

CloudVision Mastery Workshop Lab Guide



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 Network interface. On the left, a sidebar menu includes options like Provisioning, Network Provisioning, Configlets, Image Repository, Tasks, Actions, Change Control, Action Bundles (which is selected), Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main content area is titled "Action Bundles" with the subtitle "Group actions into bundles for use in change control templates". It displays a message "No data" and a small envelope icon. In the top right corner, there is a user profile with the name "jolsson" and the identifier "Z_ROCKIES-ATD-01", along with a "+ New Action Bundle" button.

3. 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**.”

The screenshot shows the Arista Network interface with a modal window titled "New Action Bundle" overlaid on the main "Action Bundles" page. The modal contains fields for "Bundle Name" (set to "Leaf Upgrade Action Bundle") and "Description (optional)". Below these fields is a dropdown menu labeled "Add action... ▾" with options "Series" and "Parallel". A note "No actions added." is displayed. At the bottom of the modal are "Cancel" and "Save" buttons.

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

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

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

- 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...

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)

Cancel

- Select the “Add action” dropdown box again and select the “Lightweight Check MLAG Health” action.
- 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

Leaf Upgrade Action Bundle

Description (optional):

Lightweight Check MLAG Health

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

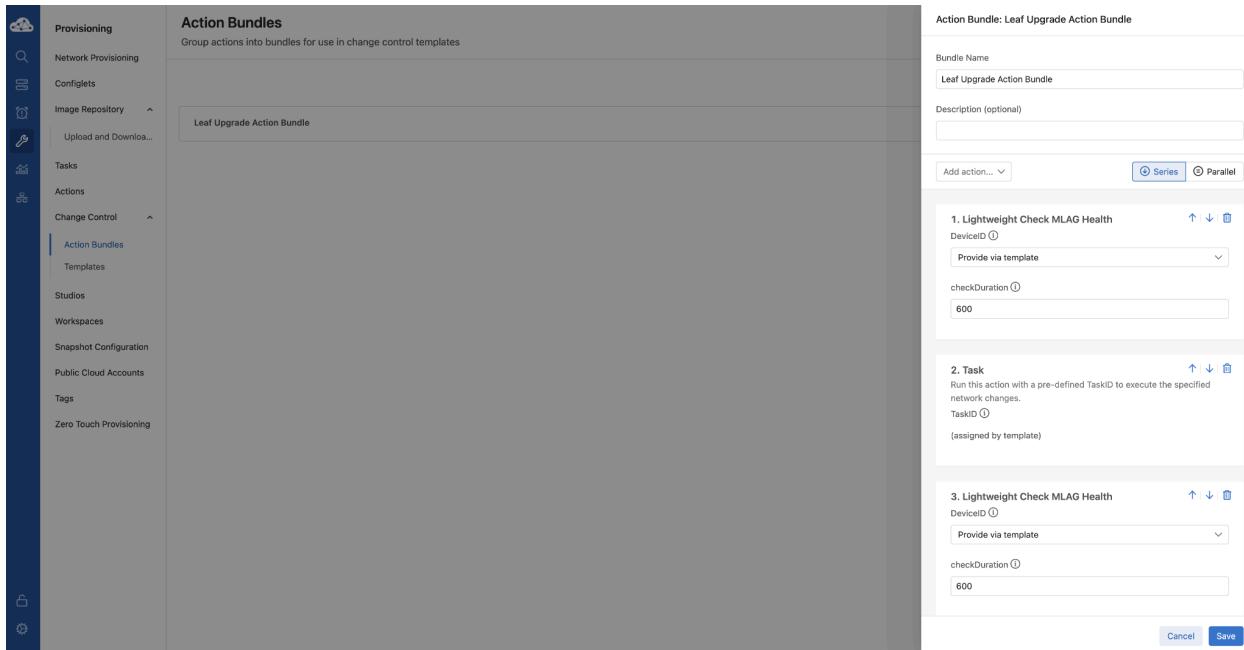
Provide via template

checkDuration 600

Cancel

- 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.



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.

The screenshot shows the Arista Network interface. On the left, there is a sidebar with various navigation options: Provisioning, Network Provisioning, Configlets, Image Repository, Tasks, Actions, Change Control, Action Bundles (which is selected and highlighted in blue), Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main content area is titled "Action Bundles" and contains the sub-instruction "Group actions into bundles for use in change control templates". Below this, there is a table with one row, "Leaf Upgrade Action Bundle", which has edit and delete icons next to it. At the top right of the main content area, there is a user profile icon with the name "solsson" and the identifier "Z_ROCKIES-ATD-01", along with a "+ New Action Bundle" button.

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**.”

The screenshot shows the "New Action Bundle" dialog box overlaid on the main interface. The dialog has fields for "Bundle Name" (set to "Spine Upgrade Action Bundle") and "Description (optional)". There is a dropdown menu for "Add action..." and two buttons for "Series" and "Parallel". A note at the bottom says "No actions added." At the bottom right of the dialog are "Cancel" and "Save" buttons. The background shows the same Arista Network interface as the first screenshot, with the "Action Bundles" section active.

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.

Action Bundles

Group actions into bundles for use in change control templates

Action Bundle: Spine Upgrade Action Bundle

Bundle Name: Spine Upgrade Action Bundle

Description (optional):

Enter BGP Maintenance Mode ▾ Series Parallel

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 ⓘ
Provide via template

Cancel Save

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.

Action Bundles

Group actions into bundles for use in change control templates

Action Bundle: Spine Upgrade Action Bundle

Bundle Name: Spine Upgrade Action Bundle

Description (optional):

Execute Task ▾ Series Parallel

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 ⓘ
Provide via template

2. Task ↑ ↓ ↻
Run this action with a pre-defined TaskID to execute the specified network changes.
TaskID ⓘ
(assigned by template)

Cancel Save

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 Bundles

Group actions into bundles for use in change control templates

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:
(assigned by template)

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 Bundles

Group actions into bundles for use in change control templates

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:
(assigned by template)

3. Exit BGP Maintenance Mode

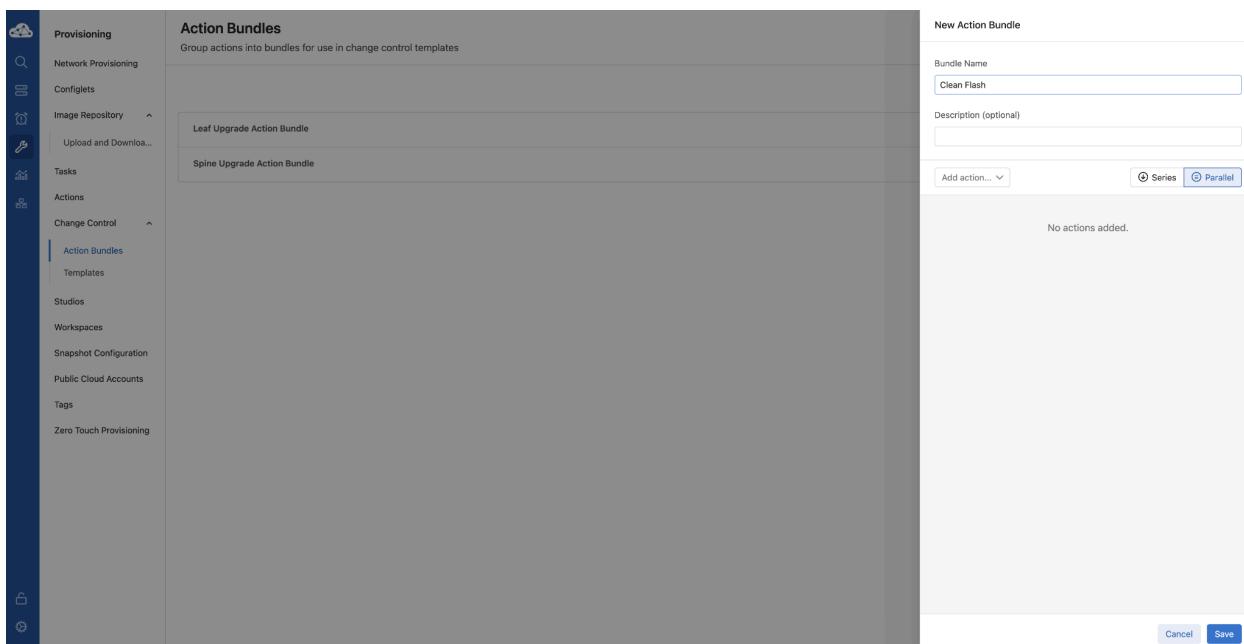
Pair this action with Enter BGP Maintenance Mode to run specific tests detailed in the EOS User Manual before reinserting the device into the network.

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.

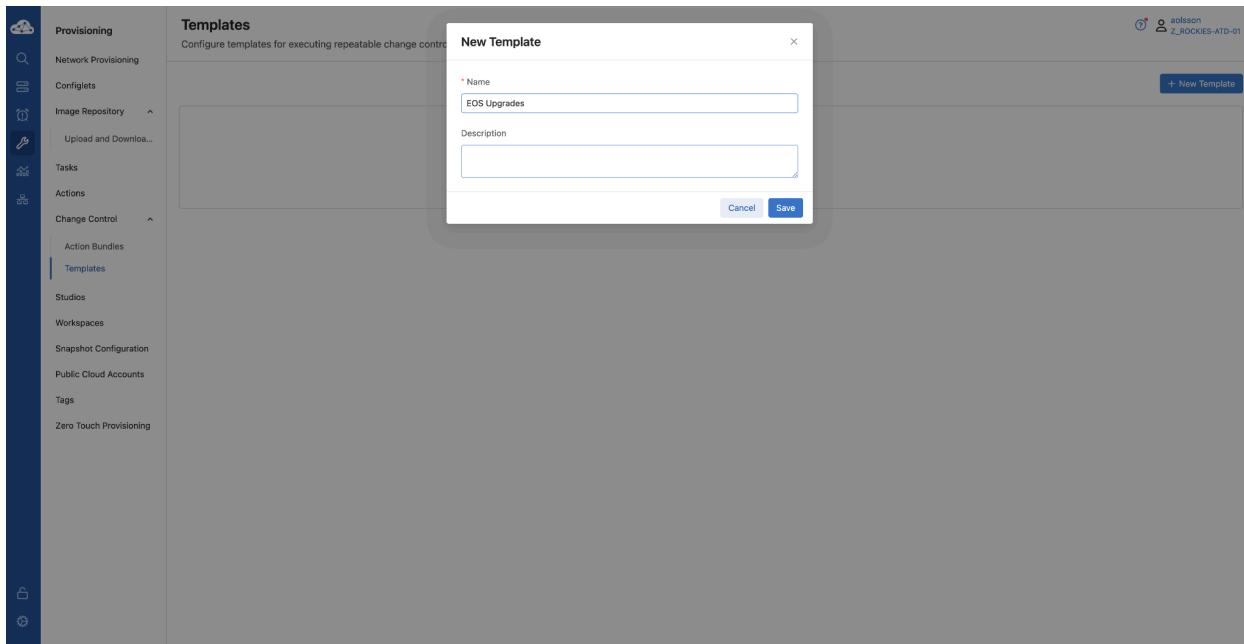
Two elements are used to construct a change control template, action bundles, and templates. Once a template has been created, you can then use it in all future change control operations.

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 (selected), Action Bundles, and Templates (selected). Below these are Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. At the bottom of the sidebar are three icons: a lock, a gear, and a user. The main content area is titled "Templates" with the subtitle "Configure templates for executing repeatable change control operations". It features a large central panel with a "No data" message and a small icon of a document with a gear. In the top right corner, there is a user profile icon with the name "jolsson" and the identifier "Z_ROCKIES-ATD-01", and a blue button labeled "+ New Template".

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.

6. Now, let's add the first stage to the Template. On the right side of the page, select “**+ Add Stage Rule**”.

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.

7. 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.
8. Since we’ll upgrade the Leafs in this Template stage, choose “**Leaf Upgrade Action Bundle**” in the “**Action Bundle**” dropdown.
9. In the “**Device Filter**” dropdown, change the selection to “**Tag Query.**”
10. 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.

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

12. 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.

13. 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.
14. Change the name of the stage to “**Upgrade Spines**.”
15. For the “**Action Bundle**,” we need to use the “**Spine Upgrade Action Bundle**”.
16. 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.
17. We'll leave the Arrange Bundles dropdown as “**Series**” because we want to upgrade one Spine at a time.

18. 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.
19. 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.
20. Change the "**Arrange Bundles**" dropdown from "**Series**" to "**Parallel**" so that this action can be run on all devices simultaneously.

21. Change the “**Stage Rules**” section at the top left of the page to “**Series**” so all stages in the template happen in series.
22. Click on “**Save Template**” on the top right of the screen.

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

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

Change Control
Manage, review, and execute change control operations

+ Create Change Control solsson z_ROCKIES-ATD-01

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

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 solsson
May 30, 2024 12:28:28 GMT-6
- 🕒 **Change 2024-05-30-12-27-07**
Approved by solsson
May 30, 2024 12:28:24 GMT-6
- + **Change 2024-05-30-12-27-07**
Created by solsson
May 30, 2024 12:27:12 GMT-6

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

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": Spine-2, Leaf-2B, Leaf-1A, Leaf-1B, Leaf-2A, and Spine-1. Each stage has an "Upgrade Image" task associated with it. A "Select a Template" dropdown is open, showing "EOS Upgrades". To the right, there is a "Change Control Summary" section with tabs for "Parallel" and "Series" execution, and status indicators for "Edit", "Approval", "In Progress", and "Completed". A "Recent Activity" section shows a log entry from "aoisson" 1m ago. Below the summary is an "Action Summary" section with a count of 6 and an "Image" link. At the bottom, there is a "Device Status" section listing devices: Leaf-1A, Leaf-1B, Leaf-2A, Leaf-2B, Spine-1, and Spine-2, all marked as "Active".

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: 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 displays a "Change Control" section for a task named "4.31.3M Image Upgr...". The task details include a "Name" field (4.31.3M Image Upgr...), a "Description" field (Upgrading to 4.31.3M Image), and a "Schedule Start" field (Select date). A "Search actions" input field and a "Select a Template" dropdown are also present. Below these are sections for "Change Control Stages" (24 actions), "Action Summary" (with counts for Image, Clean Flash, and Misc), "Device Status" (listing Leaf-1A, Leaf-1B, Leaf-2A, Leaf-2B, Spine-1, and Spine-2, all marked as Active), and "Image Changes" (listing 6 changes). A "Change Control Summary" section at the bottom shows a timeline with "Root Execute" (Parallel), "Last Edit" (by solsson 1m ago), "Approval" (status pending), "In Progress" (status pending), and "Completed" (status pending). A "Recent Activity" link is also visible.

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

This screenshot is identical to the one above, but the "Change Control Stages" section is fully expanded, showing the detailed actions for each stage: Upgrade B Leafs, Upgrade A Leafs, Upgrade Spines, and Clean Flash, each with its own sub-tasks and descriptions.

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.

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

The screenshot shows the Arista Cloud interface. The left sidebar is collapsed, showing options like Provisioning, Network Provisioning, Configlets, Image Repository, Tasks, Actions, and Change Control (which is currently selected). The main content area is titled "Change Control" and "4.31.3M Image Upgrade". It displays a list of actions categorized by type: Upgrade B Leafs, Upgrade A Leafs, Upgrade Spines, Clean Flash, and Leaf-XX:Clean Flash. The "Image Changes" tab is highlighted. At the bottom right of the main content area, there is a blue button labeled "Preload Images (6)".

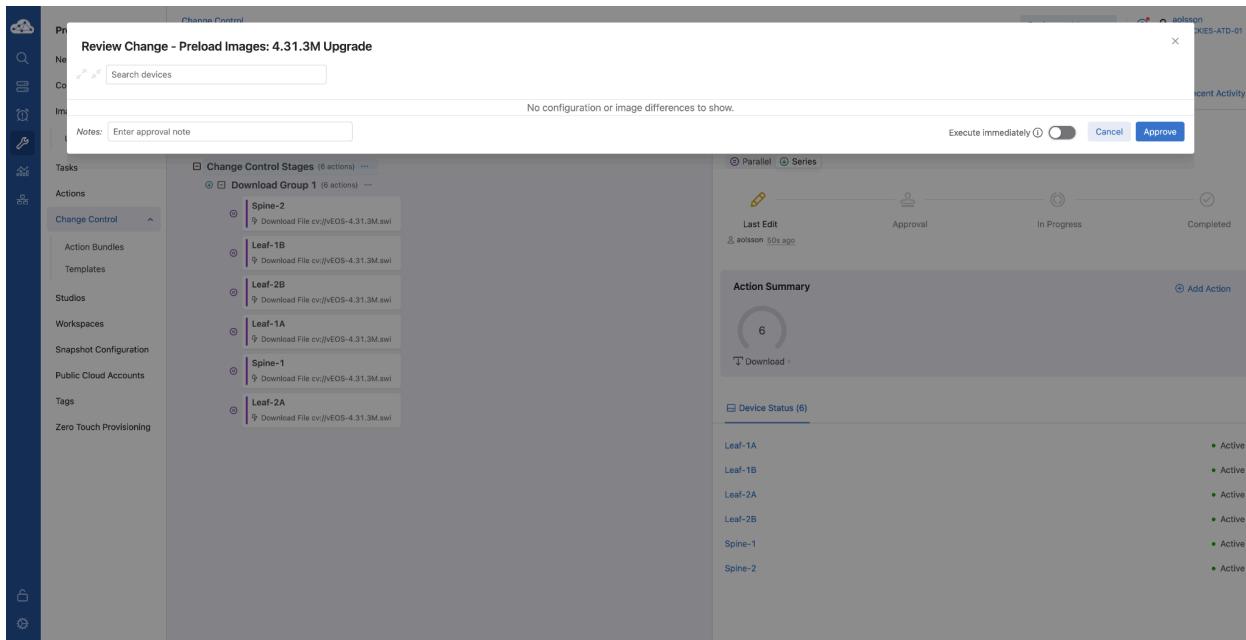
31. Select the blue “**Preload Images**” button.
32. A “**Preload Software Images**” dialog box appears. From here, the number of Parallel Downloads, which can be 6 for the lab, can be specified.
33. Click “**Create Change Control**” to generate a new change control to preload the images on all devices.

The screenshot shows the Arista CloudVision Change Control interface. On the left sidebar, under the 'Change Control' section, the 'Actions' tab is selected. In the main pane, a task named '4.31.3M Upgrade' is listed. A modal window titled 'Preload Software Images' is displayed, providing a summary of the upgrade steps and download progress for six devices: Leaf-1B, Leaf-2A, Leaf-2B, Leaf-1A, Spine-1, and Leaf-2A. The modal includes a 'Create Change Control' button.

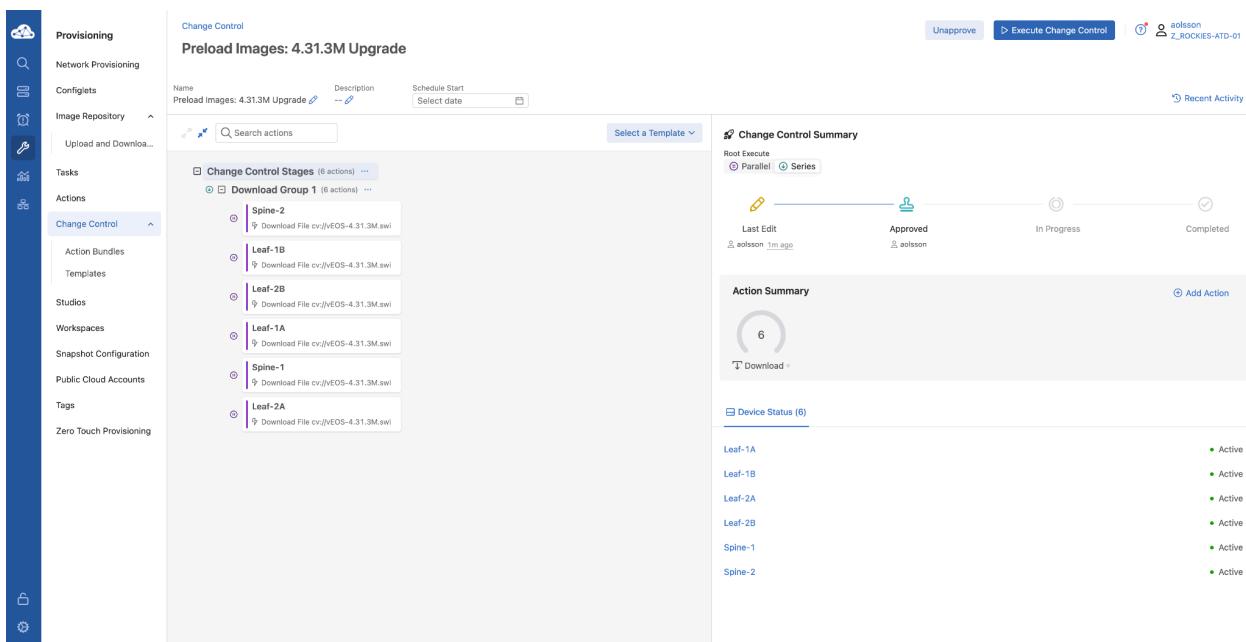
34. CloudVision will redirect you to the new “**Preload Images: 4.31.3M Upgrade**” change control.
35. Select “**Review and Approve**” in the upper right corner to review the change control.

The screenshot shows the Arista CloudVision Change Control interface. The 'Actions' tab is selected in the sidebar. A task titled 'Preload Images: 4.31.3M Upgrade' is shown. A modal window titled 'Review Change' is open, stating 'No changes to the device are being made.' This is expected because we're just transferring the EOS image to the device. The modal has 'Approve' and 'Cancel' buttons.

36. 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.
37. Once satisfied with the change control review, select “**Approve**.”



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



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

The screenshot shows the Arista Network Change Control interface. On the left, a sidebar navigation includes: Provisioning, Network Provisioning, Configlets, Image Repository, Upload and Downloads, Tasks, Actions, Change Control (selected), Action Bundles, Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, and Zero Touch Provisioning. The main content area displays a 'Change Control' card for 'Preload Images: 4.31.3M Upgrade'. The card includes fields for Name, Description, and Schedule Start. Below the card is a search bar and a 'Select a Template' dropdown. The main content area shows the 'Change Control Stages' (6 actions) and 'Download Group 1' (6 actions) details. A modal window titled 'Execute Change Control' is overlaid, stating 'Change control will execute immediately.' with 'Cancel' and 'Execute' buttons. To the right, the 'Change Control Summary' shows the status as 'Root Execute' (Parallel) with 'Approved' status, 'Last Edit' by 'aolsson' 1m ago, and 'In Progress'. The 'Device Status' section lists six devices: Leaf-1A, Leaf-1B, Leaf-2A, Leaf-2B, Spine-1, and Spine-2, all marked as 'Active'.

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

This screenshot shows the Arista Network Change Control interface after the execution has started. The modal window from the previous screenshot is no longer present. The tasks in the 'Change Control Stages' and 'Download Group 1' are now accompanied by green circular progress indicators, signifying active execution. The rest of the interface, including the 'Change Control Summary' and 'Device Status' sections, remains identical to the previous screenshot.

41. 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.

Change Control
Preload Images: 4.31.3M Image Up... Success

Name: Preload Images: 4.31.3M Image Upgrades Description: --

Recent Activity

Change Control Summary

Root Execute: Parallel Series

Last Edit: aolsson 3m ago Approved: aolsson Started: aolsson 45s ago Completed: 19s ago 26s

Action Summary
100% Download

Device Status (6)

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

42. 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**.”

Change Control
Manage, review, and execute change control operations

+ Create Change Control aolsson Z_ROCKIES-ATD-01

Date Range: 2024-05-24 → 2024-05-31

Device Filter (show all)

Preload Images: 4.31.3M Image Upgrades (Completed 1 minute ago)
Approved by aolsson

4.31.3M Image Upgrades (Edited 4 minutes ago)
Approved by aolsson

Change 2024-05-30-12-27-07 (Completed 1 day ago)
Approved by aolsson

Recently Executed 2 Days

2 Change Controls

- Preload Images: 4.31.3M Image Up...** Succeeded May 31, 2024 13:02:31 GMT-6
- Preload Images: 4.31.3M Image Up...** Started by aolsson May 31, 2024 13:02:03 GMT-6
- Preload Images: 4.31.3M Image Up...** Approved by aolsson May 31, 2024 13:02:03 GMT-6
- Preload Images: 4.31.3M Image Up...** Created by aolsson May 31, 2024 12:59:38 GMT-6
- 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 aolsson May 30, 2024 12:28:28 GMT-6
- Change 2024-05-30-12-27-07** Approved by aolsson May 30, 2024 12:28:24 GMT-6
- Change 2024-05-30-12-27-07** Created by aolsson

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

Change Control

4.31.3M Image Upgrades

Name: 4.31.3M Image Upgrades | Description: -- | Schedule Start: Select date

Review and Approve | solsson | Z_ROCKIES-ATD-01

Recent Activity | Diff Summary

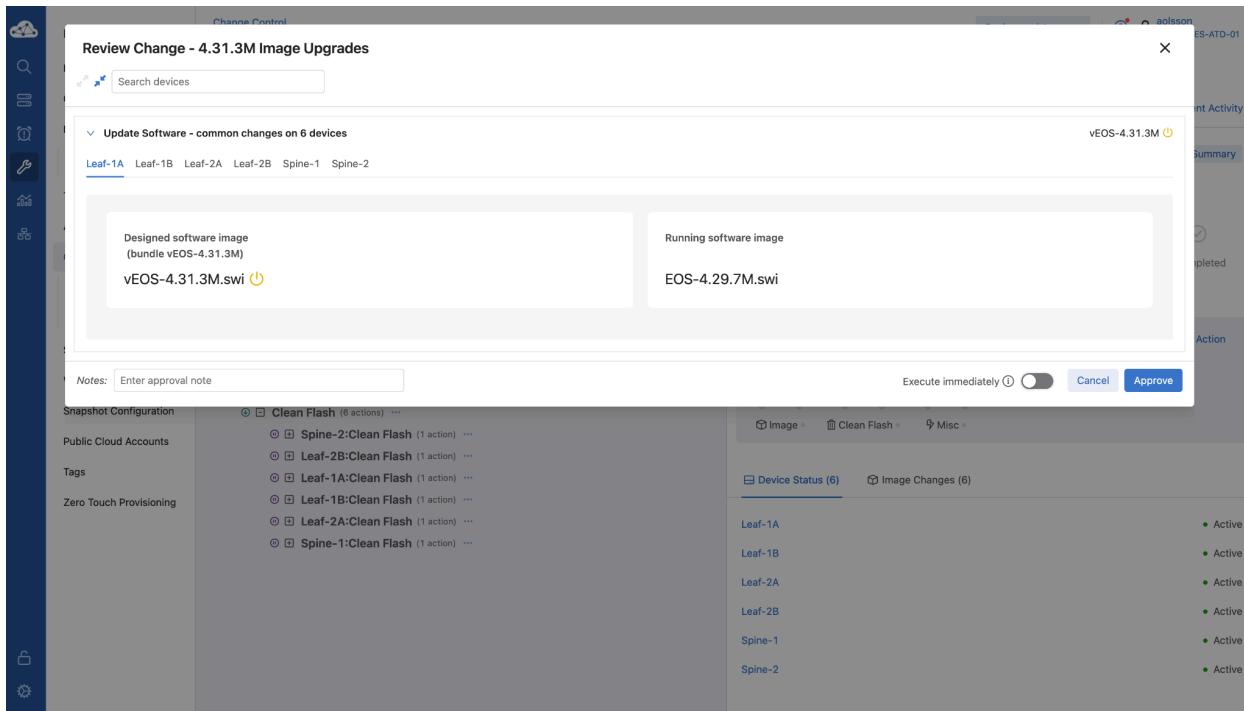
Action Summary

- 6 Images
- 6 Clean Flash
- 12 Misc

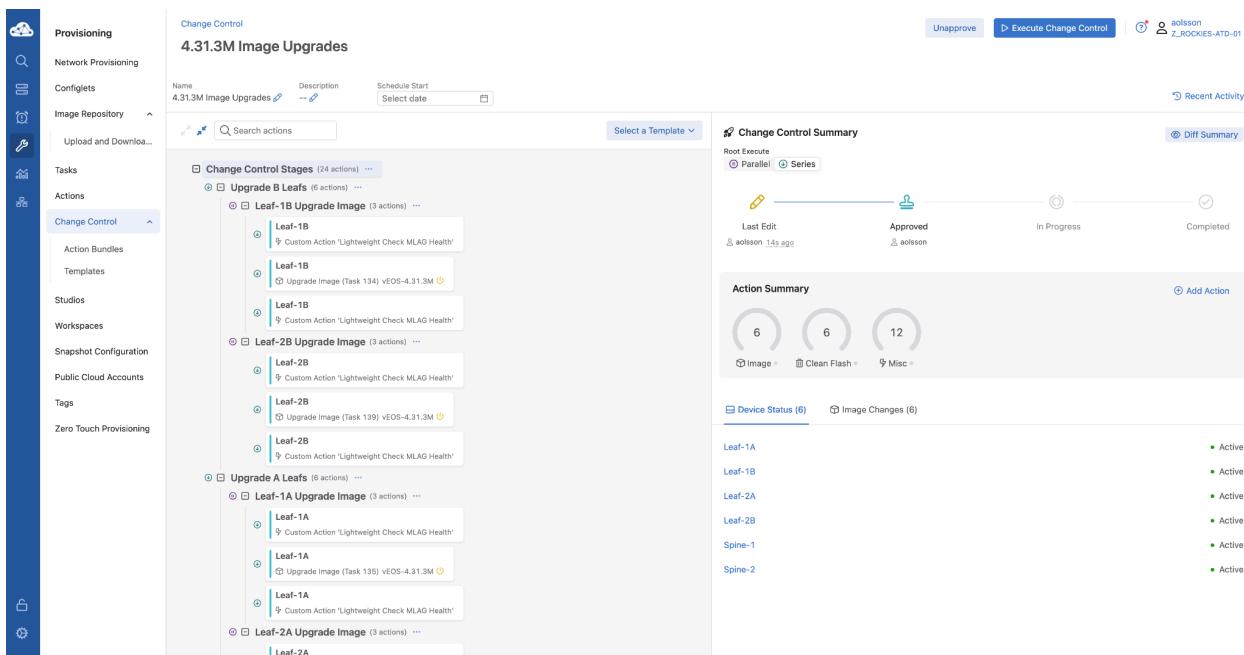
Device Status (6)

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

44. 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.



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



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

4.31.3M Image Upgrades

Name: 4.31.3M Image Upgrades Description: -- Schedule Start: Select date

Change Control Stages (24 actions)

- Upgrade B Leafs (6 actions)
 - Leaf-1B Upgrade Image (3 actions)
 - Leaf-1B Custom Action 'Lightweight Check MLAG Health'
 - Leaf-1B Upgrade Image (Task 134) vEOS-4.31.3M
 - Leaf-1B Custom Action 'Lightweight Check MLAG Health'
 - Leaf-2B Upgrade Image (3 actions)
 - Leaf-2B Custom Action 'Lightweight Check MLAG Health'
 - Leaf-2B Upgrade Image (Task 139) vEOS-4.31.3M
 - Leaf-2B Custom Action 'Lightweight Check MLAG Health'
- Upgrade A Leafs (6 actions)
 - Leaf-1A Upgrade Image (3 actions)
 - Leaf-1A Custom Action 'Lightweight Check MLAG Health'
 - Leaf-1A Upgrade Image (Task 135) vEOS-4.31.3M
 - Leaf-1A Custom Action 'Lightweight Check MLAG Health'
 - Leaf-2A Upgrade Image (3 actions)
 - Leaf-2A Custom Action 'Lightweight Check MLAG Health'
 - Leaf-2A Upgrade Image (Task 138) vEOS-4.31.3M
 - Leaf-2A Custom Action 'Lightweight Check MLAG Health'

Execute Change Control

Change control will execute immediately.

Change Control Summary

Last Edit: 29s ago Approved: aoisson in Progress Completed

Device Status (6) Image Changes (6)

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

47. 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.

4.31.3M Image Upgrades (Running)

Name: 4.31.3M Image Upgrades Description: --

Change Control Stages (24 actions)

- Upgrade B Leafs (6 actions)
 - Leaf-1B Upgrade Image (3 actions)
 - Leaf-1B Custom Action 'Lightweight Check MLAG Health' ✓
 - Leaf-1B Upgrade Image (Task 134) ✓
 - Leaf-1B Custom Action 'Lightweight Check MLAG Health' ✓
 - Leaf-2B Upgrade Image (3 actions)
 - Leaf-2B Custom Action 'Lightweight Check MLAG Health' ✓
 - Leaf-2B Upgrade Image (Task 139) ✓
 - Leaf-2B Custom Action 'Lightweight Check MLAG Health' ✓
- Upgrade A Leafs (6 actions)
 - Leaf-1A Upgrade Image (3 actions)
 - Leaf-1A Custom Action 'Lightweight Check MLAG Health'
 - Leaf-1A Upgrade Image (Task 135) vEOS-4.31.3M
 - Leaf-1A Custom Action 'Lightweight Check MLAG Health'
 - Leaf-2A Upgrade Image (3 actions)
 - Leaf-2A Custom Action 'Lightweight Check MLAG Health'
 - Leaf-2A Upgrade Image (Task 138) vEOS-4.31.3M
 - Leaf-2A Custom Action 'Lightweight Check MLAG Health'

Change Control Summary

Last Edit: 1m ago Approved: aoisson Started: 13s ago Completed

Action Summary

0% Image * 0% Clean Flash * 17% Misc *

Device Status (6) Image Changes (6)

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

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

The screenshot shows the Arista CloudVision Change Control interface. On the left, a sidebar navigation includes: Provisioning, Network Provisioning, Configlets, Image Repository, 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 shows a "4.31.3M Image Upgrades" task with a "Success" status. The task details include the name "4.31.3M Image Upgrades" and a description of "4.31.3M Image Upgrades". A search bar is present. To the right, there's a "Recent Activity" section with a "Rollback" button, user "solsson", and job ID "Z_ROCKIES-ATD-01". Below this is a "Change Control Summary" section with a timeline showing "Last Edit" by "solsson" 35m ago, "Approved" by "solsson", "Started" by "solsson" 34m ago, and "Completed" 6m ago. A "Diff Summary" and "Logs" link are also present. The "Action Summary" section shows three 100% completed actions: "Image" (with a blue progress bar), "Clean Flash" (with a green progress bar), and "Misc" (with a yellow progress bar). The "Device Status" section lists devices: Leaf-1A, Leaf-1B, Leaf-2A, Leaf-2B, Spine-1, and Spine-2, all marked as "Active" with green dots.

COMPLIANCE

CloudVision continuously computes image and configuration compliances. If a device is either configuration, image, or extension non-compliant, CVP automatically generates a non-compliant event on the Compliance dashboard and flags the device as non-compliant on the Inventory screen.

1. Navigate to **Devices > Inventory**.

The Inventory page will show that all devices are now running 4.31.3M but will also show a red “**Page**” icon in the “**Issues**” column that wasn’t there before the upgrade. This icon indicates that the running configuration on the devices differs from what CloudVision thinks it should be running. This happened because “**ribd**” was the default routing model before EOS 4.30, and “**multi-agent**” was the default for EOS 4.30 and later.

NOTE: Changing the routing model protocol from “**ribd**” to “**multi-agent**” requires a reboot for the changes to take effect. This lab will skip the reboot due to time limitations.

The screenshot shows the Arista CloudVision interface. On the left is a sidebar with icons for Devices, Inventory, Device Registration, Compliance Overview, Endpoint Overview, Connectivity Monitor, Traffic Flows, Endpoint Search, Comparison, Multi-Cloud Dashboard, and Network Segmentation. The main area is titled "Inventory" and displays a table of 7 devices. The columns include Device, Streaming, Issues, Model, Software, Streaming Agent, IP Address, MAC Address, and Device ID. The table lists devices like Leaf-1A, Leaf-1B, Leaf-2A, Leaf-2B, Spine-1, Spine-2, and sw-10.18.168.61, each with its status, model (vEOS-lab), software version, and configuration details. A "Show all 7 devices" link is at the top right, and a "Export to CSV" button is at the bottom.

- Click on the red "Page" icon next to one of the devices. This will take you to that device's configuration "Compare Config" section.

The screenshot shows the "Compare Config" tab for the device Leaf-1A. The left sidebar includes sections for System, Processes, Storage, Log Messages, Hardware Capacity, Configuration (selected), Hardware, Snapshots, CVE and Bug Exp., Tags, Switching, Routing, and IP Tables. The main area has tabs for Running Config, Designed Config, Compare Config (selected), and Config Sources. The "Designed Configuration" pane shows a snippet of configuration code, and the "Running Configuration" pane shows another snippet. Below these panes is a timeline from 15:00 to 13:00 on June 3, 2024, with a "Show: Live" button at the bottom right.

NOTE: It's always a good idea to validate device configuration compliance within CloudVision after an upgrade in case EOS default values have changed.

- To bring the device configuration back into compliance, head to **Devices > Compliance Overview**

Bug Exposure
7 devices

CVE Threats
7 devices

Identifier	Type	Summary	Severity	Device Count	Exposed Devices
500322	Bug	Management interfaces may flap with kernel message "transmit timed out, resetting" and should come back up automatically. On rare occasions an interface will remain down after such flap until the interface PCI device is reset or the system reloaded.	High	7	Leaf-1A, Leaf-1B, Leaf-2A, and 4 other devices
543510	Bug	The "show daemon" cli command displays the last PID if the agent has died and not yet restarted	Low	1	sw-10.1B.168.61
613653	Bug	"logging level" CLI in startup config does not work after reload. The workaround is to reconfigure the CLI after reload.	Low	7	Leaf-1A, Leaf-1B, Leaf-2A, and 4 other devices
672269	Bug	ConnectivityMonitor may restart unexpectedly if more than 250 http probes are configured	High	1	sw-10.1B.168.61
678460	Bug	After EOS upgrade on an MLAG pair, one or both peers may show unexpected/incorrect "show mlag config-sanity" output. To workaround, restart the MLAG agent on the first upgraded peer via "agent Mlag terminate", preferably during a maintenance window.	Low	4	Leaf-1A, Leaf-1B, Leaf-2A, and 1 other device
712490	Bug	Any non-EAPOL packet coming from an unknown MAC address will go through the MBA process and will show up under "show dot1x hosts" as successful/failed authentication based on the AAA server settings for that particular MAC address.	Low	1	sw-10.1B.168.61

- Select the “Configuration and Image” tab near the top.

Configuration Compliance
7 devices

Image Compliance
7 devices

Device	Status	Last Compliance Check
Leaf-1A	Configuration out of sync	Jun 3, 2024 10:16:31
Leaf-1B	Configuration out of sync	Jun 3, 2024 10:10:43
Leaf-2A	Configuration out of sync	Jun 3, 2024 10:16:30
Leaf-2B	Configuration out of sync	Jun 3, 2024 10:10:16
Spine-1	Configuration out of sync	Jun 3, 2024 10:31:04
Spine-2	Configuration out of sync	Jun 3, 2024 10:23:46

- Select all 6 devices that need to be brought back into compliance
- Click the blue “Sync Config” button

The screenshot shows the Arista Compliance Overview page. On the left, a sidebar menu includes: Devices, Inventory, Device Registration, Compliance Overview (selected), Endpoint Overview, Connectivity Monitor, Traffic Flows, Endpoint Search, Comparison, Multi-Cloud Dashboard, and Network Segmentation. The main content area has two donut charts: 'Configuration Compliance' (7 devices) and 'Image Compliance' (7 devices). Below each chart is a legend: Non-Compliant (red), Compliant (green), and No Data (grey). A table lists device details with columns for Device, Status, and Last Compliance Check. The table shows 6 rows of data. At the bottom is a timeline from 11:00 to 10:00.

7. You'll be redirected to the change control overview screen for the change control created to bring the devices back into compliance.

The screenshot shows the Arista Change Control Overview page for a task named "Sync Devices 2024-06-03-10-49...". The left sidebar includes: Provisioning, Network Provisioning, Conflicts, Image Repository (selected), Upload and Download, Tasks, Actions, Change Control (selected), Action Bundles, Templates, Studios, Workspaces, Snapshot Configuration, Public Cloud Accounts, Tags, Zero Touch Provisioning. The main content area shows the "Change Control Stages" section with 6 actions: Sync Leaf-1A, Sync Leaf-1B, Sync Leaf-2A, Sync Leaf-2B, Sync Spine-1, and Sync Spine-2. Each action has a status icon (green for Leaf-1A/B, grey for Leaf-2A/B, red for Spine-1/2). To the right, there's a "Change Control Summary" section with a timeline showing "Last Edit" (olson 24s ago), "Approval" (In Progress), and "Completed". Below it is an "Action Summary" (6 Config) and a "Device Status" section listing Leaf-1A, Leaf-1B, Leaf-2A, Leaf-2B, Spine-1, and Spine-2, all marked as "Active".

8. By default, all change controls created using the “Compliance Overview” page will be in series. For this lab, we want to run all changes in parallel, so select the “Change Control Stages” line item at the top of the screen in the section showing the tasks to be

- executed. Once the “**Change Control Stages**” line is highlighted, select the “**Parallel**” button on the right side of the screen just under the “**Change Control Summary**.”
- Select the blue “**Review and Approve**” button on the top right of the screen.

- The “**Review Change**” pop-up will appear, showing a single configuration change on all 6 devices. Select the blue “**Approve**” button to approve the change control.

- Select the blue “**Execute Change Control**” button on the top right.

12. The “Execute Change Control” pop-up will appear. Select the “Execute” button to continue.

13. Once completed, green check marks will appear next to each task, and the green “Success” icon will appear to the right of the change control name.

The screenshot shows the Arista Network's Change Control interface. On the left, a sidebar lists various management options like Provisioning, Network Provisioning, Configlets, Image Repository, Tasks, Actions, and Change Control (which is selected). The main area displays a "Sync Devices 2024-06-03-10-49..." task with a "Success" status. The task details show a parallel series of actions across two racks:

- Rack 1A:** Contains Leaf-1A and Leaf-1B. Leaf-1A has one action: "Sync Leaf-1A (1 action)" which completed successfully. Leaf-1B also has one action: "Sync Leaf-1B (1 action)" which completed successfully.
- Rack 2A:** Contains Leaf-2A and Leaf-2B. Leaf-2A has one action: "Sync Leaf-2A (1 action)" which completed successfully. Leaf-2B also has one action: "Sync Leaf-2B (1 action)" which completed successfully.
- Rack 1B:** Contains Spine-1 and Spine-2. Spine-1 has one action: "Sync Spine-1 (1 action)" which completed successfully. Spine-2 also has one action: "Sync Spine-2 (1 action)" which completed successfully.

On the right, a "Change Control Summary" section provides a timeline from "Last Edit" to "Completed". It includes a progress bar at 100% and a summary table for device status and configuration changes. All devices listed are marked as "Active".

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