

Revised: April 14, 2026

# Cisco Nexus Hyperfabric — Fabric Reference Points

## Fabric Reference Points

Fabric Reference Points compares two fabric snapshots to identify changes. A snapshot is a capture of the fabric's operational telemetry and assertion states at a specific time.

You can promote a snapshot to a baseline to create a reference state. Comparing subsequent snapshots against this baseline identifies deviations.

### Change metric types

When you compare a snapshot against a baseline, the system categorizes these types of changes.

- **Added:** Elements present in the current snapshot but not in the baseline.
- **Removed:** Elements present in the baseline but not in the current snapshot.
- **Modified:** Elements present in both snapshots that have different values or states.

### Supported data types

The system compares these two categories of data.

- **System states:** Operational telemetry, such as device resource usage and management port configurations.
- **Assertions:** Health and configuration rules, such as port link status, device temperature, and port speed consistency.

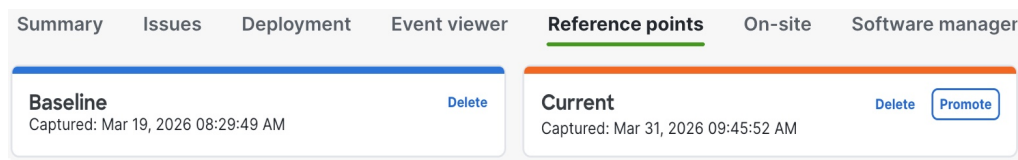
## Create and promote a baseline snapshot

Use this procedure to establish a baseline. A baseline provides a stable reference state, allowing you to measure changes in your fabric's operational health.

Before you can track changes, you must define the reference state for your fabric. Capturing a snapshot when your network is functioning as intended creates an anchor for all future comparisons.

- Step 1**     Navigate to the **Reference points** tool.
- a) Choose **Fabrics**, then select the fabric that you want to analyze.
  - b) Select **Reference points**.

- Step 2**     If a current snapshot exists, you can
- select **Delete** to remove the existing snapshot, or
  - select **Promote** to set the existing snapshot as the current baseline state.



- Step 3** Select **Capture** to record the current fabric operational state. The date and time of the snapshot appears in the **Current** area.
- Step 4** Select **Promote** to set the snapshot as a baseline reference point for future comparisons. The date and time of the snapshot disappears from the **Current** area and appears in the **Baseline** area.

## Compare snapshots

Use this procedure to identify operational deviations and assertion failures in your fabric by comparing a saved baseline snapshot against the current system state. Comparing snapshots helps you troubleshoot instability, verify configuration changes, and identify drift from your established baseline.

When network performance degrades or behavior changes, comparing your current operational state against a baseline helps you isolate the cause.

Ensure a baseline reference point exists.

- Step 1** Navigate to **Reference points**.
- a) Choose **Fabrics**, then select the fabric that you want to analyze.
  - b) Select **Reference points**.
- Step 2** If a snapshot exists in the **Current** area, you can
- select **Delete** to remove the existing snapshot, or
  - select **Promote** to set the existing snapshot a baseline.
- Step 3** In the **Current** area, select **Capture**.
- Step 4** Review the change summary.

**Baseline** Delete

Captured: Mar 19, 2026 08:29:49 AM

**Current** Delete

Captured: Mar 31, 2026 09:45:52 AM

✔ 13 **Added**
✘ 27 **Removed**
↔ 718 **Modified**
No data type selected

Data types

Side by side

Reference Point Summary

**System States** (2)

Device	<span style="color: teal;">↔ 5</span>	Port Neighbor
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**Assertions** (17)

Device		
Device connection to cloud	<span style="color: teal;">↔ 6</span>	Device resource usage
Device connection to fabric	<span style="color: teal;">↔ 5</span>	Device temperature
Device fan speed	<span style="color: teal;">↔ 5</span>	Management port config
Device PSU usage	<span style="color: teal;">↔ 4</span>	
<b>Port</b>		
Expected port breakout	<span style="color: green;">✔ 13</span> <span style="color: red;">✘ 13</span> <span style="color: teal;">↔ 16</span>	Port link expected to be up
Fabric connection to port	<span style="color: teal;">↔ 27</span>	Port pluggable PID match
Port connection speed match	<span style="color: teal;">↔ 4</span>	Port QSFP healthy
Port expected neighbor	<span style="color: teal;">↔ 38</span>	Port speed consistent
Port link expected to be down	<span style="color: teal;">↔ 133</span>	Unexpected VLAN tags on port

The system displays a color-coded summary of differences, allowing you to pinpoint system state or assertion-based changes since the baseline was captured. Scroll through the **Reference Point Summary** to inspect specific changes

- a) Examine the high-level metrics: View the number of added, removed, and modified elements.
- b) Identify element status: Check the status indicators next to each system state or assertion type item.

**Step 5**

Analyze the detailed differences.

- a) Select **Data types**.
- b) Check the system state and assertion type check boxes that you want to view details for.

**Data Type Categories** ✕

This computed reference point supports the following 19 diff tables. Selected data types will appear in the page.

**System States** (2) Added | Removed | Modified

- Device** 5
- Port Neighbor

**Assertions** (17) Added | Removed | Modified

Device

- Device connection to cloud** 6
- Device connection to fabric
- Device fan speed** 5
- Device PSU usage
- Device resource usage
- Device temperature
- Management port config

Port

- Expected port breakout** 13 13 16
- Fabric connection to port
- Port connection speed match

- c) Close the **Data Type Categories** drawer. The data comparison of the baseline value versus the current value is displayed.
- d) Choose whether you want to view the detailed data side-by-side or stacked.

✔ 13 **Added**
✖ 27 **Removed**
↔ 718 **Modified**
No data type selected
Data types... 19

Side by side
Stacked

- e) Select **Diff** to view the raw JSON comparison for advanced troubleshooting.

**System : Device** 0 Added 0 Removed 5 Modified

Device Id	Name	Agent	Power Supply	Sonic Version	
30-3e-a7-17-91-98	UCSC-C225-M8N	0.10-bc4c4a5dc0	0	Ready (Last 60 Seconds Observed)	Diff
	UCSC-C225-M8N	0.10-e5aedb9133	0	Ready (Last 60 Seconds Observed)	
30-3e-a7-1e-a3-4c	UCSC-C225-M8N	0.10-bc4c4a5dc0	0	Ready (Last 60 Seconds Observed)	Diff
	UCSC-C225-M8N	0.10-e5aedb9133	0	Ready (Last 60 Seconds Observed)	
98-d7-e1-02-02-58	FLM283501S8	0.10-bc4c4a5dc0	2	Clear (Never Reported) - SONIC-20240905.2.2.1-2024-0907-20240917-204758 - Health: Clear-4848388-320- Distribution: Debian 10.10 - Kernel: 5.10.17.2-amd64	Diff
	FLM283501S8	0.10-e5aedb9133	2	Clear (Never Reported) - SONIC-20240905.2.2.1-2024-0907-20240917-204758 - Health: Clear-4848388-320- Distribution: Debian 10.10 - Kernel: 5.10.17.2-amd64	
98-d7-e1-03-5c-00	FDO2845003F	0.10-bc4c4a5dc0	2	Clear (Never Reported) - SONIC-20240905.2.2.1-2024-0907-20240917-204758 - Health: Clear-4848388-320- Distribution: Debian 10.10 - Kernel: 5.10.17.2-amd64	Diff
	FDO2845003F	0.10-e5aedb9133	2	Clear (Never Reported) - SONIC-20240905.2.2.1-2024-0907-20240917-204758 - Health: Clear-4848388-320- Distribution: Debian 10.10 - Kernel: 5.10.17.2-amd64	

**Device Assert : Device connection to cloud** 0 Added 0 Removed 6 Modified

Device Id	Hostname	Group short name	Assert state	Latch state	Masked	Details	
30-3e-a7-17-91-98	Fab-51a10-225-1-2	225	<span style="color: green;">✔</span>	Latched Mar 12, 2026 03:31:00 PM	False	Device is connected to cloud	Diff
			<span style="color: green;">✔</span>	Latched Mar 12, 2026 03:31:00 PM	False	Device is connected to cloud	
			<span style="color: green;">✔</span>	Latched Mar 12, 2026 05:53:10 PM	False	Device is connected to cloud	