



Monitor and Troubleshoot SD-Access Health

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SD-Access Fabric

Fabric technology is an integral part of SD-Access. A fabric network is a logical group of devices that is managed as a single entity in one or multiple locations. Having a fabric network in place enables several capabilities, such as the creation of virtual networks and user and device groups, and advanced reporting. Other capabilities include intelligent services for application recognition, traffic analytics, traffic prioritization, and steering for optimum performance and operational effectiveness.

Catalyst Center allows you to add devices to a fabric network. These devices can be configured to act as control plane, border, or edge devices within the fabric network.

Add a Fabric Site

Before you begin

You can create a fabric site only if IP Device Tracking (IPDT) is already configured for the site.

Step 1 From the top-left corner, click the menu icon and choose **Provision > Fabric Sites**.

Step 2 Under **SUMMARY**, click the number that indicates the count of the fabric sites.

The resulting window displays every fabric site that has already been created and its information (such as Health Score, Fabric Zones, Fabric Devices, Fabric Roles, and Connected Transits) in a tabular format.

You can customize the table view to display only selected columns. Use the gear icon at the top right corner of the window to edit the **Table Settings** and **Apply** the changes.

Step 3 Click **Create Fabric Sites**.

Alternatively, instead of the first three steps, click the menu icon and choose **Workflow > Create Fabric Sites and Fabric Zones**.

- Step 4** In the **Create Fabric Sites** window, click **Let's Do it** to go directly to the workflow.
- Step 5** In the **Fabric Site Location** window, choose an area, building, or floor to add as a fabric site.
- Step 6** In the **Wired Endpoint Data Collection** window, ensure that the **Wired Endpoint Data Collection** check box is checked.
- Step 7** In the **Authentication Template** window, do the following:
- a) Choose an authentication template for the fabric site:
 - **Closed Authentication:** Any traffic before authentication is dropped, including DHCP, DNS, and ARP.
 - **Open Authentication:** A host is allowed network access without having to go through 802.1X authentication.
 - **Low Impact:** Security is added by applying an ACL to the switch port, to allow very limited network access before authentication. After a host has been successfully authenticated, additional network access is granted.
 - **None**
 - b) (Optional) If you choose **Closed Authentication**, **Open Authentication**, or **Low Impact**, click **Edit** to edit the authentication settings:
 - **First Authentication Method:** Choose **802.1x** or **MAC Authentication Bypass (MAB)**
 - **802.1x Timeout (in seconds):** Use the slider to specify the 802.1x timeout, in seconds.
 - **Wake on LAN:** Choose **Yes** or **No**.
 - **Number of Hosts:** Choose **Unlimited** or **Single**.
 - **BPDU Guard:** Use this check box to enable or disable the Bridge Protocol Data Unit (BPDU) guard on all the **Closed Authentication** ports.
 - **Pre-Authentication Access Control List:** Enable the toggle button to configure preauthentication control for **Low Impact** authentication. From the **Implicit Action** drop-down list, choose an implicit action and enter a description for the rule. To add an access contract, click **Add Contract Action**, choose the rules, and click **Apply Table**.
- Step 8** (Optional) In the **Fabric Zones** window, choose one of the following options:
- To designate fabric zones later, click **Setup Fabric Zones Later**.
 - To designate fabric zones and create scoped subnets, click **Setup Fabric Zones Now** and choose a fabric site from the network hierarchy displayed.
- Step 9** In the **Summary** window, review the fabric site settings.
You can edit any of the fabric site or zone settings here.
- Step 10** In the **Fabric Site Creation Scheduler** window, depending on the Visibility and Control of Configurations settings, choose an available option.
- To immediately deploy the configuration, click **Now**.
 - To schedule the deployment for a later date and time, click **Later**, and define the date, time, and time zone of the deployment.

- To preview the configurations, click **Generate configuration preview**.

If only visibility is enabled or both visibility and control are enabled, **Generate configuration preview** is chosen by default, and **Now** and **Later** are dimmed (unavailable). For more information, see "Visibility and Control of Fabric Configurations" in the *Cisco Catalyst Center User Guide*.

Step 11 Click **Deploy**.

Step 12 On the **Performing Initial Checks** window, address the following issues to continue with your current deployment:

- Pending Operations: Wait for all pending operations to deploy or discard them.
- Device Compliance: Fix, acknowledge, or ignore all issues.
If you ignore any noncompliant devices, this activity is captured on the **Audit Logs** window.
- After addressing all the issues, click **Recheck** in the bottom-right corner of the window and make sure that all the validations are successful.

For more information, see "Network Device Provisioning Prechecks" in *Cisco Catalyst Center User Guide*.

If you chose **Now** or **Later**, click **Submit**, and the device configurations will deploy at the scheduled time. You can view the task on the **Tasks** window.

Step 13 If you chose **Generate configuration preview** in the **Fabric Site Creation Scheduler** window, depending on the Visibility and Control of Configurations settings, do the following:

a. On the **Preparing Devices and Configuration Models** window, wait for the system to prepare the devices and generate the device configurations. This can take some time, so you can click **Exit and Preview Later**. To view the work item later, go to the **Tasks** window.

b. On the **Preview Configuration** window, review the device configurations.

For more information, see "Visibility and Control of Fabric Configurations" in the *Cisco Catalyst Center User Guide*.

c. When you're ready, click **Deploy** or **Submit for Approval**. If you're not ready to deploy the configurations or submit them for ITSM approval, click **Exit and Preview Later**.

Note You can submit the device configurations for ITSM approval and deploy them without previewing all the configurations.

d. In the slide-in pane, indicate when you want to deploy the configuration, choose a time zone, and if visibility and control are enabled, add notes for the IT administrator.

e. Click **Submit**.

When the configurations are successfully submitted, a success message is displayed.

If you previewed and scheduled the task for deployment, you can view the task on the **Tasks** window.

If you submitted the configurations for ITSM approval, you can view the work item's status on the **Tasks** window. If it's not approved, you must resubmit the work item for ITSM approval. When it's approved, it will be deployed at the scheduled time, which you can view on the **Tasks** window. If it's not approved, you must resubmit the work item for ITSM approval. When it's approved, it will deploy at the scheduled time.

Step 14 It takes a few seconds for the site and zones to be provisioned. Upon successful creation of the site, a Fabric Site Creation Completed message is displayed.

Next, you are provided with options to either create a new fabric site or view the activities on the **Tasks** window.

Add a Device to a Fabric

After you have created a fabric site, you can add devices to the fabric site. You can also specify whether the device should act as a control plane node, an edge node, or a border node.

You can add a new device to the fabric site only if IP Device Tracking (IPDT) is configured for the fabric site.

A device that is assigned the Access role and has been provisioned before enabling IPDT on the site can't be added to the fabric. Reprovision such devices before adding them to the fabric site. Check the Provision workflow to confirm the status of **Deployment of IPDT** on the device.



Note

- It's optional to designate the devices in a fabric site as control plane nodes or border nodes. You might have devices that don't occupy these roles. However, every fabric site must have at least one control plane node device and one border node device. In the current release for wired fabric, you can add up to six control plane nodes for redundancy.
- Currently, the Cisco Wireless Controller communicates only with two control plane nodes.

Before you begin

Provision the device if you haven't already provisioned it:

- The **Provision > Network Devices > Inventory** window displays the discovered devices.
- The topology view shows a device in gray if it has passed the fabric readiness checks and is ready to be provisioned.
- If an error is detected during any of the fabric readiness checks, an error notification is displayed on the topology area. Click **See more details** to check the problem area listed in the resulting window. Correct the problem and click **Re-check** to ensure that the problem is resolved.
- If you update the device configuration as a part of problem resolution, ensure that you resynchronize the device information by performing an **Inventory > Resync** for the device.



Note

You can continue to provision a device that has failed the fabric readiness checks.

Step 1 From the top-left corner, click the menu icon and choose **Provision > Fabric Sites**.

Step 2 Under **SUMMARY**, click the number that indicates the count of fabric sites.

Step 3 Select the fabric site to add a device.

The resulting topology view displays all devices in the network that have been inventoried. In the topology view, any device that is added to the fabric is shown in blue.

Step 4 From the **List** view under the **Fabric Infrastructure** tab, click a device. A slide-in pane displays the following **Fabric** options:

Option	Description
Edge Node	Toggle the button next to this option to enable the selected device as an edge node.
Border Node	Toggle the button next to this option to enable the selected device as a border node.
Control Plane Node	Toggle the button next to this option to enable the selected device as a control plane node.

To configure a device as a fabric-in-a-box, select the **Control Plane Node**, **Border Node**, and **Edge Node** options.

To configure the device as a control plane and a border node, select both **Control Plane Node** and **Border Node**.

Step 5 (Optional) To enable the wireless capability for the device, under **Capability**, click the **Embedded Wireless LAN Controller** toggle button and do the following:

Alternatively, if the toggle button is already enabled, you can click **Configure** to configure the wireless settings.

- If you have not installed the wireless package on the device yet, Catalyst Center displays a warning message indicating that the embedded wireless controller software image is necessary for enabling the capability. In the warning dialog box, click **OK** to install the image manually.
- Under **Download Image**, click **Choose File** to navigate to a software image stored locally, or **Enter image URL** to specify an HTTP or FTP source from which to import the software image.
- Click **Import**.

The progress of the image import is displayed. To exit the window, and view the progress of the import and schedule the installation later, click **Close**.

- After the image import is complete, under **Schedule Image Installation** on **Download Image**, choose one of the following options:
 - Now**: Immediately install the image.
 - Later**: Schedule the image installation for a later date or time.
- In the **Task Name** field, update the task name, if required.
- If you chose **Later**, do the following:
 - Under **Start Date/Time**, specify a start date and time for the image installation.
 - To use the default site time zone for the image installation, check the **Site Settings** check box. To select a time zone, uncheck the **Site Settings** check box and choose a time zone from the drop-down list.
- Click **Apply**.

To view the status of image installation, go to the **Activities > Tasks** window and open the relevant work item. After the software image is distributed and activated on the switch, you must resynchronize the device using the **Provision > Inventory > Resync** option.
- Under **Manage Scope**, do the following:
 - Under the **Primary** tab, check the check box next to the required site name.
 - Under the **Secondary** tab, check the check box next to the required site name.

You can select either a parent site or individual sites. If you select a parent site, all the children under the parent site are also selected. You can uncheck the check box to deselect an individual site.

You can also use the **Search Hierarchy** search field or the filter icon to find a site.

- i) Click **Next**.
- j) Under **Advanced**, to enable the Rolling AP Upgrade feature, check the **Enable** check box.

(Optional) If you check this check box, from the **AP Reboot Percentage** drop-down list, choose a percentage.

- k) Click **Next**.
- l) Under **Summary**, review the configuration settings.
- m) Click **Save**.

If the wireless capability is enabled for a device and there are changes in the wireless network settings, to push the changes to the device, you must click **Configure** and save the configuration.

Step 6 Click **Add** to save the configurations.

Step 7 Click **Deploy** under the **Fabric Infrastructure** tab to configure the device.

Depending on the Visibility and Control of Configurations settings, choose an available option for deployment:

- To immediately deploy the configuration, click **Now**.
- To schedule the deployment for a later date and time, click **Later**, and define the date, time, and time zone of the deployment.
- To preview the configurations, click **Generate configuration preview**.

If only visibility is enabled or both visibility and control are enabled, **Generate configuration preview** is chosen by default, and **Now** and **Later** are dimmed (unavailable). For more information, see [Visibility and Control of Fabric Configurations](#).

Note A device is added to the fabric only if the device runs a software release that is compatible with the Catalyst Center release. For information about fabric device compatibility, see [Cisco SD-Access Compatibility Matrix](#).
For a given fabric role, if the software image on the device isn't compatible with the Catalyst Center release, the device isn't added to the fabric and an error message is displayed.

Step 8 On the **Performing Initial Checks** window, address the following issues to continue with your current deployment:

- Pending Operations: Wait for all pending operations to deploy or discard them.
- Device Compliance: Fix, acknowledge, or ignore all issues.
If you ignore any noncompliant devices, this activity is captured on the **Audit Logs** window.
- After addressing all the issues, click **Recheck** in the bottom-right corner of the window and make sure that all the validations are successful.

For more information, see "Network Device Provisioning Prechecks" in the [Cisco Catalyst Center User Guide](#).

If you chose **Now** or **Later**, click **Submit**, and the device configurations will deploy at the scheduled time. You can view the task on the **Tasks** window.

Step 9 If you chose **Generate configuration preview** in the **Preview Configuration** window, depending on the Visibility and Control of Configurations settings, do the following:

- a. Review the device configurations.
- b. When you're ready, click **Deploy** or **Submit for Approval**. If you're not ready to deploy the configurations or submit them for ITSM approval, click **Exit and Preview Later**.

Note You can submit the device configurations for ITSM approval and deploy them without previewing all the configurations.

- c. In the slide-in pane, indicate when you want to deploy the configuration, choose a time zone, and if visibility and control are enabled, add notes for the IT administrator.
- d. Click **Submit**.

When the configurations are successfully submitted, a success message is displayed.

If you previewed and scheduled the task for deployment, you can view the task on the **Tasks** window.

If you submitted the configurations for ITSM approval, you can view the work item's status on the **Tasks** window. If it's not approved, you must resubmit the work item for ITSM approval. When it's approved, it will deploy at the scheduled time, which you can view on the **Tasks** window.

What to do next

After a device is added to the fabric, fabric compliance checks are automatically performed to ensure that the device is fabric-compliant. The topology displays a device that has failed the fabric compliance check in blue color with a cross-mark beside it. Click **See more details** on the error notification to identify the problem area and correct it.

Monitor and Troubleshoot the Health of Your SD-Access Fabric

Use this procedure to get a global view of your SD-Access fabric and to determine if there are potential issues that must be addressed.

A fabric network is a logical group of devices that is managed as a single entity in one or multiple locations. Catalyst Center allows you to add devices to a fabric network. These devices can be configured to act as control plane, border, or edge devices within the fabric network.

Before you begin

To monitor and troubleshoot fabric sites, you must first configure the fabric site. See [Add a Fabric Site, on page 1](#) and [Add a Device to a Fabric, on page 4](#).

For additional details and to understand multisite fabric sites, see the "Provision Your Network" chapter in the *Cisco Catalyst Center User Guide*.



Note Subtended and extended nodes are not part of fabric health because during fabric provisioning, these nodes are not given a fabric role, such as Edge, Border, or Control Plane.

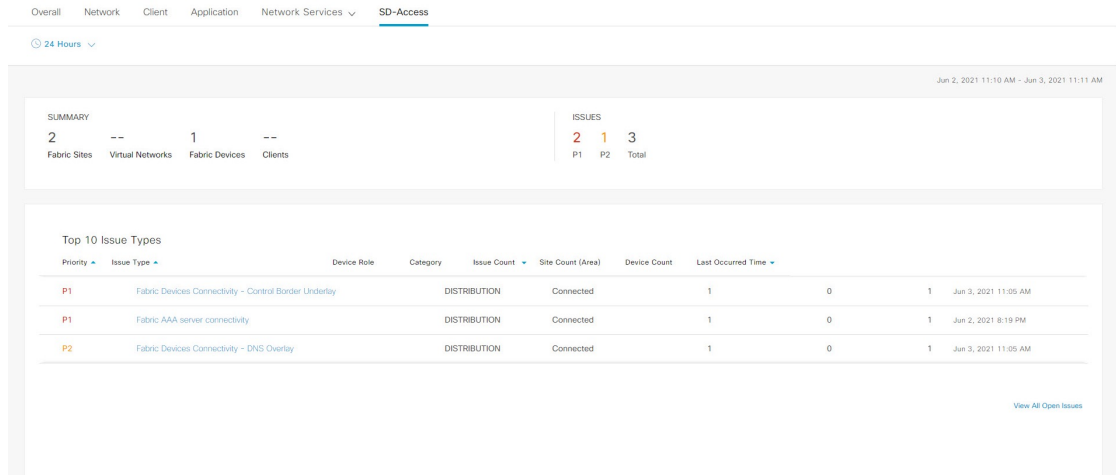
Step 1 From the top-left corner, click the menu icon and choose **Assurance > Health**.

The **Overall** health dashboard is displayed.

Step 2 Click the **SD-Access** tab.

The SD-Access health dashboard appears.

Figure 1: Network Health Dashboard



- Step 3** Click the time range setting (🕒) in the top-menu bar to specify the time range of data that appears on the dashboard.
- From the drop-down menu, choose the time range: **3 Hours**, **24 Hours**, or **7 Days**.
 - Specify the **Start Date** and time; and the **End Date** and time.
 - Click **Apply**.

Step 4 Use the SD-Access Health Summary dashlet for the following functionality:


Item	Description
Summary	<ul style="list-style-type: none"> • Fabric Sites: Number of fabric sites. • Layer 3 Virtual Networks: Number of layer 3 virtual networks. • Layer 2 Virtual Networks • Fabric Devices: Number of fabric devices. • Endpoints: Number of endpoints. • Transits and Peer Networks: Number of transits and peer networks. • Telemetry Status: Displays the telemetry status of the fabric sites.
Issues	<ul style="list-style-type: none"> • P1: Number of priority 1 issues. • P2: Number of priority 2 issues. • Total: Total number of P1, P2, and P3 issues.

Step 5 Use the SD-Access **Top 10 Issue Types** dashlet for the following functionality:

Top 10 Issue Type Dashlet
<p>Displays the top 10 issues, if any, that must be addressed. The issues are color coded and sorted by their preassigned priority level, starting with P1.</p> <p>Click an issue to open a slide-in pane with additional details about the issue type. From the slide-in pane, click an issue instance where you can do the following, as required:</p> <ul style="list-style-type: none"> • To resolve the issue instance, from the Status drop-down list, choose Resolve. • To ignore the issue instance: <ol style="list-style-type: none"> a. From the Status drop-down list, choose Ignore. b. Set the number of hours to ignore the issue on the slider. c. Click Confirm. <p>Click View All Open Issues to open the Open Issues window.</p>


Step 6 Use the **Fabric Sites** dashlet to view detailed information about the fabric sites in your network. This dashlet provides the following functionality:

Fabric Sites Dashlet	
Item	Description
Health	<p>Filter the table based on the client health with the following options:</p> <ul style="list-style-type: none"> • All • Inactive: Fabric sites with a health score of 0. • Poor: Fabric sites with a health score range from 1 to 3. • Fair: Fabric sites with a health score range from 4 to 7. • Good: Fabric sites with a health score range from 8 to 10. • No Data: Fabric sites with no data.
Fabric Site table	<p>View detailed fabric site information in a table format. The fabric site table displays the following information by default:</p> <ul style="list-style-type: none"> • Fabric Site: Name of the fabric site. You can click the name to display a 360° view of a fabric site. See Monitor the Health of a Fabric Site, on page 12. • # of Fabric Devices: Number of fabric devices in the fabric site. • Fabric Site Health: <ul style="list-style-type: none"> • Overall: Overall health of the fabric site. • Fabric Site Connectivity: Health of the connectivity with the fabric site. • Fabric Control Plane: Health of the control plane in the fabric site. • Fabric Infrastructure: Health of the devices that make up the fabric site.

Fabric Sites Dashlet	
Item	Description
Export	Click Export to export the table data to a CSV file. Note The data from all available columns is included even if the column was not selected for the table. Filters applied to the client table are applied to the exported data.
	Customize the table display: <ol style="list-style-type: none"> a. From the Table Appearance tab, set the table density and striping. b. From the Edit Table Columns tab, select the data you want displayed in the table. c. Click Apply.


Step 7 Use the **Virtual Networks** dashlet to view detailed information about the virtual networks in your fabric site. This dashlet provides the following functionality:

Virtual Networks Dashlet	
Item	Description
Health	Filter the table based on the virtual network health with the following options: <ul style="list-style-type: none"> • All • Inactive: Virtual networks with a health score of 0. • Poor: Virtual networks with a health score range from 1 to 3. • Fair: Virtual networks with a health score range from 4 to 7. • Good: Virtual networks with a health score range from 8 to 10. • No Data: Virtual networks with no data.
Virtual Networks table	View detailed virtual network information in a table format. The virtual network table displays the following information by default: <ul style="list-style-type: none"> • VN Name: Name of the virtual network. You can click the name to display a 360° view of a virtual network. See Monitor the Health of a Virtual Network, on page 21. • # of Active Sites: Number of active sites in the virtual network. • # of Clients: Number of endpoints in the virtual network. • Virtual Network Health: <ul style="list-style-type: none"> • Overall: Overall health of the virtual network. • Fabric Control Plane: Health of the control plane in the virtual network. • VN Services: Health of the virtual network services.

Virtual Networks Dashlet	
Item	Description
Export	Click Export to export the table data to a CSV file. Note The data from all available columns is included even if the column was not selected for the table. Filters applied to the client table are applied to the exported data.
	Customize the table display: a. From the Table Appearance tab, set the table density and striping. b. From the Edit Table Columns tab, select the data you want displayed in the table. c. Click Apply .

Step 8 Use the **Transits and Peer Networks** dashlet to view the detailed information about the transits and peer networks in your fabric site. This dashlet provides the following functionality:

Item	Description
Health	Filter the table based on the transit and peer network health with the following options: <ul style="list-style-type: none"> • All • Inactive: Transits and peer networks with a health score of 0. • Poor: Transits and peer networks with a health score range from 1 to 3. • Fair: Transits and peer networks with a health score range from 4 to 7. • Good: Transits and peer networks with a health score range from 8 to 10. • No Data: Transits and peer networks with no data.
Transits and Peer Networks table	View detailed transits and peer network information in a table format. The transits and peer network table displays the following information by default: <ul style="list-style-type: none"> • Transit/ Peer Network Name: Name of the virtual network. You can click the name to display a 360° view of a virtual network. See Monitor the Health of a Virtual Network, on page 21. • Type: Number of active sites in the virtual network. • # of Clients: Number of endpoints in the virtual network. • Associated Fabric Sites • Transit and Peer Networks Health: <ul style="list-style-type: none"> • Overall: Overall health of the transit and peer network. • Transit Control Plane: Health of the transit control plane.

Item	Description
Export	Click Export to export the table data to a CSV file. Note The data from all available columns is included even if the column was not selected for the table. Filters applied to the client table are applied to the exported data.
	Customize the table display: a. From the Table Appearance tab, set the table density and striping. b. From the Edit Table Columns tab, select the data you want displayed in the table. c. Click Apply .

Monitor the Health of a Fabric Site

Use this procedure to view details about a specific fabric site.

Step 1 From the top-left corner, click the menu icon and choose **Assurance > Health**.

The **Overall** health dashboard is displayed.

Step 2 Click the **SD-Access** tab.

The **SD-Access** health dashboard appears.

Step 3 In the **Fabric Site** table, click the name of a fabric site.

The **Fabric Site** window appears, which provides a 360° view of the fabric site.

Figure 2: Fabric Site 360



- Step 4** Click the time range setting (🕒) at the top-left corner to specify the time range for the data that you want displayed in the window:
- From the drop-down list, choose a time range: **3hours 24 hours**, or **7 days**.
 - Specify the **Start Date** and time; and the **End Date** and time.
 - Click **Apply**.
- Step 5** Use the health timeline slider to view the health score for a more granular time range and to view quality information. Hover your cursor within the timeline to view the following information:
- Check the **Telemetry Status** check box below the timeline to view the horizontal bar in the timeline. Hover your cursor over the horizontal bar to view the Telemetry Status of fabric site such as **Good**, **Fair**, or **Poor**. Click the **Telemetry Status** in the tool tip to open a slide-in pane to view the telemetry status summary of the fabric sites.
- Fabric Site Health:** Health is the percentage of healthy fabric nodes in this site; it does not include device health of control planes. Fabric Sub Category Health is the minimum of underlying KPI scores.
- Note** The KPI is not included for health score.
- Fabric Site Connectivity:** Lists the KPI subcategories that contribute to the site reachability status, such as control plane reachability, extended node connectivity, and so on.
- Fabric Control Plane**
- Fabric Infrastructure**
- Click and drag the timeline boundary lines to specify the time range. This boundary sets the context for the fabric site data that is displayed in the Fabric Site 360 window.
- Click the **Latest** and **Trend** tabs to change the scope of data displayed in the category:
- Latest: Displays the data from the selected time window in the timeline on the top of the window.
 - Trend: Displays data from the last 24 hours.
- Step 6** Use the **Fabric Site Health** area, below the timeline, to view the following information:




Fabric Site Health	
Item	Description
Latest	<p>Displayed by default. Includes two panes. The left pane provides the network health summary score and the total number of devices. The right pane displays charts.</p> <ul style="list-style-type: none"> • Health Fabric Nodes: The percentage of healthy (good) nodes in your selected site. • Total Devices: Total number of network devices and the count of devices with Good Health, Fair Health, Poor Health, and No Health Data. • Charts: This color-coded, snapshot-view chart shows the fabric site connectivity and infrastructure over the last 5 minutes. <p>Hover your cursor over a color to display the health score and the number of devices that are associated with that color.</p> <p>If the chart shows a low health score (red or orange), the KPIs that contributed to the low health score are provided next to the bar. Examples include Fabric CP reachability, Multicast RP, AAA Server Status, and so on.</p> <p>Click a hyperlinked fabric category in the charts to open a side pane to view the respective KPI subcategories:</p> <ul style="list-style-type: none"> • Fabric Site Connectivity: Control Plane Reachability, Extended Node Connectivity, BGP Session from Border to Control Plane, BGP Session from Border to Peer Node for INFRA VN. • Fabric Control Plane: LISP Session Status. • Fabric Infrastructure: AAA Server Status, Pub-Sub Session Status for INFRA VN, CTS Environment Data Download.
Trend	<p>Click the Trend tab to display a trend chart. This color-coded trend chart shows the performance of devices over a time range. Hover your cursor over the chart to display the total number of devices and their health over time.</p> <p>The color in the chart represents the health of the network devices:</p> <ul style="list-style-type: none"> ●: Poor network devices. Health score range is 1 to 3. ●: Fair network devices. Health score range is 4 to 7. ●: Good network devices. Health score range is 8 to 10. ●: No health data. Health score is 0.

Step 7 Use the **Top 10 Issue Types** area to view the following information:

Issues
<p>Displays any issues that must be addressed. Issues are listed based on the timestamp. The most recent issue is listed first.</p> <p>Click an issue to open a slide-in pane to view the corresponding details, such as the description of the issue, impact, and suggested actions.</p> <p>From the slide-in pane, you can do the following:</p> <ul style="list-style-type: none"> • To resolve an issue: <ol style="list-style-type: none"> a. From the drop-down list, choose Resolve. b. To view the list of issues that have been resolved, click Resolved Issues. • To ignore an issue: <ol style="list-style-type: none"> a. From the drop-down list, choose Ignore. b. Set the number of hours to ignore the issue on the slider. c. Click Confirm. d. To view the list of issues that have been ignored, click Ignored Issues. <p>For information about the types of issues, see View and Manage Issues.</p>

Step 8 Use the **Fabric Nodes** dashlet for the following functionality:

Network Devices Dashlet	
Item	Description
Type	Filter the table based on the fabric node type with the following options: All , Fabric Control Plane , Fabric Border , Fabric Edge , Fabric WLC , Fabric AP , and Extended Node .
Fabric Site Health	Filter the table based on the overall health score of the fabric site with the following options: <ul style="list-style-type: none"> • All • Poor: Devices with a health score range from 1 to 3. • Fair: Devices with a health score range from 4 to 7. • Good: Devices with a health score range from 8 to 10. • No Health: Devices with no health data.

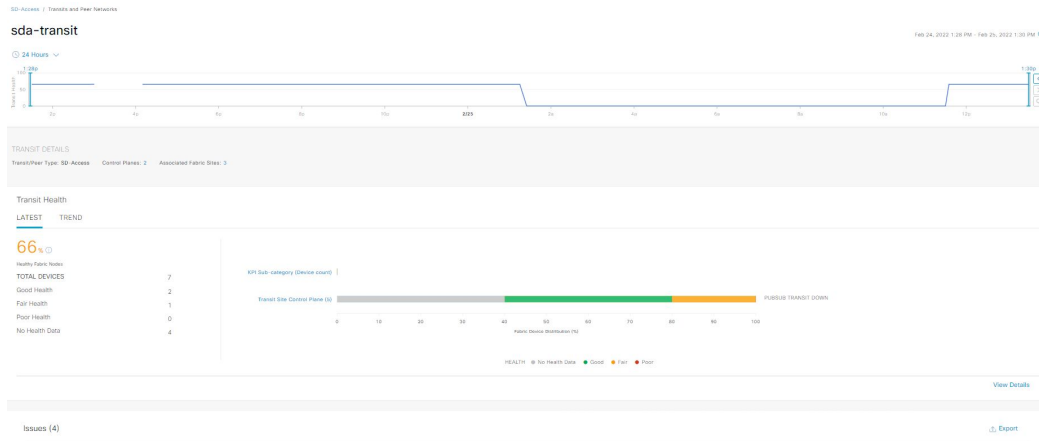
Network Devices Dashlet	
Item	Description
Fabric Node table	<p>View device information for all the fabric nodes for the selected site in a table format.</p> <p>Note The overall health score is the minimum subscore of the following KPI metric health scores: fabric site connectivity and fabric infrastructure.</p> <p>The Name, Issue Type Count, and Fabric Role columns display the fabric name, issue count, and fabric role (Edge, Border, Map Server, and so on).</p> <p>Under Device Fabric Site Health, in the Overall column, hover your cursor over a health score. The overall Device Fabric Site Health score is displayed along with the health and percentage value of all the KPI metrics.</p> <p>Hover your cursor over the Fabric Site Connectivity, Fabric Control Plane, and Fabric Infrastructure icons to display the health scores.</p>
Device 360	<p>Display a 360° view of a device by clicking the device name in the Name column.</p> <p>Device 360 provides detailed information for troubleshooting device issues.</p>
 Export	Click Export to export the device information to a CSV file.
	<p>Customize the data that you want displayed in the table:</p> <ol style="list-style-type: none"> Click . A list of options is displayed. Check the check boxes for the data you want displayed in the table. Click Apply.

Monitor the Health of a Transit and Peer Network

Use this procedure to view the details about a specific transit network.

- Step 1** From the top-left corner, click the menu icon and choose **Assurance > Health**.
The **Overall** health dashboard is displayed.
- Step 2** On the **Overall** health dashboard, click the **SD-Access** tab.
The **SD-Access** health dashboard is displayed.
- Step 3** In the **Transit and Peer Network** table, click the name of a transit.
The **Transit Site 360** window is displayed, which provides a 360° view of the fabric site.

Figure 3: Transit 360



Step 4 Click the time range setting (🕒) at the top-left corner to specify the time range for the data that you want displayed in the window:

- From the drop-down list, choose a time range: **3 hours**, **24 hours**, or **7 days**.
- Specify the **Start Date** and time; and the **End Date** and time.
- Click **Apply**.

Step 5 Use the health timeline slider to view the health score for a more granular time range and to view quality information. Hover your cursor within the timeline to view the following information:

Transit Network Health: The health score is the percentage of healthy fabric nodes in this site; it does not include the device health of control planes. The fabric category health is the minimum of underlying KPI scores.

Transit Site Control Plane: Lists the KPI subcategory, such as LISP and PubSub session of the transits. If the Transit health score is low, click **View Device List** to display a list of devices that contribute to the low score and their associated down sessions. Click of the hyperlinked name of the device to display device information.

Check the **Telemetry Status** check box below the timeline to view the horizontal bar in the timeline. To view the telemetry status:

- Hover your cursor over the horizontal bar to view the information such as percentage of Transit Network Health, Telemetry Status such as **Good**, **Fair**, or **Poor**, Transit Site Control Pane and Transit Services in the tool tip.
- Click the **Telemetry Status** in the tool tip to open a slide-in pane to view the telemetry status summary.

To change the scope of the data displayed in the category, click one of the following tabs:

- **Latest:** Displays the data from the selected time window in the timeline at the top of the window.
- **Trend:** Displays data from the last 24 hours.


Step 6 Use the **Transit Health** area, below the timeline, to view the following information:



Item	Description
LATEST	<p>Displayed by default. Includes two panes. The left pane provides the network health summary score and the total number of devices. The right pane displays charts.</p> <ul style="list-style-type: none"> • Health Fabric Nodes: The percentage of healthy (good) nodes in your selected site. • Total Devices: The total number of network devices and the count of devices with Good Health, Fair Health, Poor Health, and No Health Data. • Charts: This color-coded snapshot-view chart shows the transit control plane over the last 5 minutes. <p>Hover your cursor over a color to display the health score and the number of devices that are associated with that color.</p> <p>You can also click a hyperlinked Transit Control Plane in the charts to open a side pane to view the following KPI subcategories in the Transit Control plane:</p> <ul style="list-style-type: none"> • BGP Session from Border to Transit Control Plane • LISP session from Border to Transit Control Plane • PubSub session from Border to Transit Control Plane <p>You can hover on a color segment in the chart to view the fabric node details in the table format such as name of the fabric node, issue count, fabric role, fabric site and device transit health.</p>
TREND	<p>Click the TREND tab to display a trend chart. This color-coded trend chart shows the performance of devices over a time range. Hover your cursor over the chart to display the total number of devices and their health over time.</p> <p>The color in the chart represents the health of the network devices:</p> <ul style="list-style-type: none"> ●: Poor network devices. The health score range is 1 to 3. ●: Fair network devices. The health score range is 4 to 7. ●: Good network devices. The health score range is 8 to 10. ●: No Health data. The health score is 0.

Step 7 Use the **Top 10 Issue Types** area to view the following information:


Issues
<p>Displays any issues that must be addressed. Issues are listed based on the timestamp. The most recent issue is listed first.</p> <p>Click an issue to open a slide-in pane to view the corresponding details, such as the description of the issue, impact, and suggested actions.</p> <p>From the slide-in pane, you can do the following:</p> <ul style="list-style-type: none"> • To resolve an issue: <ol style="list-style-type: none"> a. From the drop-down list, choose Resolve. b. To view the list of issues that have been resolved, click Resolved Issues. • To ignore an issue: <ol style="list-style-type: none"> a. From the drop-down list, choose Ignore. b. Set the number of hours to ignore the issue on the slider. c. Click Confirm. d. To view the list of issues that have been ignored, click Ignored Issues. <p>For information about the types of issues, see View and Manage Issues.</p>



Step 8 Use the **Associated Fabric Sites** dashlet for the following functionality:

Item	Description
Health	<p>Filter the table based on the overall health score of the fabric site with the following options:</p> <ul style="list-style-type: none"> • All • Poor: Devices with a health score range from 1 to 3. • Fair: Devices with a health score range from 4 to 7. • Good: Devices with a health score range from 8 to 10. • No Health: Devices with no health data.
Associated Fabric Sites table	Displays the following details in the fabric table: Fabric Site , Health , number of available Connected Transit/ Peer Networks , Layer 3 Virtual Networks , and Fabric Devices .
Device 360	Display a 360° view of a device by clicking the device name in the Name column. The Device 360 window provides detailed information for troubleshooting device issues.
 Export	Click Export to export the device information to a CSV file.

Item	Description
	<p>Customize the data that you want displayed in the table:</p> <ol style="list-style-type: none"> Click the settings icon (). In the Table Settings slide-in pane, enable the toggle buttons for the data you want displayed in the table. Click Apply.

Step 9 Use the **Fabric Nodes** dashlet for the following functionality:

Item	Description
Type	Filter the table based on the fabric node type with the following options: All , Transit Control Plane , and Border .
Transit and Peer Network Health table	<p>Filter the table based on the overall health score of the transit with the following options:</p> <ul style="list-style-type: none"> • All • Poor: Devices with a health score range from 1 to 3. • Fair: Devices with a health score range from 4 to 7. • Good: Devices with a health score range from 8 to 10. • No Health: Devices with no health data.
Fabric Node table	<p>View device information for all the fabric nodes for the selected transit in a table format.</p> <p>Note The overall health score is the minimum subscore of the following KPI metric health scores: Transit Site Control Plane.</p> <p>The Name, Issue Type Count, Fabric Role, and Fabric Site columns display the fabric name, issue count, fabric role, and fabric site.</p> <p>In the Overall column, under Device Transit Health, hover your cursor over a health score. The overall Device Transit Health score is displayed along with the health and percentage value of all the KPI metrics.</p> <p>Hover your cursor over the Transit Site Control Plane icons to display the health scores.</p>
Device 360	<p>Display a 360° view of a device by clicking the device name in the Name column.</p> <p>The Device 360 window provides detailed information for troubleshooting device issues.</p>
 Export	Click Export to export the device information to a CSV file.

Item	Description
	<p>Customize the data that you want displayed in the table:</p> <ol style="list-style-type: none"> Click the settings icon (). In the Table Settings slide-in pane, enable the toggle buttons for the data you want displayed in the table. Click Apply.


Monitor the Health of a Virtual Network

Use this procedure to view details about a specific virtual network.

- Step 1** From the top-left corner, click the menu icon and choose **Assurance > Health**.
The **Overall** health dashboard is displayed.
- Step 2** Click the **SD-Access** tab.
The **SD-Access** health dashboard appears.
- Step 3** Scroll down and click **Virtual Network**.
- Step 4** In the **Virtual Network** table, click the name of a virtual network.
The **Virtual Network 360** window appears, which provides a 360° view of the virtual network.

Figure 4: Virtual Network 360



- Step 5** Click the time range setting () at the top-left corner to specify the time range for the data that you want displayed in the window:
- From the drop-down menu, choose a time range: **3 hours**, **24 hours**, or **7 days**.
 - Specify the **Start Date** and time; and the **End Date** and time.
 - Click **Apply**.

Step 6 Use the virtual network health timeline slider to view the virtual network's health score for a more granular time range and to view the virtual network's quality information.

Hover your cursor within the timeline to view the following information:

Virtual Network Health: Health score is the percentage of healthy devices in the VN. VN Category Health is the minimum of corresponding subcategory KPI scores. **VN Services** includes **BGP Session from Border to Peer Node**, **Multicast (external RP)**, **Default Route Registration**, and **VN Control Plane**.

If the VN health score is low, click **View Device List** to display a list of devices that contribute to the low score and their associated down sessions. Click the hyperlinked name of the device to display device information.

Check the **Telemetry Status** check box below the timeline to view the horizontal bar in the timeline. To view the telemetry status:

- Hover your cursor over the horizontal bar to view information such as percentage of Virtual Network Health, Telemetry Status such as **Good**, **Fair**, or **Poor**, Fabric Control Pane and VN Services, and VN Exit in the tool tip.
- Click the **Telemetry Status** in the tool tip to open a slide-in pane to view the telemetry status summary of the virtual networks.

Click and drag the timeline boundary lines to specify the time range. This sets the context for the data that is displayed in the 360 window.

Click the **Latest** and **Trend** tabs to change the scope of data displayed in the category:

- Latest: Displays the data from the selected time window in the timeline on the top of the window.
- Trend: Displays data from the last 24 hours.

Step 7 Use the **Virtual Network Health** area, below the timeline, to view the following information:

Virtual Network Health	
Item	Description
Latest	<p>Displayed by default. The left pane provides the virtual network health summary score and the total number of devices. The right pane displays charts.</p> <ul style="list-style-type: none"> • Healthy Fabric Nodes: The percentage of healthy (good) nodes in your selected site. • Total Devices: Total number of fabric devices and the count of devices with Good Health, Fair Health, Poor Health, and No Health data. • Charts: This color-coded, snapshot-view chart shows the KPIs with subcategories such as VN Control Plane (Pub-Sub Sessions Status) and VN Services (BGP Session from Border to Peer Node, Multicast-external RP, and Default Route Registration). <p>Hover your cursor over a color to display the health score and the number of devices that are associated with that color.</p> <p>If the chart shows a low health score (red or orange), the KPIs that contributed to the low health score are provided next to the bar.</p> <p>Click a hyperlinked category to open a side pane with more details.</p>




Virtual Network Health	
Item	Description
Trend	<p>Click the Trend tab to display a trend chart. This color-coded trend chart shows the performance of devices over a time range. Hover your cursor over the chart to display the total number of devices and their health over time.</p> <p>The color in the chart represents the health of the network devices:</p> <ul style="list-style-type: none"> ●: Poor network devices. Health score range is 1 to 3. ●: Fair network devices. Health score range is 4 to 7. ●: Good network devices. Health score range is 8 to 10. ●: No Health data. Health score is 0.

Step 8 Use the **Top 10 Issue Types** area to view the following information:

Issues
<p>Displays any issues that must be addressed. Issues are listed based on the timestamp. The most recent issue is listed first.</p> <p>Click an issue to open a slide-in pane to view the corresponding details, such as the description of the issue, impact, and suggested actions.</p> <p>From the slide-in pane, you can do the following:</p> <ul style="list-style-type: none"> • To resolve an issue: <ul style="list-style-type: none"> a. From the drop-down list, choose Resolve. b. To view the list of issues that have been resolved, click Resolved Issues. • To ignore an issue: <ul style="list-style-type: none"> a. From the drop-down list, choose Ignore. b. Set the number of hours to ignore the issue on the slider. c. Click Confirm. d. To view the list of issues that have been ignored, click Ignored Issues. <p>For information about the types of issues, see View and Manage Issues.</p>

Step 9 Use the **Virtual Network Devices** dashlet for the following functionality:

Virtual Network Devices Dashlet	
Item	Description
Type	Filter the table based on the type.

Virtual Network Devices Dashlet	
Item	Description
Virtual Network Health	<p>Filter the table based on the overall health score of the virtual network with the following options:</p> <ul style="list-style-type: none"> • All • Poor: Devices with a health score range from 1 to 3. • Fair: Devices with a health score range from 4 to 7. • Good: Devices with a health score range from 8 to 10. • No Health: Devices with no health data.
Virtual Network Devices table	<p>View device information for the selected item in a table format.</p> <p>Note The overall health score is the minimum subscore of the following KPI metric health scores: virtual network connectivity and infrastructure.</p> <p>Hover your cursor over the various health scores and icons to display additional information. \</p>
Device 360	<p>Display a 360° view of a device by clicking the device name in the Name column.</p> <p>Device 360 provides detailed information for troubleshooting device issues.</p>
 Export	Click Export to export the device information to a CSV file.
	<p>Customize the data that you want displayed in the table:</p> <ol style="list-style-type: none"> a. Click . A list of options is displayed. b. Check the check boxes for the data you want displayed in the table. c. Click Apply.

Virtual Network Health Score

Currently, the Multicast VN service is the only KPI that contributes to the VN health score.