previous screen.
 - c. Admin credentials for the Mobility Controller Virtual Appliance.
11. Click **Start Orchestrating**. An alert appears when the Mobility Controller Virtual Appliance is up and running.
12. Click **Close**.



If you did not register the license using the tool, then you must manually install the licenses on the Mobility Controller Virtual Appliance. For more information on configuring the licenses, refer to the *Mobility Master Licensing Guide*.

Perform Other Operations

The migration tool provides the following options as buttons on the top right corner of the tool after the device details are entered:

- **Download XML**—Downloads the specified network topology data in an XML file which can be used for migrating or downgrading later.
- **View/Hide Password**—Allows you to hide or view the password value entered in the password fields.
- **Download Log**—Downloads the migration log files and flash backups of the Switches that are migrated in the network. The downloaded logs can be used for troubleshooting purposes in case of failure of the migration process.



The **Download Log** button appears only when the migration process fails or after it completes.

Downgrade AOS-W 8.x to AOS-W 6.x



The migration tool supports downgrading only the latest setup that was migrated to AOS-W 8.x.

Follow the steps below to downgrade an AOS-W 8.x setup to the AOS-W 6.x setup:

1. Login to the migration tool by following the steps provided in [Logging into Migration Tool on page 16](#).
2. Select the **Downgrade to 6.X** option in the **Action** field.
3. To automatically populate the device details, follow the steps below:
 - a. Select **Data Input Type** as **XML**.
 - b. Browse and choose the downloaded XML file in the **Upload Device List (XML)** field.
4. To manually enter the device details, follow the steps below:
 - a. Select **Manual**. The **Add Details** wizard opens.
 - b. Specify the following information in the **Deployment Mode** screen:
 - **IP address**—The IP address of the migration tool.
 - **Migration mode**—Select **MCM** or **VMM** from the drop-down list based on the setup that is downgraded.
 - c. Click **Next**. The **Device Details** page appears.
 - d. Click **Add Device**, specify the following details for the master Switch to be migrated and click **Submit**.

- **Device type**—The type of the device to be downgraded can be master or local
 - **IP address**—The IP address of the device to be downgraded.
 - **User name**—The credentials to login to the device to be downgraded.
 - **6.x image file name**—The AOS-W 6.x image file to be downgraded to the device.
 - **Image partition**—The partition on the device in which the image is to be loaded.
- e. Repeat the previous step for all the other Switches to be downgraded.
 5. Click **Proceed**. The **Home** screen appears.
 6. In the **Home** screen, enter the following details:
 - a. Root credentials for the migration tool.
 - b. Admin and **Enable** mode credentials for the devices to be downgraded.
 7. Click **Start Downgrade** to complete the downgrade process.

Known Issues and Limitations

The following caveats are observed on Mobility Master after migrating AOS-W 6.x deployments to AOS-W 8.x:

- After migrating to AOS-W 8.x, the global **airgroup disallow-vlan** command is not effective for service levels. Starting from AOS-W 8.x, the global and service level **disallow-vlan** configurations are independent.
- IPv6 ACLs applied on an interface in AOS-W 6.x deployment are not effective after migrating to AOS-W 8.x.
- Mesh topology running AOS-W 6.x cannot be migrated to AOS-W 8.x. using the migration tool.
- OAW-4850 Switches running AOS-W 6.x version cannot be migrated to AOS-W 8.x using the migration tool, if the default configuration of the speed-mode is modified in the uplink interface.
- The migration tool reloads the master Switch even if you choose to migrate only the local Switches to the Mobility Master from a master-local setup .