

Dashboard

The intent of the **Dashboard** is to enable network and storage administrators to focus on particular areas of concern around the health and performance of data center switching. This information is provided as 24-hour snapshots.

The functional view of LAN switching consists of seven dynamic dashlets that display information in the context of the selected scope by default.

The various scopes that are available on the Cisco Nexus Dashboard Fabric Controller Web UI are:

- Overview, on page 1
- Viewing vCenter VMs, on page 2
- Viewing Kubernetes Pods, on page 3
- Endpoint Locator Dashboard, on page 5

Overview

From the left menu bar, choose **Dashboard** > **Overview**. The **Overview** window displays the default dashlets. The dashlets display donuts summary.

The following are the default dashlets that appear in the **Overview** dashboard window:

Dashlet	Description
Fabric Health	Displays the fabric health status, and a number in the donut depicting total number of fabrics. The **Fabric Health** status is based on the severity of the highest outstanding alarm for the fabric or its member switches.
Events Analytics	Displays events with **Critical**, **Error**, and **Warning** severity.
Switches Configuration	Displays the switches inventory summary information such as the switch models and the corresponding count.
Switches	
Switch Health	Displays the switches health summary with the corresponding count. The **Switch Health** status is based on the severity of the highest outstanding alarm for the switch or its interfaces.

Dashlet	Description
Switch Roles	Displays the switches roles summary and the corresponding count. Displays the number of access, spine and leaf devices.
Switch Hardware Version	Displays the switches models and the corresponding count.
Switch Software Version	Displays the switches software version and the corresponding count.
Performance Collector	Displays the performance collection information. • Click **Stop collector** to stop performance collection information. • Click **Start collector** to restart the performance collection information.
Reports	Displays switch reports.

Viewing vCenter VMs

UI Path: **Dashboard** > **vCenter VMs**

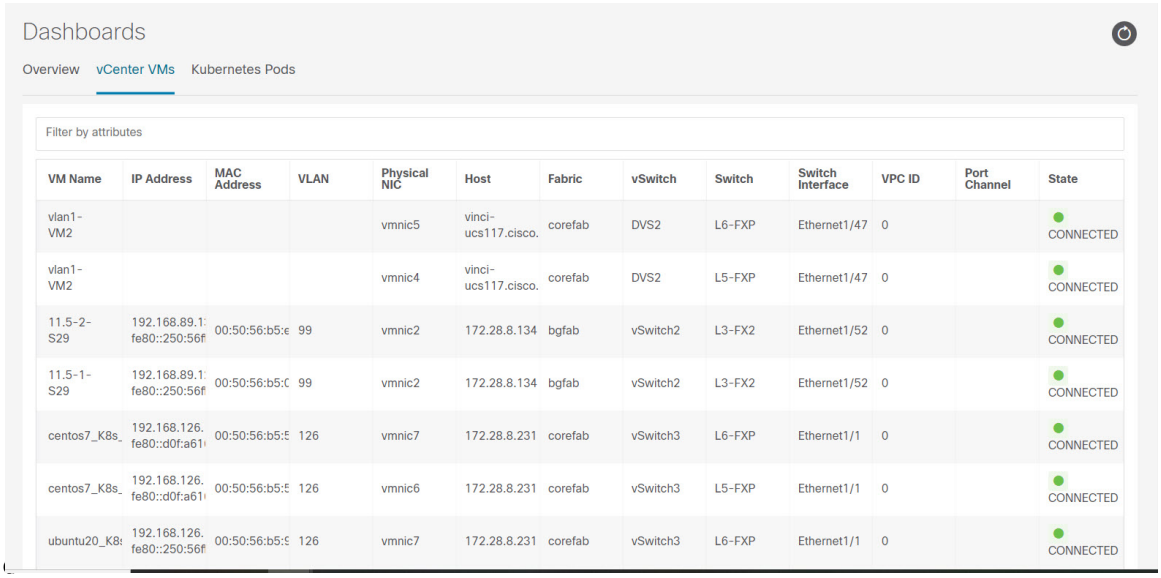


Note You can view the Virtual Machine details for the added vCenter cluster on dashboard and topology window. Navigate **Dashboard** > **vCenter VMs**.

The vCenter VMs tab displays the following details of VMs:

- VM Name, its IP address and MAC address
- Name of the compute where the VM is hosted
- Switch name that is connected to a VM, switch’s IP address, MAC address, and interface
- Port channel ID and vPC ID (if connected to a VPC)
- VLAN VM configured on
- Power state of the VM
- Physical NIC of the Compute host

You can search and filter VMs by using **filter by attributes** search



To view VMs on Fabric window, navigate to **LAN** > **Fabrics**, double-click on required fabric. On **Fabric Overview** window, choose **Virtual Infrastructure** > **Virtual Machine VMs**.

To view VMs on Switch window, navigate to **LAN** > **Switches**, double click on required switch. On **Switch Overview** window, choose **Virtual Infrastructure** > **Virtual Machine VMs**.

Viewing Kubernetes Pods

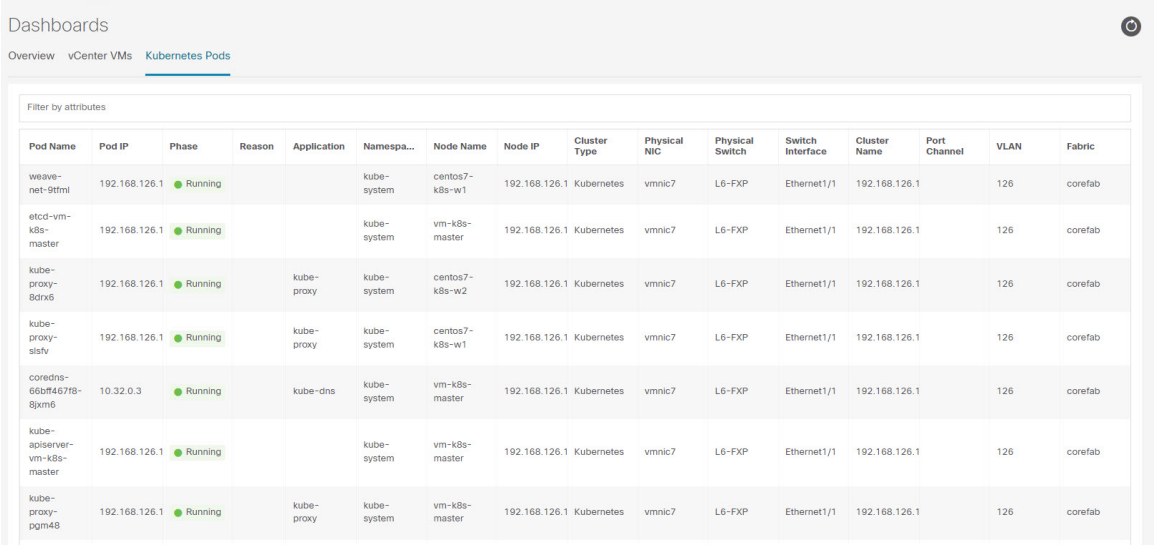
Note This is a preview feature in Nexus Dashboard Fabric Controller, Release 12.0.1a. We recommend that you use this feature marked as BETA in your lab setup only. Do not use these features in your production deployment.

UI Path: **Dashboard** > **Kubernetes Pods**

You can view Kubernetes pods on Fabrics window, navigate **LAN > Fabrics**, double-click on required fabric, it navigates to **Fabric Overview** window, click **Virtual Infrastructure** > **Kubernetes Pods**.

You can view Kubernetes pods on Switch window, navigate **LAN > Switches**, double-click on required switch, it navigates to **Switch Overview** window, click Virtual **Infrastructure > Kubernetes Pods.**

You can search and filter kubernetes pods by using **filter by attributes** search field.

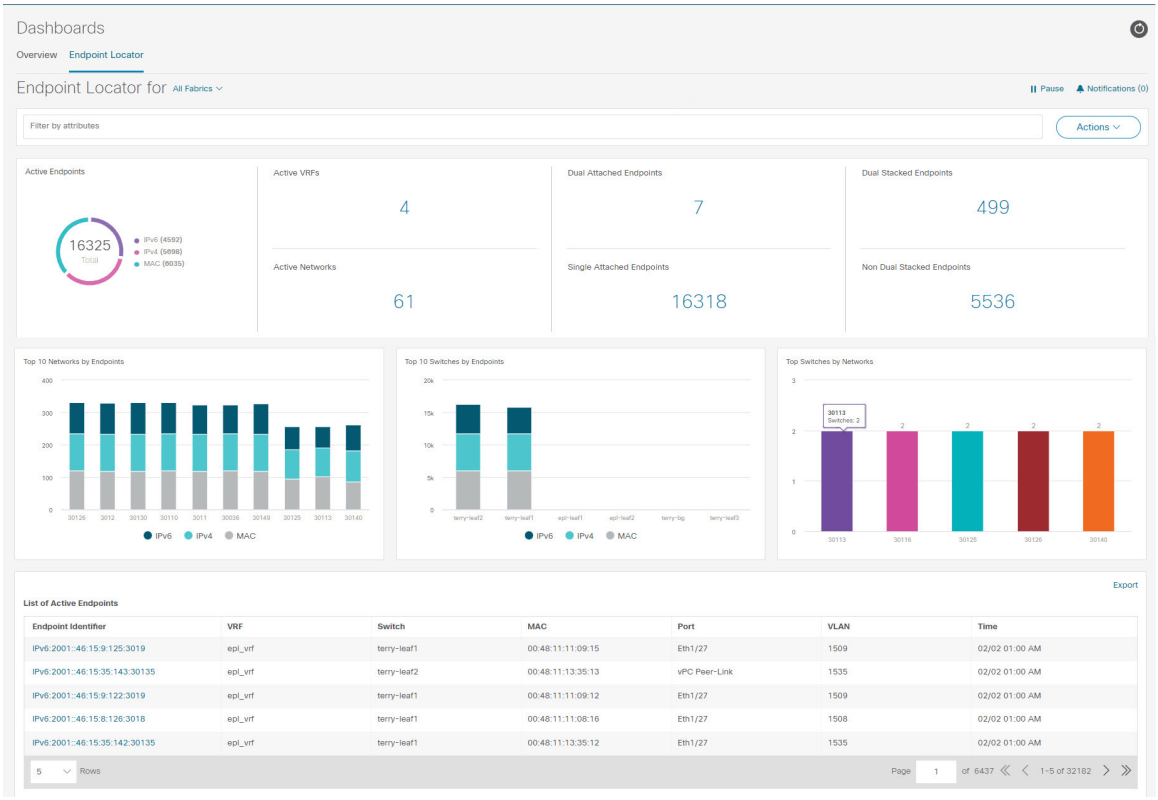


The following table describes the fields and description on the window.

Field	Description
Pod Name	Specifies the name of the Kubernetes pod.
Pod IP	Displays the IP address of the Kubernetes pod.
Phase	Specifies the phase (state) of the pod.
Reason	Specifies the reason.
Applications	Specifies the applications of the pod.
Namespace	Specifies the namespace of the pod.
Node Name	Specifies the node name of the pod.
Node IP	Specifies the node IP address.
Cluster Type	Displays the type of cluster.
Physical NIC	Displays the physical NIC of the node.
Physical Switch	Specifies the physical switch connected to cluster node.
Switch Interface	Specifies the switch interface connected to cluster node.
Cluster Name	Specifies the name of the cluster.
Port Channel	Specifies the port channel (if cluster node is connected to a VPC).
VLAN	Specifies the VLAN.
Fabric	Specifies the fabric name.

Endpoint Locator Dashboard

To explore endpoint locator details from the Cisco Nexus Dashboard Fabric Controller Web UI, choose **Dashboard > Endpoint Locator**. The **Endpoint Locator** dashboard is displayed.



Note Due to an increase in scale, the system may take some time to collect endpoint data and display it on the dashboard. On bulk addition or removal of endpoints, the endpoint information displayed on the EPL dashboard takes a few minutes to refresh and display the latest endpoint data.

- You can initiate a search by using the available options in the **filter by attributres** search bar field.

  You can also filter and view the endpoint locator details for a specific **Switch, VRF, Network**, and **Type** by using the respective drop-down lists. You can select MAC type of endpoints as a filter attribute. The name of the network is also displayed in the **Network** drop-down list. By default, the selected option is **All** for these fields. You can display endpoint data for a specific device by entering the host IP address, MAC address, or the name of the virtual machine in the **Search Host IP/MAC/VM Name** field.

- You can click **All fabrics** drop-down list to view endpoint locator details for all fabrics or required fabric.

  An alarm is generated if there are any endpoint related anomalies. Click the **Pause** icon to temporarily stop the near real-time collection and display of data. By default **Run** is chosen. Click **Notification** icon to view the notification details.

- Click **Actions** > **Endpoint Search**. For more information, refer to Endpoint Search, on page 9.
- Click **Actions** > **Endpoint Life**. For more information, refer to Endpoint Life, on page 10.
- Click **Actions** > **Resync** to syncing to the data currently in the Route Reflector (RR). However, historical data is preserved. We recommend not clicking **Resync** multiple times as this is a compute-intense activity.

  In certain scenarios, the datapoint database may go out-of-sync and information, such as the number of endpoints, is not displayed correctly due to network issues such as:

  - Endpoint moves under the same switch between ports and the port information needs some time to be updated.
  - An orphan endpoint is attached to the second VPC switch and is no longer an orphan endpoint.
  - NX-API not enabled initially and then enabled at a later point in time.
  - NX-API failing initially due to misconfiguration.
  - Change in Route Reflector (RR).
  - Management IPs of the switches are updated.

- Click **Notifications** icon to display a list of the most recent notifications.

  The **Endpoint Locator Notifications** window appears.

  Information such as the time at which the notification was generated, the description of the notification, severity level is displayed.

  Notifications are generated for events such as duplicate IP addresses, duplicate MAC-Only addresses, VRF disappears from a fabric, all endpoints disappear from a switch, endpoint moves, endpoints on a fabric going to zero, when endpoints are attached to a switch, when a new VRF is detected, and when the RR BGP connectivity status changes. The RR connected status indicates that the Nexus Dashboard Fabric Controller can connect to the RR through BGP (Nexus Dashboard Fabric Controller and RR are BGP neighbors). The RR disconnected status indicates that the RR is disconnected and the underlying BGP is not functioning.

  You can initiate a search by using the available options in the **filter by attributres** search bar field.

The top pane of the window displays the following information:

The top pane of the window displays the number of active endpoints, active VRFs, active networks, dual attached endpoints, single attached endpoints and dual stacked endpoints, for the selected scope. Support for displaying the number of dual attached endpoints, single attached endpoints and dual stacked endpoints has been added. A dual attached endpoint is an endpoint that is behind at least two switches. A dual stacked endpoint is an endpoint that has at least one IPv4 address and one IPv6 address.

- Historical analysis of data is performed and a statement mentioning if any deviation has occurred or not over the previous day is displayed at the bottom of each tile.

  Click any tile in the top pane of the EPL dashboard to go to the Endpoint History window.

The 'middle pane' of the window displays the following information:

- **Top 10 Networks by Endpoints** - A pie chart is displayed depicting the top ten networks that have the most number of endpoints. Hover over the pie chart to display more information. Click on the required section to view the number of IPv4, IPv6, and MAC addresses.

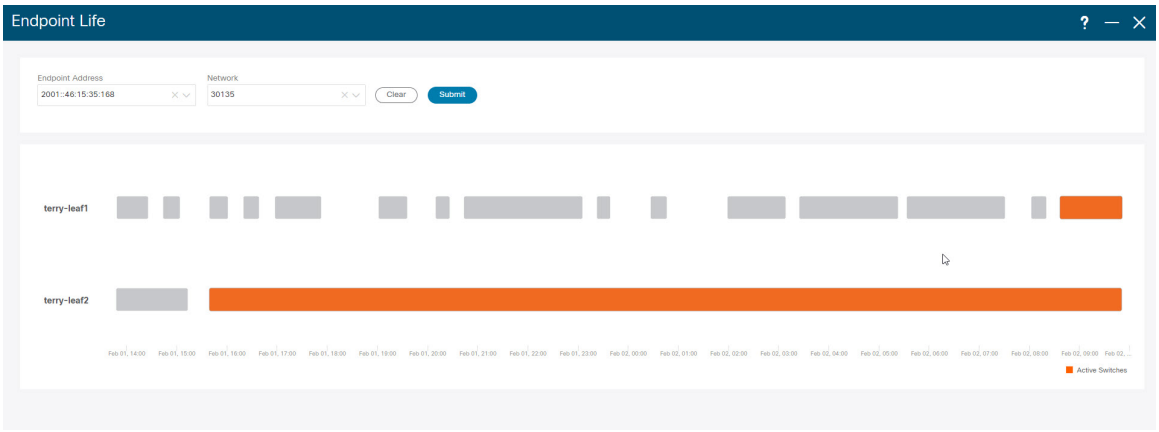
- **Top 10 Switches by Endpoints** - A pie chart is displayed depicting the top ten switches that are connected to the most number of endpoints. Hover over the pie chart to display more information. Click on the required section to view the number of IPv4, IPv6, and MAC addresses.
- **Top Switches by Networks** - Bar graphs are displayed depicting the number of switches that are associated with a particular network. For example, if a vPC pair of switches is associated with a network, the number of switches associated with the network is 2.

The 'bottom pane' of the window displays the list of active endpoints.

If a virtual machine has been configured, the name of the VM is displayed in the **Node Name** field. Note that it can take up to 15 minutes for the name of the VM to be reflected in the EPL dashboard. Until then, the EPL dashboard displays **No DATA** in the **Node Name** field.

Click **Export** to download the list of active endpoints in .csv format.

Click on required endpoint identifier, a slide-in pane appears and the related details are displayed. Click **Endpoint Life**. The **Endpoint Life** window appears for selected endpoint identifier. For more information, refer to Endpoint Life, on page 10.



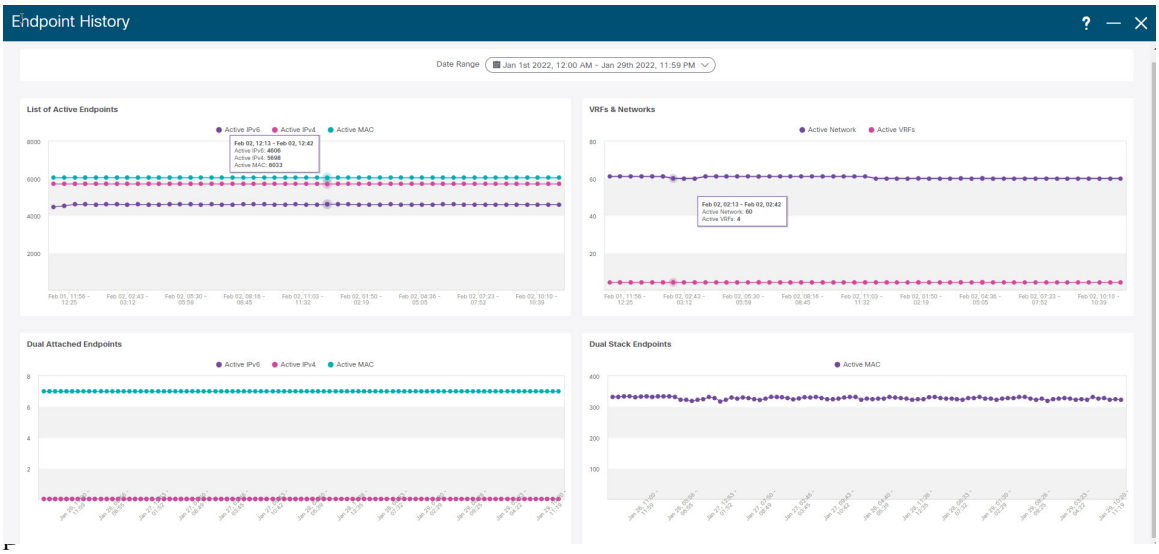
Click the search icon in the **Endpoint Identifier** column to search for specific IP addresses.

Consider a scenario in which EPL is first enabled and the **Process MAC-Only Advertisements** checkbox is selected. Then, EPL is disabled and enabled again without selecting the **Process MAC-Only Advertisements** checkbox. As the cache data in elasticsearch is not deleted on disabling of EPL, the MAC endpoint information is still displayed in the EPL dashboard. The same behavior is observed when a Route-Reflector is disconnected. Depending on the scale, the endpoints are deleted from the EPL dashboard after some time. In certain cases, it may take up to 30 minutes to remove the older MAC-only endpoints. However, to display the latest endpoint data, you can click **Resync**.

Endpoint History

Click any tile in the top pane of the EPL dashboard to go to the **Endpoint History** window. A graph depicting the number of active endpoints, VRFs and networks, dual attached endpoints and dual stacked MAC endpoints at various points in time is displayed. The graphs that are displayed here depict all the endpoints and not only the endpoints that are present in the selected fabric. Endpoint history information is available for the last 30

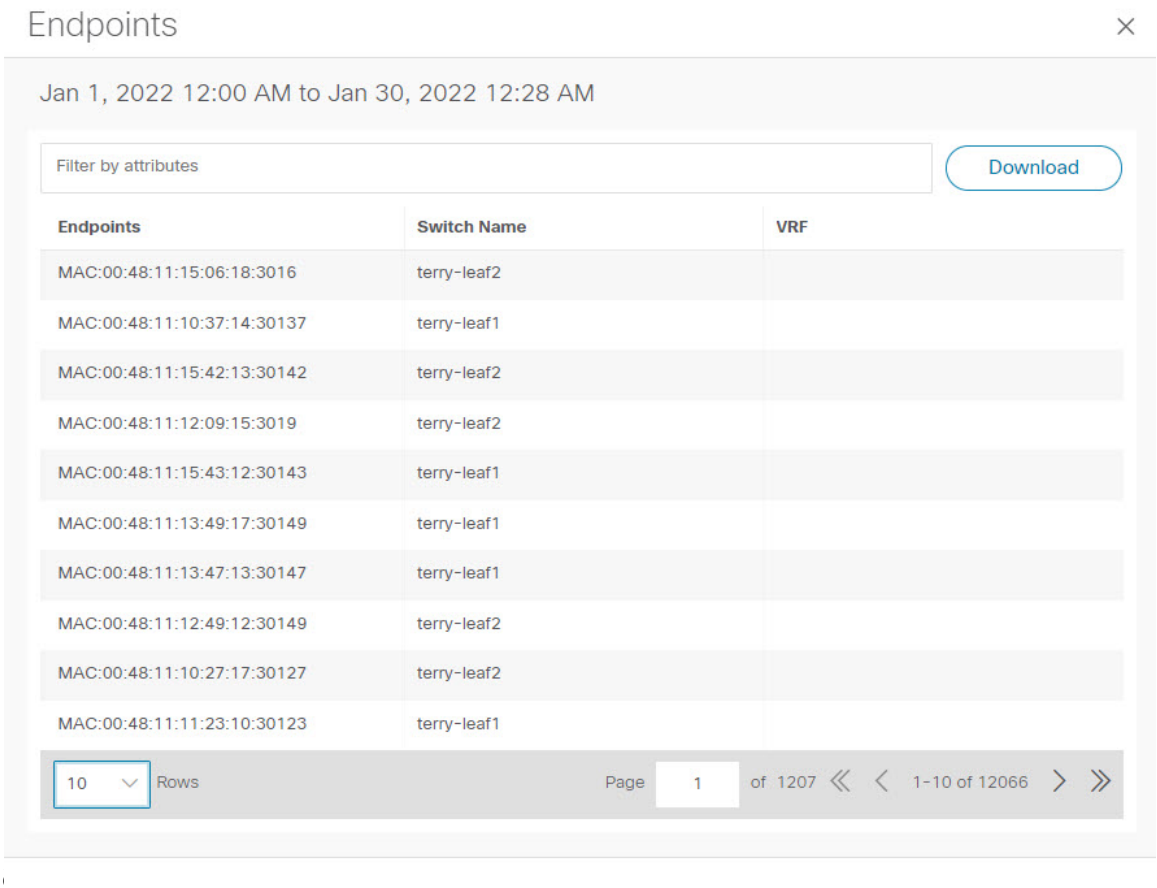
days amounting to a maximum of 100 GB storage



Hover over the graph at specific points to display more information. The points in the graph are plotted at 30-minute intervals. You can also display the graph for a specific requirement by clicking the color-coded points at the bottom of each graph. For example, click on all color-coded points other than **active (IPv4)** in the Active Endpoints window displayed above such that only **active (IPv4)** is highlighted and the other points are not highlighted. In such a scenario, only the active IPv4 endpoints are displayed on the graph. You can also click on the required color-coded points at the bottom of the graph to display the graph for a specific requirement. For example, hover over **active (IPv4)** to display only the active IPv4 endpoints on the graph.

Click on any point in the graph to display a window that has detailed information about that point of time. For example, click on a specific point in the **Active Endpoints** graph to display the **Endpoints** window. This window has information about the endpoints along with the name of the switch and the VRF associated with

the endpoint. Click **Download** to download the data as a CSV



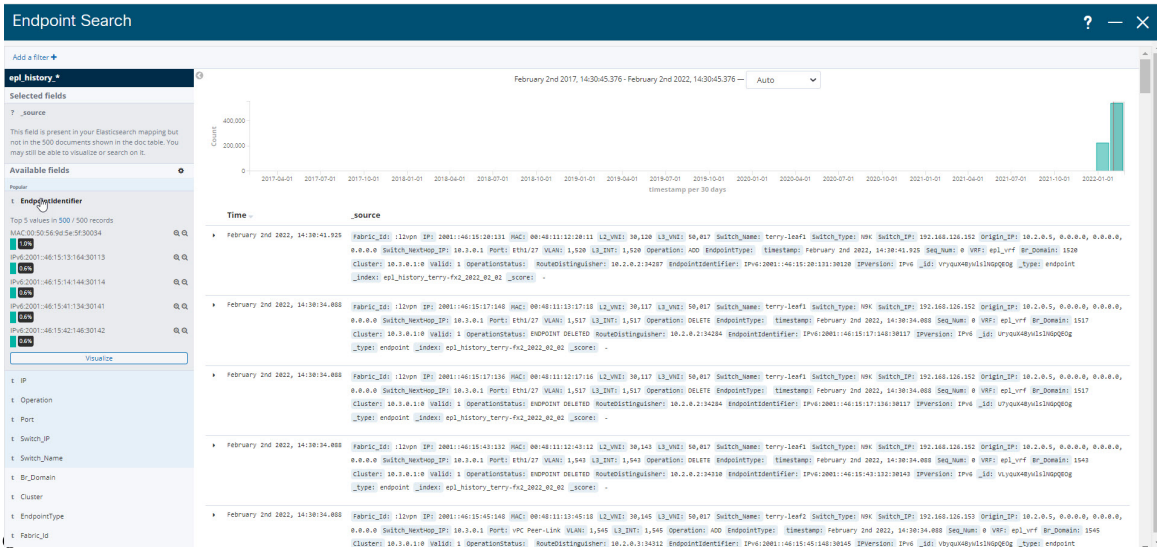
Endpoint Search

UI Path: **Dashboard** > **Endpoint Locator**.

On **Endpoint Locator** window, click **Actions** > **Endpoint Search** to view a real-time plot displaying endpoint events for the period specified in a date range.

Note You cannot change time on the clock icon. Ignore the tooltip to change the time.

The results displayed here are dependent on the fields listed under **Selected fields** located in the menu on the left. You can add any field listed under **Available fields** to **Selected fields** to initiate a search using the required



Endpoint Life

Click **Actions** > **Endpoint Life** to display a time line of a particular endpoint in its entire existence within the fabric.

Specify the IP or MAC address of an endpoint and the VXLAN Network Identifier (VNI) to display the list of switches that an endpoint was present under, including the associated start and end dates. Click **Submit**.

Initiate a search by using an IPv4 or IPv6 address to display the **Endpoint Life** graph for IPv4/IPv6 endpoints. Initiate a search by using a MAC address to display the **Endpoint Life** graph for MAC-Only endpoints.

The window that is displayed is essentially the endpoint life of a specific endpoint. The bar that is orange in color represents the active endpoint on that switch. If the endpoint is viewed as active by the network, it will have a band here. If an endpoint is dual-homed, then there will be two horizontal bands reporting the endpoint existence, one band for each switch (typically the vPC pair of switches). In case the endpoints are deleted or moved, you can also see the historical endpoint deletions and moves on this

