Cisco SAN Insights Discovery User Guide, Release 1.0(1)

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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 of the new features up to this release.

Table 1. New Features and Changed Behavior in Cisco SAN Insights Discovery

Feature	Description	Release
Cisco SAN Insights Discovery	Cisco SAN Insights Discovery (SID) provides information about SAN health by analyzing Cisco MDS and Brocade Fibre Channel switches in your fabric.	1.0(1)

Cisco SAN Insights Discovery Overview

Overview

Cisco SAN Insights Discovery (SID) provides information about SAN health by analyzing Cisco MDS and Brocade Fibre Channel switches in your fabric. Cisco SID analyzes information such as ports, VSANs, zones, licenses, and so on, and provides information about fabrics and switches. You can use this information not only to analyze the health of your fabrics and troubleshoot issues but also to migrate to new Cisco fabric deployments.

Cisco SID uses the following features to provide information about SAN health:

- Cisco SID Collector — Uses a Secure Shell (SSH) session to connect to the seed switch in your fabric to generate the fabric report or snapshot. This report consists of two files that are compressed to a zip file. This zip file provides a snapshot of the SAN health of your fabric at the time it was generated. Hence, you can generate multiple reports over a period of time as per your requirement.

  > The seed switch must be connected to all the switches in the fabric for the switch to collect the SAN health of the fabric.

- Cisco SID Analysis — Displays SAN health information of your fabrics and switches using the zip file that was generated by Cisco SID Collector. You can upload, view, and share multiple reports as per your requirement.

The Cisco SID Overview image displays how Cisco SID works. In this sample topology, we have two fabrics and each fabric is configured on a separate data center site. Cisco SID Collector is used to generate reports over a period of time and the reports are analyzed using Cisco SID Analysis.

Cisco SID Overview
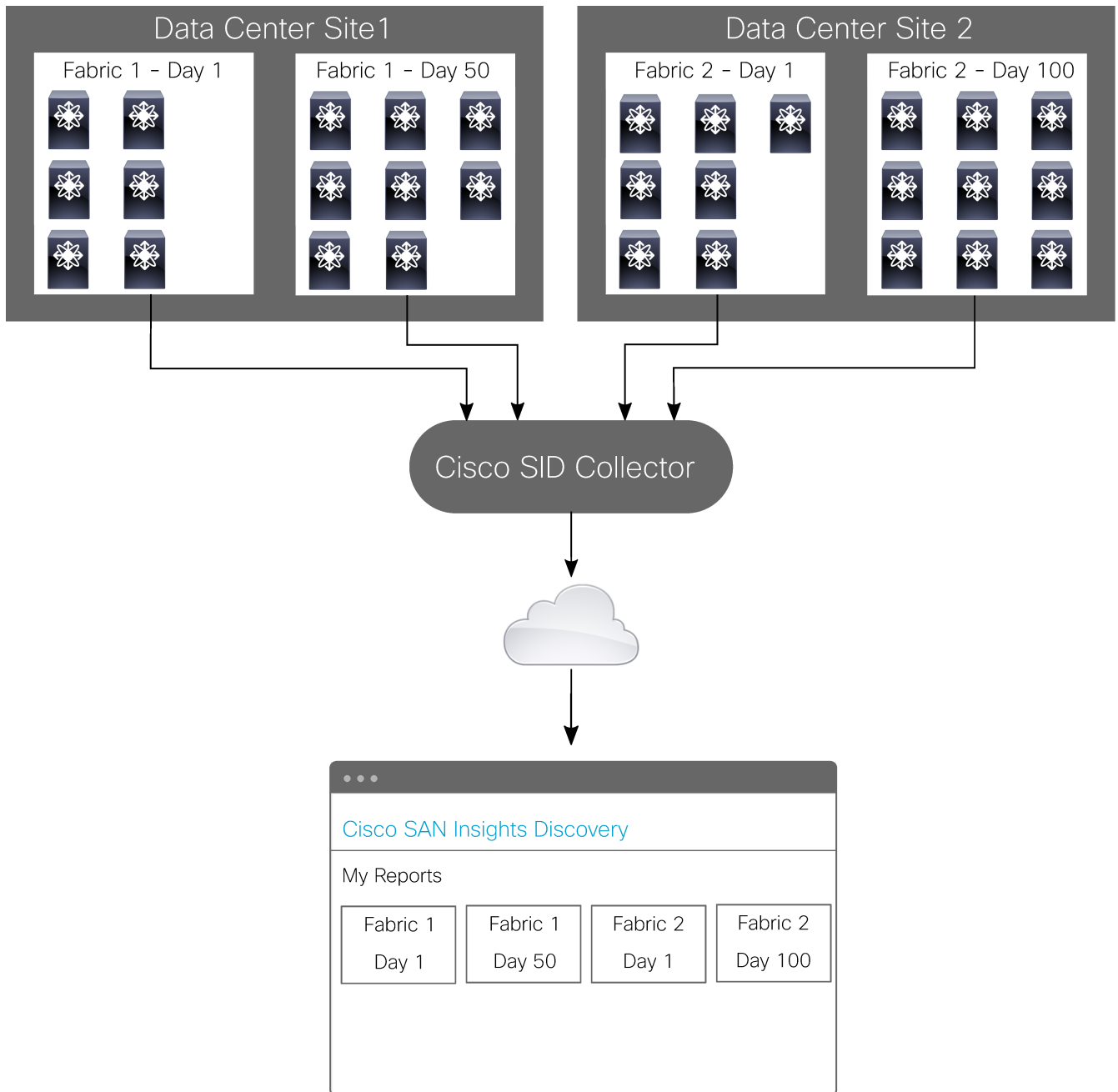
System Requirements

The following are required for installing and using Cisco SID:

- Windows 8.1 or later

- Latest version of Google Chrome

Installing Cisco SID Collector

Prerequisites

- Ensure that the you have configured the same credentials for all the switches in your fabric.

- Ensure that all the switches in your fabric can be accessed via SSH and use the same SSH credentials.

Installing Cisco SID Collector

Use this procedure to install Cisco SID Collector.

Procedure

1. Go to https://software.cisco.com.

2. Under the **Download & Upgrade** section, click **Software Download**.

3. In the **Select a Product** search field, search for *SAN Insights Discovery Collector*.

4. Download the application.

5. Extract the contents of the zip file to a folder.

6. Run **collect-server.exe** and follow the onscreen instructions.

Using Cisco SID Collector

Use this procedure to understand how to use Cisco SID Collector.

Before you Begin

Ensure that you have installed the latest version of Cisco SID Collector. For installing Cisco SID Collector see, Installing Cisco SID Collector.

Procedure

1. Open the **Cisco SID Collector** application on your computer.

2. On the welcome screen of the application, click **Start**.

3. In the **Fabric Name** field, enter an appropriate fabric name.

   The maximum length of a Fabric Name is 30 characters and must not include spaces. The allowed characters are uppercase letters (A to Z), lowercase letters (a to z), numbers (0 to 9), and special characters (underscore(_), period(.), and dash(-)).

4. In the **Seed Switch IP Address** field, enter the IP address of the seed switch.

5. In the **Seed Switch Credentials** fields, enter the SSH username of the seed switch in the

Username field and the SSH password of the seed switch in the **Password** field.

> ℹ️ The **Username** and **Password** are the CLI username and password of the seed switch.

6. Click **Submit**.

The application starts to collect the required information and displays the information being collected on the screen. The application displays the **Success!** message after the process is complete.

Click **More Details** to view logs.

> ℹ️ For Brocade switches that are operating in the Access Gateway mode, click the **More Details** button to verify that there are no errors in collecting the switch information. If there are errors, you need to create a text file with the filename *Brocade_Switch_IP_List.txt* and add wwn to switch IP address mapping in the format *Brocade switch wwn,Brocade switch IP address*. Ensure that you add an additional line at the end; otherwise, this information is not captured. Place this file in the same location as the collector and then run this file through the collector for this information to be captured in the report.

Example of a sample Brocade_Switch_IP_List.txt file:

```
# Brocade AG switches
# [wwn],[IP]

xx:xx:xx:xx:xx:xx:xx:xx,1.1.1.2
# EOF
```

7. Click **Restart** to run another report, or click **Exit** to exit the application.

> ℹ️ For Cisco MDS switches, alerts collected using the **show module internal exceptionlog** command are for the last 6 months. For Brocade switches, alerts collected using the **errdump** command are for the last 15 days. For information on alerts, see Alerts Dashboard.

Cisco SAN Insights Discovery Analysis GUI Overview

Setting Up Your Accounts

You need the following accounts to use Cisco SID:

- Cisco.com account — This account lets Cisco know who you are and grants you access to create service requests, download Cisco software, and access product documentation.
- Cisco SID Account — This account gives you access to the Cisco SID application.

Procedure

1. Sign up for a Cisco.com account:

   a. Got to https://identity.cisco.com/ui/tenants/global/v1.0/enrollment-ui.

   > ℹ️ If the link does not open automatically or displays an error when you open it, we recommend that you copy the link and then paste it in browser to access the link.

   b. Complete the online form.

2. Set up a Smart Account and Virtual Account or request access to an existing Smart Account and Virtual Account.

   > ℹ️ To function with Cisco SID, your user account must have the Virtual Account Administrator role.

   a. Go to the Cisco Software Central page https://software.cisco.com.

   b. Under **Administration**, click **Get a Smart Account** or **Request Access to an Existing Smart Account**, and follow the steps.

   c. Create a Virtual Account within your Smart Account.

3. Create a Cisco SID account:

   a. Go to the Cisco SID application page https://csid.cisco.com.

   b. Click **Create New Account** and log in using your Cisco.com ID.

   c. Name the new account and click **Next**.

   d. Select a Smart Account and Virtual Account to associate with your Cisco SID account.

   e. Review and accept the agreements.

   f. Click **Create Account**.

Logging In to Cisco SID

Before you Begin

Ensure that you have a Cisco.com account. For information on creating an account, see Setting Up Your Accounts.

Log into Cisco SID using your Cisco.com account ID.

Procedure

1. Log in to Cisco SID:

   a. Go to https://csid.cisco.com.

   b. Click **Log in With Cisco**.

   c. Enter your username or email and your password.

2. At the **Choose an account** prompt, select the account that you want to log in with.

3. Depending on whether you have devices in your Cisco Smart Account, perform one of the following actions:

   ◦ If you have devices in your Cisco Smart Account, Cisco SID prompts you to add devices by synchronizing with your Smart Account. Click **Select Devices**, then **Add Devices**.

   ◦ If you do not have devices in your Cisco Smart Account, click **Do this later and add devices at a later time**.

Logging Out of Cisco SID

Use this procedure to log out of Cisco SID.

Procedure

Click the menu icon ☰ > **Sign Out**.

Overview of the GUI

Before You Begin

Ensure that you have a Cisco.com account and have logged into your account. For more information, see Logging In to Cisco SID.

Overview

The Cisco SID Analysis GUI is a browser-based graphical user interface that displays the health of your fabric and the switches in your fabric.

The GUI is divided into the following sections:

- Menu panel — Allows you to manage user access and roles. You can add team members and assign roles to the members. Click the menu icon ☰ > **System** > **User Management** to add members and assign roles. For more information, see Managing User Roles.

- Navigation panel — Allows you to navigate between dashboards. Depending on the dashboard you are viewing, use the back button ◀ to navigate back to the **My Reports** or **Fabric Overview** dashboard. The Inventory dashboard includes a mini navigation panel to navigate between different inventory sections.

- Dashboard section — Displays information about a specific dashboard. Some of the information in the dashboard is displayed in a tabular format. Use the **Filter table** option to search for specific information in a table. You can also sort the information by one of the columns in descending or ascending order by clicking the table header values. Status of some fields in the dashboard are represented as horizontal bars. Point to the status for more information about the fields.

- Help section — Allows you to access the help documentation ⑦.

Cisco SID Analysis GUI Status Indicators

The following table provides descriptions of the Cisco SID Analysis GUI status indicators.

Table 2. Cisco SID Analysis GUI Status Icons

Status Icon	Description
✅	Indicates that the device is functioning properly or online. For port licenses, it indicates that the license is in use or license is installed. For VSANs, it indicates that the VSAN is up.
⚠️	Indicates that the device has warnings.
❌	Indicates that the device has errors or offline. For VSANs, it indicates that the VSAN is down.
⊗	Indicates that there is an error such as a missing license, no light, and so on.
⊗	Indicates that there are no modules or out of synchronization.
⧈ (VSANs Only)	Indicates that the VSAN is segmented. Click the arrow next to the VSAN ID to see the information about the VSAN segments.
ⓘ	Indicates that the device is offline.
Critical	Indicates that the device has critical alerts.
Warning	Indicates that the device has warning alerts.

Status Icon	Description
Info	Indicates that the device has informational alerts.

Managing User Roles

About User Roles

Team member accounts are assigned user roles that define the actions that can be performed and the scope of data that can be viewed in Cisco SID.

Cisco SID has the following user roles:

- **Account Admin** — The **Account Admin** role has full access to all the Cisco SID features. There can be multiple users with the **Account Admin** role. The first account that is created in Cisco SID is assigned the **Account Admin** role.

  Users with this role can do the following:

  - Create other user profiles and various roles, including those with the Account Admin role.
  - Edit system settings.
  - Edit and monitor network functions.
  - Has global access and can access multiple sites.
  - Invite team members to join the Cisco SID account.
  - Delete team members from the Cisco SID account.

    > **ℹ** For security reasons, passwords are not displayed to any user, not even those with the **Account Admin** role.

- **Network Admin** — The **Network Admin** role can upload, view, and delete reports. However, they will not be able to add or invite users.
- **Observer** — The **Observer** role can only view the reports and cannot upload or delete reports.

Managing Users

For user accounts with the **Account Admin** role, you can edit the invite, edit, or delete the users (team members) in the Cisco SID account.

Before you Begin

You will need a user account assigned the **Account Admin** role to manage users.

Procedure

1. Click the menu icon ☰ > **System** > **User Management**.

2. On the User Management page, you can do the following:

    ◦ View the information about users in the Cisco SID account such as the email address of the user, username, role assigned to the user, last time the user logged into the account, and the status of the user account.

    ◦ Click **Add** to invite users (team members) to join the Cisco SID account.

    ◦ Click the pencil icon in the **Edit** column for a user to edit that user's account settings.

    ◦ Click the pencil icon in the **Edit** column for a user and then click **Delete User** to remove the user from the Cisco SID account.

My Reports

My Reports Dashboard

The My Reports dashboard allows you to upload the zip files that were generated using Cisco SID Collector, search, view, download, delete reports, and so on.

The My Reports dashboard displays the following options:

- **Upload Report** — Allows you to upload the zip file that was generated using Cisco SID Collector. Click the **Upload Report** option to navigate to the folder that includes the zip file to upload the report.

- Search — Allows you to search for the uploaded fabric reports. As you start typing the letters of the fabric name, the fabric names that match the letters start to filter.

- Report Card — Allows you to view the uploaded reports and displays a brief information about fabric, such as fabric name, timestamp, fabric health score, number of critical errors, number of switches, number of end devices, and collector version. If there are critical alerts, click **Critical Alerts** to navigate directly to the Fabric Alerts dashboard.
  You can perform the following actions from the report card:

  - Click a report to display the detailed health information of the fabric.

  - Click the download icon ⬇ to download the report in the Microsoft Excel format.

  - Click the delete icon ✕ to delete the report.

Overview

Overview Dashboard

The Overview dashboard displays an overview of the SAN health information of your fabric or switch.

Fabric Overview Dashboard

The Fabric Overview dashboard displays an overview of your overall fabric health.

The Fabric Overview dashboard displays the following options:

- **Fabric Score** — Displays the score of your fabric. This score is the average score of all the switch scores in the fabric. The maximum score that is assigned to a fabric is 100.

  ◦ **Switches in score range** — Displays the number of switches that are in different score ranges. For information on calculating the switch health, see Calculating Switch Health. The following represents different score ranges:

    ▪ Red — Represents the number of switches that are in the score range of 0 to 50.

    ▪ Amber — Represents the number of switches that are in the score range of 51 to 75.

    ▪ Green — Represents the number of switches that are in the score range of 76 to 100.

- **Fabric Alerts** — Displays the total number of alerts in your fabric. Click the **Fabric Alerts** card to view the detailed information of the alerts.
  The following represents the different types of fabric alerts:

  ◦ **Critical** — Displays the number of critical alerts.

  ◦ **Warning** — Displays the number of warning alerts.

  ◦ **Info** — Displays the number of informational alerts.

- **End of Service/Life Alerts** — Displays the number of devices that are end of service or end of life.
  The following represents the different types of end of service or end of life alerts:

  ◦ **Firmware** — Displays the number of firmware that are end of service or end of life.

  ◦ **Module** — Displays the number of modules that are end of service or end of life.

  ◦ **Switch** — Displays the number of switches that are end of service or end of life.

- **Devices** — Displays the number of devices, including Cisco N-Port Virtualizer (Cisco NPV) switches, in your fabric. Click the **Devices** card to view the detailed information about the devices.
  The following represents the different types of devices in your fabric:

  ◦ **Switches** — Displays the number of switches, including Cisco NPV switches, that are in your fabric.

  ◦ **End Devices** — Displays the number of end devices that are in your fabric.

- **Port Consumption** — Displays the number and percentage of ports that are in use and

operational in your fabric.
The following information is displayed:

- ◦ **Ports In Use** — Displays the number of ports that are in use and operational. Point to the bar to display the percentage of ports that are in use and operational.

- **Switches** — Displays a brief information about the switches, including Cisco NPV switches, that are in your fabric.
  The following information is displayed for each switch:

  - ◦ **Switch Name** — Displays the name of the switch. You can click the switch name to check the switch health. For more information, see Switch Overview Dashboard.

  - ◦ **IP Address** — Displays the IP address of the switch.

  - ◦ **Port Usage (%)** — Displays the number of ports that are in use in the switch, in percentage. Point to the bar to display the percentage of ports that are in use.

  - ◦ **EOS Alerts** — Displays the number of devices that are end of service in the switch.

  - ◦ **EOL Alerts** — Displays the number of devices that are end of life in the switch.

  - ◦ **Health Score** — Displays the health score of the switch.

  - ◦ **Status** — Displays the status of the switch. For information on status indicators, see Cisco SID Analysis GUI Status Indicators.

Switch Overview Dashboard

The Switch Overview dashboard displays an overview of the overall health of the switches in your fabric.

The Switch Overview dashboard displays the following options:

- **Switch Info** — Displays a brief information about the switch.
  The following information is displayed for the switch:

  - ◦ **ALIAS** — Displays the switch name that is configured on the switch.

  - ◦ **IP ADDRESS** — Displays the IP address of the switch.

  - ◦ **VERSION** — Displays the operating system version running on the switch.

  - ◦ **#PORTS** — Displays the number of ports on the switch.

  - ◦ **SWITCH STATUS** — Displays the status of the switch.
    The following represents some of the status for the switch:

    - ▪ **HEALTHY** or **ok** — Displays this status when the switch is functioning properly.

    - ▪ **No IP Address** — Displays this status when the IP address of the switch is not present in the **show topology** command output.

    - ▪ **Module Warning** — Displays this status when the module, power supply, or fan that are connected to the switch have issues. Check the status of the module, power supply, or fan for more information.

    - ▪ **Cannot Connect** — Displays this status when the switch is unreachable.

  - ◦ **SWITCH HEALTH** — Displays the health of the switch. For information on calculating the

switch health, see Calculating Switch Health.

- ◦ **POWER USAGE** — Displays the amount of power that is used by switch, in Watts.

- ◦ **VENDOR** — Displays the vendor name of the switch.

- ◦ **MODEL** — Displays the model of the switch.

- ◦ **SERIAL NUMBER** — Displays the serial number of the switch.

- **Alerts** — Displays the total number of alerts on the switch.
  The following represents the different types of switch alerts:

  - ◦ **Critical** — Displays the number of critical alerts.

  - ◦ **Warning** — Displays the number of warning alerts.

  - ◦ **Info** — Displays the number of informational alerts.

- **End of Service/Life Alerts** — Displays the number of devices that are end of service or end of life.
  The following represents the different types of end of service or end of life alerts:

  - ◦ **Firmware** — Displays the number of firmware that are end of service or end of life.

  - ◦ **Module** — Displays the number of modules that are end of service or end of life.

  - ◦ **Switch** — Displays the number of devices that are end of service or end of life.

- **End Devices** — Displays the number of end devices that are connected to the switch.

- **Port Consumption** — Displays the number and percentage of ports that are in use and operational in the switch.
  The following information is displayed:

  - ◦ **Ports In Use** — Displays the number of ports that are in use and operational. Point to the bar to display the percentage of ports that are in use and operational.

- **Modules** — Displays information about the modules that are available on the switch.
  The following information is provided for each module:

  - ◦ **Model** — Displays the model of the module.

  - ◦ **Description** — Displays the description of the module.

  - ◦ **Slot** — Displays the module identifier.

  - ◦ **Power Usage (W)** — Displays the power usage of the module, in Watts.

  - ◦ **Status** — Displays the status of the module. For information on status indicators, see Cisco SID Analysis GUI Status Indicators.

- **Ports** — Displays information about the ports that are available on the switch.
  The following information is provided for each port:

  - ◦ **Port** — Displays the name of the port.

  - ◦ **Operating Speed** — Displays the operating speed of the port.

  - ◦ **Max Speed** — Displays the maximum speed of the port.

  - ◦ **Status** — Displays the status of the port. For information on status indicators, see Cisco SID Analysis GUI Status Indicators.

Calculating Switch Health

Switch health is calculated based on the following parameters:

- Total number of modules in the switch (x)

- Total number of modules that have warning alerts (excluding the modules that have status as functioning properly, active, or ha-standby for Cisco switches and enabled or vacant for Brocade switches) in the switch (x1)

- Total number of ports on the switch (y)

- Total number of ports that are physically connected and have warning alerts (excluding ports that have status as administratively down) on the switch (y1)

- Total number of alerts with severity warning and above (z). If the total number of alerts with severity warning and above is greater than or equal to 1000, then the score for this component is considered to be 0. If the total number of alerts with severity warning and above is lesser than 1000, then the score for this component (z) is considered to be (1000 - z).

The following equations are used to calculate the switch health:

- When the total number of alerts with severity warning and above is greater than or equal to 1000: $(((x - x1) / x) * 0.4) + (((y - y1) / y) * 0.3)$

- When the total number of alerts with severity warning and above is lesser than 1000: $(((x - x1) / x) * 0.4) + (((y - y1) / y) * 0.3) + ((1000 - z) / 1000) * 0.3)$

> **i** The values 0.4, 0.3, and 0.3 in the above equations are the ratio weights assigned to module, port, and alert scores respectively.

Example: Calculating Switch Health

Let us consider a switch that has the following parameters:

- Total number of modules (x): 10

- Total number of modules that have warning alerts (x1): 1

- Total number of ports (y): 100

- Total number of ports that have warning alerts (y1): 5

- Total number of alerts with severity warning and above alerts (z): 200

Switch health is calculated as follows:

- Module score: $((10 - 1) / 10) * 0.4 = 0.36$

- Port score: $((100 - 5) / 100) * 0.3 = 0.285$

- Alerts score: $((1000 - 200) / 1000) * 0.3 = 0.24$

- Switch health score: 0.36 (module score) + 0.29 (port score) + 0.24 (alerts score) = 0.885. This score in percentage is 88%.

Alerts

Alerts Dashboard

The Alerts dashboard displays information about the alerts in your fabric or switch.

Fabric Alerts Dashboard

The Fabric Alerts dashboard displays information of all the alerts in a fabric. The top four alerts are displayed as cards next to the **Total Alerts** card. Click a card to filter the alerts specific to the card.

The Fabric Alerts dashboard displays the following options:

> The following represents the different types of switch alerts:
> **Critical** — Displays the number of critical alerts.
> **Warning** — Displays the number of warning alerts.
> **Info** — Displays the number of informational alerts.

- **Total Alerts** — Displays the total number of alerts in the fabric.
- **Alerts** — Displays detailed information about the alerts in the fabric.
  The following information is provided for each switch:
  - **Switch Name** — Displays the name of the switch. You can click the switch name to check the switch health. For more information, see Switch Overview Dashboard.
  - **Alert Source** — Displays the name of the device or application on the switch that has an alert. The alert source can be a hardware or software component.
  - **Alert Source ID** — Displays the slot number for hardware components and component identifier for software components.
  - **IP Address** — Displays the IP address of the switch where this device is installed.
  - **Severity** — Displays the severity of the alert. For information on status indicators, see Cisco SID Analysis GUI Status Indicators.
  - **Description** — Displays the description of the alert.
  - **Time** — Displays the timestamp of the alert.

Switch Alerts Dashboard

The Switch Alerts dashboard displays information of all the alerts on a switch. The top four alerts are displayed as cards next to the **Total Alerts** card. Click a card to filter the alerts specific to the card.

The Switch Alerts dashboard displays the following options:

The following represents the different types of switch alerts:

Critical — Displays the number of critical alerts.

Warning — Displays the number of warning alerts.

Info — Displays the number of informational alerts.

- **Total Alerts** — Displays the total number of alerts on the switch.

- **Alerts** — Displays detailed information about the alerts on the switch.
  The following information is provided for each device:

  - **Alert Source** — Displays the name of the device or application on the switch that has an alert. The alert source can be a hardware or software component.

  - **Alert Source ID** — Displays the slot number for hardware components and component identifier for software components.

  - **IP Address** — Displays the IP address of the switch where this device is installed.

  - **Severity** — Displays the severity of the alert. For information on status indicators, see Cisco SID Analysis GUI Status Indicators.

  - **Description** — Displays the description of the alert.

  - **Time** — Displays the timestamp of the alert.

Inventory

Inventory Dashboard

The Inventory dashboard displays information about the inventory of the fabric or switch.

Inventory dashboard displays the following types of inventory:

- Fabric Inventory — Displays inventory of **Switch**, **Modules**, **Licenses**, and **Devices** in the fabric.
- Switch Inventory — Displays inventory of **Ports**, **Modules**, **Licenses**, and **Devices** for a switch in the fabric.

Fabric Inventory Dashboard

Switch Dashboard

> ℹ️   The Switch dashboard is available only in the Fabric Inventory view.

The Switch dashboard displays information of all the switches in the fabric.

The Switch dashboard displays the following options:

- **Switches with Critical Scores** — Displays the number of switches that have scores less than 50.
- **Switches** — Displays the number of switches, including Cisco NPV switches, that are connected to the fabric.
- **Total Power Used** — Displays the total power that is used by the switches in the fabric.
- **Switches** — Displays detailed information of all the switches in the fabric.
  The following information is provided for each switch:
  - **Switch Name** — Displays the name of the switch. You can click the switch name to check the switch health. For more information, see Switch Overview Dashboard.
  - **Worldwide Name** — Displays the world wide name (WWN) of the switch.
  - **IP Address** — Displays the IP address of the switch.
  - **Vendor** — Displays the vendor name of the switch.
  - **Model** — Displays the model of the switch.
  - **Power(W)** — Displays the power usage of the switch, in Watts.
  - **Devices** — Displays the number of end devices that are connected to the switch.
  - **ISLs** — Displays the number of ISLs, including Cisco NPV links, that are configured on the switch.
  - **Days Up** — Displays how long the switch is up and running, in days.
  - **Score** — Displays the health score of the switch.
  - **Status** — Displays the status of the switch. For information on status indicators, see Cisco

SID Analysis GUI Status Indicators.

Modules Dashboard

The Modules dashboard displays information of all the modules that are in the fabric or switch.

The Modules dashboard displays the following options:

- **Modules** — Displays the total number of modules, supervisors, and crossbars in the fabric or switch.

- **Line Cards** — Displays the total number of IO modules in the fabric or switch.

- **Supervisor** — Displays the total number of supervisors in the fabric or switch.

- **XBars** — Displays the total number of crossbars in the fabric or switch.

- **Total Power Used** — Displays the total power that is used by the modules, supervisors, and crossbars in the fabric or switch, in Watts.

- **Modules** — Displays detailed information of the modules in the fabric or switch.
  The following information is provided for each fabric or switch:

  - **Switch Name** (Fabric Inventory view only) — Displays the name of the switch. You can click the switch name to check the switch health. For more information, see Switch Overview Dashboard.

  - **Description** — Displays the description of the card.

  - **Slot** — Displays the slot identifier.

  - **Serial Number** — Displays the serial number of the switch or module.

  - **Model** — Displays the model of the switch or module.

  - **Power(W)** — Displays the amount of power that is used by the switch or module, in Watts.

  - **Days Up** — Displays how long the switch or module is up and running, in days.

  - **Status** — Displays the status of the switch or module. For information on the status indicators, see Cisco SID Analysis GUI Status Indicators.

Licenses Dashboard

The Licenses dashboard displays information of licenses that are used in the fabric or switch.

The Licenses dashboard displays the following options:

- **Licenses in need of attention** — Displays the total number of licenses, including the honor and missing licenses, that are in grace period in the fabric or switch. You can sort the **Comments** column in the **Licenses** table to see the details.

- **Total Licenses** — Displays the total number of licenses that are available in the fabric or switch.

- **Total Installed** — Displays the total number of licenses that are installed in the fabric or switch. This count includes all Cisco and Brocade licenses that have the **Install** state as **YES** or **CLI**.

- **Total In Use** — Displays the total number of licenses that are in use in the fabric or switch. This count includes only the Cisco licenses that have the **InUse** status as **YES** or **CLI**.

- **Licenses** — Displays detailed information of licenses that are available in the fabric or switch. The following information is provided for each license:

  ◦ **Switch Name** (Fabric Inventory view only) — Displays the name of the switch. You can click the switch name to check the switch health. For more information, see Switch Overview Dashboard.

  ◦ **License** — Displays the name of the license.

  ◦ **Expiration Date** — Displays the date of expiry of the license.

  ◦ **License Count** — Displays the number of licenses that are available for use.

  ◦ **Comments** — Displays the status of the license such as the grace period, honor license, missing license, and so on.

  ◦ **Installed** — Displays the status of the license installation. For information on the status indicators, see Cisco SID Analysis GUI Status Indicators.

  ◦ **Use Status** — Displays the status of the license. For information on the status indicators, see Cisco SID Analysis GUI Status Indicators.

Devices Dashboard

The Devices dashboard displays information of all the end devices that are connected in the fabric or switch.

The Devices dashboard displays the following options:

- **Connected Devices** — Displays the total number of devices that are connected in the fabric or switch.

- **Devices** — Displays detailed information of devices that are connected in the fabric or switch. The following information is provided for each end device:

  ◦ **Endpoint Name** — Displays the endpoint name that is configured on the end device.

  ◦ **PWWN** — Displays the port world wide name (pWWN) of the end device.

  ◦ **FCID** — Displays the Fibre Channel ID (FCID) of the end device.

  ◦ **Endpoint Vendor** — Displays the vendor name of the end device.

  ◦ **Connected Switch** — Displays the IP address of the switch to which the end device is connected.

  ◦ **Connected Interface** — Displays the interface to which the end device is connected.

  ◦ **FC4Type** — Displays the FC4Type feature information for the end device.

  ◦ **VSAN ID** — Displays the VSAN ID that is configured on the end device. This information is available only when the end device is connected to a Cisco switch that has VSAN information.

Switch Inventory Dashboard

Ports Dashboard

ⓘ The Ports dashboard is available only in the Switch Inventory view.

The Ports dashboard displays information of all the ports that are available on a switch.

The Ports dashboard displays the following options:

- **Total Ports** — Displays the total number of ports that are available on the switch.
- **Port Consumption** — Displays the number and percentage of ports that are in use and operational in the switch.
  The following information is displayed:
  - **Ports In Use** — Displays the number of ports that are in use and operational. Point to the bar to display the percentage of ports that are in use and operational.
- **Ports** — Displays detailed information of ports that are available on the switch.
  The following information is provided for each port:
  - **Port** — Displays the port identifier.
  - **Operating Mode** — Displays the operating mode of the port.
  - **Admin Mode** — Displays the administrative mode of the port.
  - **Operating Speed** — Displays the operating speed of the port.
  - **Connected To** — Displays the peer information for the port that is in the operational mode.
  - **Max Speed** — Displays the maximum speed that is supported by the port.
  - **Status** — Displays the status of the port. For information on status indicators, see Cisco SID Analysis GUI Status Indicators.
  - **Rx (Beta)** — Displays the receive throughput information for the port.
  - **Tx (Beta)** — Displays the transmit throughput information for the port.

Modules Dashboard

The Modules dashboard displays information of all the modules that are in the fabric or switch.

The Modules dashboard displays the following options:

- **Modules** — Displays the total number of modules, supervisors, and crossbars in the fabric or switch.
- **Line Cards** — Displays the total number of IO modules in the fabric or switch.
- **Supervisor** — Displays the total number of supervisors in the fabric or switch.
- **XBars** — Displays the total number of crossbars in the fabric or switch.
- **Total Power Used** — Displays the total power that is used by the modules, supervisors, and crossbars in the fabric or switch, in Watts.
- **Modules** — Displays detailed information of the modules in the fabric or switch.
  The following information is provided for each fabric or switch:

- **Switch Name** (Fabric Inventory view only) — Displays the name of the switch. You can click the switch name to check the switch health. For more information, see Switch Overview Dashboard.

- **Description** — Displays the description of the card.

- **Slot** — Displays the slot identifier.

- **Serial Number** — Displays the serial number of the switch or module.

- **Model** — Displays the model of the switch or module.

- **Power(W)** — Displays the amount of power that is used by the switch or module, in Watts.

- **Days Up** — Displays how long the switch or module is up and running, in days.

- **Status** — Displays the status of the switch or module. For information on the status indicators, see Cisco SID Analysis GUI Status Indicators.

Licenses Dashboard

The Licenses dashboard displays information of licenses that are used in the fabric or switch.

The Licenses dashboard displays the following options:

- **Licenses in need of attention** — Displays the total number of licenses, including the honor and missing licenses, that are in grace period in the fabric or switch. You can sort the **Comments** column in the **Licenses** table to see the details.

- **Total Licenses** — Displays the total number of licenses that are available in the fabric or switch.

- **Total Installed** — Displays the total number of licenses that are installed in the fabric or switch. This count includes all Cisco and Brocade licenses that have the **Install** state as **YES** or **CLI**.

- **Total In Use** — Displays the total number of licenses that are in use in the fabric or switch. This count includes only the Cisco licenses that have the **InUse** status as **YES** or **CLI**.

- **Licenses** — Displays detailed information of licenses that are available in the fabric or switch. The following information is provided for each license:

  - **Switch Name** (Fabric Inventory view only) — Displays the name of the switch. You can click the switch name to check the switch health. For more information, see Switch Overview Dashboard.

  - **License** — Displays the name of the license.

  - **Expiration Date** — Displays the date of expiry of the license.

  - **License Count** — Displays the number of licenses that are available for use.

  - **Comments** — Displays the status of the license such as the grace period, honor license, missing license, and so on.

  - **Installed** — Displays the status of the license installation. For information on the status indicators, see Cisco SID Analysis GUI Status Indicators.

  - **Use Status** — Displays the status of the license. For information on the status indicators, see Cisco SID Analysis GUI Status Indicators.

Devices Dashboard

The Devices dashboard displays information of all the end devices that are connected in the fabric or switch.

The Devices dashboard displays the following options:

- **Connected Devices** — Displays the total number of devices that are connected in the fabric or switch.
- **Devices** — Displays detailed information of devices that are connected in the fabric or switch. The following information is provided for each end device:
  - **Endpoint Name** — Displays the endpoint name that is configured on the end device.
  - **PWWN** — Displays the port world wide name (pWWN) of the end device.
  - **FCID** — Displays the Fibre Channel ID (FCID) of the end device.
  - **Endpoint Vendor** — Displays the vendor name of the end device.
  - **Connected Switch** — Displays the IP address of the switch to which the end device is connected.
  - **Connected Interface** — Displays the interface to which the end device is connected.
  - **FC4Type** — Displays the FC4Type feature information for the end device.
  - **VSAN ID** — Displays the VSAN ID that is configured on the end device. This information is available only when the end device is connected to a Cisco switch that has VSAN information.

VSAN

VSANs Dashboard

The Fabric VSANs dashboard displays information about the VSANs that are configured in the fabric.

The Fabric VSANs dashboard displays the following options:

- **Total VSANs** — Displays the total number of VSANs that are configured in the fabric.

- **VSANs Down** — Displays the total number of VSANs whose operational status is down.

- **VSANs Segmented** — Displays the total number of VSANs that are segmented.

- **VSANs Up** — Displays the total number of VSANs whose operational status is up.

- **VSANs** — Displays detailed information of the VSANs that are configured in the fabric.
  The following information is provided for each VSAN:

  - **ID** — Displays the VSAN identifier. When there are multiple segments in a VSAN, the segments are grouped under the same VSAN ID. Click the arrow next to the VSAN ID to see the information about the VSAN segments.

  - **VSAN Name** — Displays the name of the VSAN.

  - **Principle Switch** — Displays the name of the principle switch.

  - **Active Zoneset** — Displays the name of the active zoneset.

  - **IE-WWN** — Displays interconnect element (IE) WWN ID.

  - **Switches** — Displays the number of switches, including Cisco NPV switches, that are configured in the VSAN.

  - **Status** — Displays the status for VSANs. For information on the status indicators, see Cisco SID Analysis GUI Status Indicators.

- **Active Zoneset Members** — Displays the zoneset members of a VSAN when the VSAN is selected.
  The following information is provided for each active zoneset member:

  - **Members in active zoneset** — Displays the total number of active zoneset members.

  - **Zone Name** — Displays the zone name.

  - **Alias** — Displays the alias name.

  - **Member Type** — Displays the zone member type.

  - **Zone Member** — Displays zone member.

  - **Logged In** — Displays the status of the zone member login. For information on the status indicators, see Cisco SID Analysis GUI Status Indicators.

Zones

Zones Dashboard

> ℹ️ The Zones dashboard is available only when there are Brocade switches that are not operating in the Access Gateway mode in the fabric.

The Zones dashboard displays information about the zones that are configured on Brocade switches in your fabric.

The Zones dashboard displays the following options:

- **Zoneset Name** — Displays the name of the zoneset.
- **Zones in Zoneset** — Displays the number of zones in the zoneset.
- **Total Members** — Displays the total number of members in the zoneset.
- **Active Zoneset Members** — Displays the zoneset members of a VSAN when a VSAN is selected. The following information is provided for each active zoneset member:
  - **Zone Name** — Displays the zone name.
  - **Alias** — Displays the alias name.
  - **Zone Member Type** — Displays the zone member type.
  - **Zone Member** — Displays the zone member ID.
  - **Logged In** — Displays the status of the zone member login. For information on the status indicators, see Cisco SID Analysis GUI Status Indicators.

Utilization

Utilization Dashboard

The Fabric Utilization dashboard displays information about the port consumption, CPU usage, and memory utilization in the fabric.

The Fabric Utilization dashboard displays the following options:

- **Port Consumption** — Displays the number and percentage of ports that are in use and operational in the fabric.
  The following utilization information is displayed:

  - **Ports In Use** — Displays the total number of ports that are in use and operational.

- **Port Usage By Capacity** — Displays the number of ports that are in use and operational under different port speed category. Point to the bar to display the percentage of ports that are under each category.

- **Port Utilization** — Displays detailed information about port utilization.
  The following information is provided for each switch:

  - **Switch Name** — Displays the name of the switch. You can click the switch name to check the switch health. For more information, see Switch Overview Dashboard.

  - **Port** — Displays the name of the port.

  - **Mode** — Displays the mode in which the port is operating.

  - **Status** — Displays the status of the port. For information on the status indicators, see Cisco SID Analysis GUI Status Indicators.

  - **Rx (Beta)** — Displays the receive throughput information for the port.

  - **Tx (Beta)** — Displays the transmit throughput information for the port.

- **Switch CPU and Memory Utilization** — Displays detailed information about the CPU and memory that is utilized by each switch.
  The following information is provided for each switch:

  - **Switch Name** — Displays the name of the switch. You can click the switch name to check the switch health. For more information, see Switch Overview Dashboard.

  - **Mem. Status** — Displays the status of the memory of the switch. For information on the status indicators, see Cisco SID Analysis GUI Status Indicators.

  - **Mem. Usage** — Displays the memory usage status of the switch. Point to the bar to display the percentage of memory that is utilized by the switch.

  - **CPU Usage** — Displays the CPU utilization status of the switch. Point to the bar to display the percentage of CPU that is utilized by the switch.

Topology

Topology Dashboard

The Topology dashboard displays nodes and links that correspond to various network elements such as switches and links. For information about each of these elements, point your cursor over the corresponding element. Click and hold a switch to identify the peer switches connected to the switch. Double-click a switch to view its Switch Overview dashboard.

Troubleshooting Cisco SAN Insights Discovery

Troubleshooting Scenarios

Cisco SID Collector

A log file is created every time that you generate a report using Cisco SID Collector. If you have issues with generating the report, send this log file to csid-support@cisco.com for assistance.

Cisco SID Analysis

Cisco SID Analysis displays error messages whenever it encounters an issue.

The following are some of the error messages and the possible solutions:

- The zip file cannot be unzip — Ensure that you are uploading the zip file of the report.
- The zip file does not contain the output files as expected — Ensure that the report was generated successfully without any errors by Cisco SID Collector.
- Cisco SID cannot get the report id from the output JSON file — Ensure that the report was generated successfully without any errors by Cisco SID Collector and was not modified manually.
- Bad file in general — Ensure that the report was generated successfully without any errors by Cisco SID Collector.
- The version of the report is not compatible with the Cisco SID Analysis version — Ensure that the report was generated using the latest version of Cisco SID Collector. For more information, see Installing Cisco SID Collector.

If you encounter any other issues, send your issues to csid-support@cisco.com.