



# **HPE Aruba Networking Orchestrator Air-Gap**

User Guide

## Important Notice

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Revision A, April 2024

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## Overview

The standard HPE Aruba Networking EdgeConnect SD-WAN solution requires a connection to the Cloud Portal via the internet for appliance activation, license management, and other supporting functions. The HPE Aruba Networking EdgeConnect SD-WAN Orchestrator Air-Gap solution provides a deployment option that allows you to deploy HPE Aruba Networking EdgeConnect SD-WAN in an isolated network environment with no internet connectivity. With the EdgeConnect SD-WAN product running in Air-Gap mode, appliance activation, license management, and other supporting functions are performed through the Air-Gap Portal where authorized customers can manually exchange information between Cloud Portal and the customer's EdgeConnect SD-WAN deployment, removing the requirement of an internet connection.

The HPE Aruba Networking Orchestrator Air-Gap solution is only available for self-hosted Orchestrator deployments.

## About This Guide

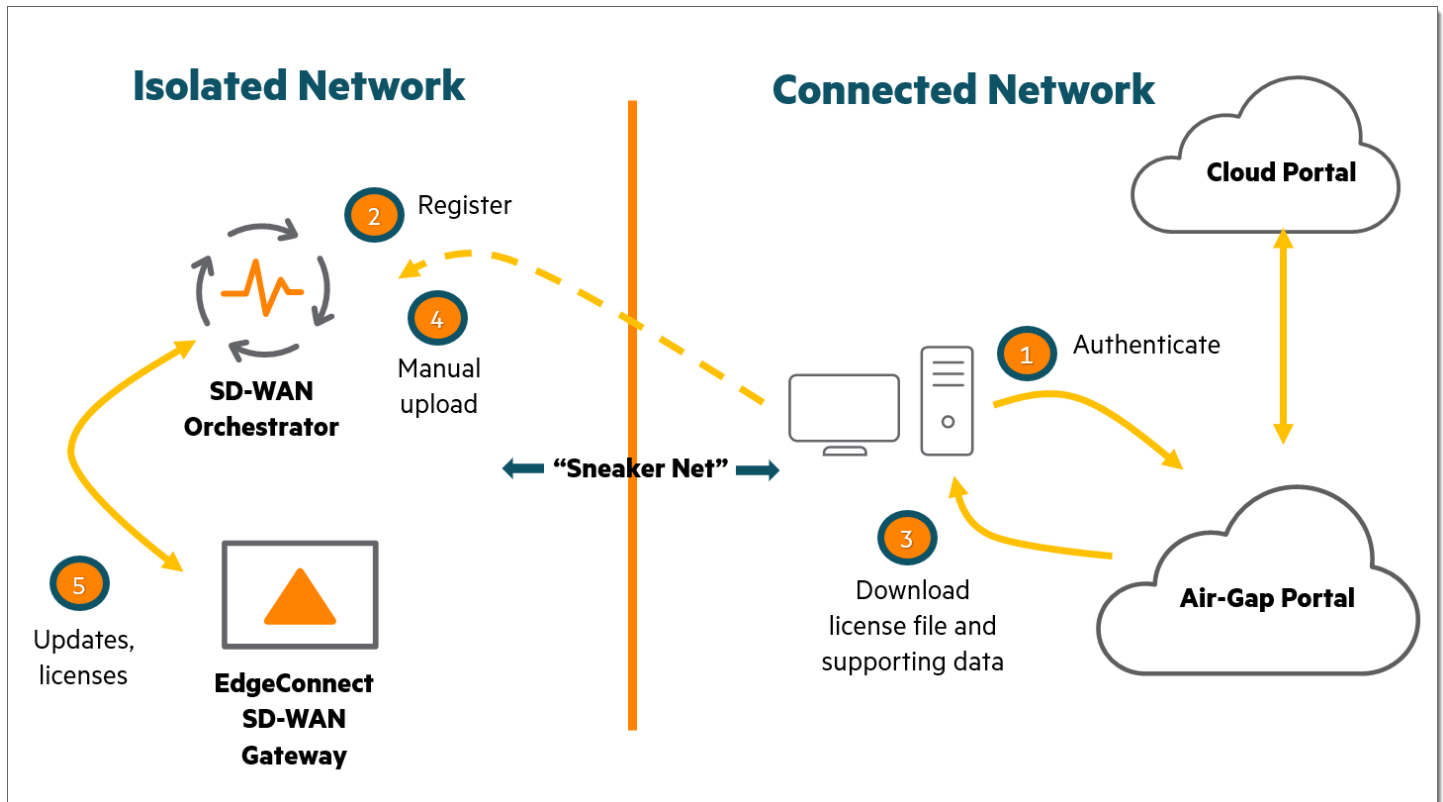
This guide has the following high-level topics:

- [The Air-Gap Workflow](#)
- [Before You Begin](#)
- [Generate a New Account Key](#)
- [Enable and Register Orchestrator in Air-Gap Mode](#)
- [Manage Licenses for Appliances in Air-Gap Mode](#)
- [Enable Air-Gap Mode on Appliances](#)
- [Assign Serial Numbers to EC-Vs](#) (only required if you added EC-Vs in the Air-Gap Portal)
- [FAQ](#)



## The Air-Gap Workflow

The following figure illustrates the Air-Gap workflow in an HPE Aruba Networking EdgeConnect SD-WAN deployment.



After purchasing EdgeConnect SD-WAN from HPE Aruba Networking for use in Air-Gap mode, HPE Aruba Networking Operations will create an account for you on the Air-Gap Portal. Your licenses and hardware serial numbers will be updated in the Cloud Portal. HPE Aruba Networking Operations will send an email invitation to the designated contact(s) to set up a user account for the Air-Gap Portal. This email will include a link for resetting passwords and accessing the Air-Gap Portal, allowing the designated contacts to reset their passwords and gain access to the portal.

After the user obtains access to the Air-Gap Portal, they will physically move (“sneakernet”) the data using removable media from the Air-Gap Portal to their isolated SD-WAN network. The user must enable Air-Gap mode on the Orchestrator and then register the Orchestrator to the Air-Gap Portal. They will then upload the data to the Orchestrator within their isolated network and enable Air-Gap on each appliance.

### Prerequisites

The Air-Gap solution requires the following:

- Orchestrator 9.4.2
- ECOS 9.4.2.0
- An intermediary who can access the internet. The intermediary must be authenticated and have access to the Air-Gap Portal.



## Before You Begin

You must purchase HPE Aruba Networking EdgeConnect SD-WAN with Air-Gap mode from HPE Aruba Networking before you can enable the Air-Gap solution. Before you begin:

- Confirm you have valid Air-Gap mode license.
- Confirm that your Orchestrator is deployed on-premises.
- Ensure you have initial login credentials and access to the Air-Gap Portal.
- Verify that you are ready to enable this feature on both the Orchestrator and all appliances.
- HPE Aruba Networking recommends that you generate and enable a new account key before you enable and register Air-Gap.



Proceed to the [Generate a New Account Key](#).

## Generate a New Account Key

HPE Aruba Networking recommends that you generate a new account key and input the new key into Orchestrator before you enable and register Air-Gap mode.



Each time you generate a new account key, you must complete the steps to enable and register Orchestrator in Air-Gap mode even if you previously performed these steps. See [Enable and Register Orchestrator in Air-Gap Mode](#).

To generate a new account key:

1. Navigate to the [Air-Gap Portal](#).  
The Air-Gap Portal opens.
2. Click **Generate New Key**.
3. Copy the new account key.
4. Navigate to Orchestrator, and then click **Orchestrator > Orchestrator Server > Licensing > Cloud Portal**.  
The Cloud Portal dialog box opens.



- Paste the new account key in the Account key field, and then click **Close**.  
You are now ready to enable Air-Gap.



Proceed to [Enable and Register Orchestrator in Air-Gap Mode](#).

## Enable and Register Orchestrator in Air-Gap Mode

Air-Gap registration is a three-step process:

- [Step 1: Enable Air-Gap Mode and Obtain a Registration Key](#)
- [Step 2: Register Your Key](#).
- [Step 3: Submit the Response to Complete Air-Gap Registration](#).

You must perform these steps in order.



Only one Orchestrator can be active in the Air-Gap Portal. If more than one Orchestrator is registered, the last Orchestrator registered will be the active Orchestrator. Other Orchestrators will show as inactive.

### Step 1: Enable Air-Gap Mode and Obtain a Registration Key

To enable Air-Gap mode and obtain a registration key:

- Navigate to Orchestrator, and then click **Orchestrator > Orchestrator Server > Licensing > Air-Gap**.  
The Air-Gap tab displays.
- Select **Enable Air-Gap mode**.

The Enable/Disable Air-Gap Mode dialog box opens.





Once Air-Gap mode is enabled, it cannot be disabled. Only Silver Peak Support can disable Air-Gap mode.

3. Click **Confirm**

The Air-Gap tab refreshes.

4. Click **Air-Gap registration.**

The Air-Gap Registration dialog box opens.

5. Click **Generate New Key.**

Copy the registration key. You will need this key to register your account in the Air-Gap Portal.



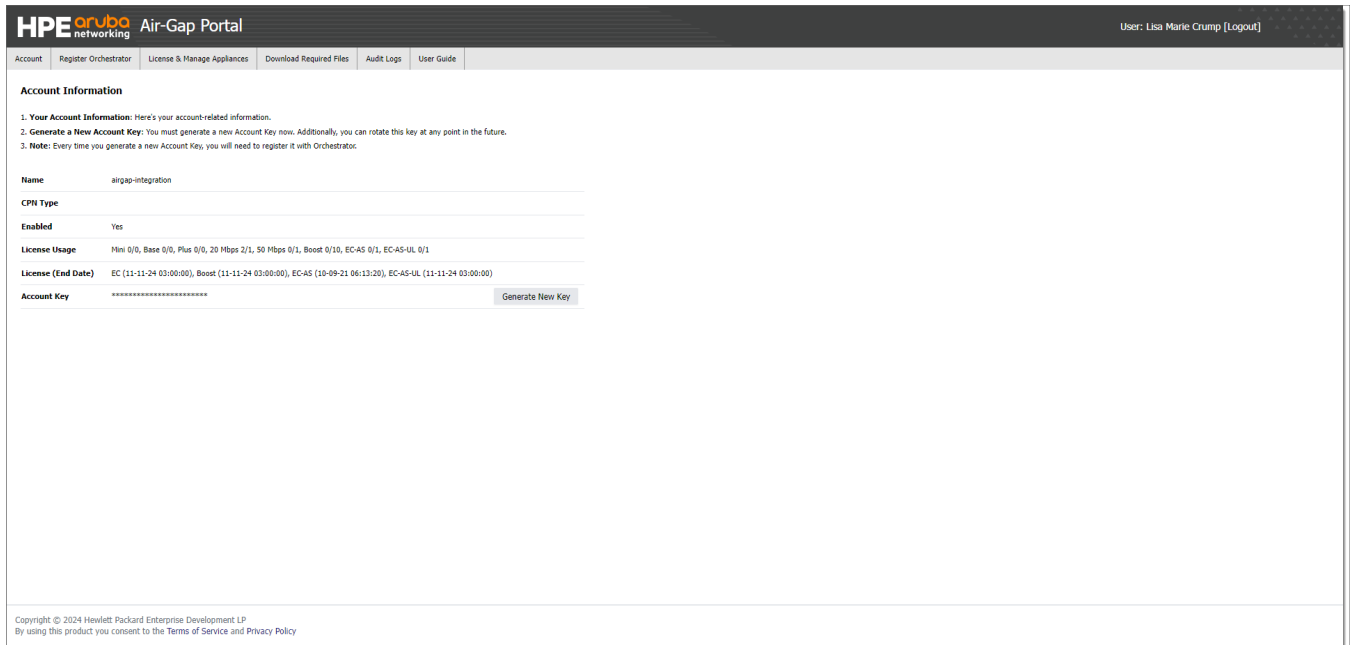
Proceed to [Step 2: Register Your Key.](#)

### Step 2: Register Your Key

To register your key:

1. Navigate to the [Air-Gap Portal](#).
2. Enter the email address assigned to the account and the password you set in Step 1 above, and then click **Sign in**.
3. Select your account name from the list, and then click **Select**.

The HPE Aruba Networking Air-Gap Portal opens.



4. Select the **Register Orchestrator** tab.





**HPE aruba networking Air-Gap Portal** User: Lisa Marie Crump [Logout]

Account Register Orchestrator License & Manage Appliances Download Required Files Audit Logs User Guide

**Orchestrator Registration**

- Register Orchestrator:** To begin the Air-Gap setup, first register your Orchestrator.
- Generate a Registration Key:** In Orchestrator, during the initiation process, when you enable Air-Gap Mode, you will receive a unique registration string.
- Input Registration Key:** Use this screen to enter the registration string generated by Orchestrator.
- Receive Response Code:** After entering the key here, you'll receive a response code.
- Complete Registration:** In Orchestrator, enter the response code provided to finish the registration process.

Register Orchestrator Copy Orchestrator Response

**Orchestrators** Search

Status	UUID	Hostname	Model	Create Time
Active	[Registration Key]	orchestrator.localdomain	ORCH	05-Mar-24 18:58:26

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- Paste the registration key you copied in [Step 1: Enable Air-Gap Mode and Obtain a Registration Key](#) in the text box on the left, and then click **Register Orchestrator**.

The Air-Gap Portal provides a response.

- Click **Copy Orchestrator Response**. You will need this to complete Air-Gap registration in Orchestrator in [Step 3: Submit the Response to Complete Air-Gap Registration](#).



Proceed to [Step 3: Submit the Response to Complete Air-Gap Registration](#).

### Step 3: Submit the Response to Complete Air-Gap Registration

To submit the response from the Air-Gap Portal to Orchestrator:

- Navigate to Orchestrator, and then click **Orchestrator > Orchestrator Server > Licensing > Air-Gap**.  
The Air-Gap tab displays.
- Click **Air-Gap registration**.  
The Air-Gap Registration dialog box opens.
- Paste the response from the Air-Gap Portal in the Portal response field, and then click **Save portal response** to complete your registration.
- Click **Close**.

Air-Gap registration is complete. You can now assign licenses to all gateways registered to your account.



Proceed to [Manage Licenses for Appliances in Air-Gap Mode](#).



# Manage Licenses for Appliances in Air-Gap Mode

After you complete Air-Gap registration, you can assign licenses to all appliances registered to your account.

To manage licenses for appliances in Air-Gap mode:

1. Navigate to the [Air-Gap Portal](#) and log in.
2. Select your account from the list, and then click **Select**.

The Air-Gap Portal opens.

The screenshot shows the 'Account Information' page of the HPE Aruba Air-Gap Portal. The page includes a navigation bar with links for Account, Register Orchestrator, License & Manage Appliances, Download Required Files, Audit Logs, and User Guide. The user is identified as Lisa Marie Crump. The main content area contains account details such as Name (airgap-integration), CPN Type (Yes), License Usage (Mini 0/0, Base 0/0, Plus 0/0, 20 Mbps 2/1, 50 Mbps 0/1, Boost 0/10, EC-AS 0/1, EC-AS-UL 0/1), License (End Date) (EC: 11-11-24 03:00:00, Boost: 11-11-24 03:00:00, EC-AS: 10-09-21 06:13:20, EC-AS-UL: 11-11-24 03:00:00), and Account Key (masked with asterisks). A 'Generate New Key' button is visible next to the Account Key field. A copyright notice at the bottom reads: 'Copyright © 2024 Hewlett Packard Enterprise Development LP. By using this product you consent to the Terms of Service and Privacy Policy.'

3. Click **License & Manage Appliances**.

All appliances registered to your account along with their serial numbers are listed.

The screenshot shows the 'Appliances' page of the HPE Aruba Air-Gap Portal. The page includes a navigation bar with links for Account, Register Orchestrator, License & Manage Appliances, Download Required Files, Audit Logs, and User Guide. The user is identified as Lisa Marie Crump. The main content area contains instructions for managing appliances and a table listing registered appliances. The table has columns for Serial Number, Model, License Request, EC License, Boost, and Feature Licenses. A search bar is located at the top right of the table area. The table contains five rows of appliance data.

<input type="checkbox"/>	Serial Numbe...	Model	License Request	EC License	Boost	Feature Licenses
<input type="checkbox"/>	001BBC09B27F	EC-V	EC(20 Mbps)	20 Mbps		
<input type="checkbox"/>	001BBC09B280	EC-V	EC(20 Mbps)	Not granted		
<input type="checkbox"/>	001BBC09B281	EC-V	EC(20 Mbps)	Not granted		
<input type="checkbox"/>	001BBC09B29E	HW	EC(20 Mbps)	Not granted		
<input type="checkbox"/>	001BBC1C0016	EC-V		Not approved		

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4. To add EC-Vs:



- a. Click **Add EC-V**.

The Add EC-V dialog box opens.

- b. In the **# of EC-V(s)** field, enter the number of EC-Vs you want to add, and then click **Add**. You can add up to 5,000 appliances. This includes hardware appliances and EC-Vs.

The Confirm to Add # EC-V dialog box opens. Ensure that the number is correct. EC-Vs cannot be deleted.

- c. If the number of EC-Vs is correct, click **Confirm**.

New EC-Vs are added to your list of appliances and assigned a serial number. (After you complete your Air-Gap deployment, you will need to assign serial numbers to the new EC-Vs in Orchestrator. This procedure is detailed in [Assign Serial Numbers to EC-Vs](#).)

5. Select one or more appliances to assign licenses to.

#### NOTES:



If you do not select any appliances, the Air-Gap Portal selects all appliances by default.

To assign licenses in bulk, all appliances must be on the same software version.

6. Click **Assign/Revoke Licenses**.

The Assign/Revoke Licenses dialog box opens.

7. Configure the following elements as needed:

Field	Description
<b>EC</b>	Select the <b>Add/Replace</b> check box, and then select the EC size from the list.
<b>Boost</b>	Select the <b>Add/Replace</b> check box, and then enter the amount of Boost to apply to the EC.
<b>Feature licenses</b>	<ol style="list-style-type: none"> <li>1. To add a feature license, select the <b>Add/Replace</b> check box.</li> <li>2. If required, select a license option from the list and specify a quantity, such as amount of bandwidth.</li> </ol>

8. To revoke a license or Boost from the selected appliance(s), select the **Revoke** check box.



#### NOTES:

If you revoke an EC license from an appliance, HPE Aruba Networking will revoke the Boost license and all feature licenses from that appliance.

You must revoke the license from an appliance before you can RMA it. For more information on how to RMA an appliance, see [Is the RMA process supported for the Air-Gap solution?](#)

9. Click **Apply**.

The Appliances table displays, and all licenses and feature licenses are listed in the table. After you assign licenses to all the appliances, you must download the license files from the Air-Gap Portal.

10. Select all appliances in the table, and then click **Download Required Files**.



**HPE aruba networking Air-Gap Portal** User: Lisa Marie Crump [Logout]

Account Register Orchestrator License & Manage Appliances **Download Required Files** Audit Logs User Guide

**Download Required Files**

- Final Step:** Your final task is to download two essential files: the License File and the Supporting File Package.
- Upload to Orchestrator:** After downloading, you'll need to upload both of these files to Orchestrator.
- License File:** The License File must be downloaded and uploaded to Orchestrator whenever there is a change in licensing.
- Supporting File Package:** Download and upload the Supporting File Package to Orchestrator during registration and periodically thereafter.

Download Appliance Licenses Download Supporting File

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**NOTE:** You must download and upload a new license file each time you add, reassign, or revoke a license.

11. Click **Download Appliance Licenses**.

The license file is an encrypted text file. It contains everything that is communicated through HPE Aruba Networking Cloud Portal in a typical installation.

12. Click **Download Supporting File**.

The supporting file package is an encrypted zip file that contains the SSH key, IPS and IDS signatures, and so on.

13. Navigate to Orchestrator, and then click **Orchestrator > Orchestrator Server > Licensing > Air-Gap**.

Dashboard Air-Gap ×

Air-Gap ⓘ

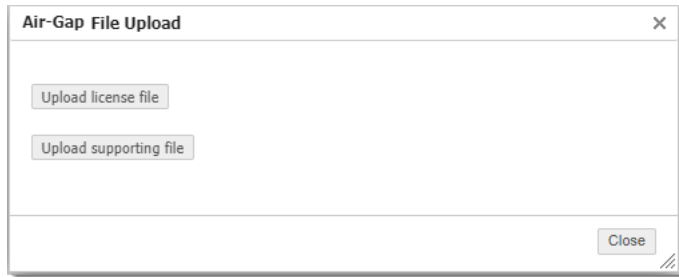
Enable Air-Gap mode Air-Gap Registration 5 mins

Serial Number	Appliance	License Info	Model
No Data Available			

14. Click **Air-Gap file upload**.

The Air-Gap File Upload dialog box opens.





15. Click **Upload license file**.

The File Open dialog box opens.

16. Navigate to and select the license file, and then click **Open**.

17. Click **Upload supporting file**.

The File open dialog box opens.

18. Navigate to and select the supporting file, and then click **Open**.

19. Click **Close**.

Now that you have assigned licenses to all appliances registered to your account, you must enable Air-Gap mode all each appliance.



Proceed to [Enable Air-Gap Mode on Appliances](#).



## Enable Air-Gap Mode on Appliances

After you assign licenses to all appliances registered to your account and upload the appliance licenses file and supporting files package to Orchestrator, you must enable Air-Gap mode on each appliance and EC-V. You will need the Orchestrator IP address, your account name, and account key.

To enable Air-Gap mode on an appliance or EC-V:

1. Log in to the appliance or EC-V.
2. Click **Administration > HPE Aruba Networking Cloud Services**.

The HPE Aruba Networking Cloud Services dialog box opens.

The screenshot shows the 'HPE Aruba Networking Cloud Services' dialog box. It has tabs for Monitoring, Configuration, Administration, Maintenance, and Support. The 'Administration' tab is active. The dialog is titled 'HPE Aruba Networking Cloud Services' and has a 'Connection Details' link. Under 'Air-gap Mode', 'Enable Air-gap Mode' is checked. Under 'Orchestrator', there is one entry with 'Orchestrator (1)' and 'Orchestrator Status' as 'Reachable'. Under 'Websocket (1)', the status is 'Connected' with 'Last Hello Sent: 22-Jan-24 12:06' and 'Last Hello Received: 22-Jan-24 12:06'. Under 'HPE ANW Central', 'Central Host', 'Central IP', 'Central Websocket', 'ORO gRPC', and 'OTO gRPC' are all listed as 'Not connected'. There is an 'SSL Certificate Check' checkbox which is unchecked. At the bottom are 'Apply' and 'Cancel' buttons.

3. Select **Enable Air-Gap Mode**.
4. In the **Orchestrator** field, enter the IP address of Orchestrator.
5. Click **Administration > License & Registration**.

The License & Registration dialog box opens.

The screenshot shows the 'License & Registration' dialog box. It has tabs for Monitoring, Configuration, Administration, Maintenance, and Support. The 'Administration' tab is active. The dialog is titled 'License & Registration' and has a 'Connection Details' link. Under 'Current License', it says 'Retrieving license...' and shows a red error message: 'Not licensed. Waiting for approval'. Under 'Lease', it shows 'Expires: 01-18-2024 11:41, Renew on: 12-20-2023 11:41'. Under 'Model', it shows 'EC-V'. Under 'Serial Number', it shows a masked field. Under 'Registration', there are fields for 'Account Name' (airgap-integration), 'Account Key' (masked), 'Appliance Tag' (Unassigned), and 'Account Type' (Available after registration). At the bottom are 'Apply' and 'Cancel' buttons.

6. In the **Account Name** field, enter your account name.
7. In the **Account Key** field, enter your account key.
8. Click **Apply**.
9. Log out of the appliance or EC-V.
10. Repeat the procedure for each appliance and EC-V in your deployment.

If you did not add EC-Vs in the Air-Gap Portal, your Air-Gap deployment is complete.



If you added EC-Vs in the Air-Gap Portal, go to [Assign Serial Numbers to EC-Vs](#) to complete your deployment.

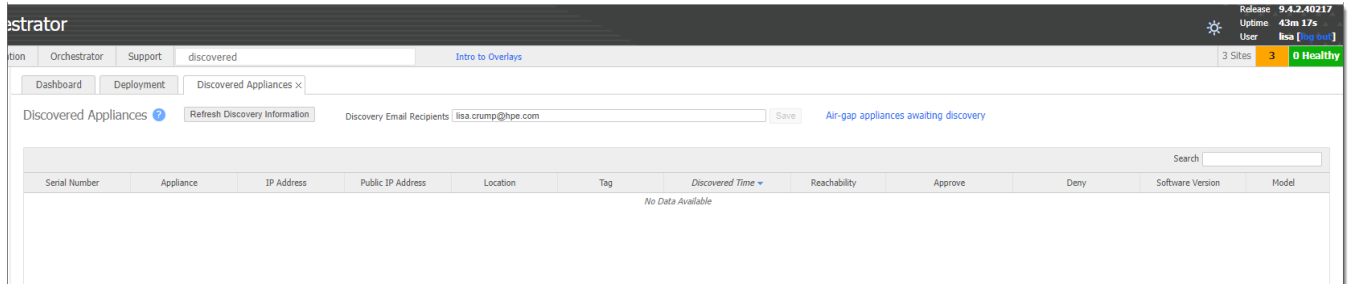


## Assign Serial Numbers to EC-Vs

Orchestrator automatically assigns serial numbers to EdgeConnect appliances when they are discovered. If you added EC-Vs in the Air-Gap Portal, you must assign a serial number to the new EC-Vs in Orchestrator.

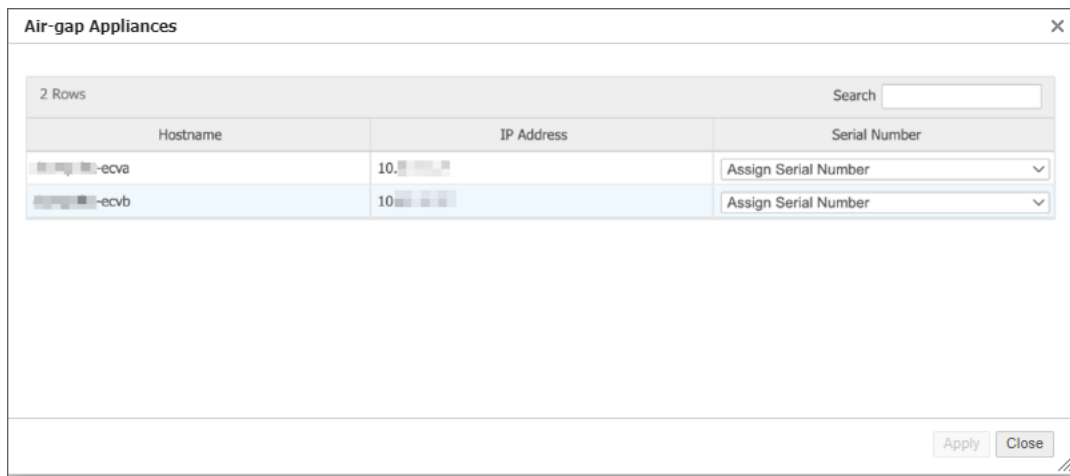
To assign serial numbers to EC-Vs in Orchestrator:

1. Navigate to Orchestrator, and then click **Configuration > Overlays & Security > Discovery > Discovered Appliances**.



2. Click **Air-Gap appliances awaiting discovery**.

The Air-Gap Appliances dialog box opens.

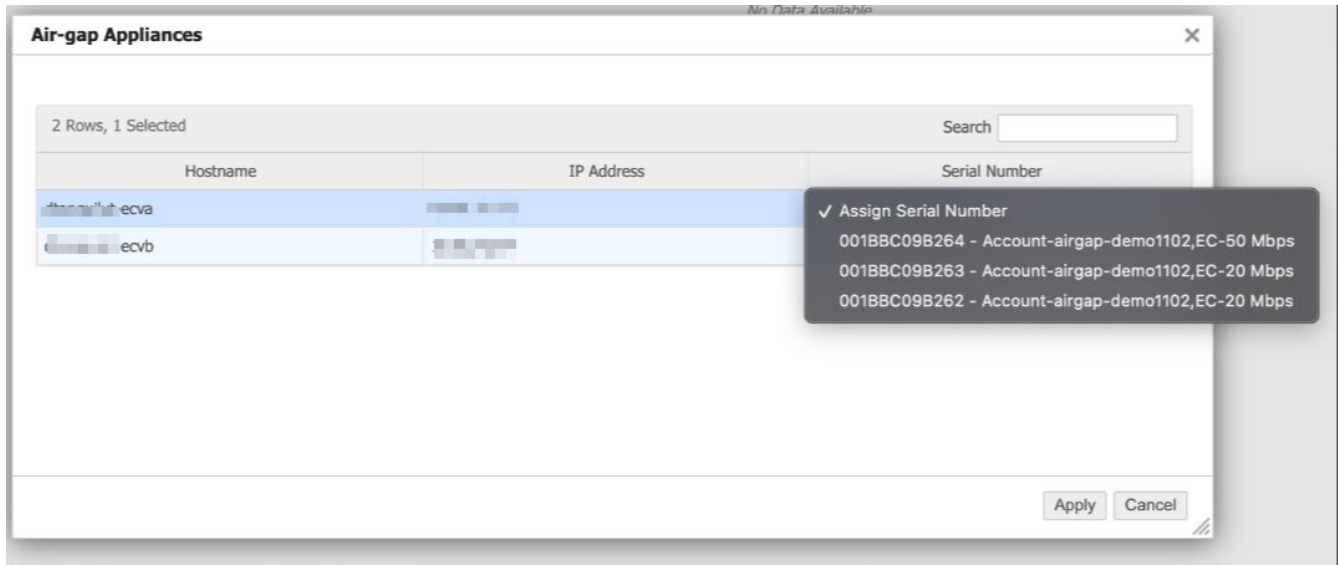


3. From the **Assign Serial Number** list, select a serial number to assign to the EC-V.



**IMPORTANT:** After a serial number is assigned to an EC-V, it is permanently associated with that EC-V. You cannot reassign serial numbers.





4. Click **Apply**.
5. Repeat this process for each EC-V.

After a serial number is assigned to an EC-V, the EC-V will show in Discovered Appliances notification in Orchestrator. The next time you log in to Orchestrator, approve the discovered EC-Vs.



You have successfully enabled and deployed HPE Aruba Networking EdgeConnect SD-WAN in Air-Gap mode.

## FAQs

This section contains frequently asked questions about the HPE Aruba Networking EdgeConnect SD-WAN product running in Air-Gap mode.

### How do I view my HPE Aruba Networking Air-Gap Portal Account information?

Log in to [Air-Gap Portal](#), and then click **Account**.

### How do I convert an existing deployment to Air-Gap mode?

You can convert an existing deployment to Air-Gap mode. Enable Air-Gap mode on your Orchestrator and access the Air-Gap Portal. Follow the steps outlined in this user guide to convert an existing EdgeConnect SD-WAN deployment to Air-Gap mode.

### Is the RMA process supported for the Air-Gap solution?

Yes. RMA (Return Merchandise Authorization) is supported. However, the RMA Wizard is not available. To RMA an appliance in Air-Gap mode:

1. Back up the appliance you want to return.
2. Add the license to the new appliance.
3. Restore the backup on the new appliance.

During the set up of your replacement hardware, the appliance will attempt automatically register with Cloud Portal. In a deployment without Air-Gap enabled, the appliance will automatically connect and register with Cloud





Portal. If you enabled Air-Gap in your deployment, you need to manually enter your account name and account key on the appliance.

4. Follow the steps in [Enable Air-Gap Mode on Appliances](#).

## How will I know when my Air-Gap license will expire?

Orchestrator will generate an alarm before your Air-Gap license expires.

## How do I add a user to my Air-Gap account?

To add a user to your Air-Gap account, contact [HPE Networking Support Portal](#) and create a ticket to request a new Air-Gap user.

## How do I download the EdgeConnect SD-WAN software?

To deploy EdgeConnect in Air-Gap mode, ensure that you are running Orchestrator 9.4.2 or later and all appliances are running ECOS version 9.4.2.0 or later. Obtain the latest software versions from the [HPE Networking Support Portal](#). For more information on installing Orchestrator, see [On-Prem Orchestrator - Download, Deploy, and Install](#).

In an air-gap environment, you may need to transfer the software via portable media, adhering to your organization's policies and controls.

## How do I perform upgrades to the EdgeConnect SD-WAN software?

Download software upgrades from the [HPE Networking Support Portal](#). Transfer the files manually into your air-gapped environment following your internal policies and controls.

Upgrade the Orchestrator using the SCP method, detailed here: [Upgrade Orchestrator or Stats Collectors](#).

To upgrade an appliance, upload the ECOS image to the Orchestrator. Manage upgrades through the Orchestrator as described here: [Upgrade Appliance Software](#).

## How do I add or remove appliances after the initial deployment?

You can add or remove appliances from your EdgeConnect SD-WAN deployment at any time. You can also add EC-Vs and update licenses. License changes are managed via the Air-Gap Portal using the process described in this document. After any change, download a new license file from the Air-Gap Portal and upload it to the Orchestrator.

## What's included in the "Supporting File"?

The supporting file contains data communicated between the HPE Aruba Networking Cloud Portal and the Orchestrator in a deployment that is connected to the internet. This includes application naming data, IDS/IPS signatures, and other operational information. HPE Aruba Networking recommends updating the supporting file monthly to ensure optimal system performance.

## Can I disable Air-Gap mode?

You cannot disable Air-Gap mode after you enable it. Contact HPE Aruba Networking Technical Support if you need to disable Air-Gap mode.

