Cisco Nexus Dashboard Insights Inventory, Release 6.3.1 - For Cisco NDFC

Table of Contents

First Published: 2023-09-12

Last Modified: 2023-12-15

New and Changed Information

The following table provides an overview of the significant changes up to the current release. The table does not provide an exhaustive list of all changes or the new features up to this release.

Table 1. New Features and Changed Behavior in the Cisco Nexus Dashboard Insights

Feature	Description	Release	Where Documented
Reorganized Content	Content within this document was originally provided in the Cisco Nexus Dashboard Insights User Guide. Starting with release 6.3.1, this content is now provided solely in this document and is no longer provided in the Cisco Nexus Dashboard Insights User Guide.	6.3.1	Entire document
RoCEv2 based IP storage network visibility	This feature exposes the ECN and PFC counters to Nexus Dashboard Insights as a part of interface statistics in Inventory. This is done to identify network congestion.	6.3.1	About Switches
ToR node will be added in Nexus Dashboard Insights	By creating an L3 interface (SVI) in ToR, Nexus Dashboard Insights will now onboard the TOR. This feature allows us to create an L3 interface (SVI) in ToR and helps get complete topology view in Nexus Dashboard Insights.	6.3.1	About Switches

This document is available from your Cisco Nexus Dashboard Insights GUI as well as online at www.cisco.com. For the latest version of this document, visit Cisco Nexus Dashboard Insights Documentation.

Inventory

About Inventory

Inventory provides information on switches in Nexus Dashboard Insights.

Click **Operate** > **Inventory** to access Inventory.

At the top of Inventory, choose whether you want to view the inventory from **Online Sites** or **Snapshot Sites**.

Click **Switches** to see high-level information on the switches.

> ℹ️
> - Data for online sites will always be current, however data for snapshot sites may be old and not up to date.
> - If a switch or hostname is modified, it takes around 2 hours for the updated switch or hostname to be reflect in Inventory.

About Switches

Switches provides the following high-level information on the switches.

Field	Description
Name	The name of each switch
Anomaly Level	The anomaly levels experienced by each switch
Advisory Level	The advisory levels experienced by each switch
Site	The site where each switch resides
Model	The model type for each switch

Field	Description
Role	Displays what type of switch this is: • Access • Aggregation • Border • Leaf • Spine • TOR ℹ️ TOR switches can be onboarded by creating an L3 interface (SVI) in TOR.
Serial Number	The serial number for the specific switch
Software Version	The software version in which the switch is available
Type	Displays the type of switch: • ACI • NDFC

> The gear icon allows you to customize the table by hiding some of the columns. By default, all columns are visible. The table can also be filtered based on the columns available.

Click on the site name to be redirected to all the site details. See Sites for more information. To get additional information on any single switch, click that switch under **Name**.

You'll see the following that will provide more information on that switch, with **Overview** shown first by default.

• Overview
• Connectivity
• Anomalies
• Advisories

Overview

• Anomaly Level
• Advisory Level
• Interfaces

- Switch View

- General

- Connectivity

Anomaly level

Click the Anomaly Level to get more specific information on the anomalies present for this controller. A slide-in appears, showing all the anomalies that occurred for this controller.

See Anomalies to understand how to navigate across the anomalies.

Advisory level

The Advisory level shows the total number of advisories that have occurred and the number of advisories that have occurred in the last week. Hover over the Advisory Level to view the category of the advisories occurred. Click **Advisory level** to view the following information:

The level graph displays all the advisories categorized by the severity level. The colors of the graph along with the key helps understand which severity level the advisories belong to. Click the severity level to filter the results based on it.

The Category defines the number of advisories that belong to a specific category. Click the severity level to filter the results based on it.

> The gear icon is used to toggle fields in the table to filter the view. **Actions** allows you to Acknowledge the Advisory.

You can also filter the results by choosing between unacknowledged and acknowledged.

Click any of the advisories to view a slide in with a detailed report of the following:

- What's wrong? - provides problem description with the specific affected objects.

- What's the impact? - explains what will happen if the problem is not fixed.

- How do I fix it? - provides prescriptive recommendations.

You can use the following filters to refine the displayed advisories:

Field	Description
Advisory Level	Filter advisories using a specified level.
Category	Filter advisories using a specified category.
Detection Time	Filter advisories based on the time that the anomaly was detected.
Last Seen Time	Filter advisories based on the time that the anomaly was last seen.
Title	Filter advisories using a specified title.

Field	Description
What's Impacted	Filter based on what is impacted by the advisory.
What's Wrong	Filter advisories based on a specified issue.

Interfaces

Interfaces provides the following information:

- The total number of interfaces in this switch

- The number of physical interfaces

- The overall status of the interfaces in the switch (the number of interfaces that are up, down, or not connected).

Click on the number above the **Total** text to get additional information on the interfaces in this switch.

You can filter the list of interfaces based on the following filters:

- Anomaly Level

- Interface

- Type

- Operational Status

- Admin Status

Click on a specific interface listed under the Interface column to get additional information on that particular interface. See **Interface Details** for more information.

Switch View

Within the **Switch View**, you can see the status of the interfaces, where the state could be one of these values:

- Up (green)

- Down (red)

- Not in Use (gray)

If the switch has multiple modules installed, you can switch the views between the different modules.

Click these links in the Switch View to get additional information:

- **View Hardware Resources** - Click **View Hardware Resources** to view a slide-in which appears with information on the hardware resources for this switch. Hardware resources shows the variations in the hardware resources over the time range selected. The following hardware resources are displayed with the percentage utilized per component:

  - CPU

  - Fan Utilization

  - Memory

  - Power Supply

  - Storage

  - Temperature
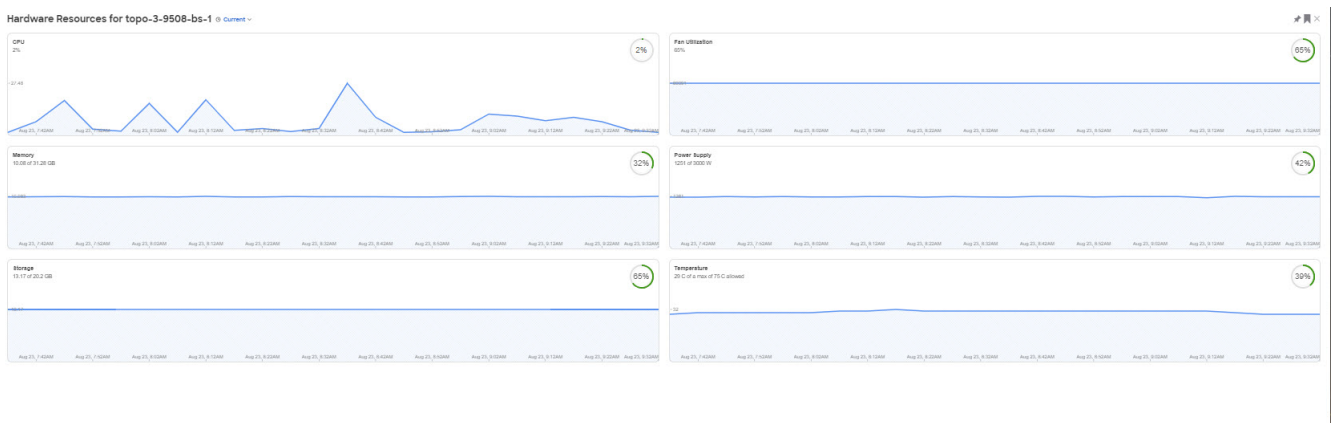
Click any resource to view further details about it.

- **View Capacity** - Click **View Capacity** to view a slide-in appears with capacity information for the switch. Capacity details shows the variations in operational, configuration and interface resources over the time range selected.

Operational Resources

- Egress Routed ACL

- IPV4 Host Routes

- IPV4 Prefix Routes

- IPV6 Host Routes

- IPV6 Prefix Routes

- Ingress Routed ACL

- L2 QoS TCAM

- L3 QoS TCAM

- MAC

- Multicast Routes

Configuration Resources

- L2 VNI
- L3 VNI
- VLAN
- VRF

Interface Resources

- Egress Port Bandwidth
- Ingress Port Bandwidth
- Port Usage

The port diagram key helps understand the switch view. Click any interface in the switch view to get more details about the interface. See **Interface Details** for more information.

General

General provides the following information:

Field	Description
Site	The site where each switch resides.
Role	Displays what type of switch this is: • Access • Aggregation • Border • Leaf • Spine • TOR ⓘ TOR switches can be onboarded by creating an L3 interface (SVI) in TOR.
Software Version	The version of the software on the switch.
Last Software Update	The date when the software was last updated on this switch.
Uptime	The amount of time that this switch has been up. You will also see when the switch was last rebooted.

Field	Description
Model	The model type for each switch.
Serial Number	The serial number for this switch.
Out-of-Band IPv4 Address	The IP address for the out-of-band management of this switch.
Created At	The date of when the switch was created.

Connectivity

Connectivity provides the following information:

Field	Description
Endpoints	The number of endpoints associated with this switch
L3 Neighbors	The number of Layer 3 neighbors associated with this switch

Click on the number shown in either of these areas to get additional information on the endpoints or the Layer 3 neighbors.

Connectivity

Click **Connectivity** to bring up connectivity information for this switch. The following appear below **Connectivity**, with **Interfaces** shown first by default.

Click any of these to bring up additional connectivity information for this switch:

- Interfaces
- Endpoints
- L3 Neighbors
- VPC Domains

Interfaces

Click Interfaces to bring up the Interfaces for this switch. The following information is available in Interfaces:

- Anomaly level
- Admin Status
- Operational status
- Type

The Interfaces are listed in a tabular form. Click on an interface to get the following additional information on that interface.

Interface Details

Overview

You see the general information about your interface.

- General
    - Interface
    - Type
    - Operational Speed
    - Ip Address
    - Admin State
    - Operational Status
    - CDP neighbors
    - LLDP neighbors
    - Total Endpoints
    - SFP Diagnostics
- EPGSs with Active Endpoints
    - Tenant name
    - Endpoints in EPG
    - EPG Name
    - Mapped Domains
    - VLAN
- L3 Neighbors

In this area, details are displayed such as Peer IP, Operational State, Protocol Name, VRF Name, Neighbors Type.

> ℹ An interface must be active for you to be able to view the neighbor details.

Trends and Statistics

Click Trends and Statistics to bring up trends and statistics information on this specific interface in this switch. You see information about the traffic that is flowing over the interface, the usage and various statistics for Microbursts and errors.

- Traffic (by bytes or by packets)
- Usage
- Congestion
- Errors

Interface Details for eth1/1 on topo-3-9508-bs-1

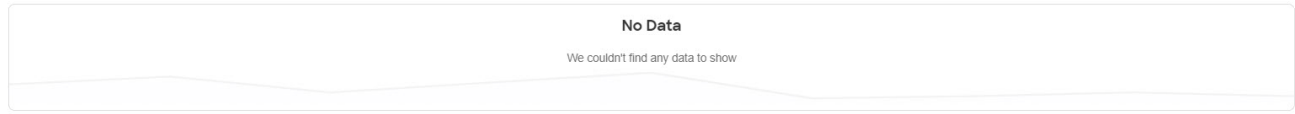Overview   Trends and Statistics   Anomalies

Traffic Bytes ⌄

Receive Bytes	Transmit Bytes
9.46 TB	6.14 TB

Receive Bytes: 9.46 TB, 5.46 TB, 2.73 TB
Aug 18th 2023, 11:40 AM · Aug 18th 2023, 12:00 PM · Aug 18th 2023, 12:20 PM · Aug 18th 2023, 12:50 PM

Transmit Bytes: 6.14 TB, 3.84 TB, 1.82 TB
Aug 18th 2023, 11:40 AM · Aug 18th 2023, 12:00 PM · Aug 18th 2023, 12:20 PM · Aug 18th 2023, 12:50 PM

Usage

Receive Utilization	Transmit Utilization	Receive Rate
0.3 %	0.18 %	302.29 Mbps

Receive Utilization: 0.58, 0.3, 0.15
Transmit Utilization: 0.38, 0.19
Receive Rate: 583.49 Mbps, 300.00 Mbps, 150.00 Mbps

Transmit Rate
177.73 Mbps

Transmit Rate: 382.80 Mbps, 200.00 Mbps, 100.00 Mbps

Interface Details for eth1/1 on topo-3-9508-bs-1

382.80 Mbps, 200.00 Mbps, 100.00 Mbps
Aug 18th 2023, 11:40 AM · Aug 18th 2023, 12:00 PM · Aug 18th 2023, 12:20 PM · Aug 18th 2023, 12:50 PM

Congestion

No Data

We couldn't find any data to show

Microbursts

Microbursts by [Top 25 Bursts by Peak V...] on [All Queues]

No Data
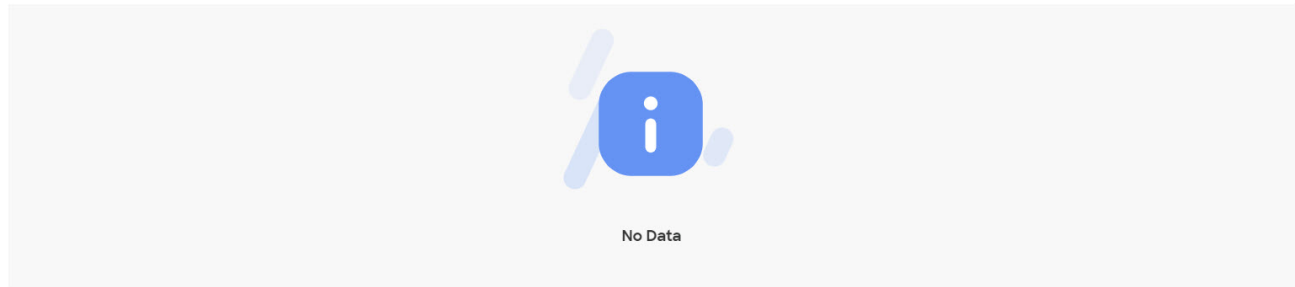
Errors

0
Total Errors

The congestion statistics show the ECN and PFC counters for the traffic received and transmitted. This is used to display where the congestion occurs. Click on any of the counter graphs displayed to view the per queue counters. This displays the list of the counters in the queue along with the number of packets in the respective queue.

Anomalies - Click to bring up anomaly information on this specific interface in this switch. See Anomalies for more information.

The Anomaly level shows the total number of anomalies that have occurred and the number of anomalies that have occurred in the last week.

Hover over the Anomaly Level to view the category of the anomalies occurred. Click the Anomaly Level to get specific information on the anomalies present for the specific controller or switch.

The **View all anomalies** takes you to the Anomalies tab.

You can use the following filters to refine the displayed anomalies:

Field	Description
Anomaly Level	Filter anomalies using a specified level.
Category	Filter anomalies using a specified category.
Title	Filter anomalies using a specified title.

Anomalies are learned deviations from the last known "good" state of a controller and are displayed by type and severity.

To see an overall anomaly dashboard for this controller, click the **Anomalies** tab.

An anomalies dashboard appears for this controller. Determine if you want to see the anomalies grouped or ungrouped. Choose **Grouped** from the drop-down menu if you want to see the anomalies grouped. You can also select a specific time range to view the anomalies.

The level graph displays all the anomalies categorized by the severity level. The colors of the graph along with the key helps understand which severity level the anomalies belong to. Click the severity level to filter the results based on it.

The Category defines the number of anomalies that belong to a specific category. Click the severity level to filter the results based on it.

> The gear icon is used to toggle fields in the table to filter the view.

Grouped anomalies are provided with the following information:

- Title
- Anomaly Level
- Category
- Count

Click any of the anomalies to view a list of all instances of the anomaly have occurred. The following fields are displayed for each instance:

- What's wrong
- Anomaly Level
- Site
- Detection time
- Status

> **...** and **Actions** allows you to perform the following actions:
>
> - Acknowledge Anomaly
>
> - Verification Status
>
> - Assigned To
>
> - Comment
>
> - Manage Tags

Click any instance of the anomaly to view a detailed report. The report lists the following:

1. What's wrong? - provides problem description with the specific affected objects.

2. What triggered this anomaly? - explains the reason behind the anomaly getting triggered.

3. What's the impact? - explains what will happen if the problem is not fixed.

4. How do I fix it? - provides prescriptive recommendations.

Choose **Ungrouped** from the drop-down menu if you want to see the anomalies ungrouped.

Ungrouped anomalies are provided with the following information:

- What's Wrong

- Anomaly Level

- Category

- Site

- Detection Time

> In case of Ungrouped Anomalies, clicking on any anomaly brings up a slide in with the detailed report.

Supported Interface Types

- **Physical Interface** : To view the interface details of the node such as,node name, physical interface name, operational status, and admin state. The page also displays protocols, QoS, and DOM properties of the physical interface.

- **Port Channel Interface** : The port channel is an aggregate of physical interfaces and they can be statistically channeled or can be dynamic using LACP protocols. The statistical data that collects the counters for packets, bytes and various errors are similar to that of physical interface. The 150 *sourcename* differentiates the physical interface from port-channel (aggregated interfaces). The operational data is obtained by looking at an additional set of objects that gives the admin-status, oper-status and list of member interfaces for both PC and vPC.

- **vPC Interface** : The vPC is a logical interface that spans across two physical switches for fault tolerance. For a vPC interface type, the Logical Neighbors information is also displayed. The

categories that are supported are L3Out, IPN, ISN, L4-L7.

- **SVI Interface** : An SVI is a virtual routed interface that connects a VLAN on the device to the Layer 3 router engine on the same device. Specific information such as Member Interfaces over which the SVI is deployed, VLAN ID, VLAN Type, Encap VLAN are displayed for the SVI interface.

L3 Neighbors

Click the L3 Neighbors to bring up L3 Neighbors for this switch. You can filter the results based on Neighbor, Local Switch, VRF and Operational Status.

Click the IP address in the Neighbor column to bring up details on this neighbor.
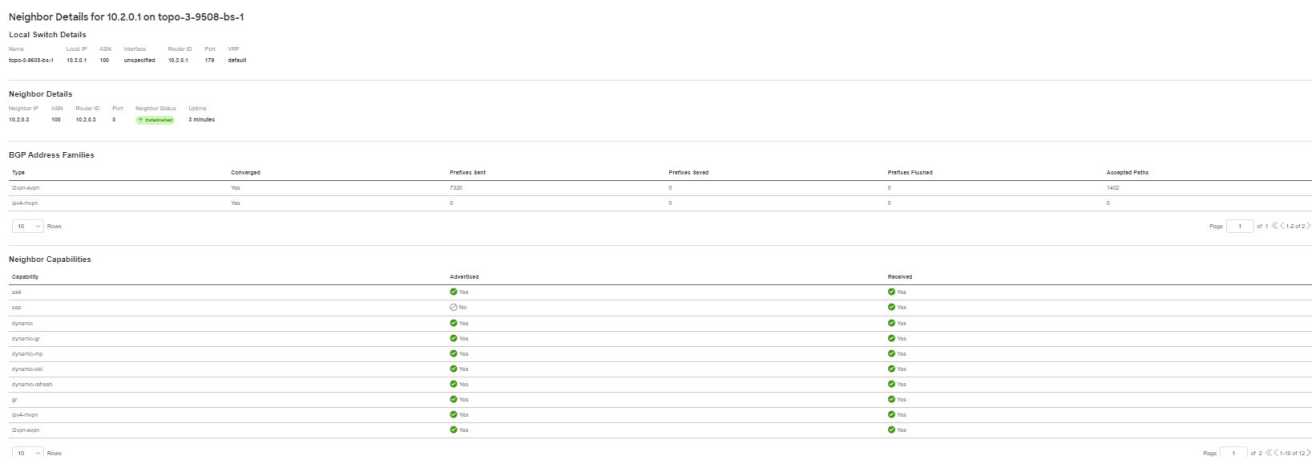
Click the switch name to bring up the corresponding switch details for the selected neighbor.

Endpoints

Click **Endpoints** to bring up the Endpoints for this switch. You can filter the results based on Anomaly Level, MAC Address, IP Adresses, Hostnames, Connected To, Interface, Time, Status, Tenant, VRF, BD, EPG/l3out, Search Deleted IPs, VM Name, Hypervisor.

Click a MAC address in the **MAC** column to get the following additional information on that endpoint:

- Overview

- Endpoint history - Determine how you want to show endpoint history. You can show the endpoint history for the last day, last week, or last month.

- Anomalies

Click on an IP address to get the following additional information:

- Overview

- IP History

- Anomalies
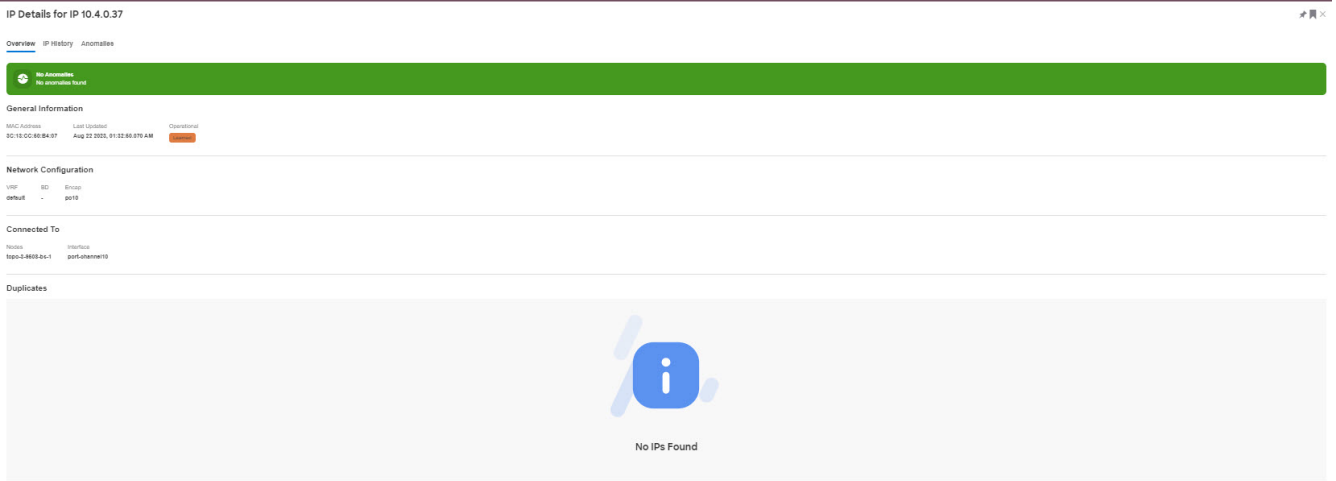
VPC Domains

Click **vPC Domains** to bring up the vPC Domain for this switch. You can filter the results based on Domain ID.

Click a domain in the **Domain ID** column to bring up vPC domain details on that domain. Click an interface in the Interface column to bring up additional information on that interface.

Anomalies

See Anomalies to understand how to navigate across the anomalies.

Advisories

See Advisories to understand how to navigate across the anomalies.

Filtering Information

In some cases, you might be able to filter results to find information more easily.

For example, you might have a situation where there a large number of endpoints under a single leaf switch, but you are only interested in endpoints that have a certain VLAN value.

You could filter the information to show only those specific endpoints in this situation.

Use the following operators for the filter refinement:

Operator	Description
==	With the initial filter type, this operator, and a subsequent value, returns an exact match.
!=	With the initial filter type, this operator, and a subsequent value, returns all that do not have the same value.

Operator	Description
contains	With the initial filter type, this operator, and a subsequent value, returns all that contain the value.
!contains	With the initial filter type, this operator, and a subsequent value, returns all that do not contain the value.
<	With the initial filter type, this operator, and a subsequent value, returns a match less than the value.
< =	With the initial filter type, this operator, and a subsequent value, returns a match less than or equal to the value.
>	With the initial filter type, this operator, and a subsequent value, returns a match greater than the value.
> =	With the initial filter type, this operator, and a subsequent value, returns a match greater than or equal to the value.

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