

CVP Advanced Change Control

Learn how to use CloudVision's Change Control. A Change Control can be associated with one or more Tasks. CloudVision will take pre and post snapshots when a Change Control is executed to give us a state to revert back should there be any issues after the change.

Next, the lab will review Telemetry state-streaming information of the change of adding routes and how the routes propagate across the environment.

Lastly, the lab will initiate a Network Rollback to revert the changes that were implemented. The Network Rollback feature can greatly minimize downtime and gives the user the ability to restore the environment to a previous network state quickly.

Getting Started:

1. Log into the Arista Test Drive portal with your assigned URL. If you don't have one, please see your ATD staff.

Welcome to Arista's Dual Data Center Lab!

Your topology is currently: Running

Access Topology: [Click Here to Access Topology](#)

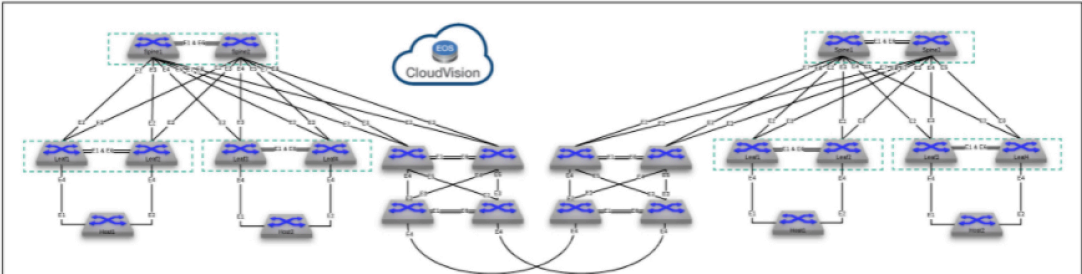
Topology Address: .topo.testdrive-dev.arista.com [Copy Address](#)

Time Remaining: 02:22:35
Deployment Date: 3/14/2022, 9:00:00 AM
Termination Date: 3/17/2022, 9:00:00 AM

[START](#) [STOP](#)

*This page will update automatically every minute.
Please allow up to 10 minutes for a topology to start.

Lab Setup Overview:



(_images/nested_cvp_overview_1.png)

2. Click on the link **Click Here To Access Topology** and navigate to the below page.

ARISTA

Lab Guides (PDF)

Console Access

Programmability IDE

WebUI

CVP

Event Alert API

Jenkins

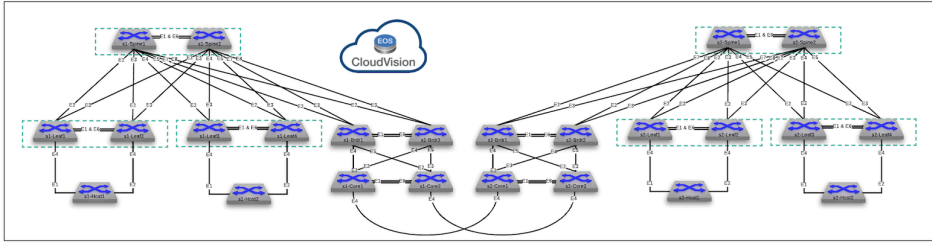
Arista Dual Data Center Lab

Welcome to the Arista Dual Data Center Lab! Please use the links on the left to navigate through the lab.

Time Remaining: 07:44:25

Topology

Click on a device to access CLI.



CVP 2022.3.1 is currently UP
No pending tasks in CVP.

Username and Passwords

Use the following usernames and passwords to access the ATD:

Device	Username	Password
Lab Credentials	arista	arista1k55
Programmability IDE		arista1k55
WebUI		@rista1

(_images/nested_cvp_landing_1.png)

3. Log into the Console Access Jumpserver:

Warning

If starting from this lab module, type `cvp` or `5` at the prompt. The script will configure all devices in the lab so you can complete this lab. The configlet builder will fail to generate device configlets if this script hasn't been run.

Note

Did you know → the “cvp” script is composed of python code that uses the CloudVision Portal Rest API to automate the provisioning of CVP Configlets.

4. Click the **CVP** link on the left side of the screen. You will come to a login screen for CloudVision Portal. Enter the username `arista` and the password `arista8dos`

Applying Configlets with a Configlet Builder:

Now we want to add several Loopbacks to each device using a Configlet Builder at the `s1/s1-Leaf` level.

1. Navigate to the **Network Provisioning** page under the **Provisioning** tab.
2. Expand the `s1` container, right click on the `s1-Leaf` container and select **Manage** -> **Configlet**
3. Select the **Add_Loopbacks** configlet from the list of configlets.
4. Select **Generate** to build a configlet for each device. View the generated configuration by expanding the Proposed Configuration on the right by selecting the **+**

5. Select **Update** to return to 'Network Provisioning' and select **Save** at the bottom of the screen. Tasks will be generated and a notification will show next to the 'Tasks' option in the Navigation column. Now that we have Tasks created we can use Change Control feature.

Device	Streaming	Issues	Model	Software	Streaming Agent	IP Address	MAC Address	Device ID
s1-brdr1	Active		cEOSLab	4.32.0F	1.32.0_951dba3fb9f4a24d	192.168.0.100	00:1c:73:c0:c1:00	s1-brdr1
s1-brdr2	Active		cEOSLab	4.32.0F	1.32.0_951dba3fb9f4a24d	192.168.0.101	00:1c:73:c0:c1:01	s1-brdr2
s1-core1	Active		cEOSLab	4.32.0F	1.32.0_951dba3fb9f4a24d	192.168.0.102	00:1c:73:c0:c1:02	s1-core1
s1-core2	Active		cEOSLab	4.32.0F	1.32.0_951dba3fb9f4a24d	192.168.0.103	00:1c:73:c0:c1:03	s1-core2
s1-host1	Active		cEOSLab	4.32.0F	1.32.0_951dba3fb9f4a24d	192.168.0.16	00:1c:73:c0:c6:16	s1-host1
s1-host2	Active		cEOSLab	4.32.0F	1.32.0_951dba3fb9f4a24d	192.168.0.17	00:1c:73:c0:c6:17	s1-host2
s1-leaf1	Active		cEOSLab	4.32.0F	1.32.0_951dba3fb9f4a24d	192.168.0.12	00:1c:73:c0:c6:12	s1-leaf1
s1-leaf2	Active		cEOSLab	4.32.0F	1.32.0_951dba3fb9f4a24d	192.168.0.13	00:1c:73:c0:c6:13	s1-leaf2
s1-leaf3	Active		cEOSLab	4.32.0F	1.32.0_951dba3fb9f4a24d	192.168.0.14	00:1c:73:c0:c6:14	s1-leaf3
s1-leaf4	Active		cEOSLab	4.32.0F	1.32.0_951dba3fb9f4a24d	192.168.0.15	00:1c:73:c0:c6:15	s1-leaf4
s1-spine1	Active		cEOSLab	4.32.0F	1.32.0_951dba3fb9f4a24d	192.168.0.10	00:1c:73:c0:c6:10	s1-spine1
s1-spine2	Active		cEOSLab	4.32.0F	1.32.0_951dba3fb9f4a24d	192.168.0.11	00:1c:73:c0:c6:11	s1-spine2
s2-brdr1	Active		cEOSLab	4.32.0F	1.32.0_951dba3fb9f4a24d	192.168.0.200	00:1c:73:c0:c2:00	s2-brdr1

(_images/cvp_cc_1.gif)

Note

The Configlet Builder feature enables you to programatically create device configurations (Configlets) for devices that have relatively dynamic configuration requirements. This helps to prevent you from having to manually code Configlets.

Creating the Change Control:

1. Select **Provisioning** from the Navigation Menu then select **Change Control**.
2. Create a new Change Control by selecting the **+ Create Change Control** button in the top right.
3. This screen will show pending tasks that will be associated with a Change Control. Select all pending Tasks and select **+ Create Change Control with 4 Tasks**.
4. First, we need to give the Change Control a name. Select the pencil on the top right to edit the Change Control name. Name it **Add_Loopbacks_CC** and hit Enter.
5. Next we will need to change the root stage to Serial execution. To do this, select the Root stage, then on the right side, change the drop down to **Series**. You can also change between Parallel and Series within the Change Control screen.

Network Provisioning
Assign devices to containers and manage device-specific configuration

Search

Network Provisioning

Tenant (24)	Name	IP Address	Mac Address	Serial No.	Container	Status	Tenant
S1 (12)	s1-brdr1.atd.lab	192.168.0.100	00:1c:73:c0:c1:00	s1-brdr1	S1-Brdr		Associated Configlets 1 Associated Switches 24 Created by cvp system Created on 2024-04-23 09:30:07
	s1-brdr2.atd.lab	192.168.0.101	00:1c:73:c0:c1:01	s1-brdr2	S1-Brdr		
	s1-core1.atd.lab	192.168.0.102	00:1c:73:c0:c1:02	s1-core1	S1-Core		
	s1-core2.atd.lab	192.168.0.103	00:1c:73:c0:c1:03	s1-core2	S1-Core		
	s1-host1.atd.lab	192.168.0.16	00:1c:73:c0:c6:16	s1-host1	S1-Hosts		
	s1-host2.atd.lab	192.168.0.17	00:1c:73:c0:c6:17	s1-host2	S1-Hosts		
	s1-leaf1.atd.lab	192.168.0.12	00:1c:73:c0:c6:12	s1-leaf1	S1-Leaf	T	
	s1-leaf2.atd.lab	192.168.0.13	00:1c:73:c0:c6:13	s1-leaf2	S1-Leaf	T	
	s1-leaf3.atd.lab	192.168.0.14	00:1c:73:c0:c6:14	s1-leaf3	S1-Leaf	T	
	s1-leaf4.atd.lab	192.168.0.15	00:1c:73:c0:c6:15	s1-leaf4	S1-Leaf	T	
	s1-spine1.atd.lab	192.168.0.10	00:1c:73:c0:c6:10	s1-spine1	S1-Spine		
	s1-spine2.atd.lab	192.168.0.11	00:1c:73:c0:c6:11	s1-spine2	S1-Spine		
S2 (12)	s2-brdr1.atd.lab	192.168.0.200	00:1c:73:c0:c2:00	s2-brdr1	S2-Brdr		
	s2-brdr2.atd.lab	192.168.0.201	00:1c:73:c0:c2:01	s2-brdr2	S2-Brdr		
	s2-core1.atd.lab	192.168.0.202	00:1c:73:c0:c2:02	s2-core1	S2-Core		
	s2-core2.atd.lab	192.168.0.203	00:1c:73:c0:c2:03	s2-core2	S2-Core		
	s2-host1.atd.lab	192.168.0.26	00:1c:73:c0:c6:26	s2-host1	S2-Hosts		
	s2-host2.atd.lab	192.168.0.27	00:1c:73:c0:c6:27	s2-host2	S2-Hosts		
	s2-leaf1.atd.lab	192.168.0.22	00:1c:73:c0:c6:22	s2-leaf1	S2-Leaf		
	s2-leaf2.atd.lab	192.168.0.23	00:1c:73:c0:c6:23	s2-leaf2	S2-Leaf		
	s2-leaf3.atd.lab	192.168.0.24	00:1c:73:c0:c6:24	s2-leaf3	S2-Leaf		
	s2-leaf4.atd.lab	192.168.0.25	00:1c:73:c0:c6:25	s2-leaf4	S2-Leaf		
	s2-spine1.atd.lab	192.168.0.20	00:1c:73:c0:c6:20	s2-spine1	S2-Spine		
	s2-spine2.atd.lab	192.168.0.21	00:1c:73:c0:c6:21	s2-spine2	S2-Spine		

1 - 24 of 24 << < 1 of 1 > >>

Preview Save Cancel

(_images/cvp_cc_2.gif)

- Then we will create 3 new child stages. Click the ... on the right side of the root stage to create 3 stage containers.
- Rename the top and bottom stages to **Before Snapshot** and **After Snapshot** respectively by selecting the Pencil icon. Name the middle stage **Configuration Changes**.
- Next we can select a Snapshot template that we want to run before and after the change. Select the **Before Snapshot** stage and select **Add Actions** under the right side menu.
- Under **Select action**, select **Snapshot -> Validate_Routing** and select 'S1-Leaf1', 'S1-Leaf2', 'S1-Leaf3', and 'S1-Leaf4' under 'Select devices to run on', then select **Add to change control**.
- Now select and drag each of the four leaf switch tasks to the 'Configuration Changes' task.
- Repeat step 15, but select 'After Snapshot'.

Change Control

Add_Loopbacks_CC

Name: Add_Loopbacks_CC | Description: -- | Schedule Start: Select date

Search actions | Select a Template

Change Control Stages (4 actions)

- s1-leaf1: Update Config (Task 161) +201 -0 -0
- s1-leaf3: Update Config (Task 162) +201 -0 -0
- s1-leaf4: Update Config (Task 163) +201 -0 -0
- s1-leaf2: Update Config (Task 164) +201 -0 -0

Change Control Summary

Root Execute: Parallel | Series

Progress: Last Edit (arista 47s ago) | Approval | In Progress | Completed

Action Summary

4 Config

Device Status (4) | Configuration Changes (4)

- s1-leaf1: Active
- s1-leaf2: Active
- s1-leaf3: Active
- s1-leaf4: Active

(_images/cvp_cc_3.gif)

12. We should now have 2 stages that will take a before and after snapshot of the devices being changed and your Change Control screen should look like this:

Change Control

Add_Loopbacks_CC

Name: Add_Loopbacks_CC | Description: -- | Schedule Start: Select date

Search actions | Select a Template

Change Control Stages (12 actions)

- Before Snapshot** (4 actions)
 - s1-leaf1: Snapshot "Validate_Routing"
 - s1-leaf2: Snapshot "Validate_Routing"
 - s1-leaf3: Snapshot "Validate_Routing"
 - s1-leaf4: Snapshot "Validate_Routing"
- Configuration Changes** (4 actions)
 - s1-leaf4: Update Config (Task 81) +202 -0 -0
 - s1-leaf3: Update Config (Task 82) +202 -0 -0
 - s1-leaf2: Update Config (Task 83) +202 -0 -0
 - s1-leaf1: Update Config (Task 84) +202 -0 -0
- Sub-stage** (4 actions)
 - s1-leaf1: Snapshot "Validate_Routing"
 - s1-leaf2: Snapshot "Validate_Routing"
 - s1-leaf3: Snapshot "Validate_Routing"
 - s1-leaf4: Snapshot "Validate_Routing"

Sub-stage

Summary | Logs

Stage Name: Sub-stage | Stage ID: S1Ssz-RnShizA-KPgf_uuz

Run sub-stages: Parallel | Series

Action Summary

4 Snapshot

(_images/cvp_cc_4.png)

Note

A few notes about Change Control:

1. Each Task can be assigned to different stages if wanted. Health checks can be performed in stages before the next stage executes.
2. The order of Task execution can be specified if there are dependencies. This is done by clicking the tasks and selecting the option in the drop-down menu.
3. The root stage and child stages can each be set to series or parallel. We set the root stage to series earlier in the lab so that it will run the stages in order. The child stages can be set to run in parallel to speed up task execution

Executing the Change Control:

We now want to execute the Change Control.

1. First a review and approval will need to take place. Select **Review and Approve**. Here we can view all of the changes for the tasks, snapshots to be taken, and any other information relative to the change control in order to approve it.
2. Once changes have been reviewed, we can click **Approve** in the bottom right.
3. Once the change has been approved, we should now have a button that says **Execute Change Control** in the top right corner. Click this to execute the changes.
4. We will now be prompted with with a confirmation. Click **Execute** to confirm the Change Control execution.
5. While the Change Control executes, we can see the progress of each task as it is executed.

The screenshot displays the Arista CVP Change Control interface. On the left is a navigation sidebar with options like 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 panel shows the 'Change Control' section for 'Add_Loopbacks_CC'. It includes fields for Name, Description, and Schedule Start. Below these are search and template selection options. The 'Change Control Stages' section lists 12 actions, grouped into 'Before Snapshot', 'Configuration Changes', and 'After Snapshot'. The 'Configuration Changes' group shows updates for s1-leaf4, s1-leaf3, s1-leaf2, and s1-leaf1. On the right, the 'Change Control Summary' section shows a progress bar with stages: Last Edit, Approval, In Progress, and Completed. Below this is an 'Action Summary' with two progress indicators for Config (4) and Snapshot (8). At the bottom right, a 'Device Status' table shows the status of s1-leaf1, s1-leaf2, s1-leaf3, and s1-leaf4, all marked as 'Active'.

(_images/cvp_cc_5.gif)

Comparing Snapshots:

Once the Change Control is successfully completed, we can view and compare the snapshots.

1. Navigate to **Devices** -> **Comparison**
2. To compare the before and after from our Change Control, select the **Time Comparison** option to compare two points in time for the same device. Select **S1-Leaf1** from the dropdown menu and click the Quick link for **30 minutes ago**. Then hit **Compare**.
3. CVP will bring up a variety of views that allows you to compare the state of the device from 30 minutes ago to the current time. Select **Snapshots** from the left Navigation column.
4. Select the first time to bring up a list of optional times to compare the Snapshot. The earlier option represents the 'Before Change' Snapshot taken when the Change Control was executed. Select that to see a comparison of the command outputs from before and after the change.

The screenshot displays the Arista CVP Change Control interface. On the left is a navigation sidebar with options like Provisioning, Configlets, Tasks, Actions, and Change Control. The main panel shows the 'Change Control' for 'Add_Loopbacks_CC' with a 'Success' status. It details the 'Change Control Stages' (12 actions) including 'Before Snapshot' (4 actions) and 'Configuration Changes' (4 actions) for various leaf nodes (s1-leaf1 to s1-leaf4). The 'After Snapshot' stage also shows 4 actions. On the right, the 'Change Control Summary' provides a timeline of events: Last Edit (24m ago), Approved, Started (6m ago), and Completed (6m ago). It includes an 'Action Summary' showing 100% completion for Config and Snapshot, and a 'Device Status' table listing four active leaf nodes.

([_images/cvp_cc_6.gif](#))

In the next part of this lab, we'll view and compare Telemetry data based on the changes we made, and then create a sample Dashboard showing the number of IPv4 routes

Click here to continue to part 2 of this lab —>
([cvp_cc_2.html](#))

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