

OmniVista 3600 Air Manager 8.2.14.0

Installation Guide

This document is designed as a reference for installing OV3600 8.2.14.0 with the CentOS software bundled with the ISO disc image. For upgrade instructions, see the *OmniVista 3600 Air Manager 8.2.14.0 Release Notes*.

Download Files

The table below describes the different files that you might see on the Support site when you download OV3600. For more information, see the *Upgrade Procedures in the Release Notes*.

Table 1: Download Page File Types

Install ISO	Standalone installation media, including the CentOS operating system. This image can fit on a CD/DVD, or it can be mounted as a virtual disk for installation.
Install OVA (Virtual appliance)	VMware OVA template for OV3600 deployment on VMware ESXi infrastructure. Optimized for deployments up to 100 devices. NOTE: Install the OVA package for only testing in lab environments.
TAR package file	Used for AirWave upgrades. The TAR package delivers updated security packages and kernel updates. NOTE: Contact Technical Support to help you upgrade the software if your software is more than two versions old.

OV3600 supports the following browsers:

- Internet Explorer 11.0.9 or later on Windows
- Firefox 57.0 or later on Windows and macOS
- Chrome 65.0.3299.0 (64-bit) or later on Windows and macOS
- Safari 11.0.2 or later for macOS
- Microsoft Edge version 91.0.864.37 on Windows

OV3600 supports any hardware that is Red Hat Enterprise Linux 7.6 or later. By default, all installations are based on a 64-bit operating system.

If you're using the Central Ready HPE DL360 Gen10 appliance, the appliance ships with Unified Extensible Firmware Interface (UEFI) as the boot environment instead of Basic Input/Output System (BIOS). For the Pro HPE DL360 Gen9 and Enterprise HPE DL360 Gen9 appliances that use BIOS, the OV3600 8.2.14.0 install ISO includes a workaround that eliminates the need to replace BIOS in these appliances or boot in Legacy BIOS.

OV3600 hardware requirements vary by version. As additional features are added to OV3600, increased hardware resources become necessary. For the most recent hardware requirements, refer to the *OV3600 8.2.11.0 Server Sizing Guide*.



OV3600 does not support downgrading to older versions. In unusual circumstances requiring that you return to an earlier version of OV3600, we recommend you perform a fresh installation of the earlier OV3600 version, and then restore data from a backup taken before the upgrade.

Use this check list to ensure installation goes smoothly.

Task	Completed
Have available the OV3600 license key sent to you in an email from Alcatel-Lucent.	
Obtain dedicated server(s) meeting Alcatel-Lucent sizing specifications.	
Determine the static IP address for each OV3600 server.	
Provision firewall and enable proper ports.	
Determine WLAN infrastructure properties (type, quantity, and location).	
Determine WLAN infrastructure access credentials (SNMP, telnet, SSH, etc.).	
Determine WLAN security policy specifications.	
Set router and switches to monitoring (optional).	
Configure upstream NMS applications (optional).	
Determine wireless client authentication servers (optional).	
Determine OV3600 administrative authentication servers like TACACS+, LDAP, or RADIUS (optional).	
Contact Technical Support to help you upgrade the software if your software is more than two versions old.	

This section provides step-by-step instructions to install Linux CentOS 7.8, configure the OV3600 server, and prepare your deployment.

Step 1: Install Linux CentOS 7.8

You must install Linux before you install OV3600 on the network management system. Installing the CentOS software takes 10 to 20 minutes to complete.



This procedure erases the hard drive(s) on the server.

To install the Linux CentOS 7.8 operating system:

1. Insert the OV3600 installation DVD into the drive and boot the server to start the installation UI.
2. Type **install** and press **Enter**.

3. To configure the partitions manually, type **manual** and press **Enter**.
4. Allow the installation process to continue. Upon completion, the system reboots automatically.
5. Remove the DVD from the drive and store it in a safe location.

Step 2: Configure the Date and Time

OmniVista 3600 Air Manager 8.2.4 introduced a new, modular command line interface (CLI). After completion of installation, you will no longer have root user access to the Linux shell, and you can no longer use legacy commands to run AMP services.



Use only included or Aruba-specified cables, power cords, AC power supplies and batteries. Don't use the power cord with other electrical equipment than what is specified by Alcatel-Lucent.

Follow these steps to perform a fresh install:

1. Press **Enter** or wait six seconds. The system automatically loads the kernel.
2. When the kernel is loaded, log into the server using the following credentials:
 - login = **root**
 - password = **admin**
3. Configure the date and time for the OV3600 server when the following message appears:

```
----- Date and Time Configuration -----  
Current Time: Mon June 27 12:14:02 PST 2020  
1) Change Date and Time  
2) Change Time Zone  
0) Finish
```

 - a. Select **1** to set the date and select **2** to set the time zone. Press **Enter** after each configuration to return to the message menu above.
 - b. Select **0** to complete the configuration of date and time information, then press **Enter**.

Step 3: Check Installed Software

The installer automatically checks for an earlier version of OV3600. If your server has an earlier version of OV3600 installed, you'll see a message that asks you to reinstall OV3600.



This action erases the current database, including all historical information. To ensure that the OV3600 database is backed up prior to reinstallation, answer **n** at the prompt and contact your Value Added Reseller or Alcatel-Lucent support.

Wait for the installer to check that the database is up and running the current version.

Step 4: Create the Recovery User

During this step, OV3600 configures the AMP CLI while creating the recover user account. At the prompt, enter a user name for the recovery user. If you don't enter a username, OV3600 uses the default recovery user, called "amprecovery".



You can change the password later from the AMP CLI by selecting 5 to open the Users menu, then 2-2 to change the CLI user password for the "amprecovery" user. For more information, refer to the *OmniVista 3600 Air Manager 8.2.14.0 User Guide*.

Step 5: Create the Admin User

At the prompt, enter a user name and password for the admin CLI user account. If you don't enter a user name, OV3600 uses the default admin user, called "ampadmin".



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- You can change the password later from the AMP CLI by selecting **5** to open the Users menu, then **2-1** to change the CLI user password for the "ampadmin" user. For more information, refer to the *OmniVista 3600 Air Manager 8.2.14.0 User Guide*.
 - Save your user name and password somewhere safe because you'll need them to log in to the CLI.
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Step 6: Configure the Network

If the installer only detects one interface, it will call that interface eth0. The following example shows how to configure the default eth0 interface. If you want to configure additional interfaces, repeat this step for each interface.



For networks using a Gen-10 Central On-Premises server, configuration on a 10G interface is not supported if an external 10G NIC(PCIe) is present. Please ensure Ethernet configuration is done on 1G interface.

Enter the IPv4 static IP address, subnet mask, and gateway addresses when the following message appears: OV3600 must be configured with a static IP.

Here are the ethernet interfaces with hardware present:

- | | | |
|---------|---------|-------------------|
| 1. eth0 | default | 08:df:37:c4:57:b0 |
| 2. eth1 | | 08:df:37:c4:57:b1 |
| 3. eth2 | | 08:df:37:c4:57:b2 |
| 4. eth3 | | 08:df:37:c4:57:b3 |
| 5. eth4 | | 48:df:37:c4:57:b0 |
| 6. eth5 | | 48:df:37:c4:57:b8 |
| q. Quit | | |

Which interface shall we configure?

- a. Select **1** and press **Enter**.

```

----- Network Interface Configuration for eth0 -----
1) IPv4 Address           : xxx.xxx.xxx.xxx
2) IPv4 Netmask          : xxx.xxx.xxx.xxx
3) IPv4 Gateway          : xxx.xxx.xxx.xxx
4) IPv6 Address (optional) : xxx.xxx.xxx.xxx
5) IPv6 Gateway (optional) : xxx.xxx.xxx.xxx
6) Primary DNS           : xxx.xxx.xxx.xxx
7) Secondary DNS        : xxx.xxx.xxx.xxx
8) Set as default interface : y
9) Commit Changes
0) Exit (discard changes)

```

- b. Select **1** to enter the network information, then press **Enter**.
- c. Select **2** to enter the subnet mask, then press **Enter**.
- d. Select **3** to enter the gateway, then press **Enter**.
- e. Select **6** to enter the primary DNS address, then press **Enter**.
- f. Select **8** to set the default interface, then press **Enter**.
- g. To commit the changes, type **9** and then press **Enter**. To discard the changes, type **0** and then press **Enter**.
- h. To restart the network with the configured settings, type **y**.

Step 7: Generate an SSL Certificate

To generate the SSL certificate for the OV3600 server:

- If OV3600 does not have a valid host name on the network, type **n**.
- If OV3600 has a valid host name on the network, type **y** and enter the fully qualified domain name for the OV3600 server (for example, *myserver.example.com*)



After installing OV3600, you can install a new SSL certificate, or generate a CSR to install a signed certificate from the OV3600 CLI.

Step 8: Complete the Installation

Upon completion of all previous steps, the following message appears.

CONGRATULATIONS! OV3600 is configured properly.

To access the OV3600 web console, browse to `https://<IP Address>`

Login with the following credentials:

Username: *admin*

Password: *[User-provided password from above for 'ampadmin' user]*



Once you log out, the root user will be disabled. Subsequently, you must use the ampadmin user generated during the software installation to log in to the CLI.

- To view the Phase 1 installation log file, type **cat /root/install.log**.
- To view the Phase 2 installation log file, type **cat /root/ampov3600-install.log**.

The following sections provide information to help you install OV3600 on VMware® ESX(i).

- [VMware Requirements](#)
- [Creating a VMware Virtual Machine](#)

VMware Requirements

OV3600 supports VMware ESX(i) 6.5 and later. To be sure that enough resources are allocated to the virtual machine, consult the *OV3600 8.2.11.0 Server Sizing Guide*.

If your VM host is hosting other instances, ensure that the OV3600 instance has the highest priority. A virtual SCSI disk is recommended over IDE.

Creating a VMware Virtual Machine

The VMware Infrastructure Client provides a wizard to create a new virtual machine. The resulting virtual machine acts like physical host, in which you install the OV3600 software.

The recommended OS is CentOS 7.6 or later (64-bit). Refer to the *OV3600 8.2.11.0 Server Sizing Guide* for memory and storage requirements.

To create a virtual machine:

1. From the VMware Infrastructure Client, select **Create a new virtual machine**.
2. Select **Next**, and then select **Typical > Virtual Machine Configuration**.
3. Name your virtual machine (for example, OV3600), and then click **Next**.
4. Select an available datastore with sufficient space for the number of APs that your OV3600 will manage, choosing the right server hardware to comply with the hardware requirements. Click **Next**.
5. Select the **Linux** radio button, and then select the OS. Click **Next**.
6. Select the appropriate number of processors, and then specify the minimum virtual RAM.
7. Accept the VMware default virtual network adapter, and click **Next**.
8. Allocate a virtual disk large enough to contain the OV3600 operating system, application, and data files.
9. Review the virtual machine settings, and then click **Finish** when you are done.

The following sections provide information to help you install OV3600 on a virtual machine running a Hyper-V:

- [Hyper-V Requirements](#)
- [Adding the Hyper-V Network Adapter](#)

Hyper-V Requirements

OV3600 supports using Hyper-V Manager on:

- Windows Server 2003 or later.
- Windows Server 2012 R2. You might experience boot issues using Windows Server 2012 Standard (not R2).



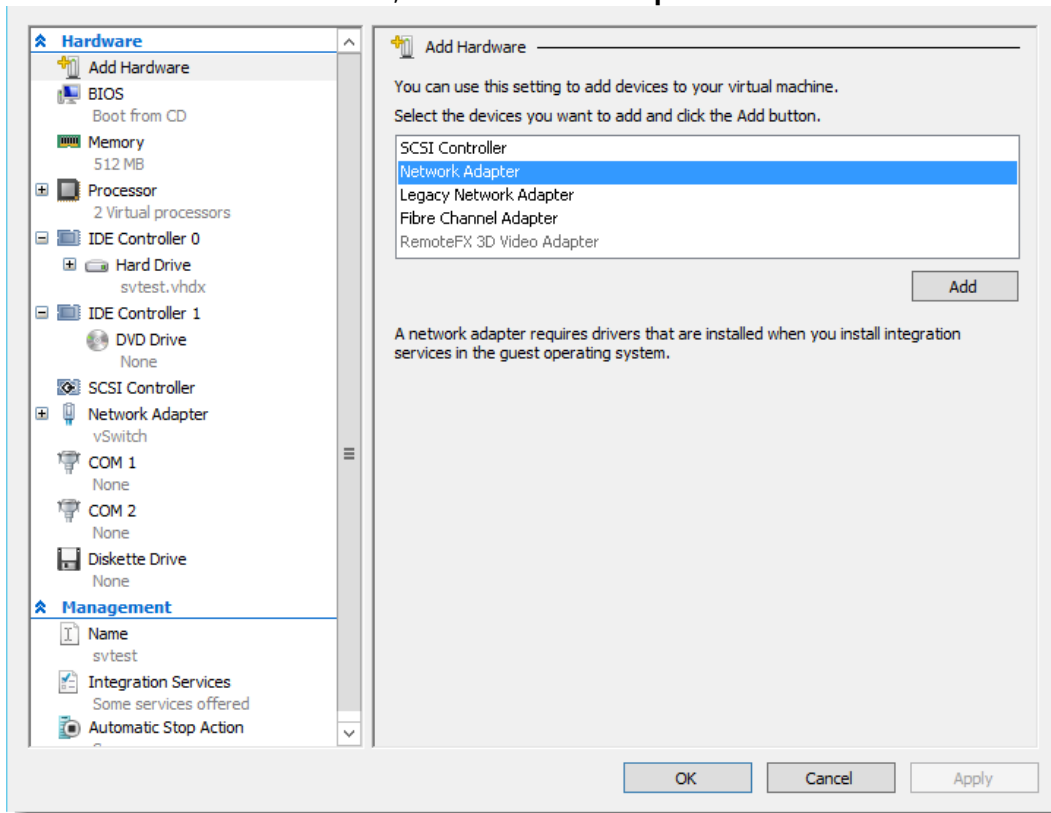
OV3600 does not support a Hyper-V Generation 2 VM

Adding the Hyper-V Network Adapter

When you create the virtual machine in Hyper-V Manager, you must configure a virtual network adapter in order to install OV3600. Hyper-V provides two virtual network adapters: a default and a legacy adapter (for generation 1 virtual machines). If you use the legacy network adapter to establish networking, you might experience connectivity issues even though there are no resource constraints on the server.

To add the Hyper-V network adapter:

1. Open Hyper-V Manager, then connect to the Hyper-V host.
2. Right-click the virtual machine and select **Settings**.
3. From the Add Hardware window, select **Network Adapter** then click **Add**.



4. View the adapter properties, and click **OK**.
5. Click **OK**.

The following sections provide information to help you install OV3600 on a KVM:

- [KVM Requirements](#)
- [Creating a KVM Virtual Machine](#)

KVM Requirements

The recommended OS is CentOS 7.6 or later (64-bit). Refer to the *OV3600 8.2.11.0 Server Sizing Guide* for memory and storage requirements.

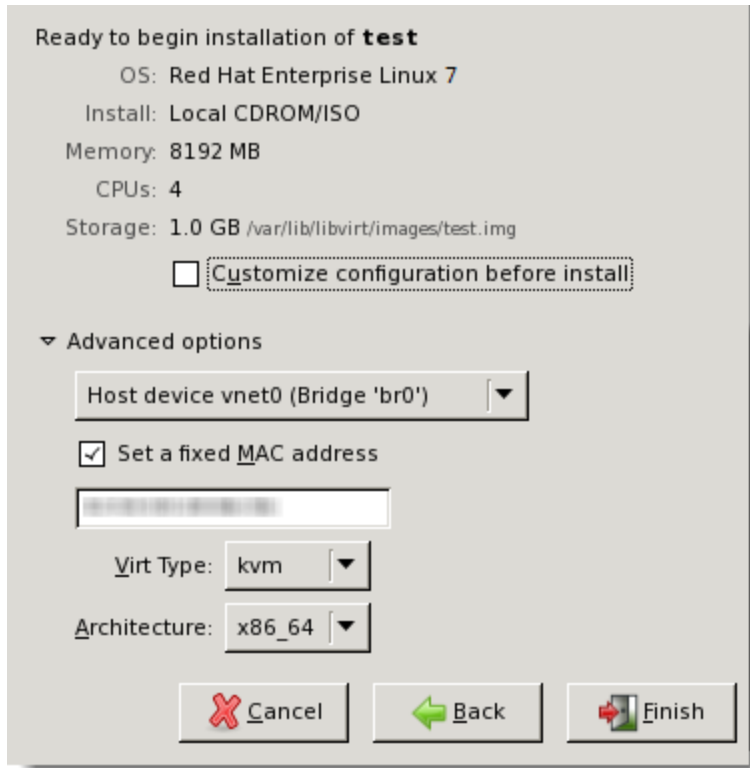
Creating a KVM Virtual Machine

To create a KVM virtual machine:

1. On the local host, type **virt manager** to run the New VM wizard.
2. Type a name for the virtual machine, select **Local install media (ISO image or CDROM)**, and then click **Forward**.
3. Click **Browse** to find the ISO image. Select **Linux** and **Red Hat Enterprise Linux 7** from the drop-down menus, then click **Forward**.



4. Assign memory to the KVM and CPUs, then click **Forward**.
5. Assign disk storage, enable the **Allocate entire disk now** option, and then click **Forward**.
6. Before you start the installation, under the Advanced options, select the Host device and enter the fixed MAC address of the bridge (typically br0) into the text box.



7. Click **Finish**. The Virtual Machine Manager creates the virtual machine and opens the OV3600 console.

The following table itemizes the communication protocols and ports necessary for OV3600 to communicate with wireless LAN infrastructure devices, including access points (APs), controllers, routers, switches, and RADIUS servers. Assign or adjust port usage on the network administration system as required to support these components.

Table 2: OV3600 Protocol and Port Chart

Port	Type	Protocol	Description	Data Flow Direction	Device Type
21	TCP	FTP	Firmware distribution	>	APs or switches
22	TCP	SSH	Configure devices	>	APs or switches
22	TCP	SSH	Configure OV3600 from the CLI	<	Laptop or workstation
22	TCP	VTUN	Support connection (optional)	>	Alcatel-Lucent supports home office
22	TCP	SCP	Transfer configuration files or FW	<	APs or switches
23	TCP	Telnet	Configure devices	>	APs or switches
23	TCP	VTUN	Support connection (Optional)	>	Alcatel-Lucent supports home office
25	TCP	SMTP	Support email (optional)	>	Alcatel-Lucent supports email server
49	UDP	TACACS	OV3600 Administrative Authentication	>	Cisco TACACS+
53	UDP	DNS	DNS lookup from OV3600	>	DNS Server
69	UDP	TFTP	Transfer configuration files or FW	<	APs or switches
80	TCP	HTTP	Configure devices	>	Legacy APs
80	TCP	VTUN	Support connection (optional)	>	Alcatel-Lucent supports home office
161	UDP	SNMP	Get and Set operations	>	APs or switches
162	UDP	SNMP	Traps from devices	<	APs or switches
162	UDP	SNMP	Traps from OV3600	>	NMS
443	TCP	HTTPS	Web management	<	Laptop or workstation
443	TCP	HTTPS	WLSE polling	>	WLSE

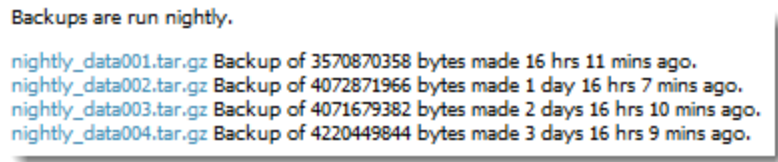
Port	Type	Protocol	Description	Data Flow Direction	Device Type
443	TCP	VTUN	Support connection (optional)	>	Alcatel-Lucent supports home office
1701	TCP	HTTPS	AP and rogue discovery	>	WLSE
1741	TCP	HTTP	WLSE polling	>	WLSE
1812	UDP	RADIUS Auth	Authenticate & authorize OV3600 administrative users on a RADIUS server.	>	RADIUS auth server
1813	UDP	RADIUS accounting	Retrieve user names for authenticated WLAN clients from NAS (captive portal, switch, autonomous AP). Only used when user names are not available in the SNMP MIB of a switch or autonomous AP.	<	RADIUS accounting client
2002	TCP	HTTPS	Retrieve client authentication info	>	ACS
5050	UDP	RTLS	Real Time Location Feed	<	Alcatel-Lucent thin APs
8211	UDP	PAPI	Real Time Feed (AMON)	< >	WLAN switches
		ICMP	Ping Probe	>	APs or switches

If you are going to use the Central-Ready HPE DL360 Gen10 appliance with OV3600, you can restore from a migration backup when you're ready to migrate to Alcatel-Lucent Central (On-Prem).

To download the migration file:

1. Log in to the OV3600 with the WebUI admin user.
2. Go to **System > Backups**, then click **Download Migration File** (see [Figure 1](#)).

Figure 1 *Download Migration File*



Contacting Support

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	
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