

CloudVision Mastery Workshop

CloudVision Software Management

Lab Guide 2



COMPLIANCE UPDATES AND TOKEN

Compliance updates automatically keep the compliance settings within CloudVision up to date. These Compliance Updates include:

- Bug Database
- Software End-of-Life
- Hardware End-of-Life

Let's start by configuring the token for Compliance Updates so that the items above stay current.

1. Navigate to **Settings > Compliance Updates** (Settings is the gear icon in the bottom left corner).

Compliance Updates
Configure and manage compliance bug, security, and product lifecycle updates

Automatic Update

CloudVision's bug, security, and product lifecycle database can be automatically updated by syncing with Arista's AlertBase server. The database will be continually updated and CloudVision will display new alerts in [Compliance Overview](#).

Token

Add a token from your [Arista profile](#), which provides authorized access to the Arista AlertBase server.

Save

Compliance Update Logs

Date	Log Details	Time
May 30, 2024	Update successful (AlertBase released on 2024-05-29) → New updates written	03:27:41
May 29, 2024	Update successful	03:29:55
May 28, 2024	Update successful	04:42:55
May 27, 2024	Update successful	03:30:52
May 26, 2024	Update successful	03:26:08
May 25, 2024	Update successful	04:47:00
May 24, 2024	Update successful	04:47:00
May 23, 2024	Update successful	03:26:35
May 22, 2024	Update successful → Update successful	03:28:36
May 21, 2024	Update successful → Update successful	03:24:47 02:49:32
May 20, 2024	Update successful → Update successful	14:50:21 05:12:49

May 20, 2024

olsson [z_ROCKIES-ATD-01](#)

2. In the “**Authentication Token**” box, enter the following token.

4893c46ab1f074b733d48ddf2b60458f

3. Select “**Save**” to save the Token.

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May 26, 2024	Update successful	03:26:08
May 25, 2024	Update successful	04:47:00
May 24, 2024	Update successful	04:47:00
May 23, 2024	Update successful	03:26:35
May 22, 2024	Update successful → Update successful	03:28:36
May 21, 2024	Update successful → Update successful	03:24:47 02:49:32
May 20, 2024	Update successful → Update successful	14:50:21 05:12:49

May 20, 2024

olsson [z_ROCKIES-ATD-01](#)

After several seconds, a message confirming the token was validated and saved appears

Success



Token saved.

You can confirm or delete the token by clicking Reveal Token, after one has been saved:

Compliance Updates

Configure and manage compliance bug, security, and product lifecycle updates

Automatic Update

CloudVision's bug, security, and product lifecycle database can be automatically updated by syncing with Arista's AlertBase server. The database will be continually updated and CloudVision will display new alerts in [Compliance Overview](#).

Token

Add a token from your [Arista profile](#), which provides authorized access to the Arista AlertBase server.

▼ Reveal Token

4893c46ab1f074b733d48ddf2b60458f

Delete

NOTE: The access token can be generated for customer environments by following the blue hyperlink to your Arista profile. Each token has a lifespan of one year, so keep in mind that it will need to be periodically updated.

Now that the Authentication Token has been supplied, CloudVision will periodically check for compliance updates daily.

SOFTWARE MANAGEMENT

Create and manage image bundles, which can be pushed to devices in Network Provisioning. Each bundle can contain an image, one or more extensions, or both. Bundling an image with extensions allows you to create a software package that can be repeatedly pushed to different devices.

Images and Image Bundles

CloudVision simplifies image management for all network devices. A more recent CloudVision feature now allows users to download Arista images and extensions directly from within CloudVision, minimizing the steps required to deploy images to network devices.

NOTE: An access token is required to be able to download images from Arista's content delivery network (<https://www.arista.com/en/support/software-download>) to CloudVision.

First, we must enable the feature that allows images to be downloaded from within CloudVision.

1. Let's navigate to **Settings > General Settings**.
2. The General Settings page has a section called "**Features**" On the right side of your screen. Let's enable the "**Upload and Download Images and Extensions**" feature.

The screenshot shows the 'General Settings' page under the 'Settings' menu. The left sidebar includes options like General Settings, Access Control, Providers, Users, Roles, Service Accounts, Audit Logs, Compliance Updates, License Management, Packaging, Profiles, Provisioning Settings, Developer Tools, NetSQL Editor, Metric Explorer, REST API Explorer, Telemetry Browser, Resource Explorer, AQL Notebook, and Client Logging. The main content area is titled 'General Settings' and describes it as a place to view version and build information, enable or disable features, and configure cluster settings. It contains sections for 'Basic Settings' (Time Zone Display, ISO 8601 Format), 'Cluster Management' (Logo, Cluster Name set to Z_ROCKIES-ATD-00, WiFi Cloud Connector set to launchpad.wifi.arista.com), and 'Session Management' (Persistent Login, Session Duration set to 24 hours, Maximum Idle Time set to Disabled, Maximum Sessions per User set to Disabled). On the right, there is a 'Features' section listing various options with toggle switches. One option, 'Upload and Download Images and Extensions', is highlighted with a green rectangular border around its row.

3. Now let's Navigate to **Provisioning > Image Repository > Upload and Download Images**

Name ↑	Type	Version	Actions
vEOS-4.29.7M.swi	SWI	4.29.7M-35648205.4297M	
vEOS-4.31.3M.swi	SWI	4.31.3M-36737551.4313M	

Showing 2 of 2 rows

1. In the upper right corner, select “**Download Images**”
2. A pop-up window will appear showing the available images to be downloaded.
3. Expand **EOS-USA > Active Releases > 4.31 > EOS-4.31.3M**

Version	Actions
4.29.7M-35648205.4297M	
4.31.3M-36737551.4313M	

Showing 2 of 2 rows

4. Typically, you would click on the blue cloud icon to download an image, but we don't need to download any images for this lab.

NOTE: The images required for this lab are unique and have already been uploaded to CloudVision. **Please use the provided images in the steps going forward!**

5. Now that the image is downloaded, we need to create the Image Bundle that can be assigned to devices. Head to **Provisioning > Image Repository**.
6. Click on the “+” icon near the top of the right side of the screen.

The screenshot shows the Arista CloudVision interface with the 'Image Repository' page open. The left sidebar has 'Image Repository' selected under 'Provisioning'. The main area is titled 'Image Repository' with the subtitle 'Manage images and image bundles'. A search bar is at the top. Below it is a table titled 'Images' with one row. The table columns are: Name, Containers, Devices, Notes, Uploaded by, and Uploaded Date. The single entry is 'vEOS-4.29.7M'. The 'Uploaded by' column shows 'aristson' and the 'Uploaded Date' column shows '2024-05-30 10:38:29'. Navigation controls at the bottom show '1 - 1 of 1'.

Name	Containers	Devices	Notes	Uploaded by	Uploaded Date
vEOS-4.29.7M	0	0	Add Note	aristson	2024-05-30 10:38:29

7. In the “Name” field, enter a meaningful name for the image. For this lab, we’ll use “**vEOS-4.31.3M**”.

Create Image Bundle

Name: vEOS-4.31.3M

Save Cancel

8. To add the Image to the Image Bundle, you can select either the large disk icon in the center of the page or the smaller disk icon on the upper right side of the screen.
9. An “Images” dialog box will appear. Select **vEOS-4.31.3M.swi** and then select the “Add” button.

Name	Size	Version	Uploaded by	Uploaded Date	SHA512
vEOS-4.29.7M.swi	519.2 MB	4.29.7M-354...	arolsson	2024-05-30 1...	278294c1de...
vEOS-4.31.3M.swi	551.9 MB	4.31.3M-3673...	pfeit	2024-05-23 0...	ae739615c22...

Images

Add Cancel

10. You'll be returned to the “Create Image Bundle” page and should see the image you just added. Click the “Save” button to save the image bundle.

The screenshot shows the Arista Image Repository interface. On the left, a sidebar menu includes options like Provisioning, Network Provisioning, Configlets, Image Repository (which is selected and expanded), Upload and Download, Tasks, Actions, Change Control, Action Bundles, Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main area is titled "Image Repository" with the subtitle "Manage images and image bundles". A sub-menu "Create Image Bundle" is open, showing a form with a "Name" field containing "vEOS-4.31.3M". Below the form is a table with one row, showing the image details: "vEOS-4.31.3M.swi", "Reboot Required" (unchecked), "4.31.3M-367375514313M", and file size "551.9 MB". At the bottom right of the table are icons for edit, delete, and refresh. At the very bottom of the main area are "Save" and "Cancel" buttons.

11. The **vEOS-4.31.3M** image bundle will now appear in the Image Repository

The screenshot shows the Arista Image Repository interface. The sidebar menu is identical to the previous screenshot. The main area is titled "Image Repository" with the subtitle "Manage images and image bundles". A search bar at the top of the list area contains the word "Images". Below it is a table titled "Images" with columns: Name, Containers, Devices, Notes, Uploaded by, and Uploaded Date. Two entries are listed:

Name	Containers	Devices	Notes	Uploaded by	Uploaded Date
vEOS-4.31.3M	0	0	Add Note Add Note	adelson	2024-05-30 10:44:23
vEOS-4.29.7M	0	0		adelson	2024-05-30 10:36:29

At the bottom right of the table are icons for edit, delete, and refresh. The page footer indicates "1 - 2 of 2" and provides navigation links.

Image Assignment

Now that an Image Bundle has been created, we can assign it to the devices in the topology.

1. Let's start by navigating to **Provisioning > Network Provisioning**
2. Right-click on the “DC1” container and select **Manage > Image Bundle**

The screenshot shows the Arista Network Provisioning interface. On the left, a sidebar lists various provisioning categories like Configuration, Image Repository, and Tasks. The main area is titled "Network Provisioning" with the subtitle "Assign devices to containers and manage device-specific configuration". A search bar is at the top. Below it, a table lists network devices under "Tenant (6)". One row for "DC1" is selected, and a context menu is open over it, showing options: Add, Image Bundle, View Config, Snapshots, Network, Rollback, Recompile, and Remove. To the right of the table is a "Tenant" panel showing details: Tenant ID (Z_ROCKES-ATD-01), Associated Configlets (0), Associated Switches (0), Created by (cvp system), and Created on (2024-04-02 18:10:14). At the bottom are "Preview", "Save", and "Cancel" buttons.

3. Select the one created in the previous step, **vEOS-4.31.3M**, from the available image bundles.
4. Select the “**Update**” button at the bottom of the screen to assign the Image Bundle to all devices in the DC1 container.

The screenshot shows the "Image Bundle Assign" screen for the "DC1" container. The left sidebar is identical to the previous screenshot. The main area is titled "Image Bundle - DC1" with the subtitle "Image Bundle Assign". A table titled "Image Bundle - DC1" lists two entries: "vEOS-4.29.7M" and "vEOS-4.31.3M". Both entries have the "Containers" column set to "0". The "Uploaded by" column shows "adminson" and the "Uploaded Date" shows "2024-05-30 10:36:29" and "2024-05-30 10:44:23" respectively. At the bottom are "Update" and "Cancel" buttons.

5. You will now see a green hue surrounding the “DC1” container and the switches under the “DC1” hierarchy, indicating that changes must be saved. Click the “Save” button at the bottom of the screen to save the image assignment changes.

Name	IP Address	Mac Address	Serial No.	Container	Status
Udefined (0)					No data to be displayed

Tenant

Associated Configlets: 0
Associated Switches: 0
Created by: cvp system
Created on: 2024-04-02 18:10:14

6. You'll now see the switches are all shown in yellow with a “T” in the status section, indicating that these devices have available tasks.

Name	IP Address	Mac Address	Serial No.	Container	Status
Leaf-1A	192.168.225.245	0c:61:82:96:04:2d	SN-P1-Leaf1A	Leaf1	T
Leaf-1B	192.168.225.246	0c:61:22:fb:44:b7	SN-P1-Leaf1B	Leaf1	T
Leaf-2A	192.168.225.242	0c:08:5d:7e:54:43	SN-P1-Leaf2B	Leaf2	T
Leaf-2B	192.168.225.244	0c:cac7:5b:02:3d	SN-P1-Leaf2A	Leaf2	T
Spine-1	192.168.225.240	0c:da:d8:8e:e3:3e	SN-P1-Spine1	Spines	T
Spine-2	192.168.225.241	0c:2faf:f3:c3:73	SN-P1-Spine2	Spines	T

Tenant

Associated Configlets: 0
Associated Switches: 6
Created by: cvp system
Created on: 2024-04-02 18:10:14

7. On the left side of the screen, select “**Tasks**.” You should see 6 pending tasks, one for each device in the topology.
8. Select the 6 “**Upgrade Image**” tasks in the “**Assignable Tasks**” section.

Assignable Tasks

ID	Device	Creator	Type	Updated	Status
85	Spine-1 MAC: 24:6f:d0:db:a0:7f IP: 192.168.0.13	aolsson	Upgrade Image	5 minutes ago	Pending
84	Leaf-2A MAC: 24:ed:2c:17:34:53 IP: 192.168.0.17	aolsson	Upgrade Image	5 minutes ago	Pending
83	Leaf-1B MAC: 24:b8:ba:90:62:ee IP: 192.168.0.11	aolsson	Upgrade Image	5 minutes ago	Pending
82	Leaf-1A MAC: 24:d4:99:e9:a0:f0 IP: 192.168.0.16	aolsson	Upgrade Image	5 minutes ago	Pending
81	Leaf-2B MAC: 24:c6:e0:df:0f:06 IP: 192.168.0.10	aolsson	Upgrade Image	5 minutes ago	Pending
80	Spine-2 MAC: 24:74:37:51:86:7a IP: 192.168.0.12	aolsson	Upgrade Image	5 minutes ago	Pending

All Tasks

ID	Device	Creator	Type	Updated	Status	Change Control
85	Spine-1 MAC: 24:6f:d0:db:a0:7f IP: 192.168.0.13	aolsson	Upgrade Image	5 minutes ago	Pending	
84	Leaf-2A MAC: 24:ed:2c:17:34:53 IP: 192.168.0.17	aolsson	Upgrade Image	5 minutes ago	Pending	
83	Leaf-1B MAC: 24:b8:ba:90:62:ee IP: 192.168.0.11	aolsson	Upgrade Image	5 minutes ago	Pending	
82	Leaf-1A MAC: 24:d4:99:e9:a0:f0 IP: 192.168.0.16	aolsson	Upgrade Image	5 minutes ago	Pending	
81	Leaf-2B MAC: 24:c6:e0:df:0f:06 IP: 192.168.0.10	aolsson	Upgrade Image	5 minutes ago	Pending	

9. Now, we need to create a change control with those tasks, so select the “**+ Create Change Control**” button at the top of the screen.
10. The “**Create Change Control**” screen should pop up. Ensure all 6 tasks are selected and that “**Series**” is chosen. Then, choose “**Create Change Control with 6 Tasks**” on the top left of the pop-up.

The screenshot shows the Arista Network interface for managing change controls. On the left, a sidebar lists various network management options like Provisioning, Network Provisioning, Configuration, Image Repository, and Change Control. The Change Control section is expanded, showing sub-options like Action Bundles, Templates, Studies, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main area displays a table of 'Assignable Tasks' with columns for ID, Device, Creator, Type, Updated, and Status. A modal window titled 'Create Change Control > Change 2024-05-30-13-37-08' is open, showing a summary of the tasks assigned to the change control. The status for all tasks listed is 'Pending'.

11. You'll then be taken to the change control screen. Let's continue by giving the change control a meaningful name. At the top of the change control where it says "Name," click the little pencil icon and enter "**4.31.3 Image Upgrade**" and press enter.

The screenshot shows the 'Change Control Summary' page for the '4.31.3 Image Upgrade' task. The left sidebar is identical to the previous screenshot. The main area shows the 'Change Control Stages' (6 actions) for the task. Each stage is represented by a box containing the device name and the action being performed (Upgrade Image). To the right, there are sections for 'Change Control Summary' (with tabs for Root Execute, Parallel, Series, Last Edit, Approval, In Progress, and Completed), 'Action Summary' (with a count of 6 actions), and 'Device Status' (listing devices Leaf-1A, Leaf-1B, Leaf-2A, Leaf-2B, Spine-1, and Spine-2, all marked as Active).

As you can see in the change control, every device in our topology will be upgraded in series. While that might look good, it's not an optimal upgrade process for our environment. For example, how do we know that MLAG Health is in a good state so we don't have an outage during the upgrade? How do we know that the MLAG timers have been completed and the

switch is back online before taking down its peer for the upgrade? Let's leave the change control as is for now and return to it once we've completed the following steps.

ACTION BUNDLES

An action bundle is a collection of actions that are applied to the stage rule(s) of a change control template. The template is then used in a change control action, to organize the tasks into logical steps as administratively defined where the actions contained in its action bundles are executed

Each action bundle can contain up to one task action and an unlimited number of non-task actions. You can apply the same action bundle to multiple change control templates.

Create an Action Bundle for the Leafs

Let's create a new action bundle for our Leafs that can help us do MLAG validation as part of the upgrade process.

1. Start by navigating to **Provisioning > Action Bundles**.
2. Select "**New Action Bundle**".

The screenshot shows the Arista Cloud interface. On the left is a sidebar with various navigation options: Provisioning, Network Provisioning, Configlets, Image Repository (with 'Upload and Download' sub-option), Tasks, Actions, Change Control (with 'Action Bundles' selected), Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. At the bottom of the sidebar are three icons: a white square with a blue outline, a white gear, and a white triangle. The main content area has a header 'Action Bundles' with the subtitle 'Group actions into bundles for use in change control templates'. It shows a single row with a small cloud icon, the text 'No data', and a blue button '+ New Action Bundle'. In the top right corner, there is a user profile icon with a red star and the text 'Z_ROCKIES-ATD-01'.

- In the “**Bundle Name**” field, enter a meaningful description for this action bundle. This Action Bundle will be used for Leaf upgrades, so we’ll use the name “**Leaf Upgrade Action Bundle**”.

Action Bundles
Group actions into bundles for use in change control templates

New Action Bundle

Bundle Name
Leaf Upgrade Action Bundle

Description (optional)

Add action... Series Parallel

No actions added.

Cancel Save

- Select the “**Add action**” dropdown box and choose the “**Lightweight Check MLAG Health**” action.

Action Bundles
Group actions into bundles for use in change control templates

New Action Bundle

Bundle Name
Leaf Upgrade Action Bundle

Description (optional)

Lightweight Check MLAG Health Series Parallel

1. Lightweight Check MLAG Health
DeviceID
Select a device...
checkDuration

Cancel Save

5. In the “**DeviceID**” section, choose the “**Provide via template**” option and set the “**checkDuration**” to 600 (5 Minutes).

The screenshot shows the Arista Network Manager interface. On the left, there's a sidebar with various navigation options like Provisioning, Network Provisioning, Configlets, Image Repository, Tasks, Actions, Change Control, Action Bundles, Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main area is titled "Action Bundles" with the sub-instruction "Group actions into bundles for use in change control templates". A list shows "Leaf Upgrade Action Bundle". On the right, a detailed view of the "Leaf Upgrade Action Bundle" is shown. It has a header "Action Bundle: Leaf Upgrade Action Bundle". Under "Bundle Name", "Leaf Upgrade Action Bundle" is entered. There's a field for "Description (optional)" which is empty. Below that is a "Add action..." dropdown menu with "1. Lightweight Check MLAG Health" selected. The "DeviceID" dropdown is set to "Provide via template". The "checkDuration" input field contains "600". At the bottom right are "Cancel" and "Save" buttons.

NOTE: The “**Add action**” dropdown may stay populated with the name of the last action that was chosen

6. Select the “**Add action**” dropdown box and select the “**Execute Task**” action.

Action Bundles

Group actions into bundles for use in change control templates

Leaf Upgrade Action Bundle

Action Bundle: Leaf Upgrade Action Bundle

Bundle Name: Leaf Upgrade Action Bundle

Description (optional):

Add action... Series Parallel

1. Lightweight Check MLAG Health

DeviceID:

checkDuration:

2. Task

Run this action with a pre-defined TaskID to execute the specified network changes.

TaskID:
(assigned by template)

7. Select the “**Add action**” dropdown box again and select the “**Lightweight Check MLAG Health**” action.
8. In the “**DeviceID**” section, choose the “**Provide via template**” option and set the “**checkDuration**” to 600 (5 Minutes).

Action Bundles

Group actions into bundles for use in change control templates

Leaf Upgrade Action Bundle

Action Bundle: Leaf Upgrade Action Bundle

Description (optional):

Series Parallel

1. Lightweight Check MLAG Health

DeviceID:

checkDuration:

2. Task

Run this action with a pre-defined TaskID to execute the specified network changes.

TaskID:
(assigned by template)

3. Lightweight Check MLAG Health

DeviceID:

checkDuration:

9. Select the “**Series**” option so that the actions in this Action Bundle are in series.
10. Select “**Save**” once the Action Bundle looks like the one in the screenshot below.

Action Bundles

Group actions into bundles for use in change control templates

Leaf Upgrade Action Bundle

Action Bundle: Leaf Upgrade Action Bundle

Bundle Name: Leaf Upgrade Action Bundle

Description (optional):

Add action... Series Parallel

1. Lightweight Check MLAG Health

DeviceID:

Provide via template:

checkDuration: 600

2. Task

Run this action with a pre-defined TaskID to execute the specified network changes.

TaskID: (assigned by template)

3. Lightweight Check MLAG Health

DeviceID:

Provide via template:

checkDuration: 600

Cancel Save

Create an Action Bundle for the Spines

Now, let's repeat the process we just went through with a few changes tailored to the Spines. Since the Spines aren't in an MLAG pair, we don't need to do the MLAG Health Check, but we can use BGP Maintenance Mode since all the peers are running BGP and support the BGP GSHUT community.

1. Let's start by creating a new Action Bundle. Click “**New Action Bundle**” on the top right of the screen.

Action Bundles

Group actions into bundles for use in change control templates

Leaf Upgrade Action Bundle

+ New Action Bundle

Edit | Delete

2. In the “**Bundle Name**” field, enter a meaningful description for this action bundle. This Action Bundle will be used for Spine upgrades, so we’ll use the name “**Spine Upgrade Action Bundle**”.

New Action Bundle

Bundle Name

Spine Upgrade Action Bundle

Description (optional)

Add action... ▾

Series | Parallel

No actions added.

3. Select the “**Add action**” dropdown box and select the “**Enter BGP Maintenance Mode**” action.
4. In the “**DeviceID**” section, choose the “**Provide via template**” option.

NOTE: The “Add action” dropdown may stay populated with the name of the last action that was chosen

5. Select the “Add action” dropdown box and select the “Execute Task” action.

6. Select the “Add action” dropdown box again and select the “Exit BGP Maintenance Mode” action.

7. In the “**DeviceID**” section, choose the “Provide via template” option.

Action Bundle: Spine Upgrade Action Bundle

Bundle Name: Spine Upgrade Action Bundle

Description (optional):

Add action...

1. Enter BGP Maintenance Mode

Pair this action with Exit BGP Maintenance Mode to run specific tests detailed in the EOS User Manual before reinserting the device into the network.

DeviceID:

2. Task

Run this action with a pre-defined TaskID to execute the specified network changes.

TaskID:

3. Exit BGP Maintenance Mode

Pair this action with Enter BGP Maintenance Mode to run specific tests detailed in the EOS User Manual before reinserting the device into the network.

DeviceID:

8. Select “**Series**” so that the actions in this Action Bundle are in series.

9. Select “**Save**.”

Action Bundle: Spine Upgrade Action Bundle

Bundle Name: Spine Upgrade Action Bundle

Description (optional):

Add action...

1. Enter BGP Maintenance Mode

Pair this action with Exit BGP Maintenance Mode to run specific tests detailed in the EOS User Manual before reinserting the device into the network.

DeviceID:

2. Task

Run this action with a pre-defined TaskID to execute the specified network changes.

TaskID:

3. Exit BGP Maintenance Mode

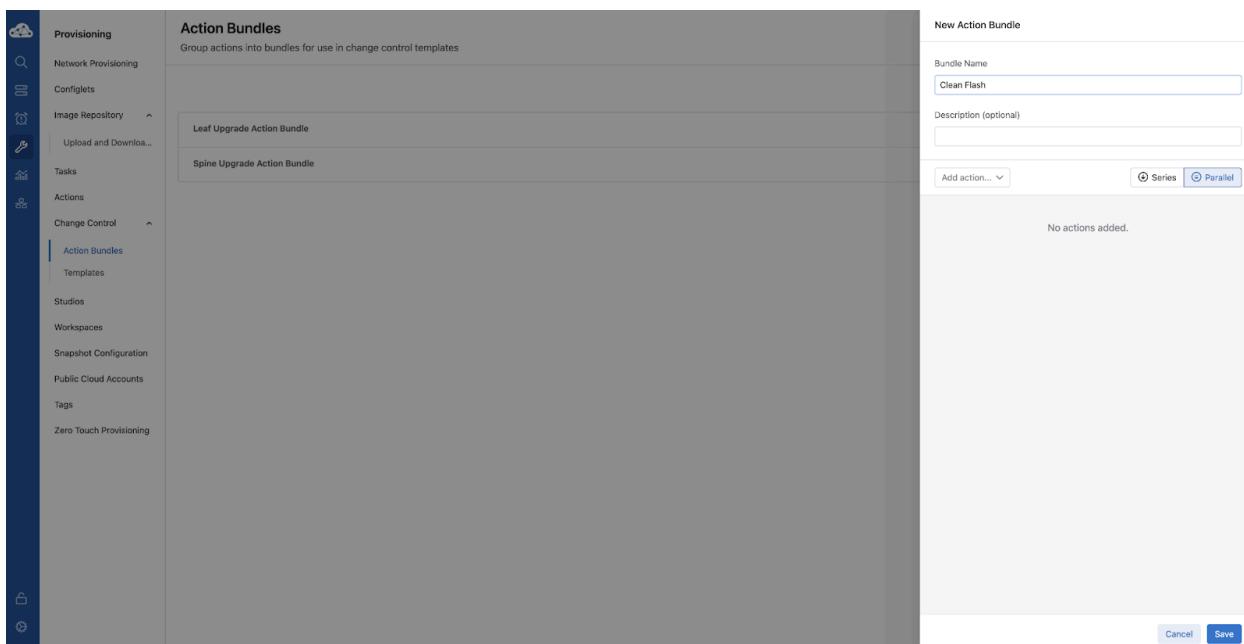
Pair this action with Enter BGP Maintenance Mode to run specific tests detailed in the EOS User Manual before reinserting the device into the network.

DeviceID:

Create an Action Bundle to Cleanup the Flash

The final action bundle that we'll create will remove the old images from Flash so we can keep the Flash nice and tidy and not have old images hanging around forever.

1. Select “**New Action Bundle**”
2. In the “**Bundle Name**” field, enter a meaningful description for this action bundle. This Action Bundle will be used to clean up the flash, so we’ll use “**Clean Flash**.”



3. Select the “**Add action**” dropdown box and select the “**Clean Flash**” action.
4. In the “**DeviceID**” section, choose the “**Provide via template**” option.
5. In the “**FileSpecAndGlob**” section, enter:

```
flash:*.swi
```

6. Select “**Save**.”

7. You should now see the three Action Bundles that have been created.

TEMPLATES

A change control template is used as a structure for repeatable change control operations. It enables you to complete common and frequent changes in your network without needing to configure the details of the change control operation each time.

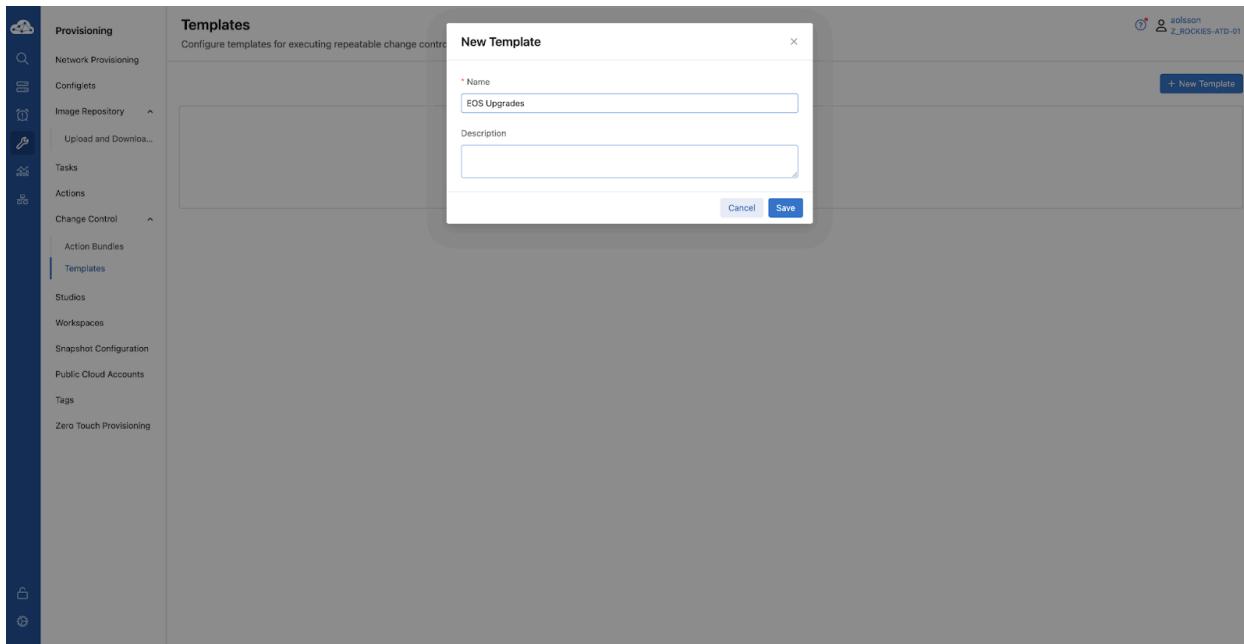
Two elements are used to construct a change control template, action bundles, and templates. Once a template has been created, you can then use it in all future change control operations.

Create a Template

1. The first thing we need to do is navigate to **Provisioning > Templates**.
2. Create a new template by selecting “**+ New Template**”.

The screenshot shows the Arista Provisioning interface. On the left is a sidebar with various navigation options: Network Provisioning, Configlets, Image Repository (with Upload and Download), Tasks, Actions, Change Control (which is expanded to show Action Bundles and Templates, with Templates selected), Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main content area is titled "Templates" with the subtitle "Configure templates for executing repeatable change control operations". It displays a message "No data" with a small cloud icon. In the top right corner, there is a user profile icon and the text "joleson Z_ROCKIES-ATD-01". A blue button labeled "+ New Template" is located in the bottom right corner of the main content area.

3. The “**New Template**” dialog box should appear. Enter a name for the new template. Since this template will be for upgrades, let’s call it “**EOS Upgrades**”.
4. Click “**Save**.”



5. Next, you'll be taken to a page where you can define the template options.

NOTE: The Stage rules need to match the order they are in the lab guide. Ensure you are clicking the **“Add Stage Rule”** of the last Stage in the Template.

6. Click on the pencil icon next to the “**Stage Rule Name**” of the first stage rule and name it “**Upgrade B Leafs**”. As you can probably tell from the name, this stage will only be used to upgrade the B Leafs.
7. Since we’ll upgrade the Leafs in this Template stage, choose “**Leaf Upgrade Action Bundle**” in the “**Action Bundle**” dropdown.
8. In the “**Device Filter**” dropdown, change the selection to “**Tag Query**.”
9. In the box just to the right of the “**Tag Query**” dropdown, we must select Leaf-1B and Leaf-2B. To do this, type “**device:**” and choose Leaf-1B from the dropdown followed by a “,” then select Leaf-2B.

NOTE: Keep in mind that the Tag Key:Value pairs are case sensitive.

10. Change the “**Arrange Bundles**” dropdown from “**Series**” to “**Parallel**” so that this action can be run on both B switches at the same time.

The screenshot shows the Arista EOS Upgrades configuration interface. On the left, there's a sidebar with various navigation options like Provisioning, Network Provisioning, Configlets, Image Repository, Tasks, Actions, Change Control, Action Bundles, Templates (which is selected), Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main area is titled 'EOS Upgrades' and shows a 'Stage Rules' section for 'Upgrade B Leafs'. It includes fields for 'Action Bundle' (set to 'Leaf Upgrade Action Bundle'), 'Device Filter' (set to 'Tag Query'), and a 'Tag Query' input field containing 'device:Leaf-1B,Leaf-2B'. Below these, there are buttons for 'Create Bundle', 'Move Down', 'Move Up', 'Delete', and 'Add Stage Rule'. The top right corner shows the user 'solsson' and the template name 'z_ROCKIES-ATD-01'.

11. Repeat the steps completed for the “**Upgrade B Leafs**” stage, but for “**Upgrade A Leafs**”. Be sure to select both Leaf-1A and Leaf-2A in the Tag Query.

12. Now that the stages for the Leafs are complete, we can create the next stage, which will be used to upgrade the spines. Click on “**+ Add Stage Rule**” once again.
13. Change the name of the stage to “**Upgrade Spines**”.
14. For the “**Action Bundle**,” we need to use the “**Spine Upgrade Action Bundle**”.
15. The Tag Query will be a bit different, we will use the “**Container**” tag for the Spines since both Spines are in the same container in Network Provisioning. Enter “**Container: SPINES**” in the Tag Query field.
16. We’ll leave the Arrange Bundles dropdown as “**Series**” because we want to upgrade one Spine at a time.

17. Add a final stage to the Template to clean the flash. We'll name it "**Clean Flash**". This will remove the old EOS Image after all the upgrades are completed. Select the "**Clean Flash**" action bundle created in the previous section in the Action Bundle dropdown.
18. The "**Device Filter**" can remain unchanged because we want to clean the flash on all the devices in the change control as part of this stage in the Template.
19. Change the "**Arrange Bundles**" dropdown from "**Series**" to "**Parallel**" so that this action can be run on all devices simultaneously.

Templates
EOS Upgrades

Upgrade A Leafs

Action Bundle: Leaf Upgrade Action Bundle | Create Bundle

Device Filter: Tag Query | device: Leaf-1A , Leaf-2A | Found 2 devices

Arrange Bundles: Parallel

Upgrade Spines

Action Bundle: Spine Upgrade Action Bundle | Create Bundle

Device Filter: Tag Query | Container: Spines | Found 2 devices

Arrange Bundles: Series

Clean Flash

Action Bundle: Clean Flash | Create Bundle

Device Filter: All devices in Change Control

Arrange Bundles: Parallel

20. Change the “**Stage Rules**” section at the top left of the page to “**Series**” so all stages in the template happen in series.

Templates
EOS Upgrades

EOS Upgrades

Enter template description... ↗

Stage Rules (Series) ↗

Upgrade B Leafs

Action Bundle: Leaf Upgrade Action Bundle | Create Bundle

Device Filter: Tag Query | device: Leaf-1B | device: Leaf-2B | Found 2 devices

Arrange Bundles: Parallel

Upgrade A Leafs

Action Bundle: Leaf Upgrade Action Bundle | Create Bundle

Device Filter: Tag Query | device: Leaf-1A | device: Leaf-2A | Found 2 devices

Arrange Bundles: Parallel

Upgrade Spines

Action Bundle: Spine Upgrade Action Bundle | Create Bundle

Device Filter: Tag Query | Container: Spines | Found 2 devices

Arrange Bundles: Series

21. Click on “**Save Template**” on the top right of the screen.

EOS Upgrades

EOS Upgrades Enter template description... [Create](#)

Series Stage Rules

Upgrade B Leaf

Action Bundle: Leaf Upgrade Action Bundle [Create Bundle](#)

Device Filter: Tag Query device:Leaf-1B, Leaf-2B [Edit](#) [Delete](#) [Find 2 devices](#)

Arrange Bundles: Parallel

Upgrade A Leaf

Action Bundle: Leaf Upgrade Action Bundle [Create Bundle](#)

Device Filter: Tag Query device:Leaf-1A, Leaf-2A [Edit](#) [Delete](#)

Arrange Bundles: Parallel

Upgrade Spines

Action Bundle: Spine Upgrade Action Bundle [Create Bundle](#)

Device Filter: Tag Query Container: Spines [Edit](#) [Delete](#) [Find 2 devices](#)

[Move Down](#) [Move Up](#) [Delete](#) [Add Stage Rule](#)

[Move Down](#) [Move Up](#) [Delete](#) [Add Stage Rule](#)

[Move Down](#) [Move Up](#) [Delete](#) [Add Stage Rule](#)

Now that the Action Bundles and Upgrade Template have been created, they can be added to the change control created previously.

22. Head over to **Provisioning > Change Control**.
23. Select the “**4.31.3 Image Upgrade**” Change Control.

Change Control Manage, review, and execute change control operations [+ Create Change Control](#)

Filter by change control name, ID or user All 2 Pending Approval 1 Approved 0 Running 0 Failed 0 Success 1

Date Range 2024-05-24 → 2024-05-31 Device Filter (show all)

4.31.3M Image Upgrades Edited 17 seconds ago by [olsson](#)

Change 2024-05-30-12-27-07 Completed 1 day ago by [olsson](#)

Recently Executed 2 Days

1 Change Control

- Change 2024-05-30-12-27-07 Succeeded May 30, 2024 12:28:38 GMT-6
- Change 2024-05-30-12-27-07 Started by [olsson](#) May 30, 2024 12:28:28 GMT-6
- Change 2024-05-30-12-27-07 Approved by [olsson](#) May 30, 2024 12:28:24 GMT-6
- + Change 2024-05-30-12-27-07 Created by [olsson](#) May 30, 2024 12:27:12 GMT-6

24. Once in the change control, click the blue “Select a Template” dropdown box.
25. In the “Change Control Template” dialog box, select the “EOS Upgrades” Template created in the previous section.
26. Select “Apply Template”.

The screenshot shows the Arista Cloud interface for managing network provisioning. On the left, the 'Provisioning' sidebar is open, with 'Change Control' selected. The main workspace displays a 'Change Control' task titled '4.31.3M Image Upgrades'. This task includes fields for 'Name' (4.31.3M Image Upgrades), 'Description' (vEOS-4.31.3M), and 'Schedule Start' (Select date). Below these are sections for 'Search actions' and 'Select a Template'. A dropdown menu is open, showing 'EOS Upgrades' as the selected template. The 'Change Control Summary' pane shows the status of the upgrade tasks across various devices: Spine-2, Leaf-2B, Leaf-1A, Leaf-1B, Leaf-2A, and Spine-1. The bottom right of the screen shows summary statistics for actions, device status, and image changes.

The change control will reflect what was defined in the upgrade template. While expanding the newly added stages and looking at the change control, remember that the green circle with the arrow in the center means that the action will be completed in series, and the purple circle with the two parallel lines means that those actions will be completed in parallel.

The screenshot shows the Arista Network's Change Control interface. On the left, a sidebar navigation menu includes options like Provisioning, Network Provisioning, Configlets, Image Repository, Tasks, Actions, and Change Control (which is currently selected). The main content area displays a "Change Control" section for a task named "4.31.3M Image Upgrade". This section includes fields for Name, Description, and Schedule Start. Below these are sections for "Search actions" and "Select a Template". A "Change Control Stages" section lists 24 actions under four categories: Upgrade B Leafs, Upgrade A Leafs, Upgrade Spines, and Clean Flash. To the right, there are three main panels: "Change Control Summary" (showing Root Execute, Last Edit by user 'olsson' 1m ago, Approval status, and In Progress/Completed timeline), "Action Summary" (with counts for Image, Clean Flash, and Misc actions), and "Device Status" (listing Leaf-1A, Leaf-1B, Leaf-2A, Leaf-2B, Spine-1, and Spine-2, all marked as Active).

27. Expand each stage of the change control by Clicking the “+” next to each stage.
28. Validate that your change control looks similar to the screenshot below.

This screenshot shows the same Arista Change Control interface as above, but with the "Change Control Stages" section expanded. The 24 actions are now broken down into more detailed sub-steps, such as "Upgrade B Leafs" (6 actions), "Upgrade A Leafs" (6 actions), "Upgrade Spines" (6 actions), and "Clean Flash" (6 actions), each with its own sub-tasks. The rest of the interface (Search actions, Select a Template, Change Control Summary, Action Summary, and Device Status) remains identical to the first screenshot.

Now that the change control has been updated using the template, it can be executed as is. However, there's a process that can be used to preload the images on the devices to minimize upgrade times during a maintenance window.

29. On the bottom right section of the change control, click on “**Image Changes**”

30. Select the blue “**Preload Images**” button.

31. A “**Preload Software Images**” dialog box appears. From here, the number of Parallel Downloads, which can be 6 for the lab, can be specified.

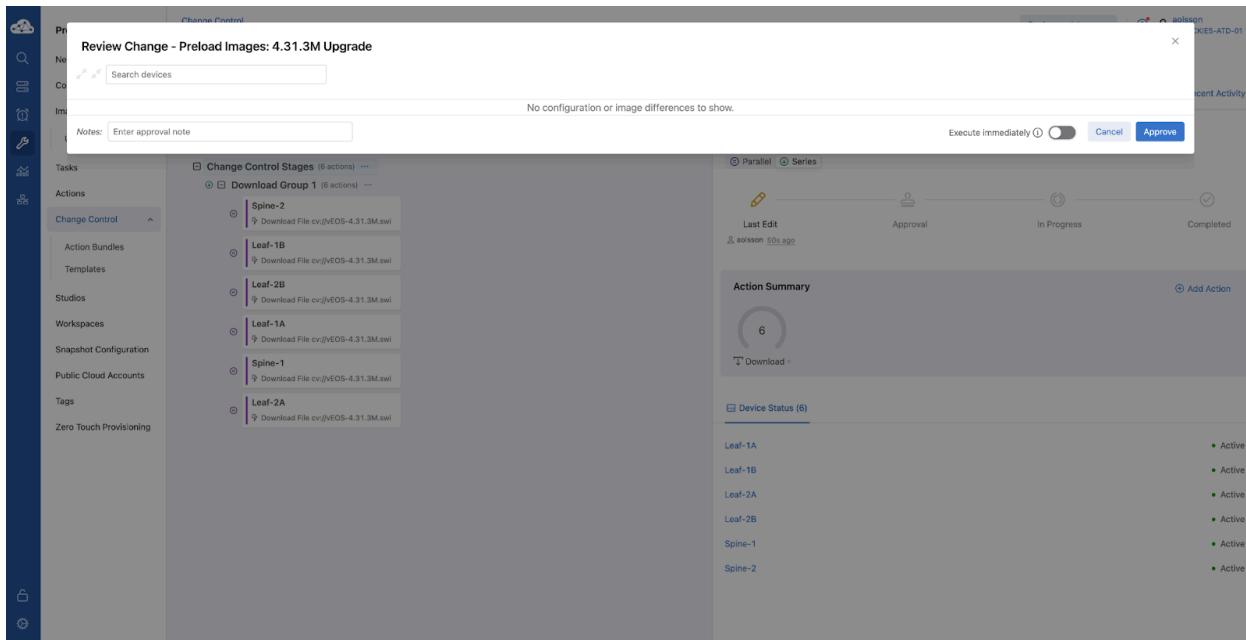
32. Click “**Create Change Control**” to generate a new change control to preload the images on all devices.

The screenshot shows the Arista CloudVision interface. On the left, a sidebar navigation includes 'Provisioning', 'Network Provisioning', 'Configlets', 'Image Repository', 'Upload and Download', 'Tasks', 'Actions', 'Change Control' (which is selected), 'Action Bundles', 'Templates', 'Studios', 'Workspaces', 'Snapshot Configuration', 'Public Cloud Accounts', 'Tags', and 'Zero Touch Provisioning'. The main panel displays a 'Change Control' section for a '4.31.3M Upgrade'. The 'Name' field is set to '4.31.3M Upgrade'. The 'Schedule Start' field has a placeholder 'Select date'. Below this, there's a search bar and a 'Select a Template' dropdown. A large central area shows a list of actions under 'Change Control Stages': 'Clean Flash' (6 actions), 'Upgrade B Leafs' (6 actions), 'Upgrade A Leafs' (6 actions), 'Upgrade Spines' (6 actions), and 'Clean Flash' (6 actions). To the right, a 'Change Control Summary' section shows the status of the upgrade: 'Root Execute' (Parallel) is in progress. Below this is a 'Preload Software Images' modal window with a 'Create Change Control' button. The background also shows a 'Device Status' section with 6 devices listed.

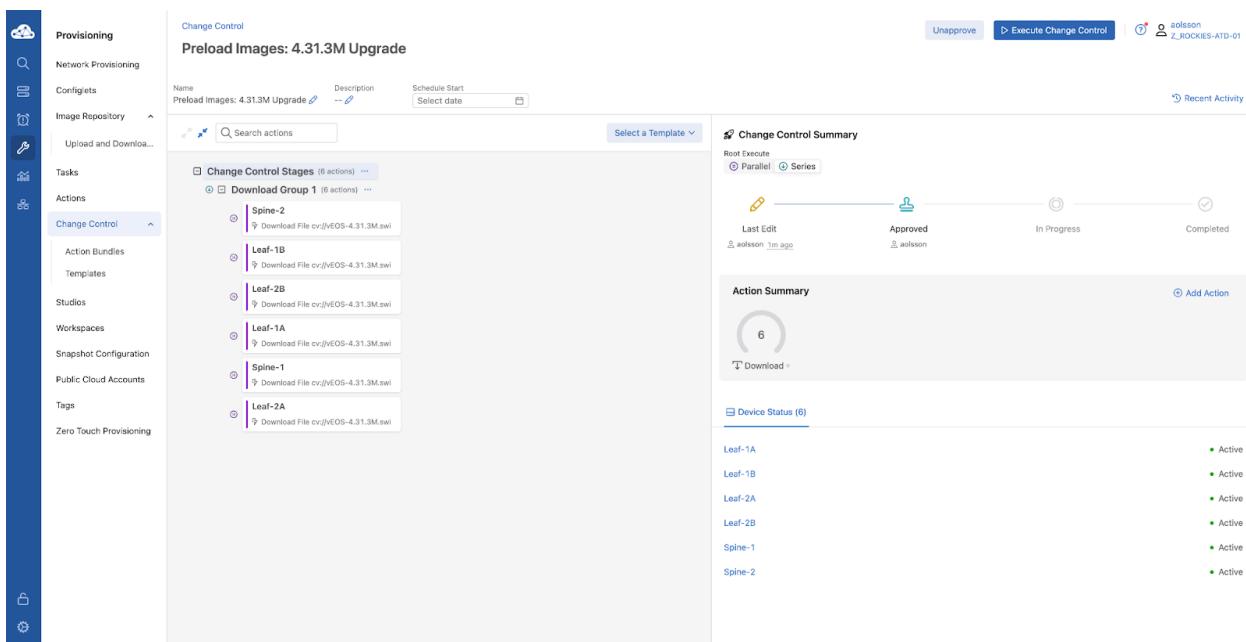
33. CloudVision will redirect you to the new “**Preload Images: 4.31.3M Upgrade**” change control.
34. Select “**Review and Approve**” in the upper right corner to review the change control.

The screenshot shows the Arista CloudVision interface. The sidebar navigation is identical to the previous screenshot. The main panel displays a 'Change Control' section for a 'Preload Images: 4.31.3M Upgrade'. The 'Name' field is set to 'Preload Images: 4.31.3M Upgrade'. The 'Schedule Start' field has a placeholder 'Select date'. Below this, there's a search bar and a 'Select a Template' dropdown. A large central area shows a list of actions under 'Change Control Stages': 'Download Group 1' (6 actions). This group contains actions for 'Spine-2', 'Leaf-1B', 'Leaf-2B', 'Leaf-1A', 'Spine-1', and 'Leaf-2A', all involving the download of 'vEOS-4.31.3M.swi' files. To the right, a 'Change Control Summary' section shows the status of the download: 'Root Execute' (Parallel) is in progress. Below this is a 'Review Change' modal window with a message stating 'No changes to the device are being made.' The background also shows a 'Device Status' section with 6 devices listed.

35. The “**Review Change**” pop-up will appear and show no changes to the device are being made. This is expected because we’re just transferring the EOS image to the device, so no actual changes are being made.
36. Once satisfied with the change control review, select “**Approve**.”



37. Select the blue “**Execute Change Control**” button.



38. An “**Execute Change Control**” pop-up will appear. Select **Execute** to begin the change control execution.

Change Control
Preload Images: 4.31.3M Upgrade

Name: Preload Images: 4.31.3M Upgrade Description: -- Schedule Start: Select date

Select a Template

Change Control Stages (6 actions) ...

Download Group 1 (6 actions) ...

- Spine-2: Download File cv.jl/VEOS-4.31.3M.swi
- Leaf-1B: Download File cv.jl/VEOS-4.31.3M.swi
- Leaf-2B: Download File cv.jl/VEOS-4.31.3M.swi
- Leaf-1A: Download File cv.jl/VEOS-4.31.3M.swi
- Spine-1: Download File cv.jl/VEOS-4.31.3M.swi
- Leaf-2A: Download File cv.jl/VEOS-4.31.3M.swi

Execute Change Control

Change control will execute immediately.

Cancel Execute

Change Control Summary

Last Edit: 1m ago by adolson Approved: 1m ago

In Progress Completed

Device Status (6)

Device	Status
Leaf-1A	Active
Leaf-1B	Active
Leaf-2A	Active
Leaf-2B	Active
Spine-1	Active
Spine-2	Active

39. The change control animations will appear next to each task in the change control, showing that all tasks are being executed.

Change Control
Preload Images: 4.31.3M Upgrade (Running)

Name: Preload Images: 4.31.3M Upgrade Description: --

Select a Template

Change Control Stages (6 actions) ...

Download Group 1 (6 actions) ...

- Spine-2: Download File cv.jl/VEOS-4.31.3M.swi
- Leaf-1B: Download File cv.jl/VEOS-4.31.3M.swi
- Leaf-2B: Download File cv.jl/VEOS-4.31.3M.swi
- Leaf-1A: Download File cv.jl/VEOS-4.31.3M.swi
- Spine-1: Download File cv.jl/VEOS-4.31.3M.swi
- Leaf-2A: Download File cv.jl/VEOS-4.31.3M.swi

Action Summary

0% Download

Change Control Summary

Last Edit: 2m ago by adolson Approved: 1m ago Started: 11s ago

Device Status (6)

Device	Status
Leaf-1A	Active
Leaf-1B	Active
Leaf-2A	Active
Leaf-2B	Active
Spine-1	Active
Spine-2	Active

40. As the tasks are complete, a green check will appear at the right of each task. Once the change control has been completed, a green “**Success**” message/label will appear to the right of the change control name.

The screenshot shows the Arista Provisioning interface. On the left sidebar, 'Change Control' is selected under 'Actions'. The main area displays a 'Change Control' card for 'Preload Images: 4.31.3M Image Up...'. The card shows a success status and a detailed list of actions for various devices. To the right, a 'Change Control Summary' section shows the task was last edited by 'aolsson' 3m ago, approved by 'aolsson', started by 'aolsson' 45s ago, and completed 19s ago. An 'Action Summary' section indicates 100% completion with a green circle and a download icon. Below this, a 'Device Status' section lists six devices: Leaf-1A, Leaf-1B, Leaf-2A, Leaf-2B, Spine-1, and Spine-2, all marked as active.

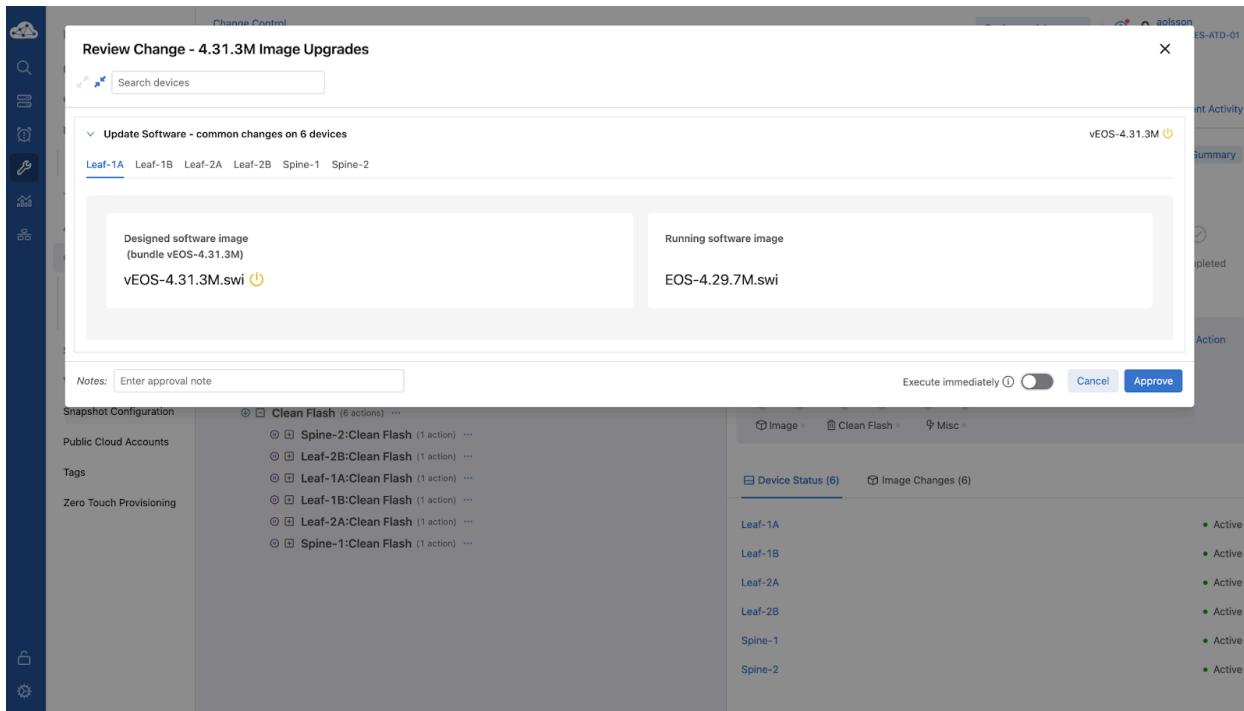
41. The upgrade change control can be executed now that the EOS images have been preloaded onto all devices. Head to **Provisioning > Change Control** and select the upgrade change control, which is named “**4.31.3M Image Upgrades**.”

The screenshot shows the Arista Provisioning interface with 'Change Control' selected in the sidebar. The main area lists three change controls: 'Preload Images: 4.31.3M Image Up...', '4.31.3M Image Upgrades', and 'Change 2024-05-30-12-27-07'. The 'Preload Images' and '4.31.3M Image Upgrades' entries show details like date, devices involved, and approval status. To the right, a 'Recently Executed' section lists completed tasks, including multiple entries for 'Preload Images: 4.31.3M Image Up...' with dates from May 31, 2024, and other changes like 'Change 2024-05-30-12-27-07'.

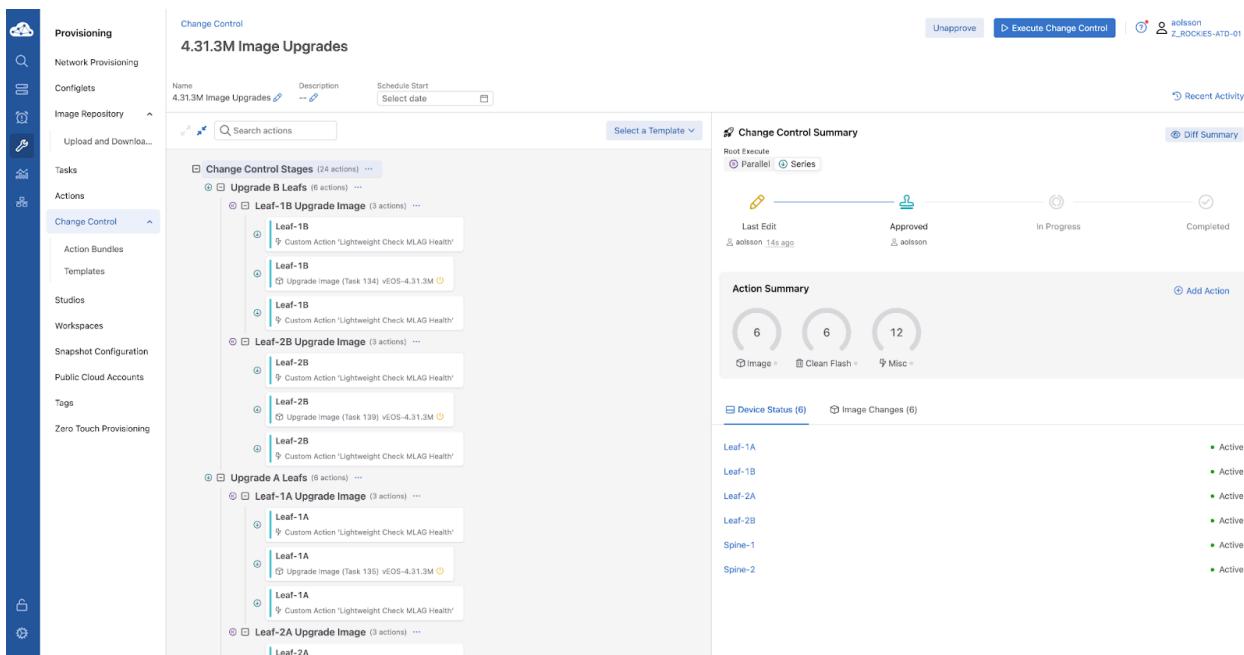
42. Select the blue “**Review and Approve**” button in the upper right corner.

The screenshot shows the Arista Network's Change Control interface. On the left, a sidebar navigation menu includes: Provisioning, Network Provisioning, Configlets, Image Repository (selected), Upload and Download..., Tasks, Actions, Change Control (selected), Action Bundles, Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main content area is titled "Change Control" and "4.31.3M Image Upgrades". It displays a list of actions under "Change Control Stages": Upgrade B Leafs (6 actions), Leaf-2B Upgrade Image (3 actions), Leaf-1B Upgrade Image (3 actions); Upgrade A Leafs (6 actions), Leaf-1A Upgrade Image (3 actions), Leaf-2A Upgrade Image (3 actions); Upgrade Spines (6 actions), Spine-2 Upgrade Image (3 actions), Spine-1 Upgrade Image (3 actions); Clean Flash (6 actions), Spine-2:Clean Flash (1 action), Leaf-2B:Clean Flash (1 action), Leaf-1A:Clean Flash (1 action), Leaf-1B:Clean Flash (1 action), Leaf-2A:Clean Flash (1 action), Spine-1:Clean Flash (1 action). At the top right, there are buttons for "Review and Approve" and a user profile for "aoisson z_ROCKIES-ATD-01". Below the main list, there is a "Change Control Summary" section with a timeline showing "Last Edit" by "aoisson 5m ago", "Approval", "In Progress", and "Completed". To the right, there is an "Action Summary" with three circular progress indicators: 6 Image, 6 Clean Flash, and 12 Misc. Below these are sections for "Device Status (6)" and "Image Changes (6)". The device status table lists: Leaf-1A, Leaf-1B, Leaf-1B, Leaf-2A, Leaf-2B, Spine-1, Spine-2, all marked as "Active".

43. The “**Review Change**” pop-up will appear for this change control and should indicate that EOS is being upgraded. The changes for each of the 6 devices should be grouped together because all 6 devices are running the same version of EOS and are being upgraded to the same version of EOS. Select the blue “**Approve**” button to approve the changes.



44. Select the blue “**Execute Change Control**” button in the upper right corner.



45. An “**Execute Change Control**” pop-up will appear. Select **Execute** to begin the change control execution.

46. Once again, the change control animations will appear next to each task in the change control as it runs. A green check mark will appear just to the right of each task when it is completed.

47. When the change control has been successfully completed, a green “**Success**” message/label will appear next to the change control name.

Change Control

4.31.3M Image Upgrades (Success)

Name: 4.31.3M Image Upgrades | Description: --

| |

Change Control Stages (24 actions) ✓

- Upgrade B Leafs (8 actions) ✓
 - Leaf-1B
 - Custom Action 'Lightweight Check MLAG Health' ✓
 - Upgrade Image (Task 134) vEOS-4.31.3M ○ ✓
 - Custom Action 'Lightweight Check MLAG Health' ✓
 - Leaf-2B
 - Custom Action 'Lightweight Check MLAG Health' ✓
 - Upgrade Image (Task 139) vEOS-4.31.3M ○ ✓
 - Custom Action 'Lightweight Check MLAG Health' ✓
- Upgrade A Leafs (6 actions) ✓
 - Leaf-1A
 - Custom Action 'Lightweight Check MLAG Health' ✓
 - Upgrade Image (Task 135) vEOS-4.31.3M ○ ✓
 - Custom Action 'Lightweight Check MLAG Health' ✓
 - Leaf-2A
 - Custom Action 'Lightweight Check MLAG Health' ✓
 - Upgrade Image (Task 136) vEOS-4.31.3M ○ ✓
 - Custom Action 'Lightweight Check MLAG Health' ✓

Change Control Summary

Root Execute | Parallel | Series

Last Edit: ✓ aolsson 35m ago | Approved: ✓ aolsson | Started: ✓ aolsson 34m ago | Completed: ✓ 6m ago X 28m

Action Summary

Image: 100% | Clean Flash: 100% | Misc: 100%

Device	Status
Leaf-1A	Active
Leaf-1B	Active
Leaf-2A	Active
Leaf-2B	Active
Spine-1	Active
Spine-2	Active