VOSS Insights
Dashboard Administration Guide

Release 25.1

June 17, 2025

Legal Information

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Contents

1. What's New

1.1. Dashboard Administration Guide: Release 25.1

- EKB-22789: Default openldap to non standard port. See: *Configuration*

  Added details on LDAP ports not open by default for Arbitrator and Dashboard.

2. Getting Started

2.1. Welcome to Insights Dashboard

2.1.1. Overview

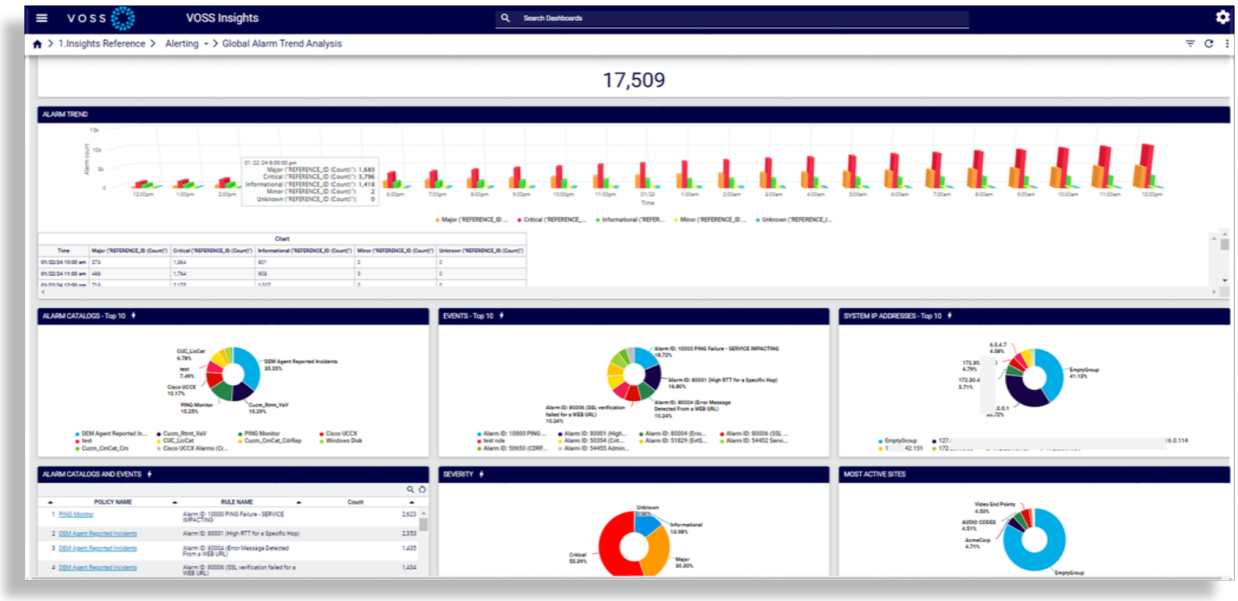
Insights Dashboard (Reporter) is a log analytics platform that allows multiple data sources and log formats to be consumed, extracted, analyzed, and displayed on dashboards, and to produce reports from the dashboards.

The system ships with several default dashboards, which you can copy (clone) and edit to create your own custom dashboards, and you can create new dashboards from scratch.

This guide describes how to use and manage the Insights Dashboard platform, and includes details for the following:

- Importing existing dashboard templates
- Configuring new dashboards and widgets
- Cloning existing dashboards
- Ad-hoc report printing
- Scheduling reports
- Searching logs
- Building search extraction queries
- Troubleshooting issues by analyzing the logs being collected

The Insights platform design allows it to be used in multiple workflows. This guide describes the system elements that must be configured in a particular order, but there is no overall prescribed linear flow that must be followed.



Related Topics

- Introduction to Dashboards in the Dashboards Administration Guide.
- Default Dashboards in the Dashboards Administration Guide.
- Custom Dashboards in the Dashboards Administration Guide.

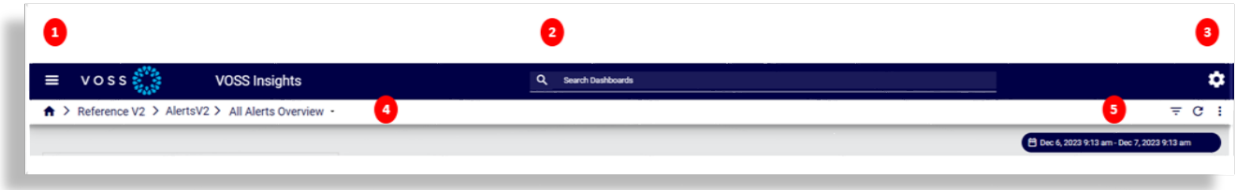
2.1.2. Conventions Used in this Guide

Some Insights topics display a badge to indicate that functionality is only available to administrator users.

- admin-users-only

2.1.3. Dashboard User Interface

The table describes the elements that allow you to navigate and work with the Insights Dashboard system from the user interface:



Toolbar element	Description
1. 	Menu (Hamburger icon). Opens the dashboard library pane on the left of the GUI.
2. Search Dashboards	Search for dashboards by their name from the toolbar **Search** field. The dashboard library opens with dashboards matching the search criteria.
3. 	System Configuration (Cog icon). Displays a menu of options for configuring and working with the system, such as Import/Export Wizard, Manage Dashboards, Theme Management, Help, About, and Sign Out. **Note:** Some options accessed via the System Configuration menu are accessible only to admin users, for example, Manage Forwarders, Configuration, Edit Account.
4. Tab links	Breadcrumb-like tab links provide a navigational aid for the dashboard library. Click the ellipsis (. . .) to open the entire folder tree, with the currently active folder highlighted in the tree, and the first dashboard in that folder, opens in the GUI. The dashboard that displays for the open folder has a drop-down where you can select additional dashboards, if available in that folder.
5. Filters, Refresh, Dashboard Operations	• Show Global Filters  - create and apply filters to dashboards • Refresh  - refreshes dashboard data • Dashboard Operations - opens a submenu with the following options: – Add Widget – Print Dashboard – Position Widgets – Edit Dashboard – Clone Dashboard – Delete Dashboard – Move Dashboard – Dashboard link – Dashboard Options

2.2. Arbitrator and Dashboard Licensing

admin-users-only

2.2.1. Overview

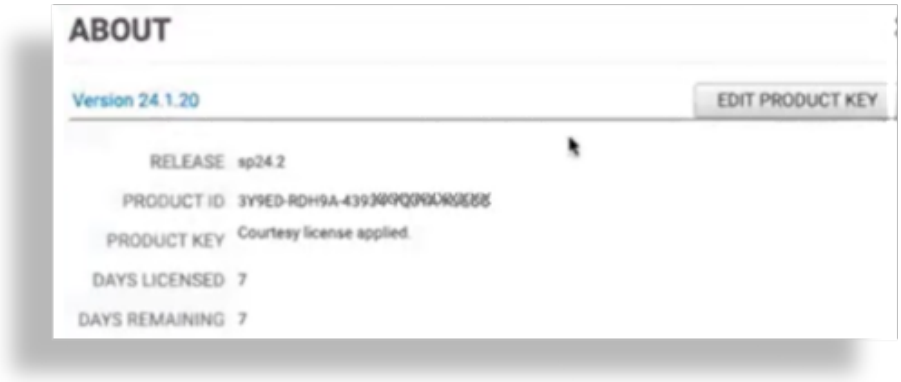
The VOSS Insights product and features are activated via a product key (license file) that is loaded on to every Arbitrator and Dashboard server.

2.2.2. Courtesy Product Key (License) on Install

When installing with an ISO file (new install), a 7-day courtesy product key (license) is automatically applied.

The courtesy product key allows you to log in and access the system user interface until you've received your official product key from VOSS.

You'll need to replace the courtesy product key via the **About** page within 7 days from install with your valid product key.



2.2.3. Load Product Key (License)

To load your Insights product key (license):

1. Obtain the product key from VOSS.
2. Click the **System Configuration** (Cog) icon on the toolbar, then select **About**
3. Click **EDIT PRODUCT KEY** and replace the existing product key with the new product key.

Note: When updating a license file, any custom theme that is applied remains active.

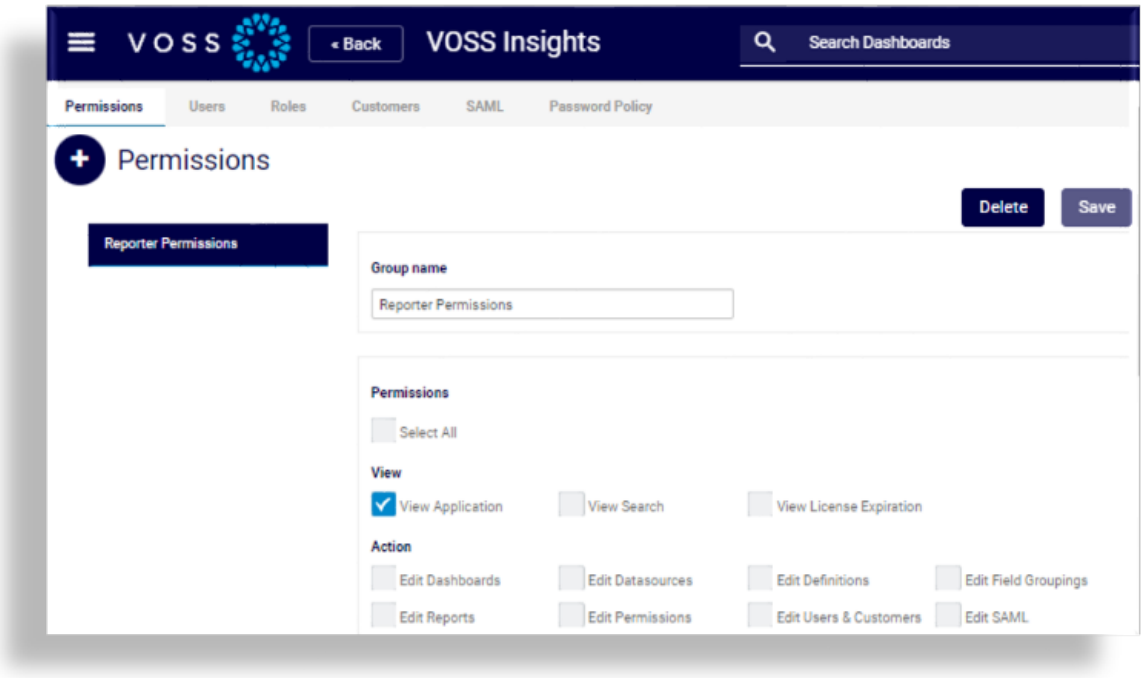
2.2.4. Update Expired Product Key (License)

The VOSS Insights product key (license) contains an expiry date. You'll need to activate and add a new product key once the expiry date is reached.

1. As an admin user, log in to the GUI.
2. View the activation window, which displays the product key.
3. Copy the product key for each individual server.
4. Provide details to the VOSS representative.
5. The VOSS representative provides the product key to activate the server.
6. The admin user applies the product key on the server (Arbitrator and Dashboard servers), accepts the license terms, and clicks Submit.

2.2.5. View License Days Remaining

The days remaining for the product key (license) display in the UI when logging in, or via the **About** menu. You can enable or hide the **View License Expiration** setting from the **Permissions** tab in **Access Controls**:

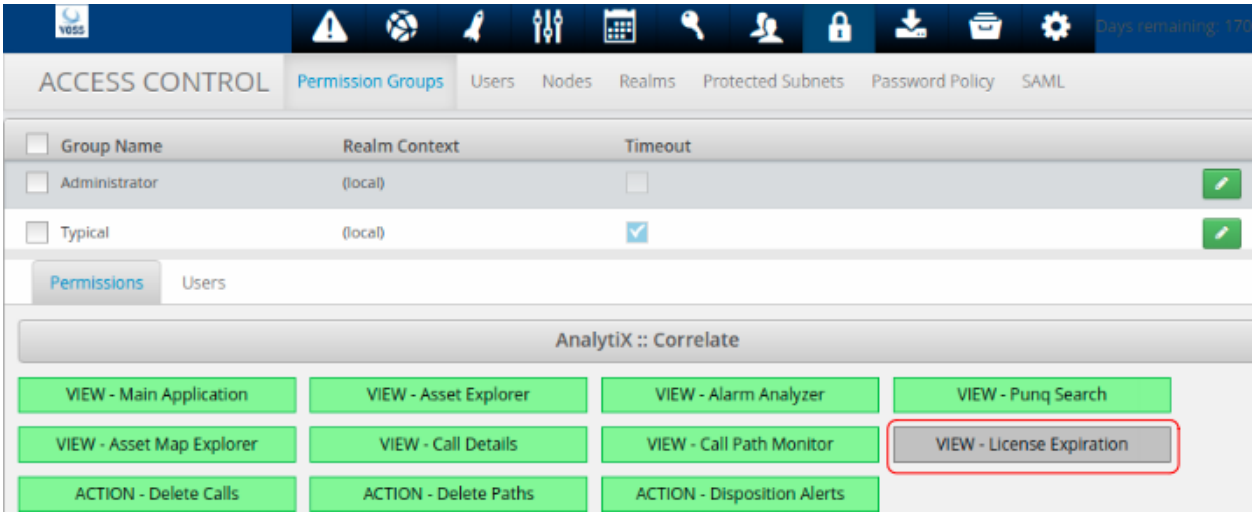


View "license days remaining" via the About menu:

1. Click the **System Configuration** (Cog) icon on the toolbar, then select **About**.
2. View the **DAYS LICENSED** and **DAYS REMAINING** values.

Enable or disable display of "license days remaining" on the GUI:

1. In **ACCESS CONTROL**, select **Permission Groups**.
2. Toggle the following setting: **VIEW - License Expiration**



3. Search

3.1. Search the Logs

3.1.1. Overview

Insights Dashboard stores all log data elements in a JSON index data store. You can search all data, and add and edit log search/extraction definitions via the **Search** page.

You can select the following tabs on this page:

- *Search Tab*
- *Create Definitions Tab*

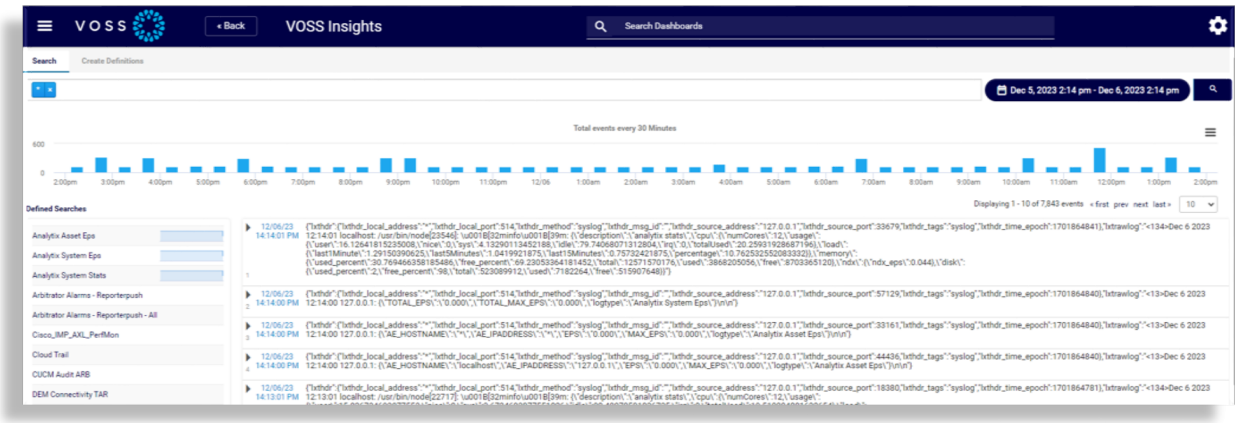
Note: To access the Search page, click the toolbar **System Configuration** (Cog) icon , then select **Search**.

Related Topics

- Dashboard and Arbitrator Transaction Logging and Audit in the Insights Platform Guide

3.1.2. Search Tab

By default, the **Search** tab displays the last 10 log events to enter the system. Once logs are collecting, this is where the JSON indexed records will be located. The system builds a library of all text contained in the logs.



Search Criteria

A search bar at the top of the page contains a wildcard "*" to display logs. The search bar allows for keyword searches using single words or concatenated words with Boolean logic, such as 'and/or/not', in addition to using VOSS Insight's automated Regular Expression engine to perform search extractions and save them as definitions. The search engine displays all words once you've typed in the first letters.

The calendar/date field to the right of the search bar defines the time period to search for logs. The default is the last 24 hours. This setting is important, especially when searching for logs from a source that has stopped sending data, since log data (and the JSON indexed records) are time-based.

To set a date and time range period, click the calendar/date field to display a date/time calendar, where you can select a preset period (Last 24 Hours, Last 1 Hour, Last 30 Minutes, Last 5 Minutes) along with a custom date and time selection.

Note: The longer the date range, the more data the system searches, thus the search time period is associated to the amount of data over time.

Search Results

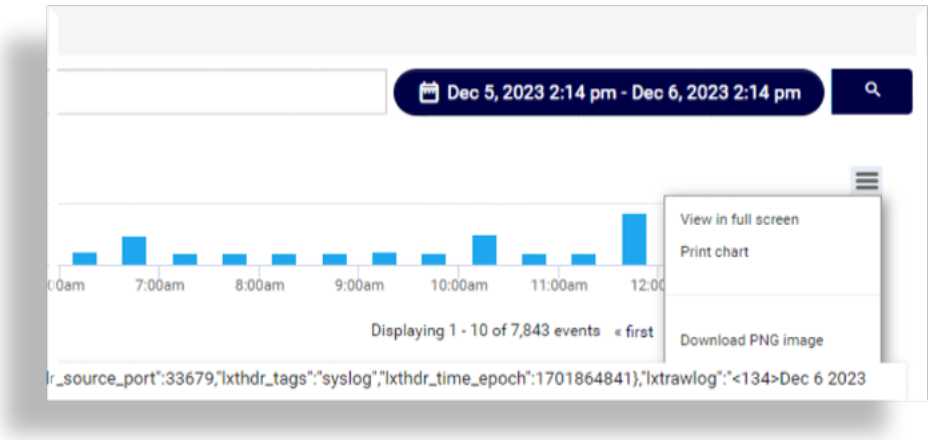
The **Search** tab displays the number of logs displayed and available, based on the search criteria and the selected date/time range. You can use the **first**/**prev**/**next**/**last** buttons to skip to navigate the data. The adjacent drop-down allows you to define the number of logs to display on the page.

Bar Graph View of Log Data

The bar graph below the search bar displays the last 24 hours (default) of log events. Each bar represents the quantity of logs collected in each 30 minute interval.

The **Chart context menu** hamburger icon to the right above the bar graph provides an option to retrieve the graph in multiple formats, for example, to print or download to PDF, to download to PNG, JPEG, or SVG.

The bar graph changes based on the selected data interval, and based on the selected definitions.

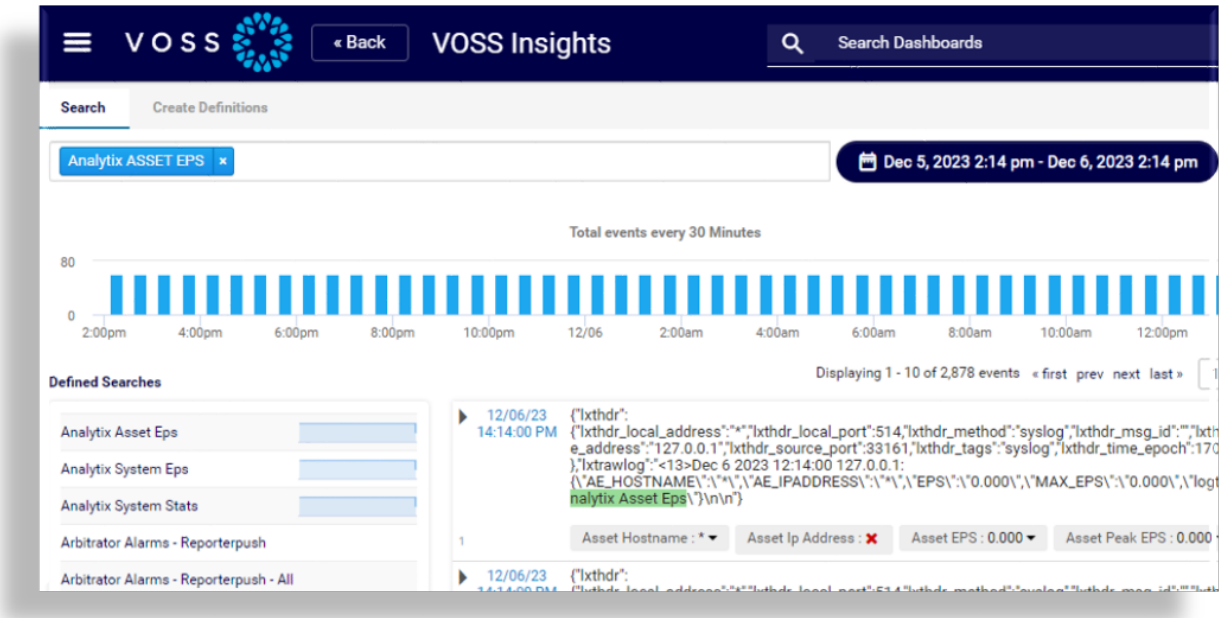


Defined Searches

The Search tab contains a **Defined Searches** field, which lists all saved search definitions.

A graph to the right of each search definition indicates the amount of logs in that definition, for the time period selected in the time bar.

Select a defined search to refresh the page to display all the logs for that definition. The bar graph also adjusts to reflect the quantities of logs in this definition.



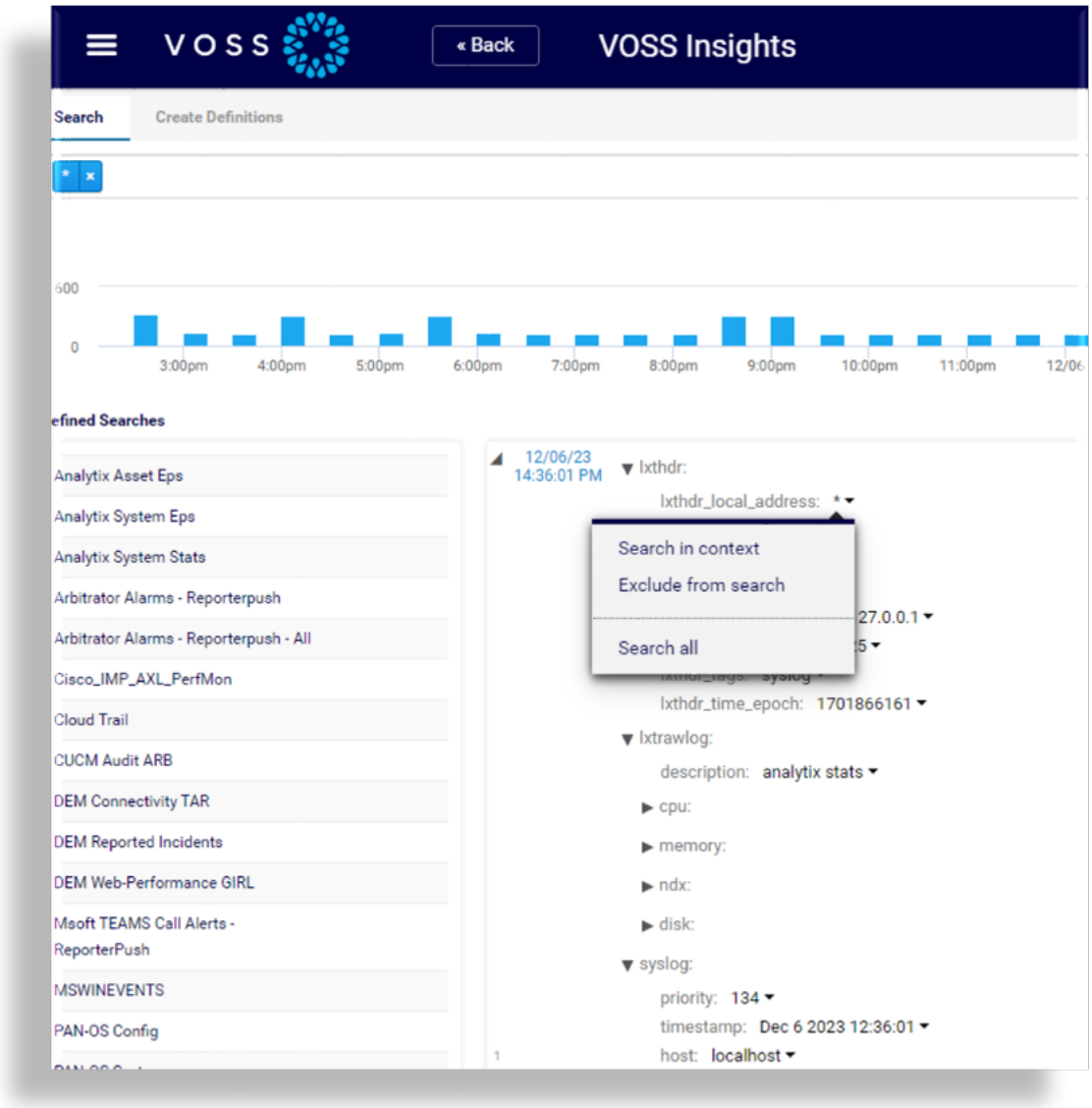
JSON Format Logs

The main body of the **Search** tab displays the JSON format of the logs associated with the selected search definition. Details below each log are the data fields that have been extracted and are being analyzed on dashboards.

The right-pointing arrow at the left of each log entry allows you to expand the log details, providing information for each component of the logging elements along with a copy of the raw log.

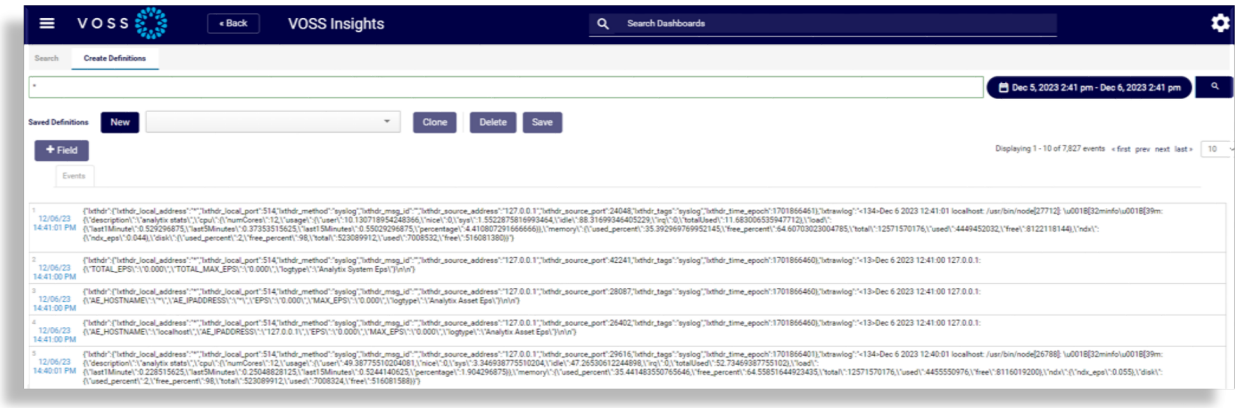
Click the down-arrow within the expanded log view for any item to search (Search in context, Exclude from search, or Search all):

Search in context	Searches through all of the selected definition for that field and highlights it.
Exclude from search	Searches through all of the selected definition for all data without that field.
Search all	Searches the entire log index data store for that field and highlights it.



3.1.3. Create Definitions Tab

The **Create Definitions** tab allows you to define the search definitions that display logs on the **Search** tab.



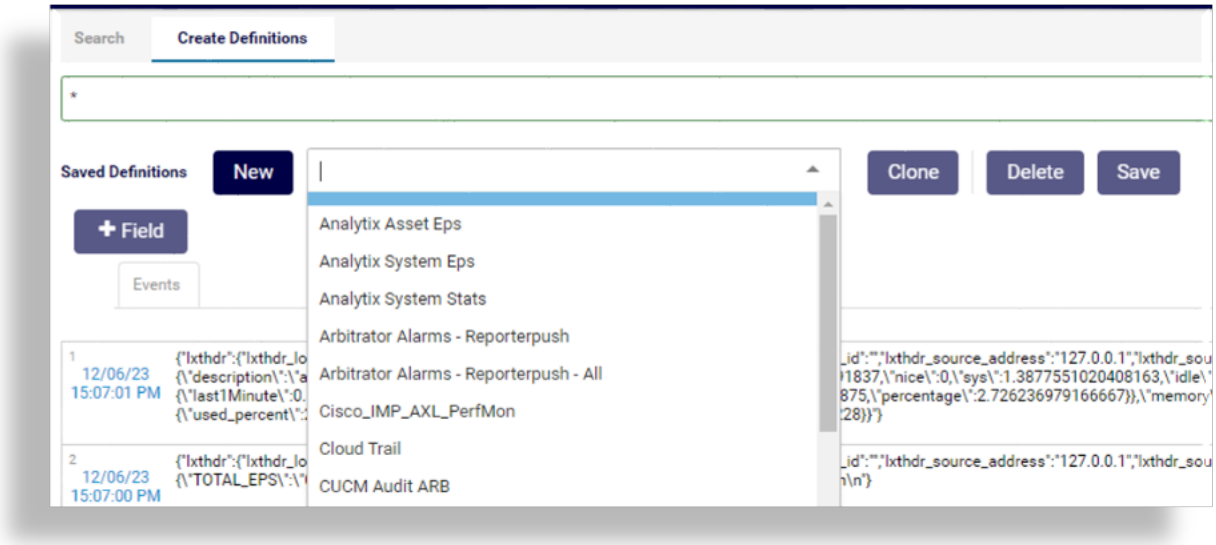
3.2. Saved Search Definitions

3.2.1. Overview

A saved search definition creates a dashboard and report with the title being the name you give the definition.

You can create any number of combinations of saved search definitions on any log source (i.e. multiple search definitions on a DNS log).

The **Saved Definitions** drop-down lists all saved search definitions. Each saved search definition is a resource from which data can be pulled into a widget on a dashboard and report as you design them.



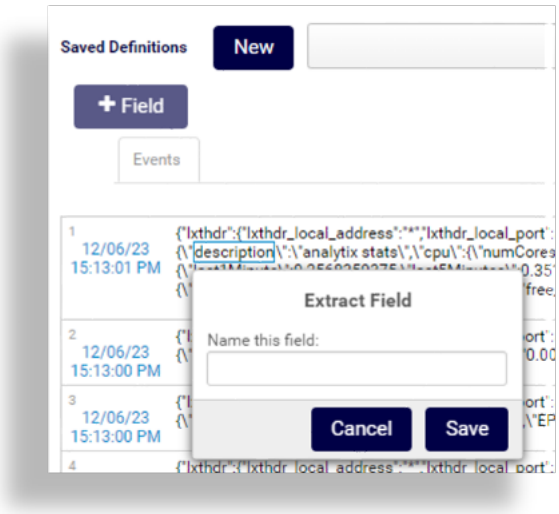
3.2.2. Configure Search Definitions

This procedure configures a search definition to add a dashboard and report.

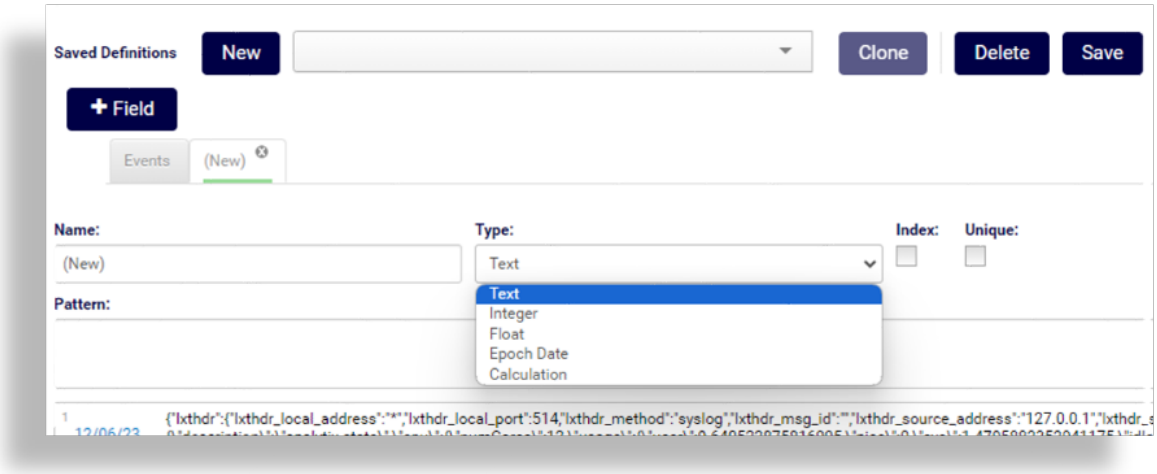
1. On the Insights Dashboard toolbar, click the toolbar **System Configuration** (Cog) icon, then select **Search**.
2. On the **Create Definitions** tab, determine which logs contain the data you wish to analyze.

   An example is DNS Logs from a Bind9 open source DNS server. In this case, type any word contained in these logs, such as “queries”, and then ensure that you have the log coming from the Bind9 DNS server.
3. Extract the fields you wish to analyze (perform this step for each field you wish to extract):
   - Highlight the field by dragging the cursor over it, or double click the field.
   - In the **Extract Field** dialog, fill out the field name.
   - Click **Save**.

     The automated Regular Expression engine extracts the field and saves the field name, which displays beneath **Saved Definitions**.



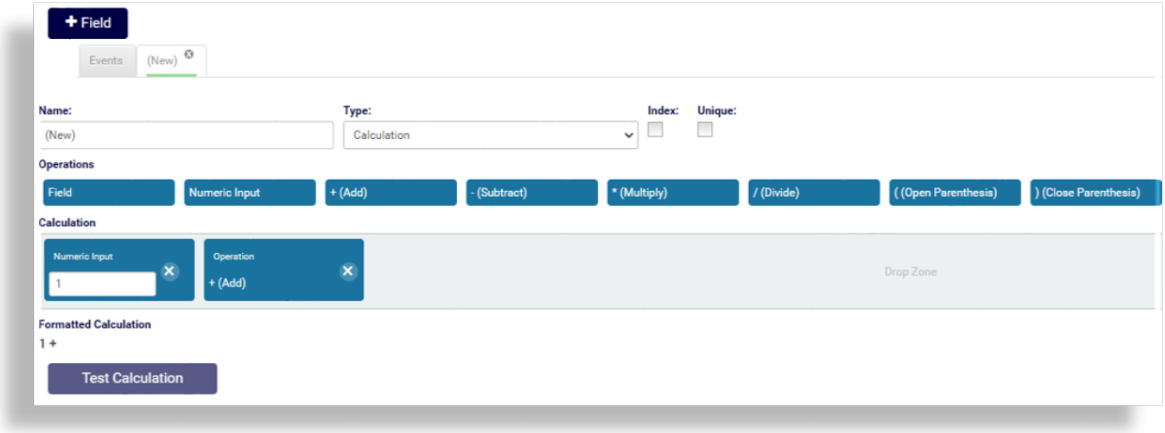
4. Click the **+Field** button, then from the **Type** drop-down, choose a field type, based on the context of the log, either Text, Integer, Float, Epoch Date, or Calculation.



Note: When selecting field type “Calculation”, you’ll need to specify the math to derive an integer result. An example is a bandwidth calculation. In this case, the result is stored with the definition and will be available to utilize on a dashboard.

Drag the field(s) to calculate, add a numeric input, and then design the equation by dragging the operands and groupings.

The equation will display below the bar to allow for easy checking of the logic. Click **Test Calculation** to allow the system to perform the math and display the results for further logic testing before saving the calculation.



5. Repeat these steps for each field you wish to analyze.
6. Once complete, fill out a name for the new search definition.

3.2.3. Manage Saved Search Definitions

This procedure clones, edits, and deletes saved search definitions/resources.

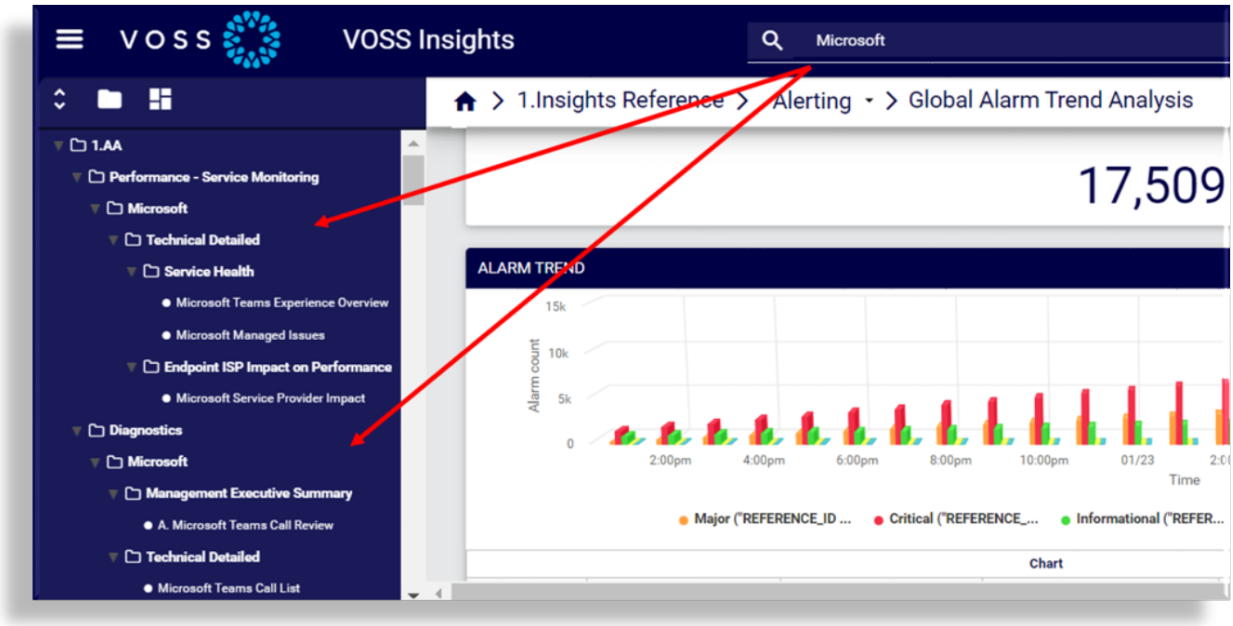
1. On the Insights Dashboard toolbar, click the toolbar **System Configuration** (Cog) icon, then select **Search**.
2. On the **Create Definitions** tab, select a saved search definition from the drop-down.
3. Choose an option:
   - Click **Clone** to copy an existing saved search definition, then give the clone a new name. Now you can simply change only the field extractions you want instead of creating them from new.
   - Modify an existing saved definition, then click **Save**.

     When saving a modified definition, the dashboard updates when new log data arrives into the system.
   - Click **Delete** to remove a search definition from the list.

3.3. Search for Dashboards

You can use the Search bar at the top of the GUI to search for dashboards by their name, or part of their name.

The toolbar dashboard search is a dynamic “contains” search. When filling out a value in the field, the dashboard library panel opens on the left and expands folders that have dashboards with names matching the search criteria.



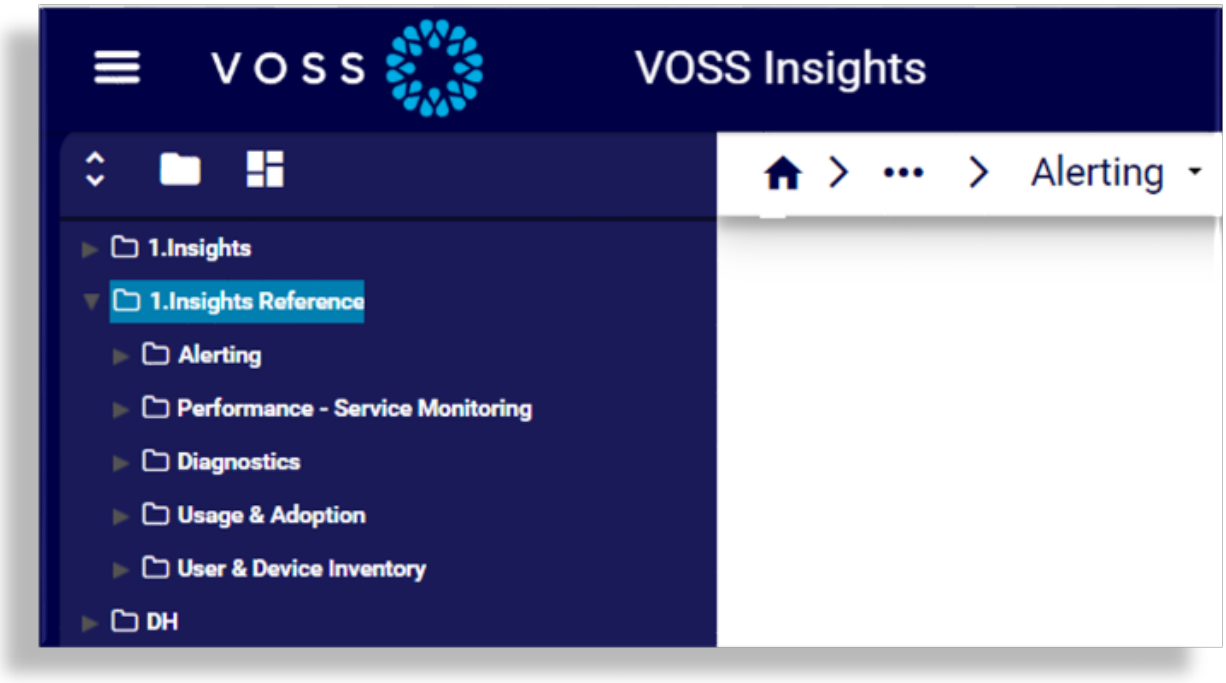
4. Dashboard and Reporting

4.1. Introduction to Dashboards

4.1.1. Dashboard Library

Click the **Menu** icon (Hamburger) on the Dashboard's main interface toolbar to access the dashboard library, which lists all reference and custom dashboards. From here you can:

- Add new dashboards
- Add new folders
- Expand or collapse the folder tree



Related Topics

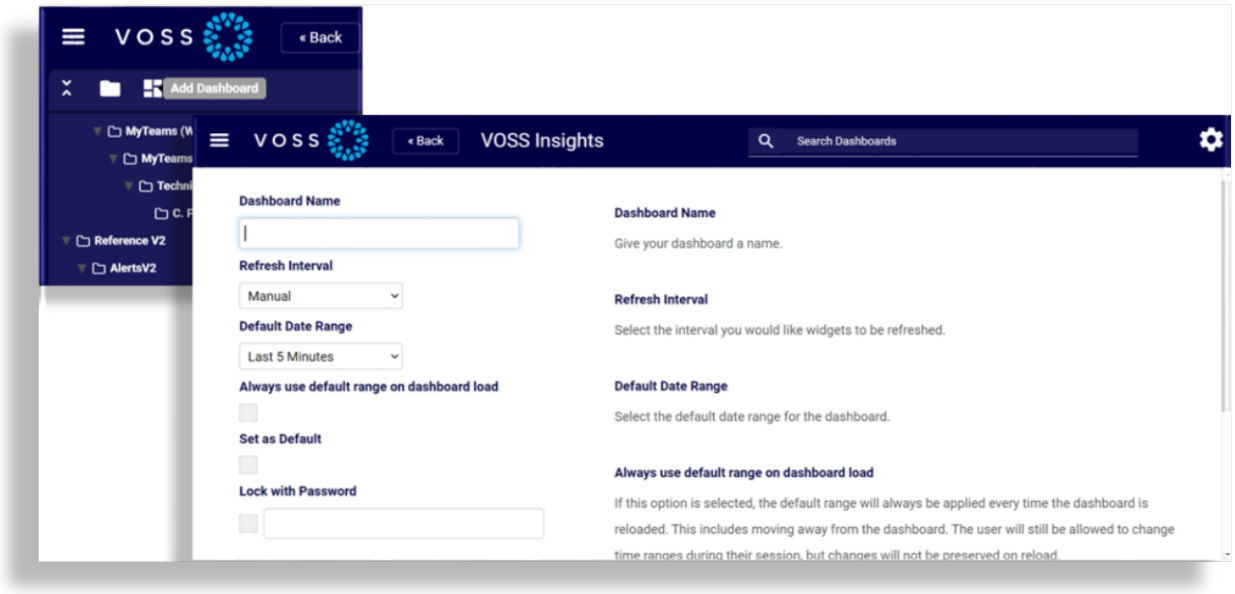
- *Introduction* in the Dashboards Administration Guide.
- Insights Reference Dashboards in the Dashboards Administration Guide.
- *Custom Dashboards* in the Dashboards Administration Guide.
- *Working with Dashboards* in the Dashboards Administration Guide.
- *Access Controls* in the Dashboards Administration Guide.
- *Reports* in the Dashboards Administration Guide.

4.1.2. Add a New Custom Dashboard

To add a new, custom dashboard from the dashboard library panel, click the **Add Dashboard** icon at the top of the panel. This opens a new page where you can add details for your new, custom dashboard.

Now you will need to create resource definitions and widgets to use in your dashboard.

Note: To make a custom dashboard based on a default dashboard, you can make a copy (clone) of one of the default dashboards, then modify the clone and save it as a new, custom dashboard.



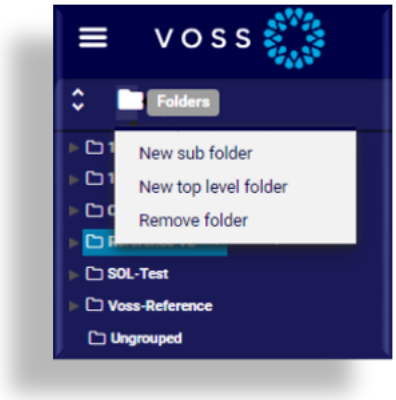
4.1.3. Add or Remove Dashboard Folders

Dashboards are organized initially in alphabetical order. When creating dashboards, you can organize these into folders that expand out into trees based on the order you define.

To add or remove folders in the tree, click the **Folders** icon at the top of the dashboard library panel. When removing a folder, first select the folder in the tree.

You can drag and drop a sub-folder into the relevant top-level folder, or drag the relevant dashboard into a folder.

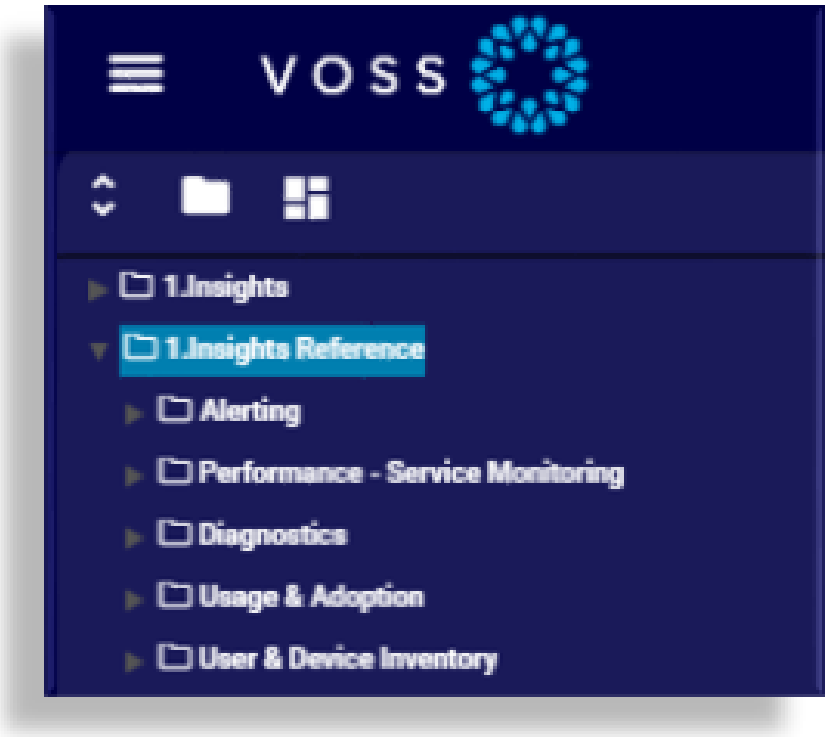
Note: Dashboards with the same name can exist in different folders. The names of dashboards in the same folder must be unique.



4.2. Insights Reference Dashboards

4.2.1. Overview

Insights Dashboard ships with a collection of deployment-ready, read-only, standard reference dashboards that are configured with predefined policies (alerting dashboards only), probes, and probe groups. This means you'll be able to deploy Insights without having to manually add and assign probes to retrieve and display reporting data on these dashboards.



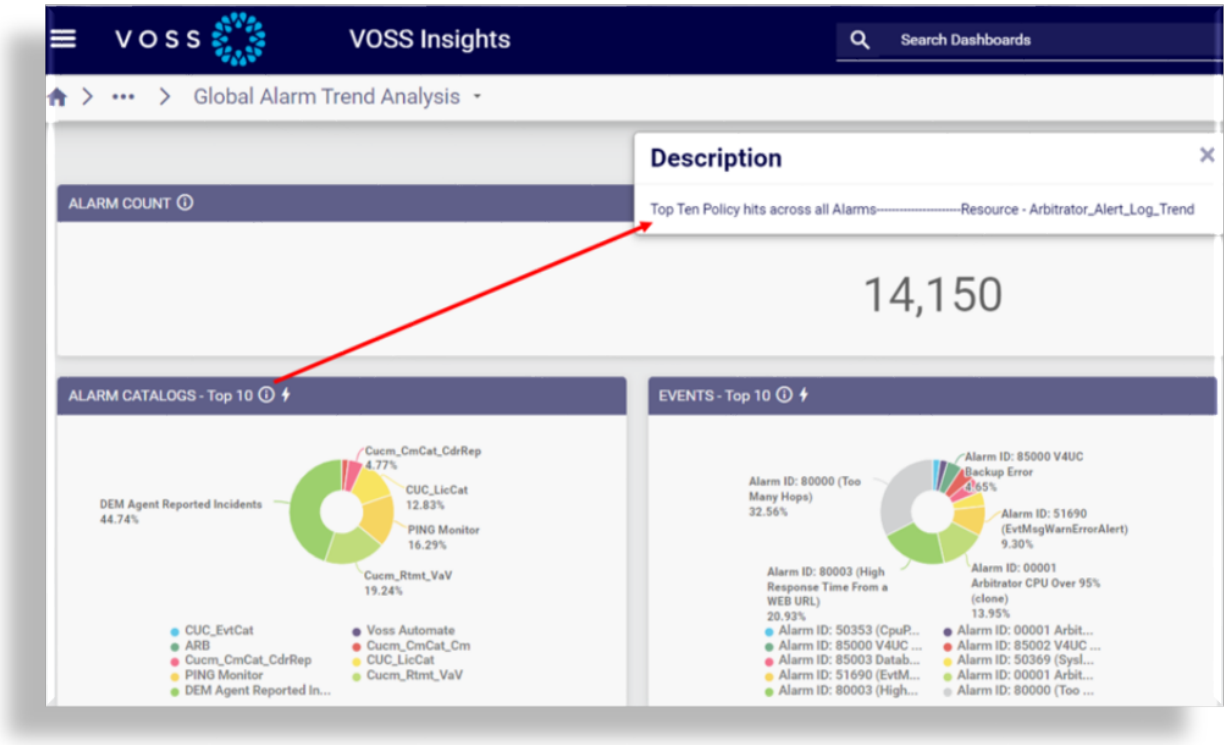
Important: The Insights reference dashboards described in this topic is the standard set shipped with the latest Insights release. This collection may be updated at each software release.

The Insights reference dashboards are read-only, they can't be edited, deleted, or moved. If you wish to use one of the Insights reference dashboards, you'll need to create a copy (clone), then modify the clone to create a new, custom dashboard that meets your requirements.

To access the reference dashboards, click the **Menu** icon (hamburger) to display the dashboards library pane on the left of the GUI. Expand the tree to locate the **Insights Reference** dashboards folder. The dashboards are grouped in category sub-folders - at the time of writing, these are:

- *Alerting*
- *Performance - Service Monitoring*
- *Diagnostics*
- *Usage & Adoption*
- *User & Device Inventory*

Tip: To view a description of the data displayed in any of the widgets added to the dashboards, click the information icon in the widget header.



Microsoft Teams Dashboards

Dashboards displaying Microsoft Teams data obtain data from Microsoft Teams to report on user activity and resource usage in your system - for example, data relating to devices, chat, meetings, and calls. Data can also be obtained for user licenses and subscribed SKUs, which allows you to determine how licenses are being used in your organization so that you can manage license costs.

Call records from Microsoft Teams are pulled into the Arbitrator using Graph API, and are used for alarms and reporting.

Related Topics

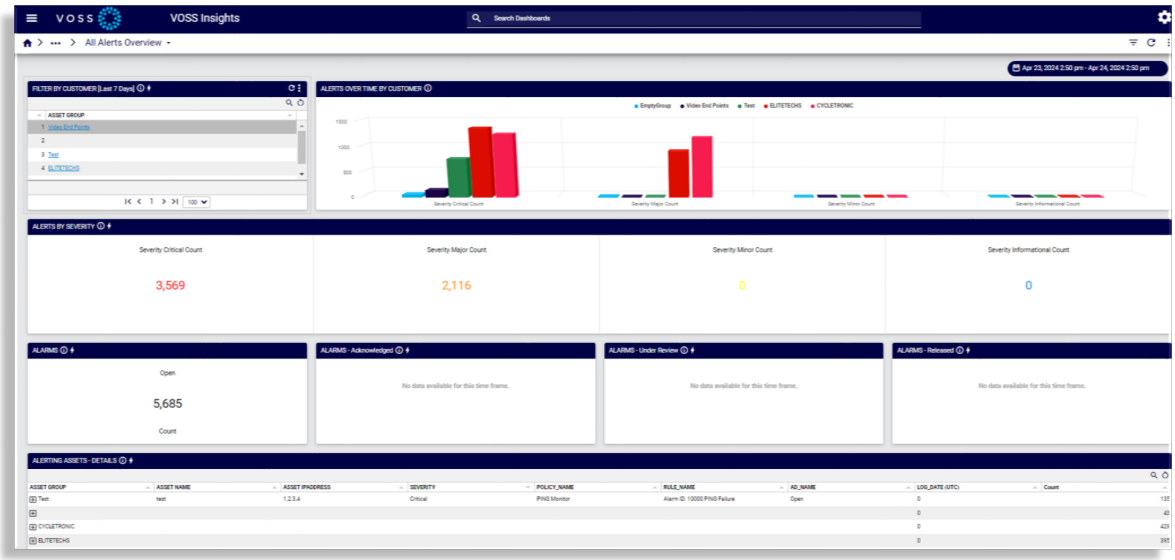
- *Custom Dashboards*
- Policy Configuration in the Arbitrator Administration Guide
- Network Observability in the Arbitrator Administration Guide

4.2.2. Alerting

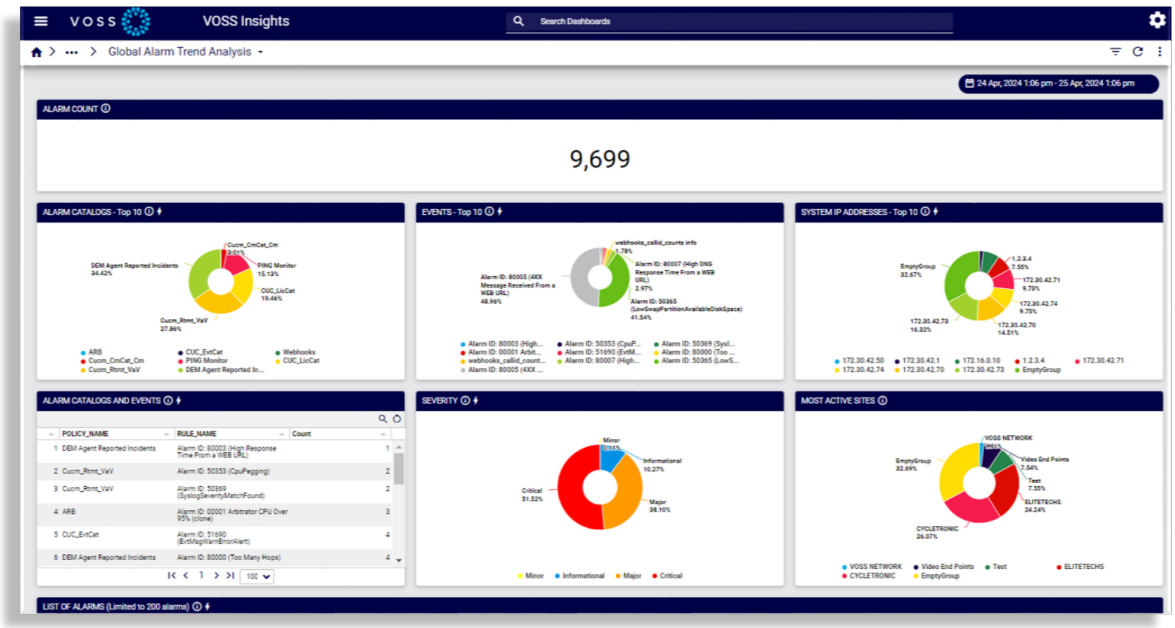
The Alerting reference dashboards are based on pre-defined policies that ship with the system define when an event coming in to the system will trigger an alert. When there's a match for the condition specified in the policy, an alert is raised and forwarded to the Dashboard system.

- All Alerts Overview

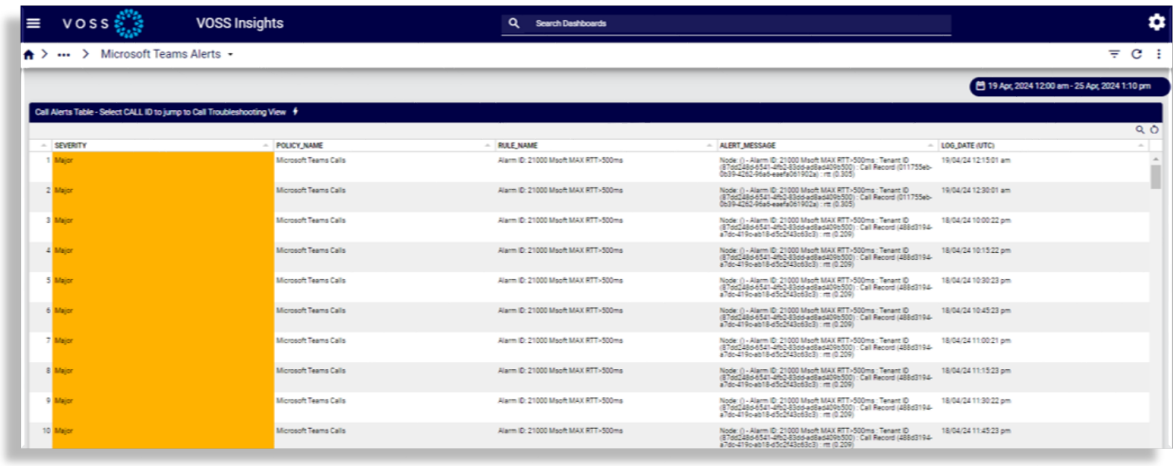
  The All Alerts Overview dashboard provides an overview of all alerts and alarms, such as alerts by severity and alerts over time by customer.



- Global Alarm Trend Analysis



- Microsoft Teams Alerts

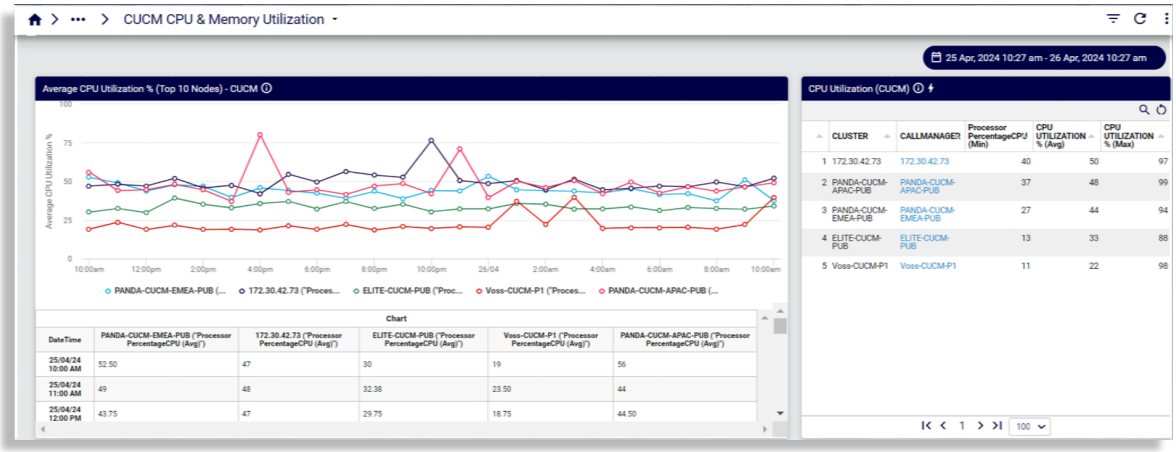


4.2.3. Performance - Service Monitoring

Reference dashboards in the **Performance - Service Monitoring** category display performance and service statistics for Cisco devices, Microsoft devices, and Insights components (DS9, Dashboard, and Arbitrator).

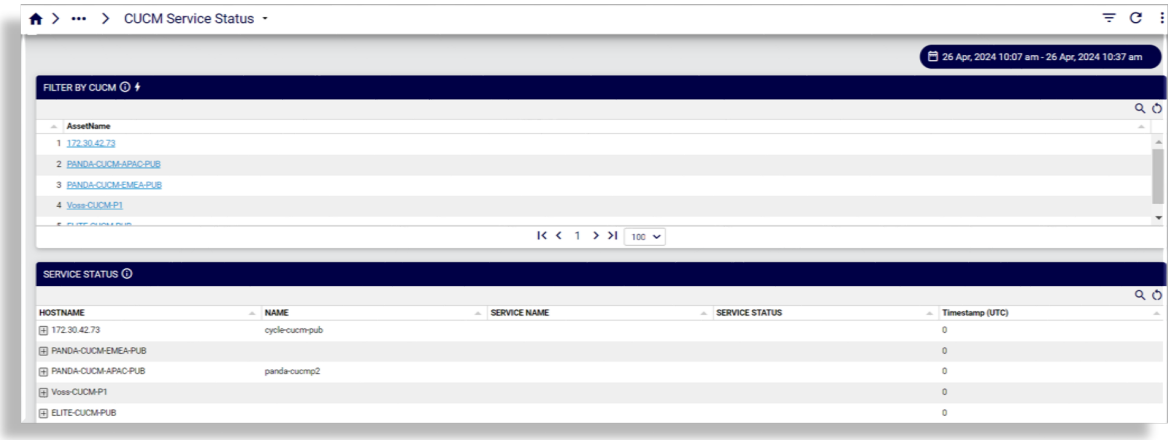
Cisco

- CUCM CPU & Memory Utilization

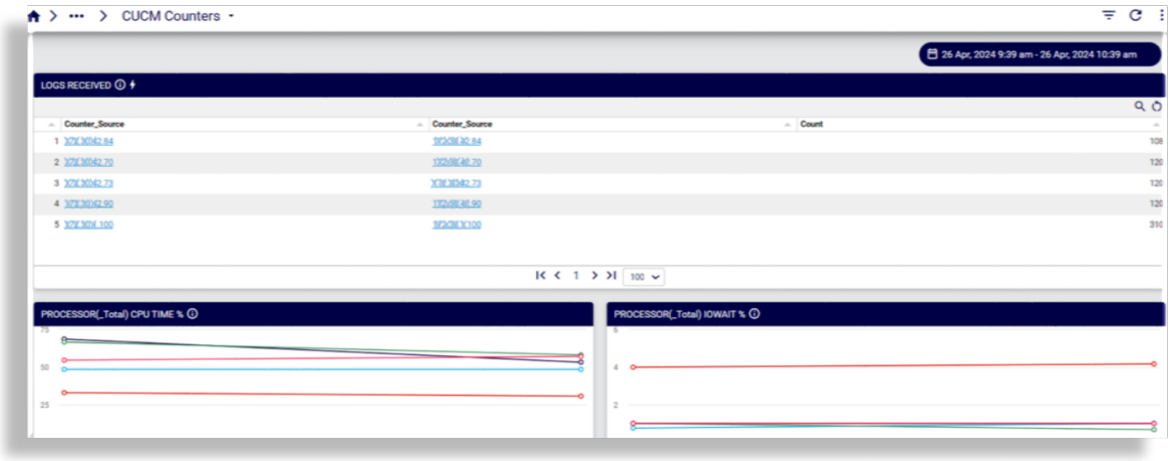


- Cisco CUCM Combined data

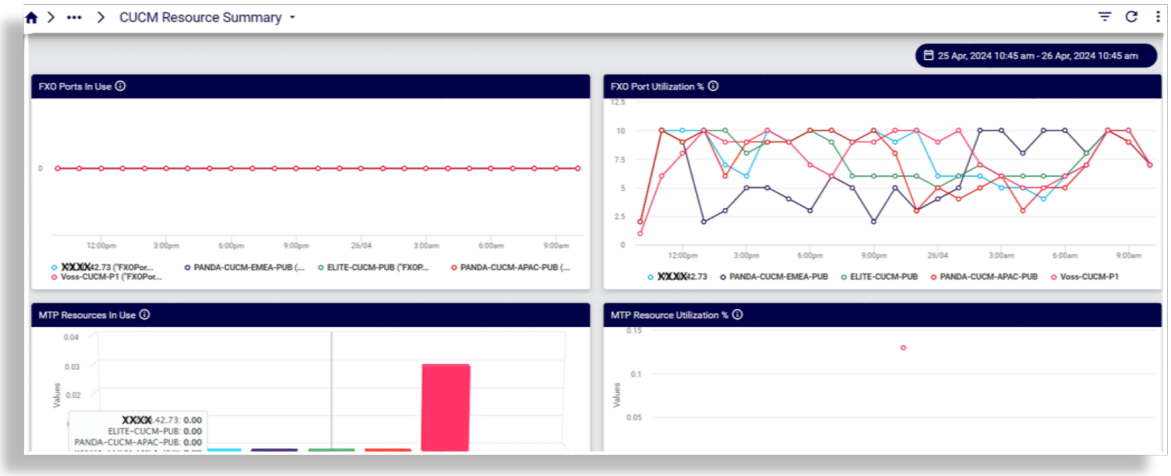
- CUCM Service Status



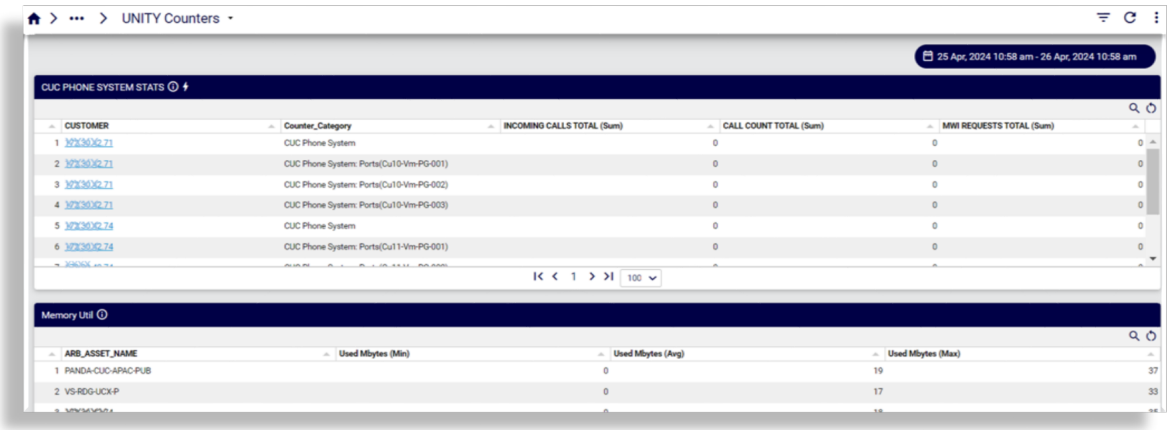
- CUCM Counters



- CUCM Resource Summary



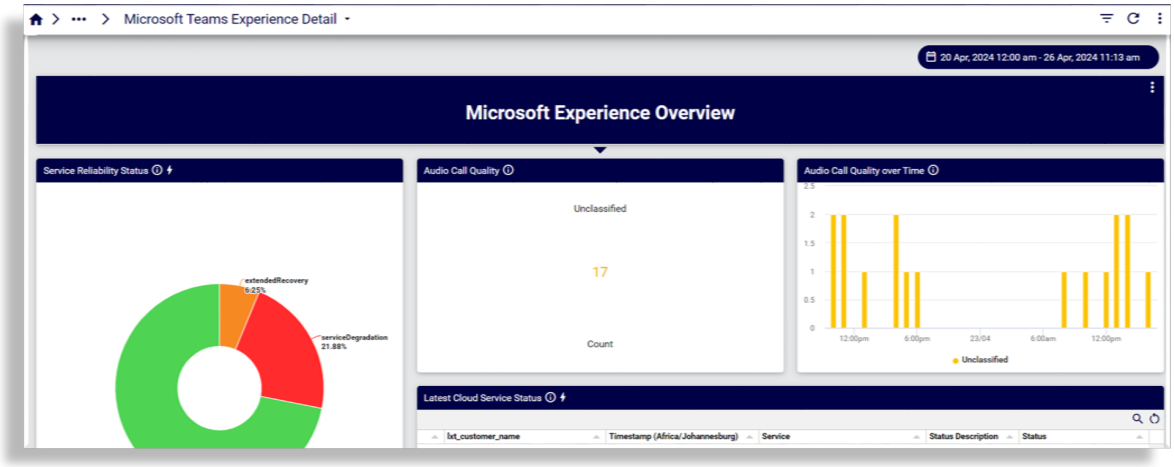
- UNITY Counters



Microsoft

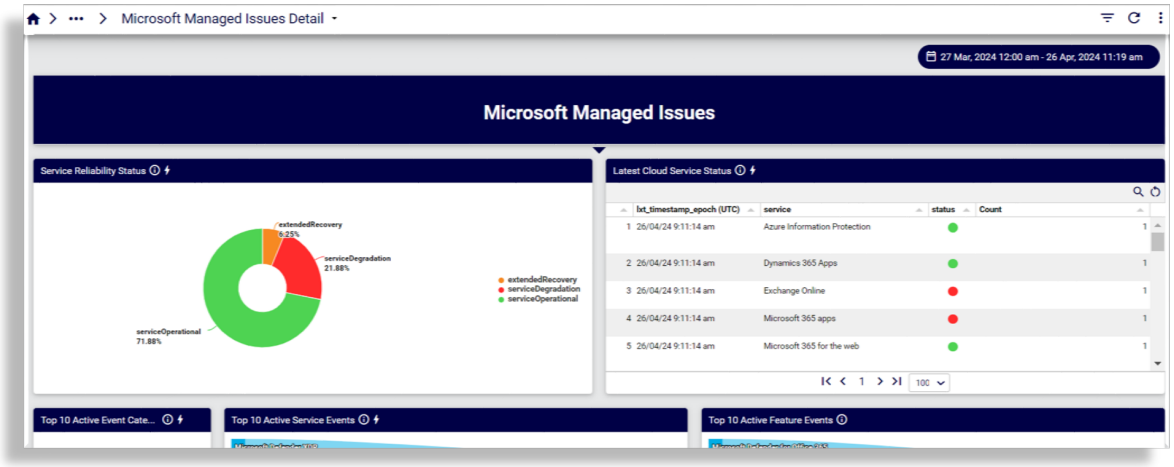
- Microsoft Teams Experience Detail

  Reports on service reliability status, call quality, over time, cloud service status, jitter, including audio; packet loss; round trip time



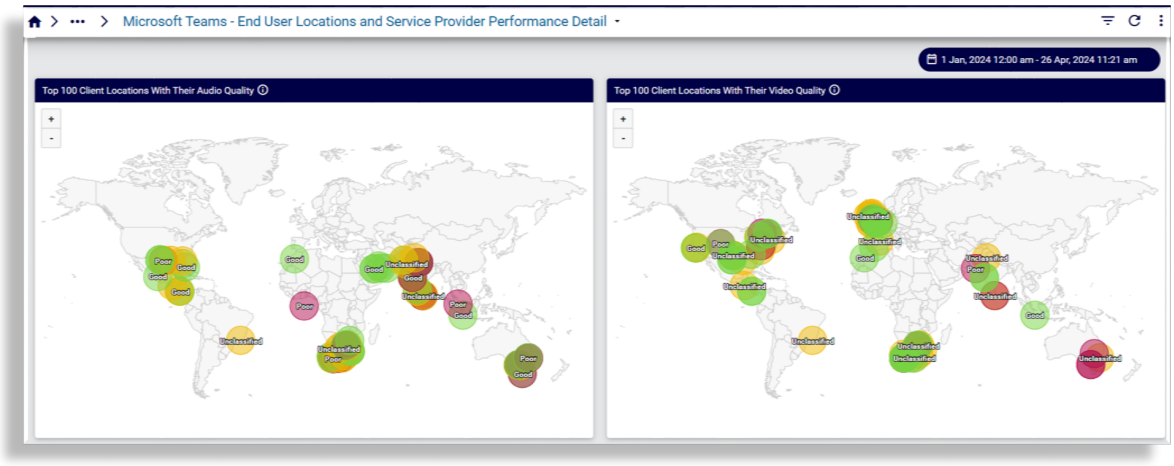
- Microsoft Managed Issues Detail

  Reports on service reliability; cloud service status; top active event categories, service events, feature events; incident resolved indicator; Microsoft event list and journal



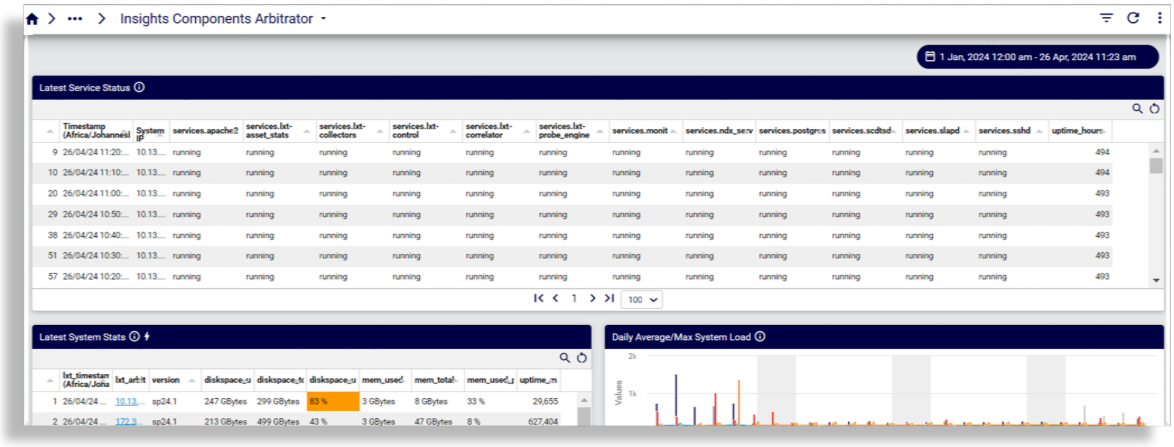
- Microsoft Teams - End User Locations and Service Provider Performance Detail

  Reports on top locations and service providers by poor audio density and quality, video density and quality; call types; connection types

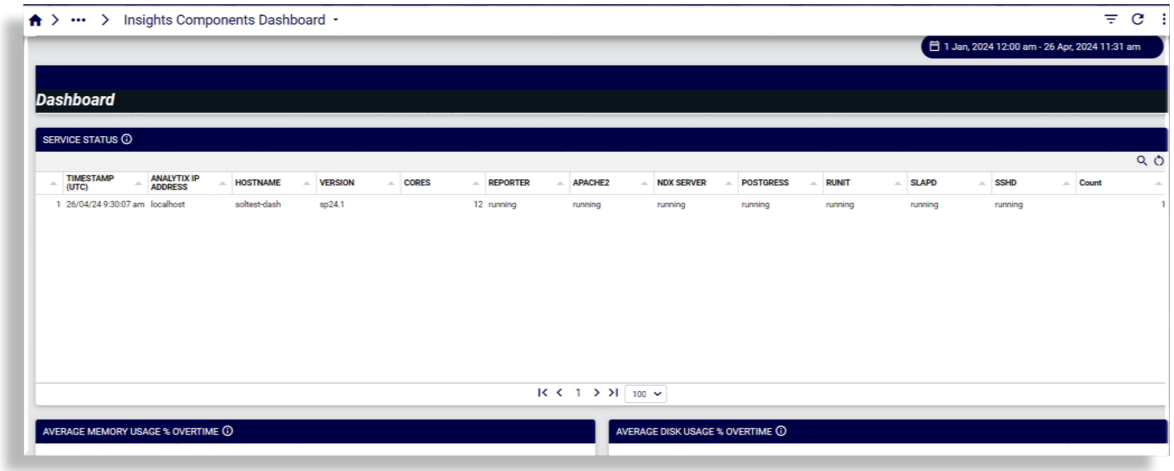


Insights

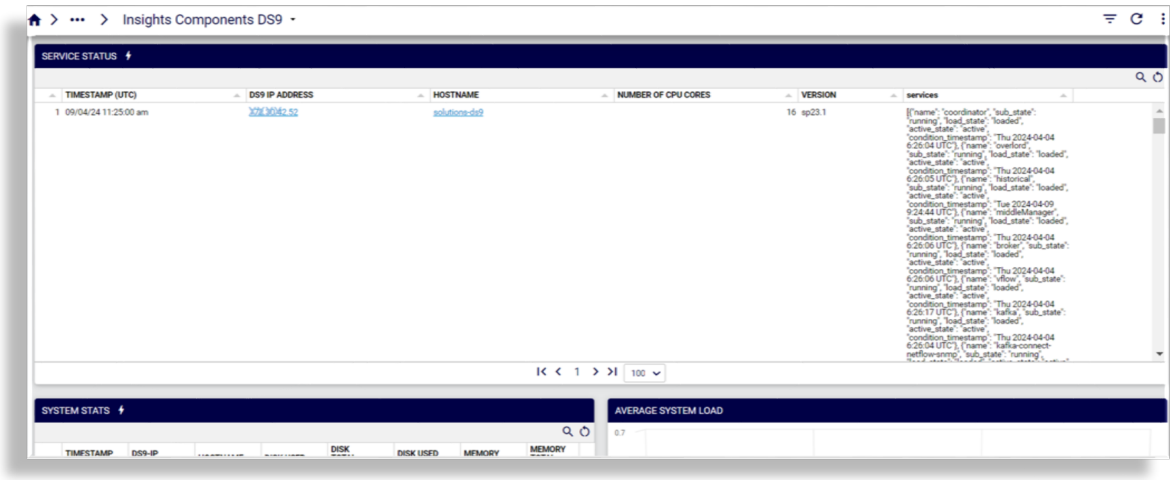
- Insights Components Arbitrator



- Insights Components Dashboard

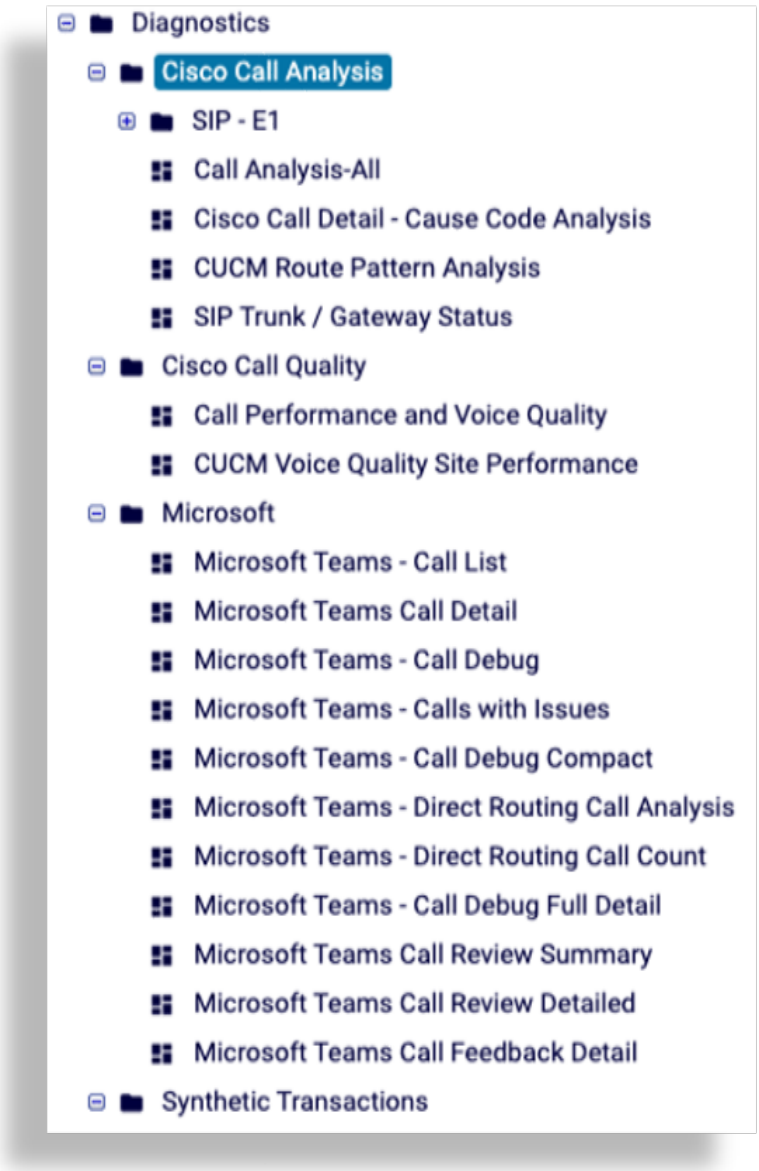


- Insights Components DS9



4.2.4. Diagnostics

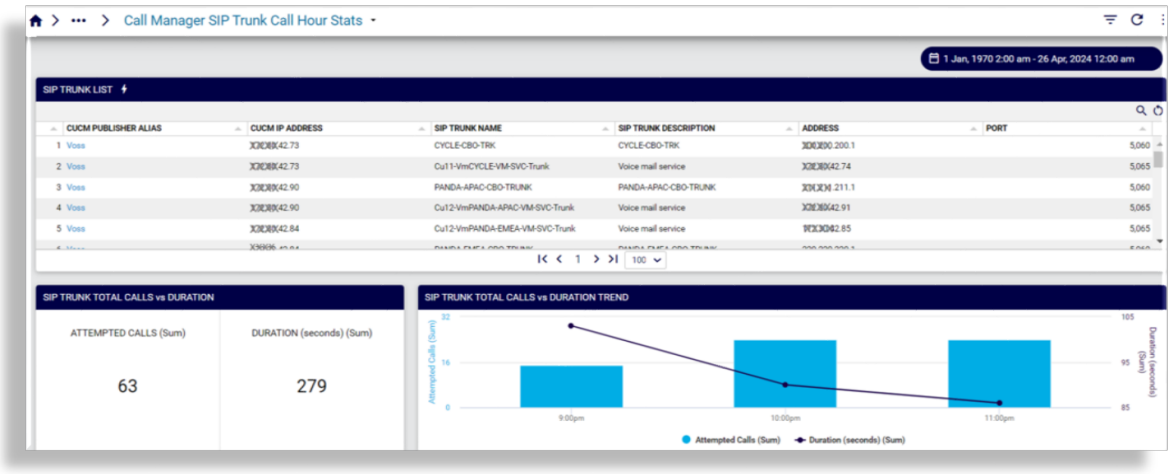
Reference dashboards in the **Diagnostics** category display diagnostics for SIP - E1, Cisco call quality, Microsoft call statistics, and synthetic transactions.



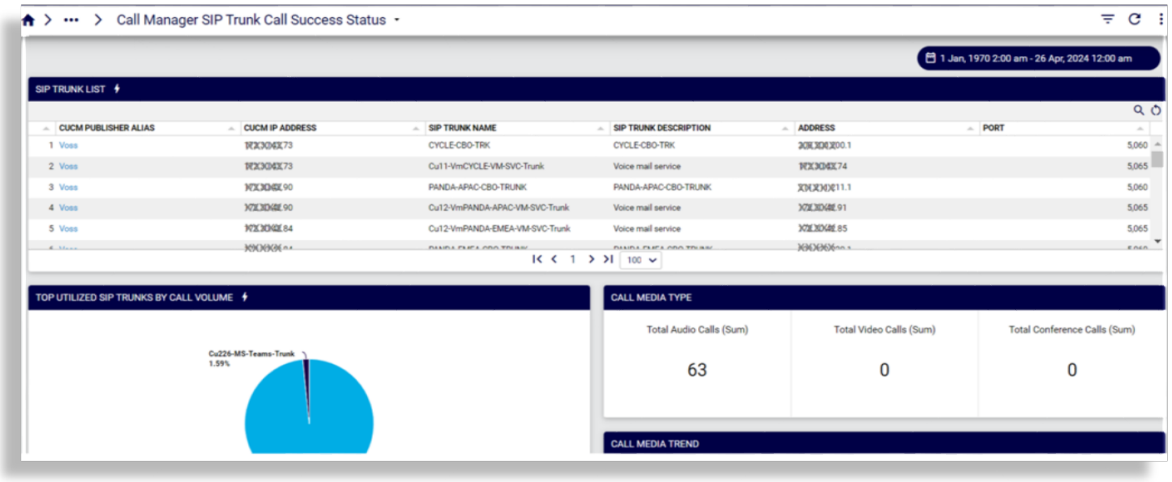
Cisco Call Analysis > SIP - E1

Cisco UCM SIP Trunk Reports

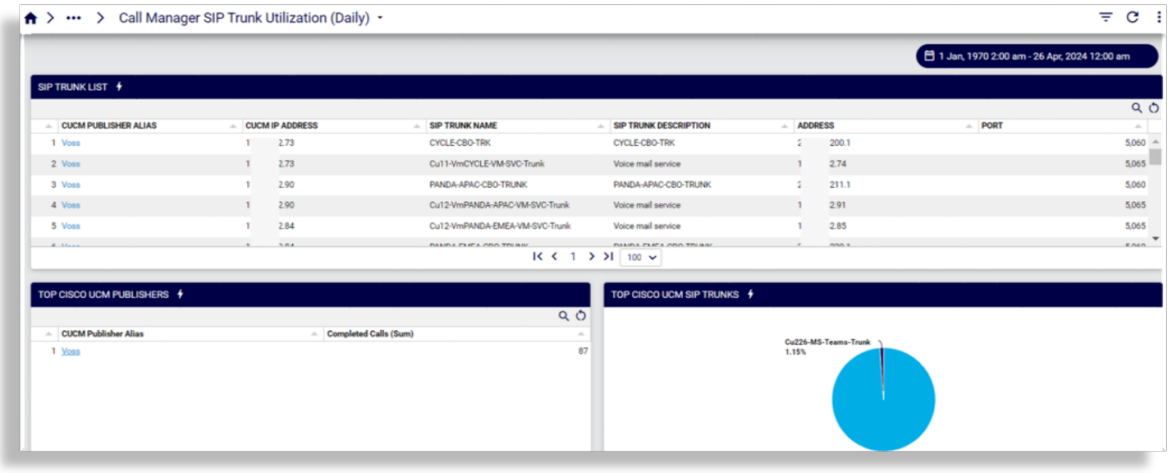
- Call Manager SIP Trunk Call Hour Stats



- Call Manager SIP Trunk Call Success Status

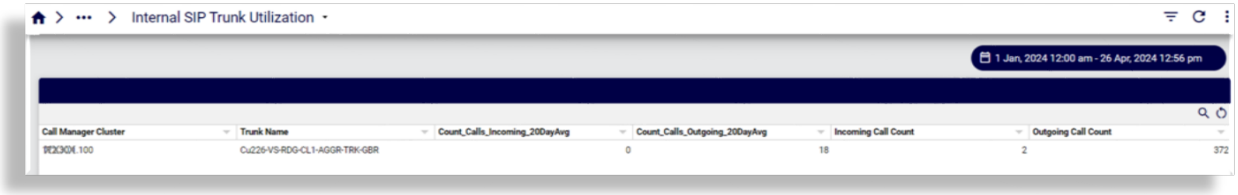


- Call Manager SIP Trunk Utilization (Daily)

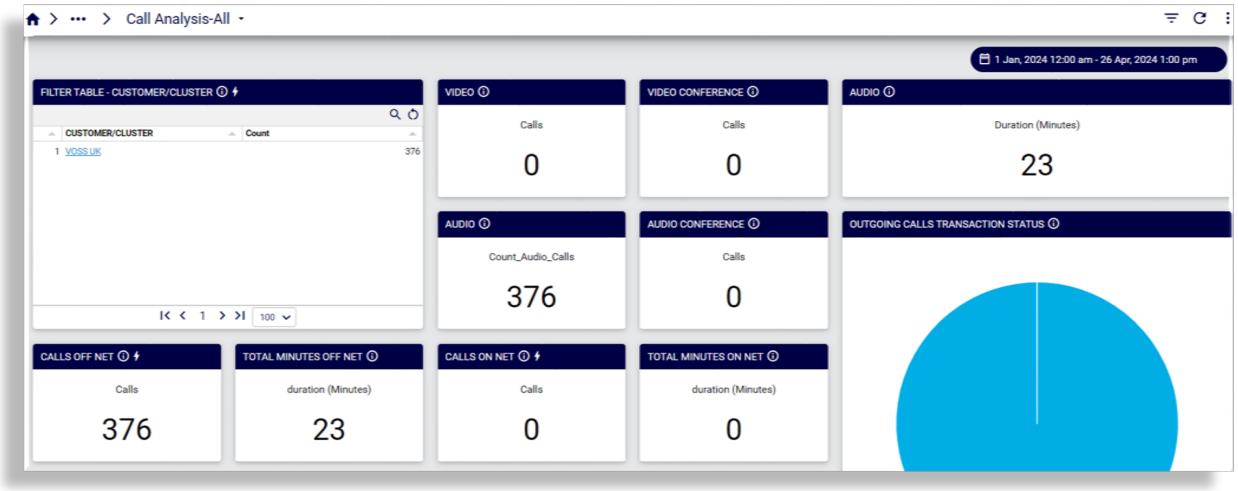


- Internal SIP Trunk Utilization (Daily) -BHCC

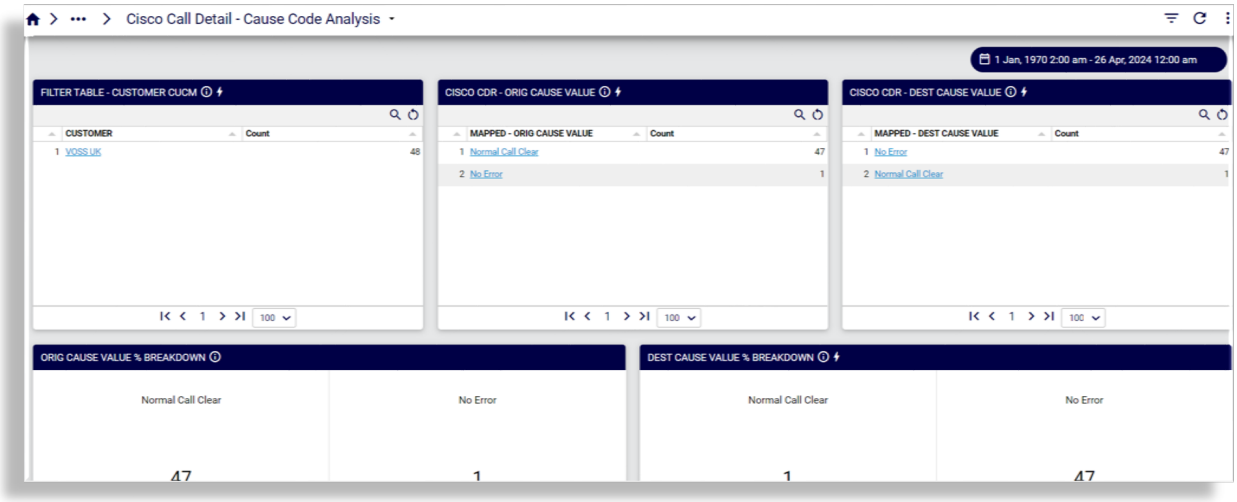
Internal SIP Trunk Utilization



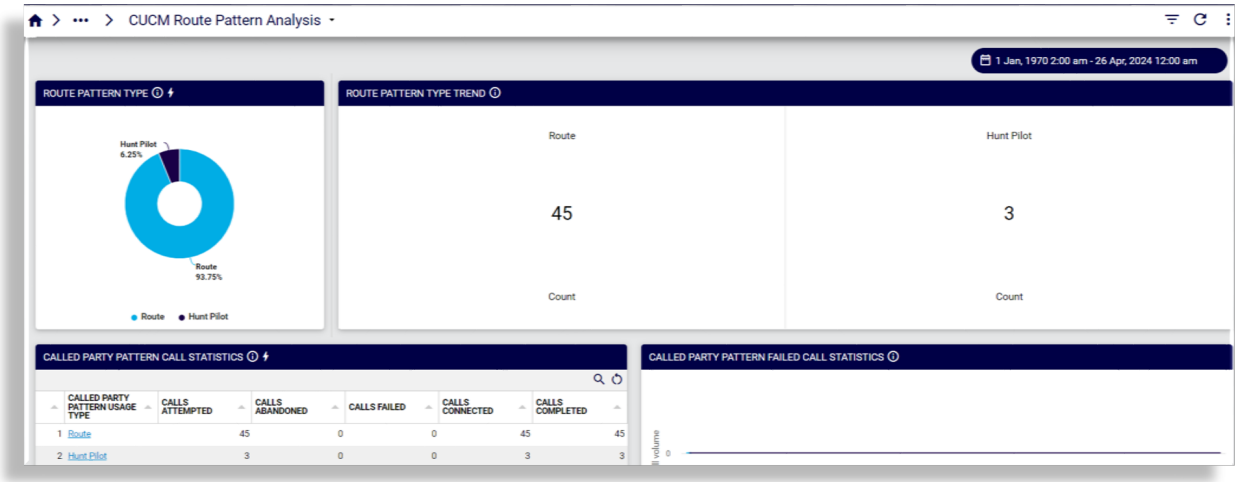
Cisco Call Analysis > Call Analysis All



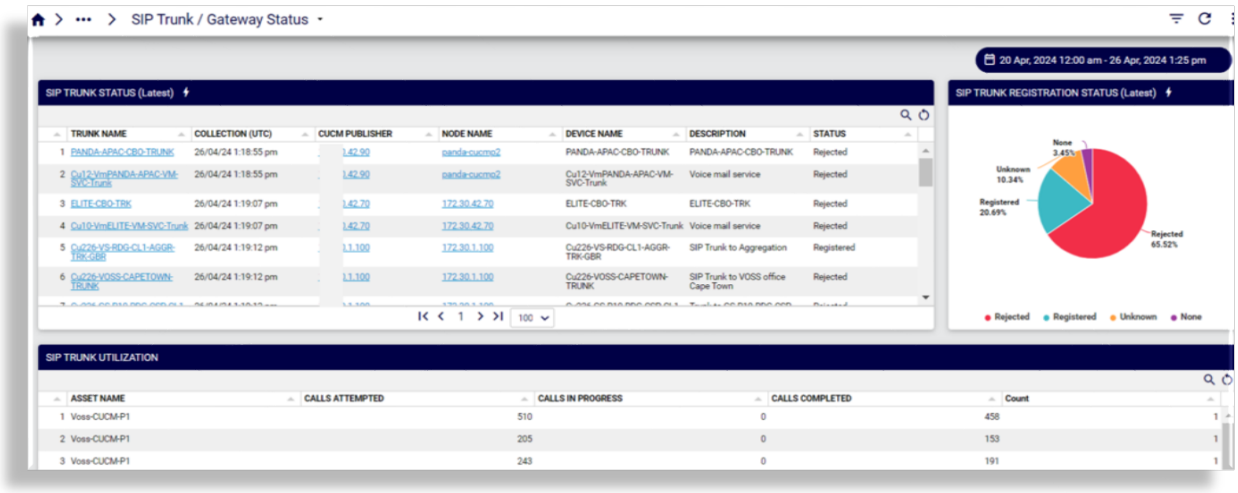
Cisco Call Analysis > Cisco Call Detail - Cause Code Analysis



Cisco Call Analysis > CUCM Route Pattern Analysis

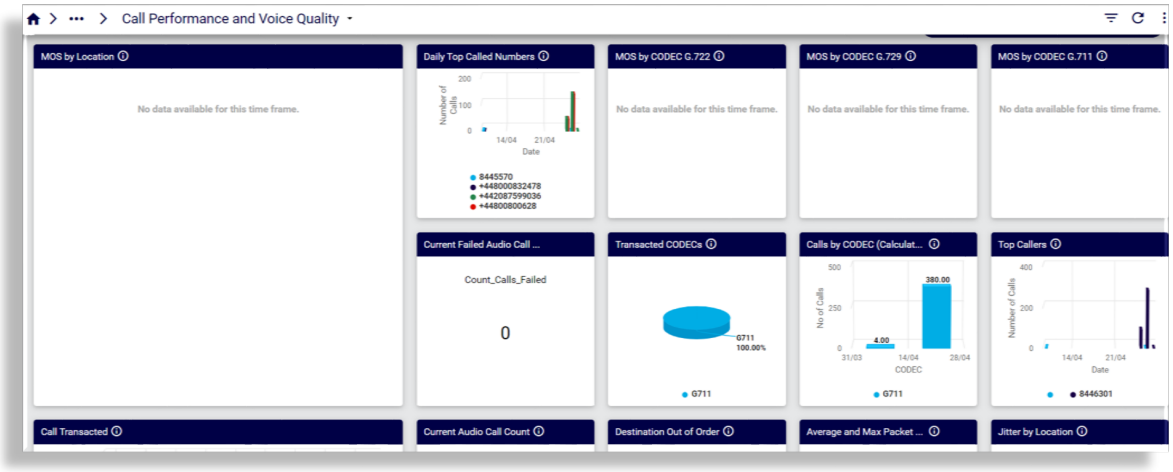


Cisco Call Analysis > SIP Trunk / Gateway Status

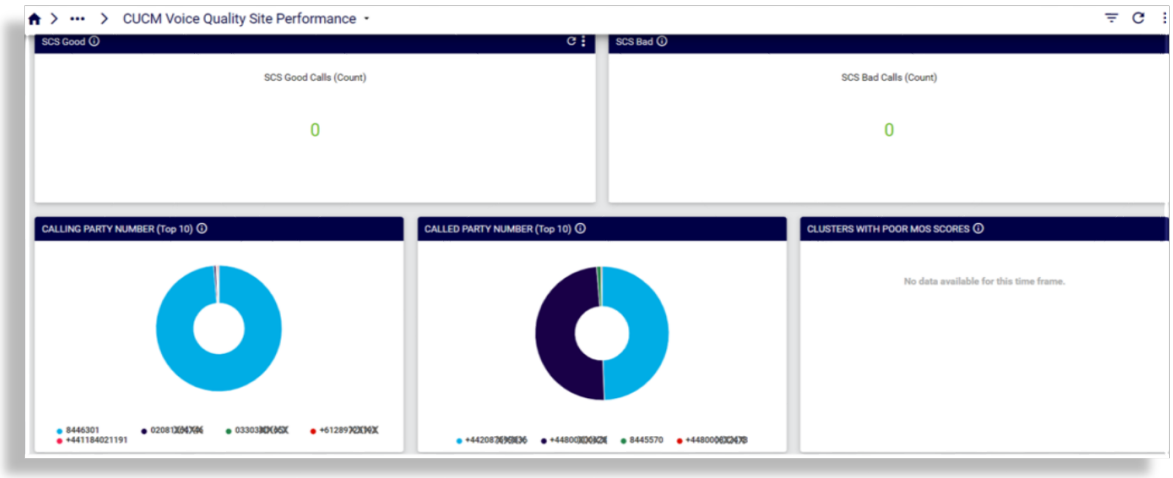


Cisco Call Quality Dashboards

- Call Performance and Voice Quality

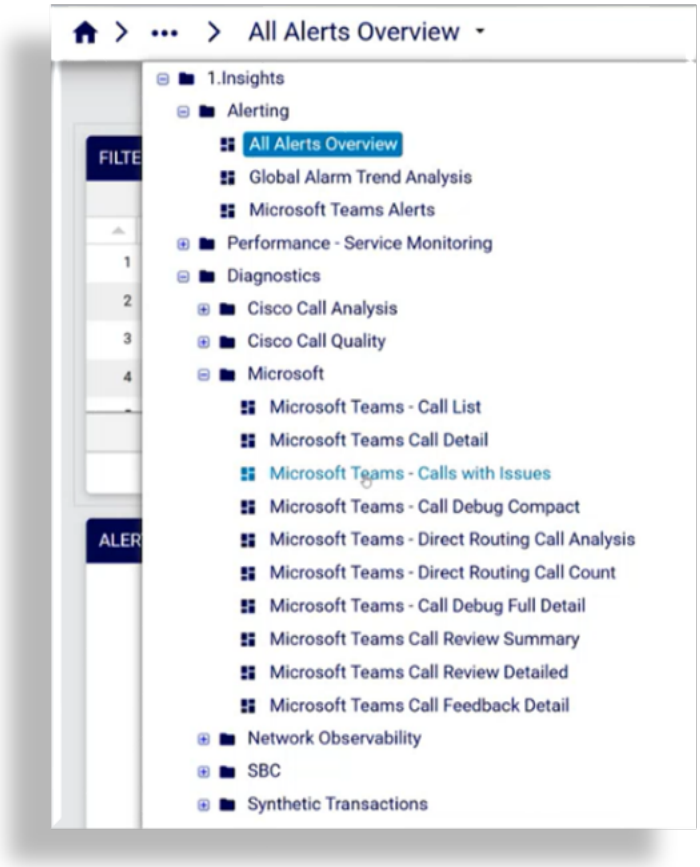


- CUCM Voice Quality Site Performance



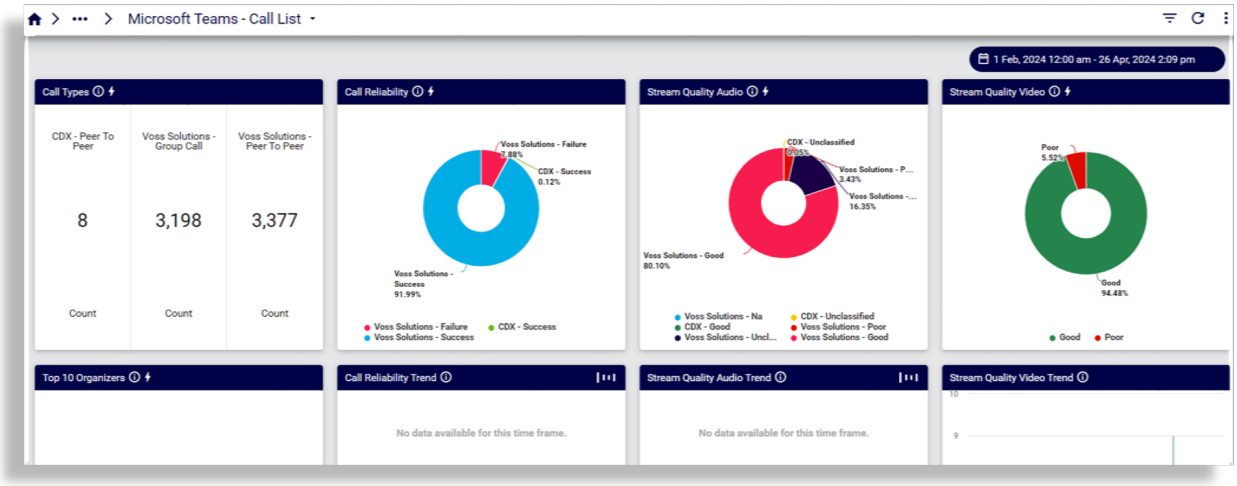
Diagnostics > Microsoft Dashboards

Microsoft Teams dashboards display various data for understanding usage and overall health for a range of Microsoft Teams phones devices, including PSTN call records, and greater detail for Teamwork devices.

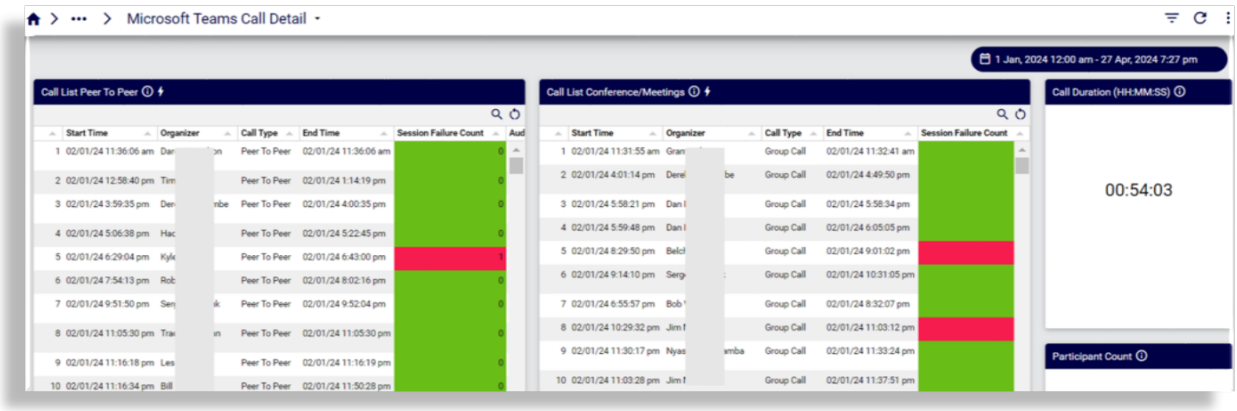


Microsoft Teams - Call List

Reports on vendor, call type, list and error, modality and quality. Clicking on a user opens the Call Debug Compact dashboard to view call statistics and incident detection and details for that user's call.



Microsoft Teams Call Detail



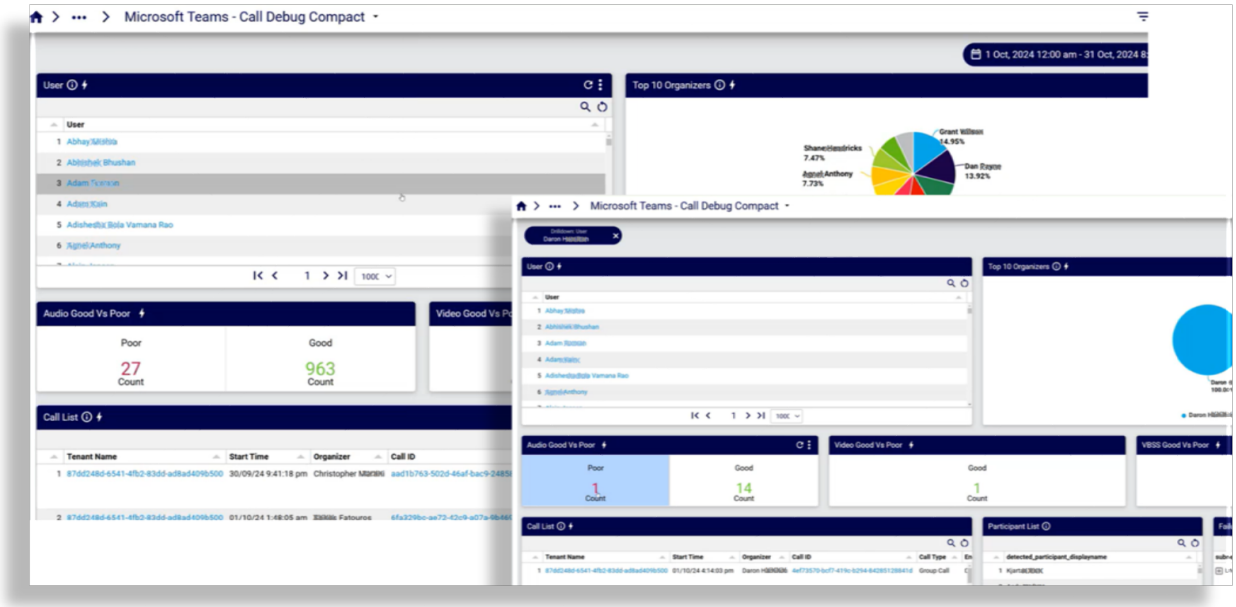
Microsoft Teams - Calls with Issues

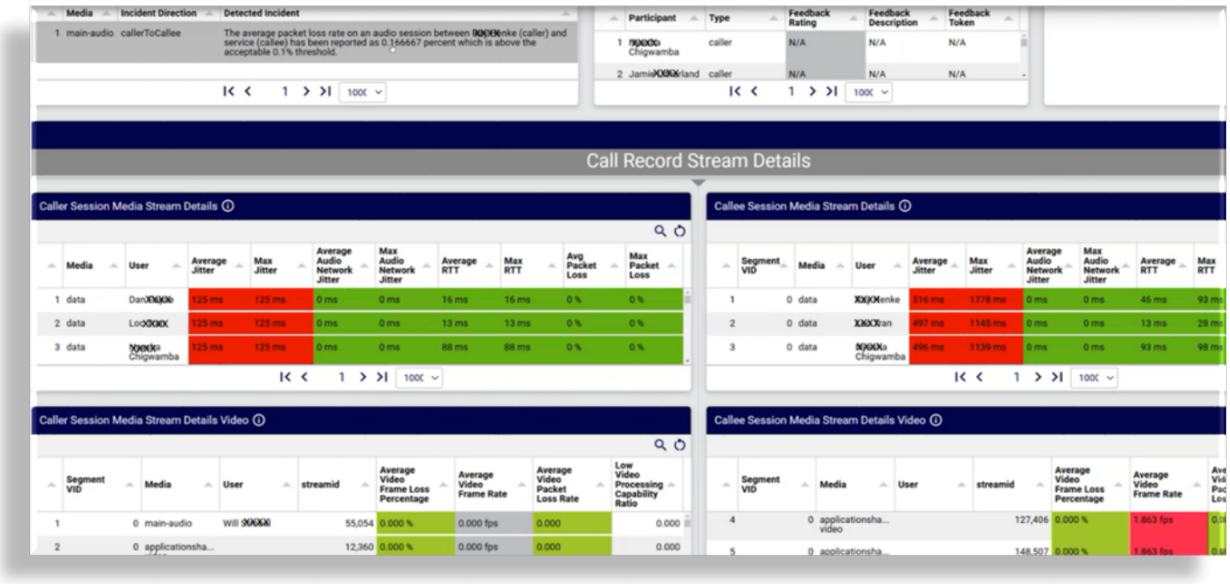
This dashboard provides a count of poor quality calls, by category, for example, audio or video, and allows you to drill down into specific calls to view quality statistics showing why the call was poor or failed.

Reports on call details, status, duration, quality, participant list, user agent details (caller and callee), failures by subnet/location.

Microsoft Teams - Call Debug Compact

A user-centric dashboard to investigate call quality for specific users. This dashboard allows an admin or helpdesk support person to drill down to a user's calls, and to drill down to detected incidents on a specific call to understand exactly why a call failed or had poor quality - for example, you can see immediately whether an error may be related to one or more of jitter, video frame rate, packet loss, or some other indicated issue.





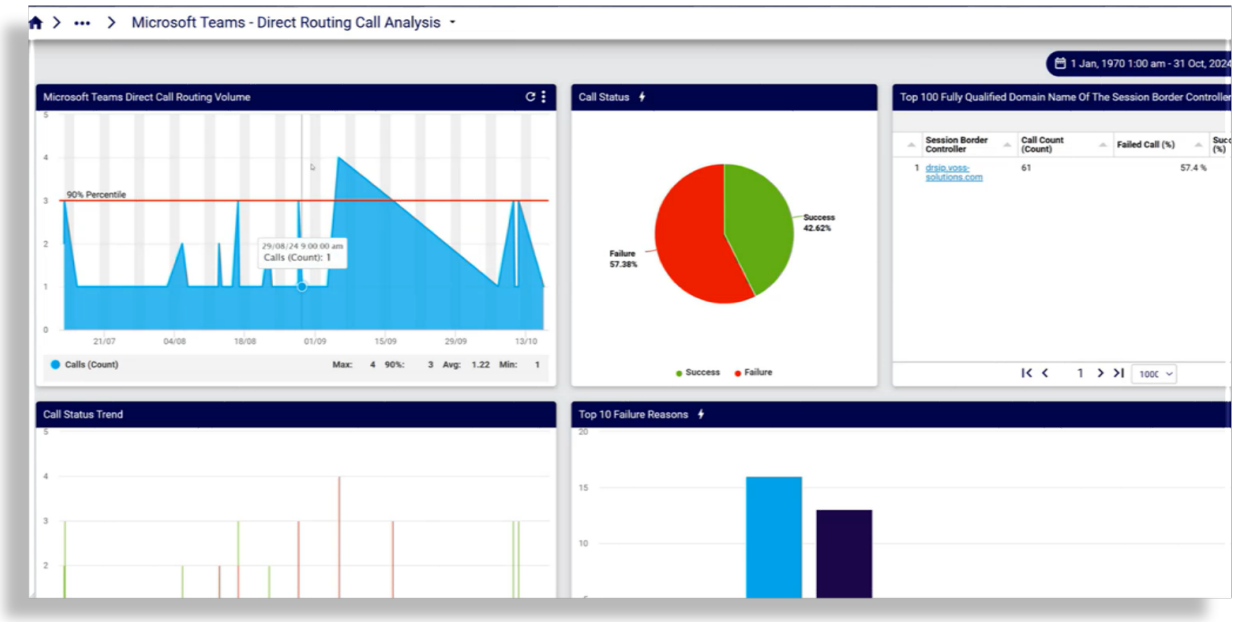
Microsoft Teams - Direct Routing Call Analysis

This dashboard allows you to monitor the connectivity status between your SBC (Session Border Controller) and the direct routing interface so that you can track critical parameters related to your SBC, telephony service, and network conditions along the path to the direct routing interface. You can use details displayed on this dashboard to quickly detect and troubleshoot issues, including dropped calls.

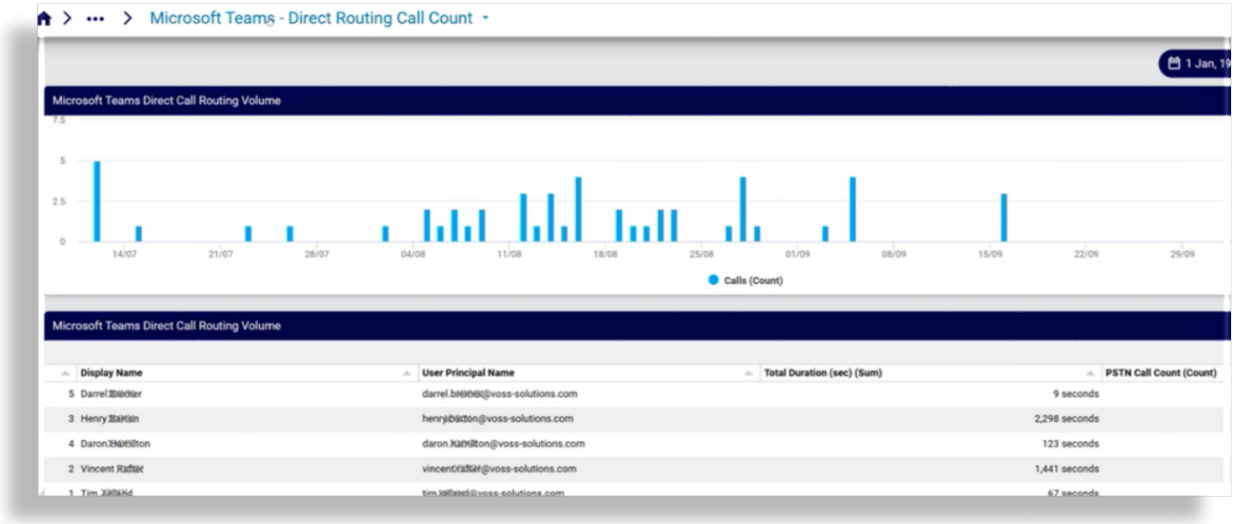
To collect this data, your Microsoft tenant must be enabled for call collection. This is configured on the Arbitrator via **System Configuration > Archive Management > Configuration Management > API Config**.

Data includes details for the top ten failure reasons, top ten caller and callee numbers based on attempt, top ten caller and callee numbers based on duration, as well as the call list, which provides summary data and details per call.

By default, data is shown for the past two days, but can be configured to display data for a period not exceeding 90 days, which is the maximum period that Microsoft allows.

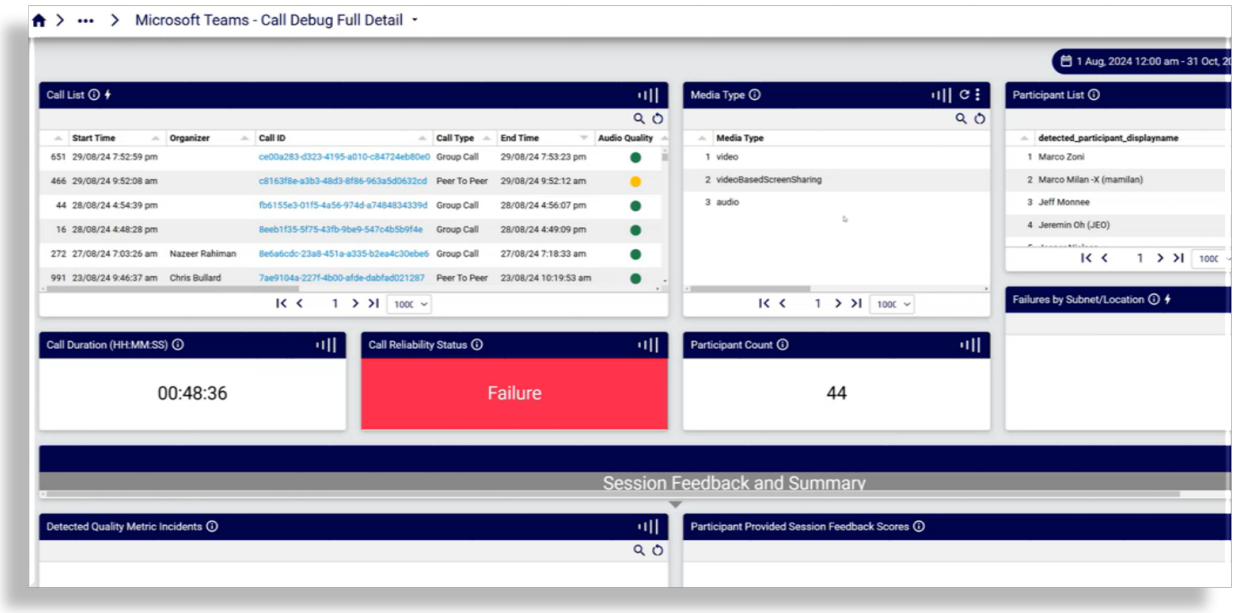


Microsoft Teams - Direct Routing Call Count

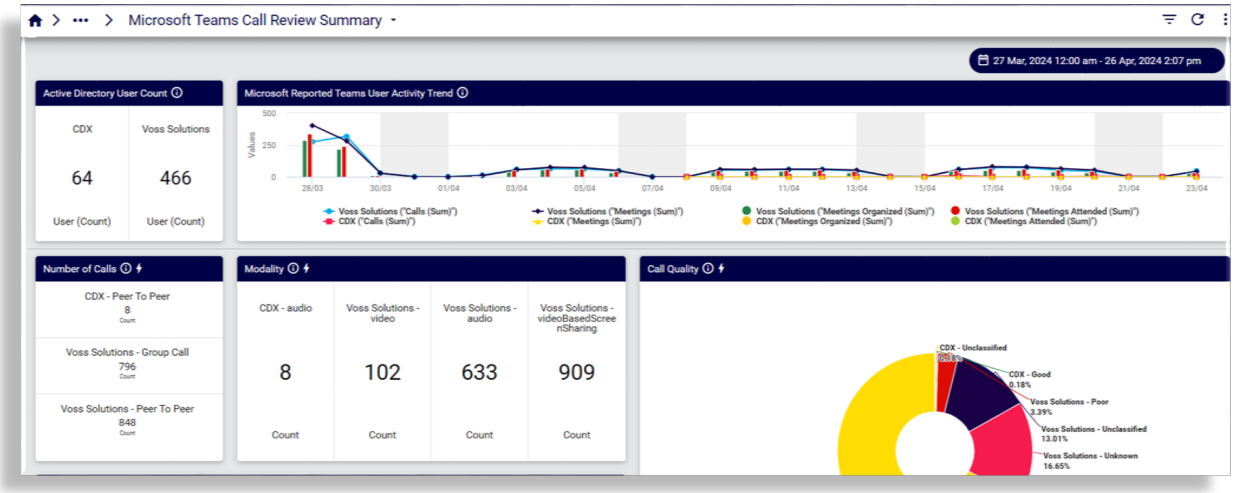


Microsoft Teams - Call Debug Full Detail

Reports with full details on call quality for debugging purposes. See compact details for a specific user and their calls on the Call Debug Compact dashboard for Microsoft Teams.



Microsoft Teams Call Review Summary



Mcrosoft Teams Call Review Detailed

Microsoft Teams Call Feedback Detail

Synthetic Transactions Dashboards

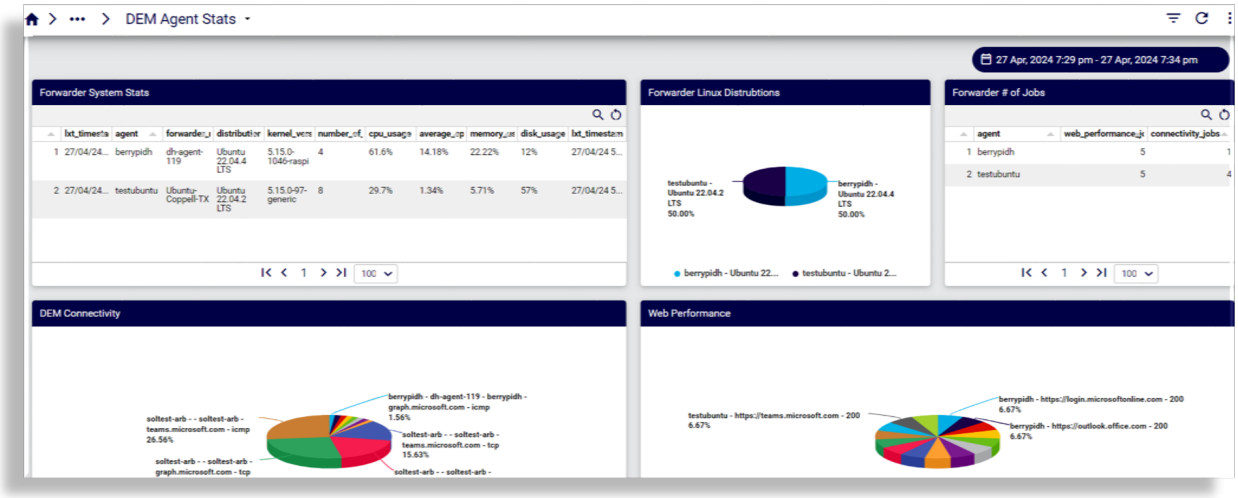
These dashboards present data that allows you to understand why events such as packet loss are occurring, and to monitor performance indicators on router interfaces.

The dashboards are based on agents that can be deployed anywhere in a customer's network, provided they can contact the Arbitrator, and allow monitoring of Linux systems. For details on installing agents, see the topic on Digital Experience Monitoring (DEM) Agent Installation in the Arbitrator Install Guide.

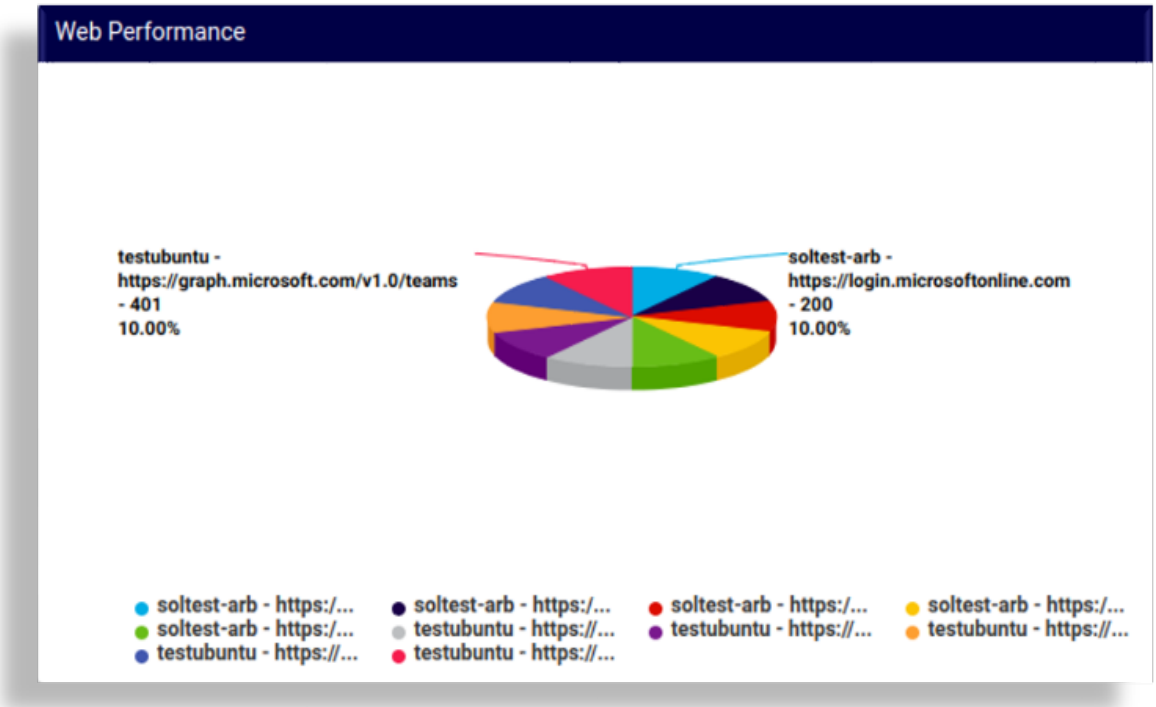
Related Topics:

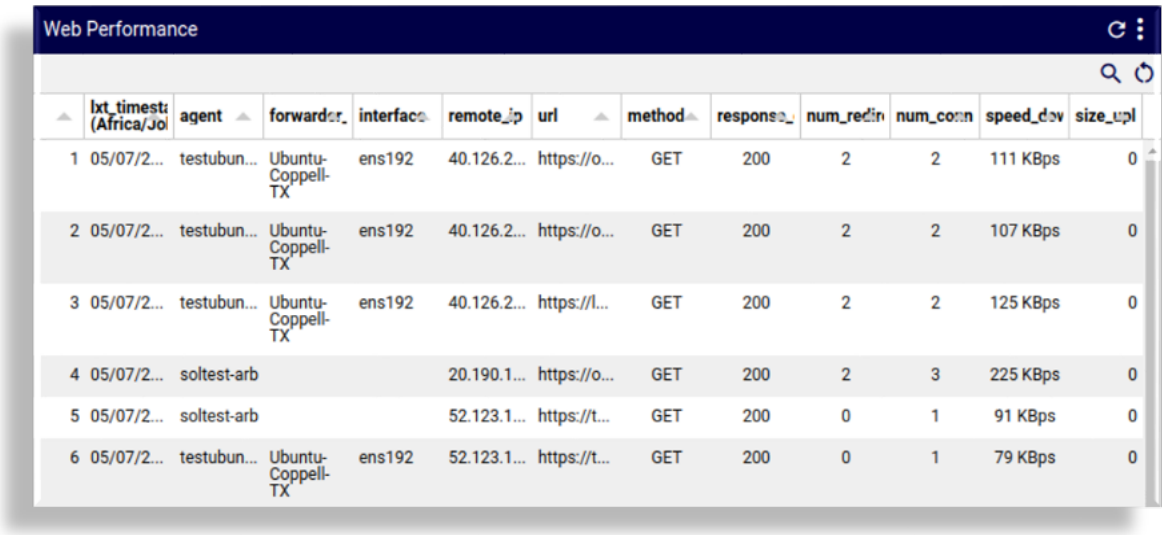
- Insights Agents in the Arbitrator Admin Guide

DEM Agent Stats Overview



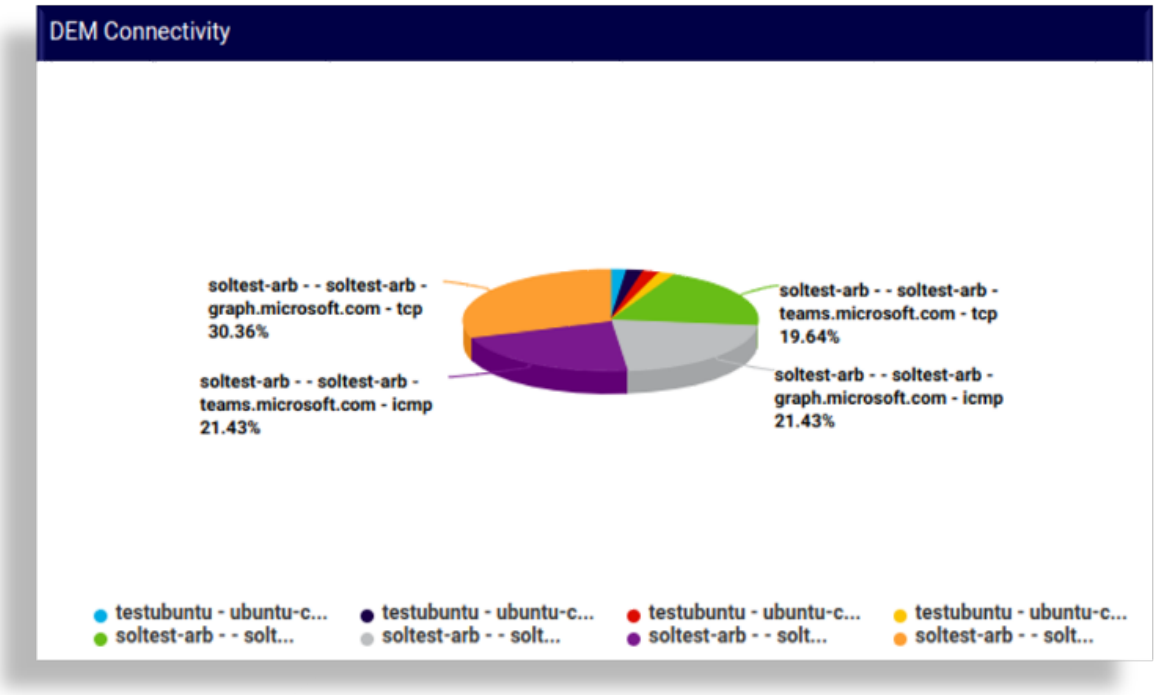
- Example Web performance stats: chart and table:

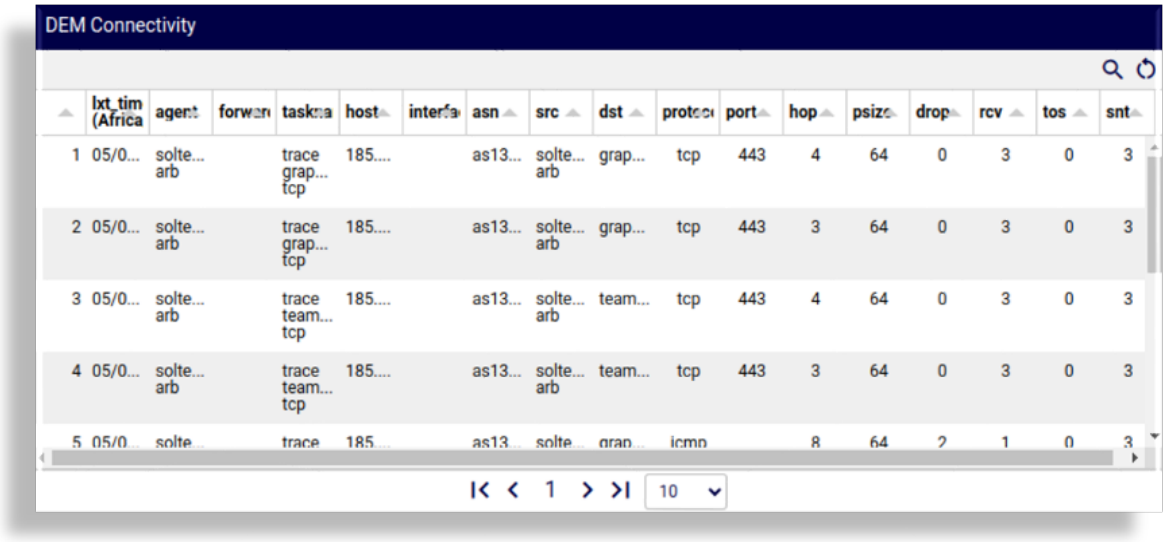




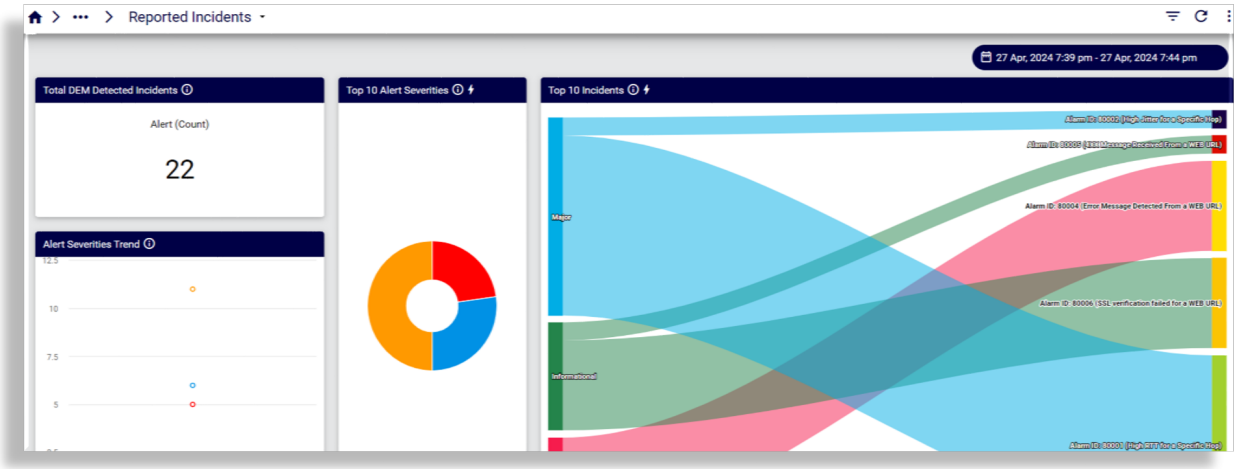
	lxt_timest (Africa/Jo	agent	forwarder_	interface	remote_ip	url	method	response_	num_redir	num_conn	speed_dow	size_upl
1	05/07/2...	testubun...	Ubuntu-Coppell-TX	ens192	40.126.2...	https://o...	GET	200	2	2	111 KBps	0
2	05/07/2...	testubun...	Ubuntu-Coppell-TX	ens192	40.126.2...	https://o...	GET	200	2	2	107 KBps	0
3	05/07/2...	testubun...	Ubuntu-Coppell-TX	ens192	40.126.2...	https://l...	GET	200	2	2	125 KBps	0
4	05/07/2...	soltest-arb			20.190.1...	https://o...	GET	200	2	3	225 KBps	0
5	05/07/2...	soltest-arb			52.123.1...	https://t...	GET	200	0	1	91 KBps	0
6	05/07/2...	testubun...	Ubuntu-Coppell-TX	ens192	52.123.1...	https://t...	GET	200	0	1	79 KBps	0

- Example Connectivity performance stats: chart and table:

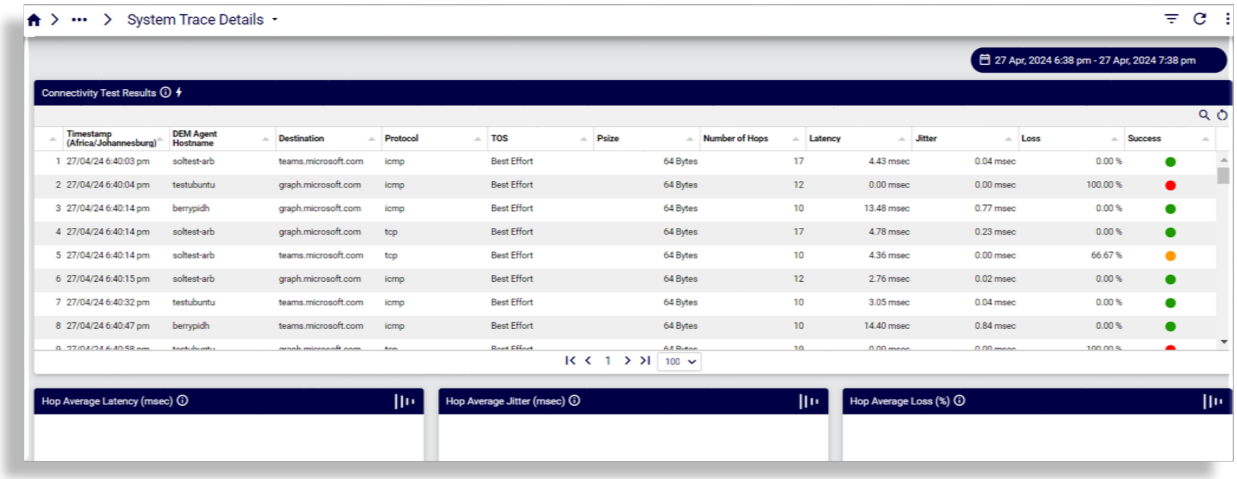




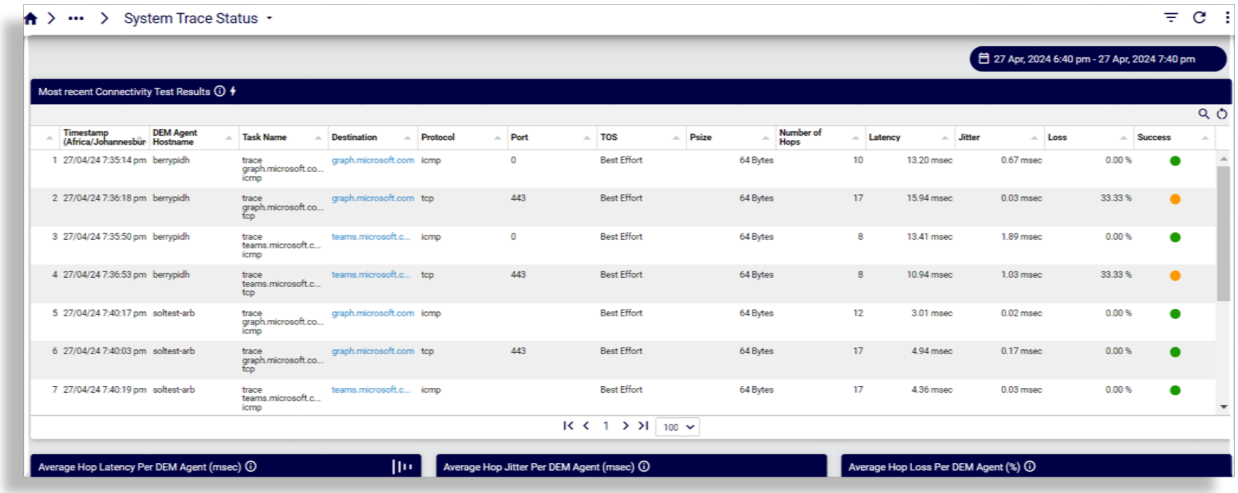
Reported Incidents



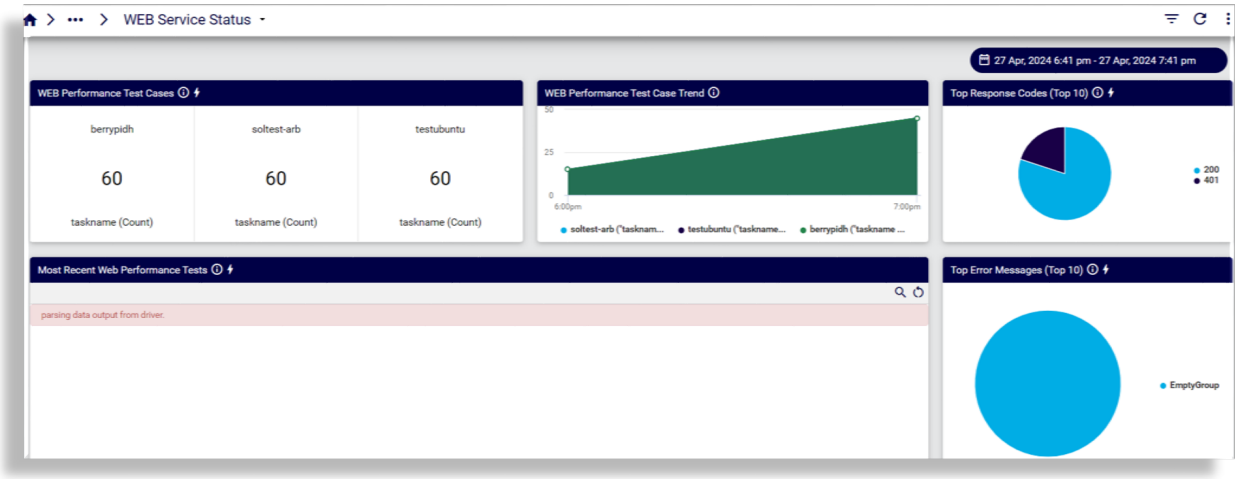
System Trace Details



System Trace Status



WEB Service Status

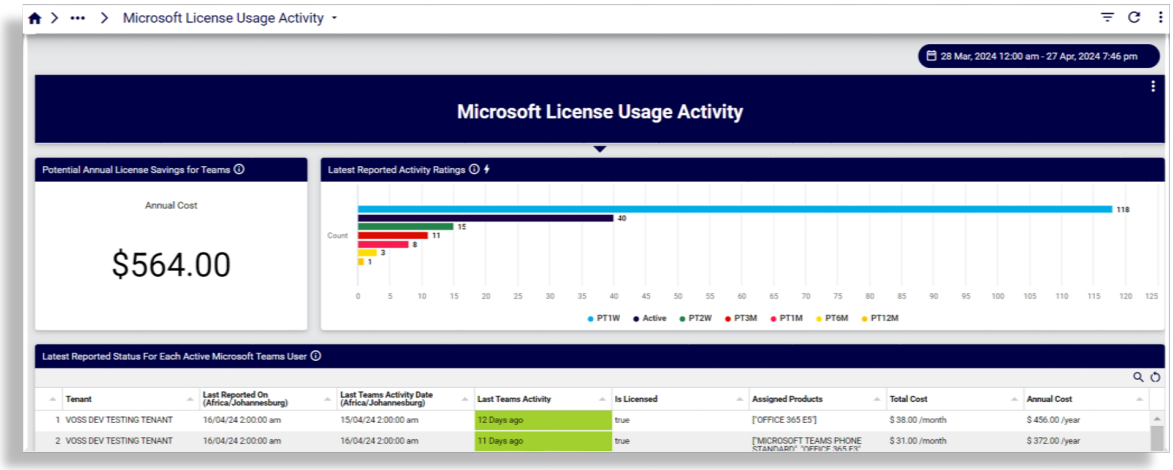


4.2.5. Usage & Adoption

Microsoft

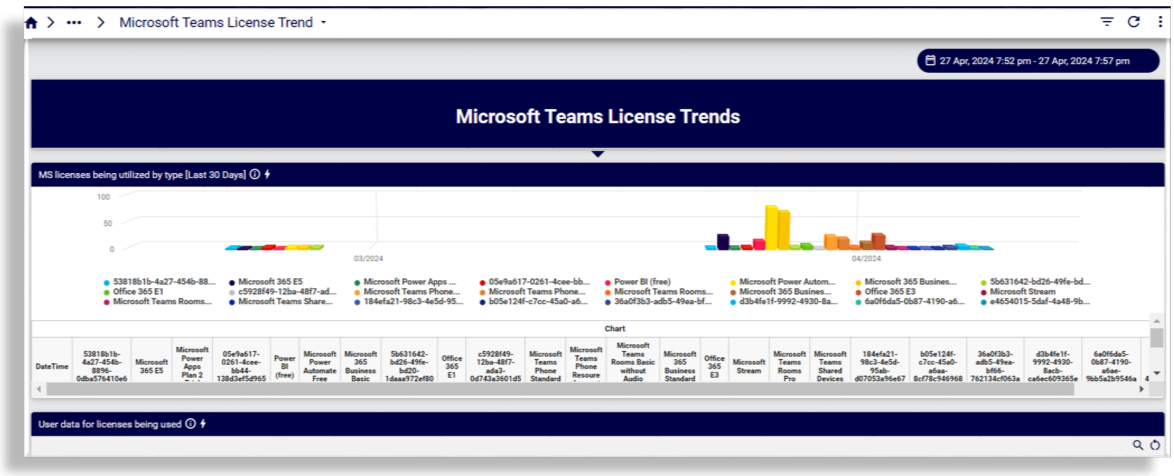
- Microsoft License Usage Activity

  Reports on annual cost, user activity and inactivity by time periods (months, weeks), as well as tenant and user breakdown by last teams activity and cost.

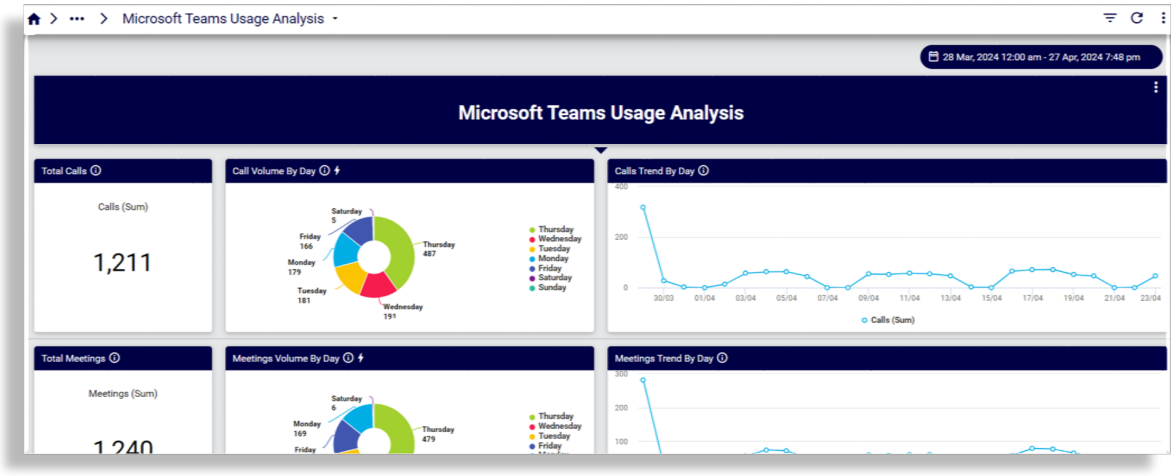


- Microsoft Teams License Trend

  Reports on license usage by type and number of licenses used.

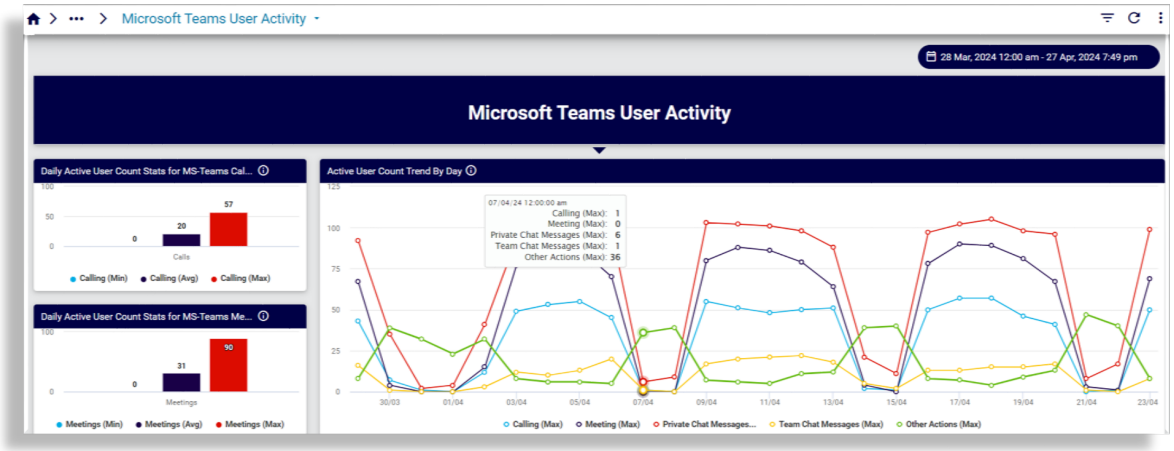


- Microsoft Teams Usage Analysis

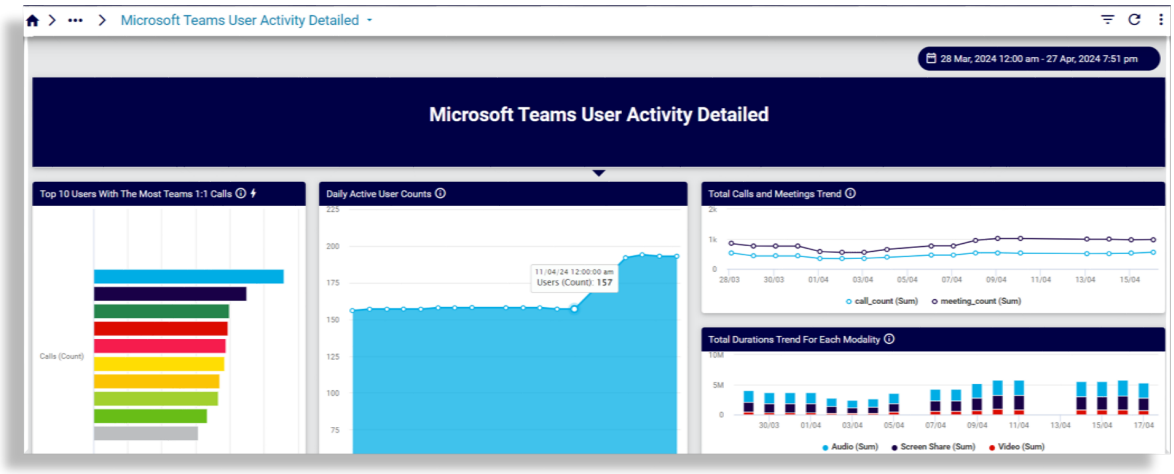


- Microsoft Teams User Activity

  Reports on active user counts by calling, meetings, chat, busiest days

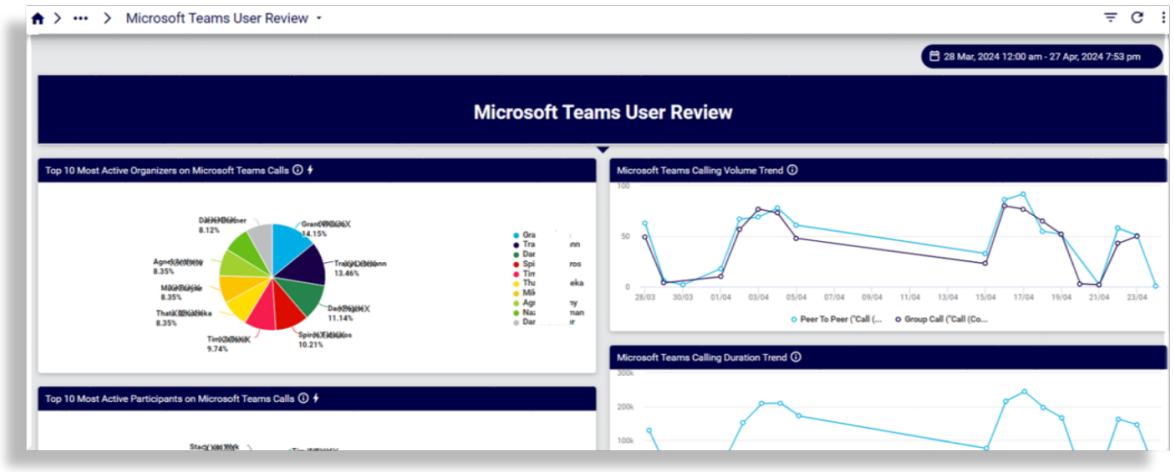


- Microsoft Teams User Activity Detailed



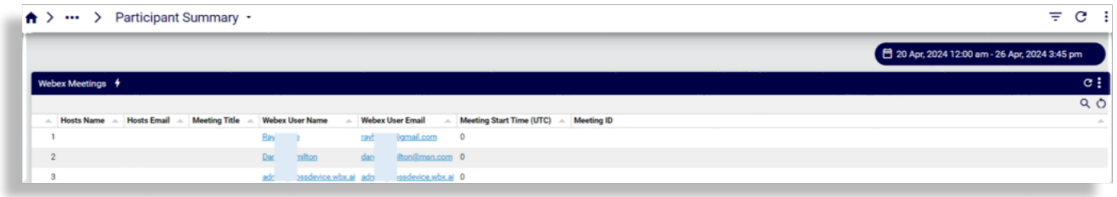
- Microsoft Teams User Review

  Reports on most active calling organizers, participants



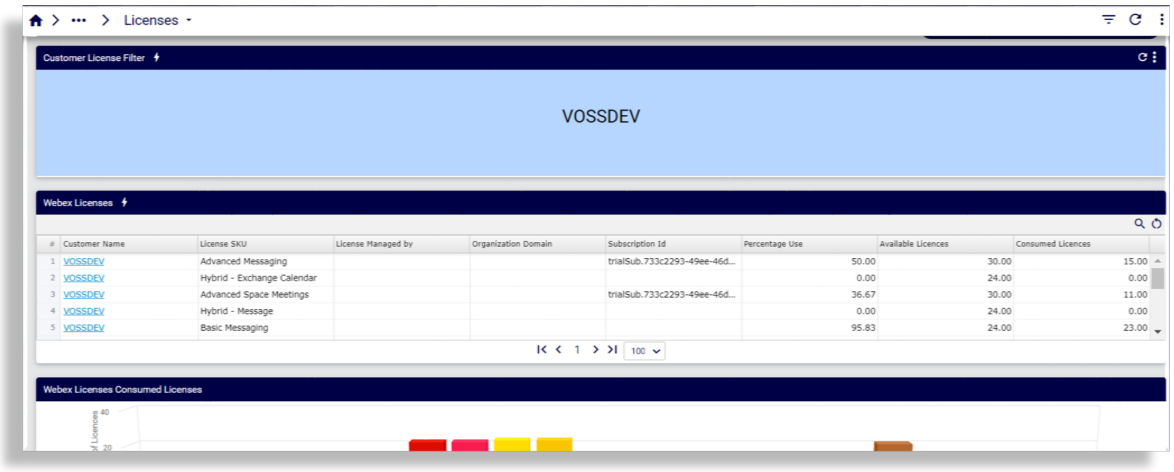
Webex

- Meetings
  - Meetings Quality
  - Meetings Quality 1
  - Meetings Who Joined
  - Participant Summary

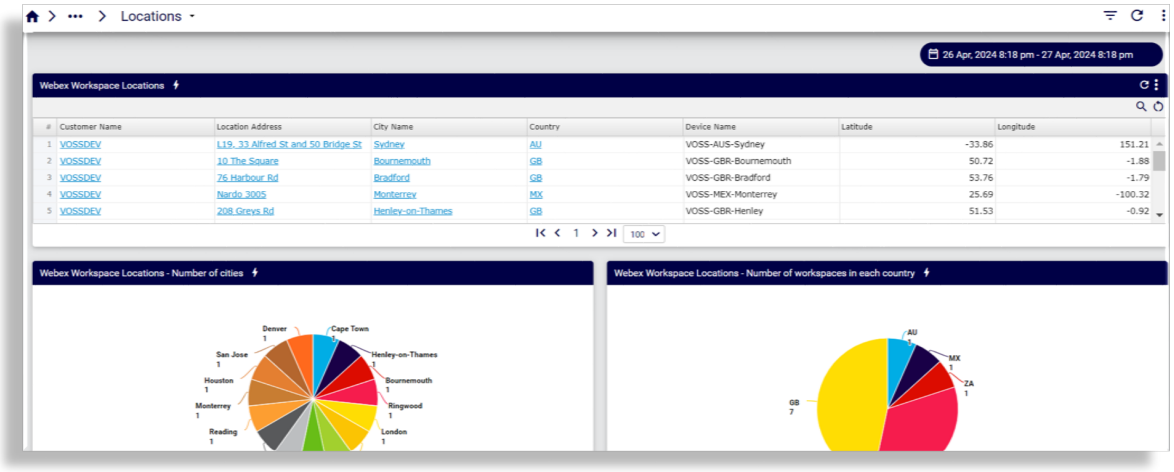


- Devices

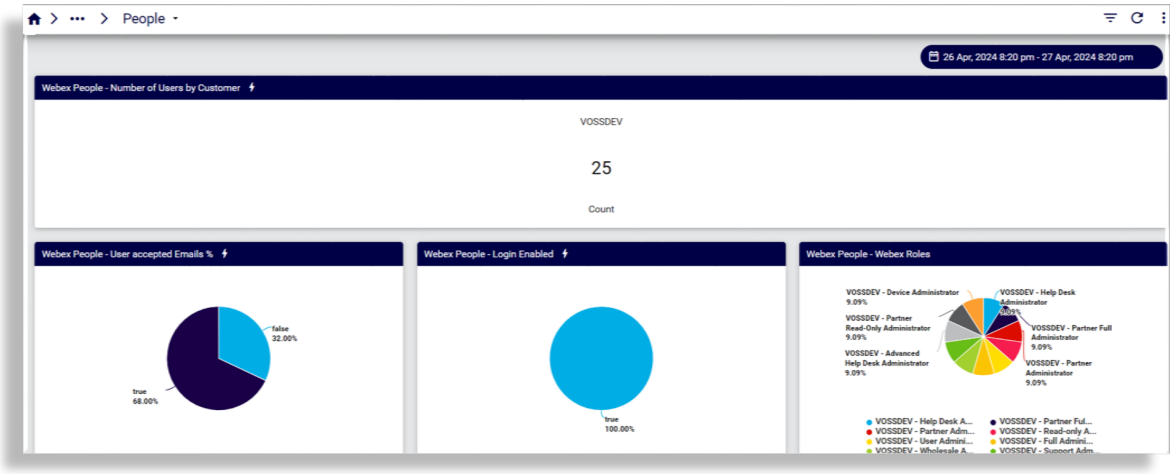
- Licenses



- Locations



- People



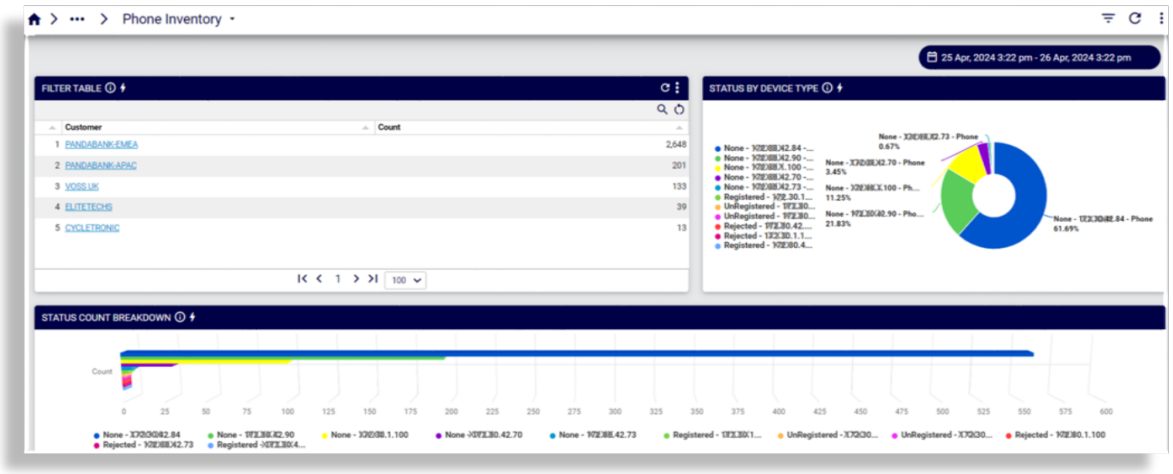
- Webex Calling
- Webex Insights
- Webex Security

4.2.6. User & Device Inventory

Cisco

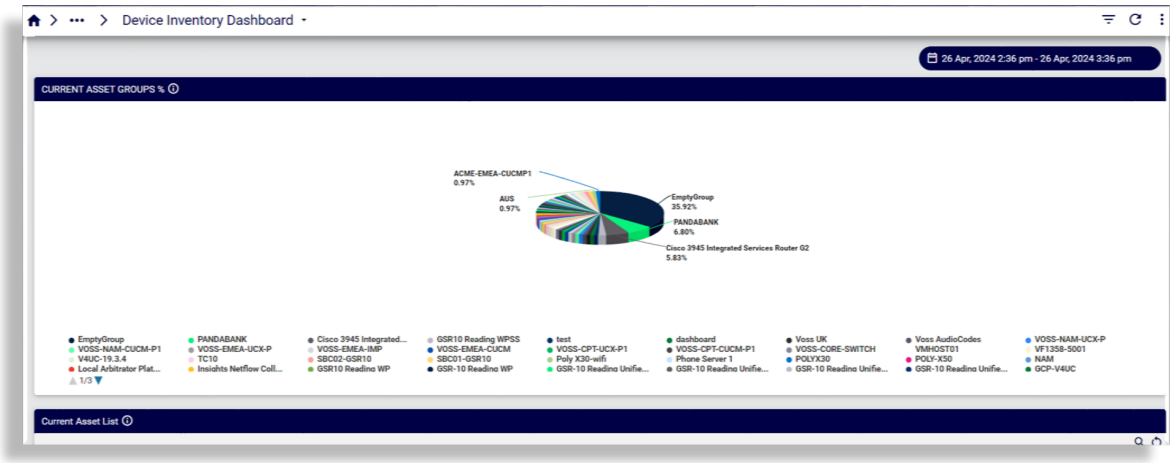
- Cisco Headset Summary

- Phone Inventory



Inventory

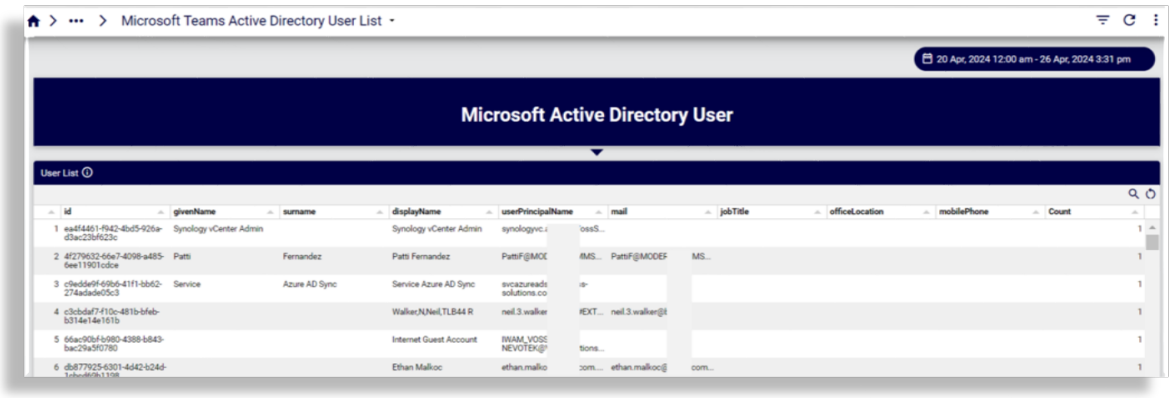
- Device Inventory Dashboard



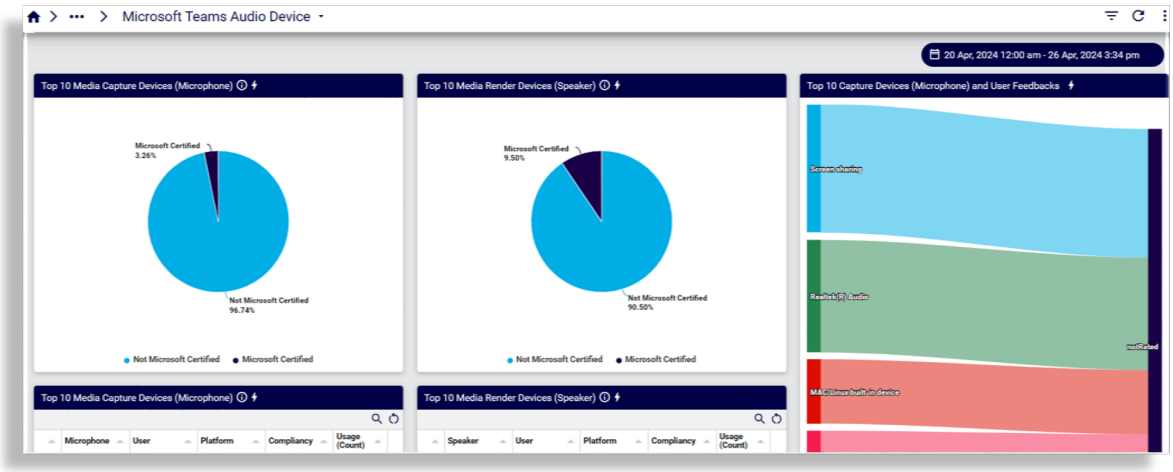
Microsoft

- Microsoft Teams Active Directory User List

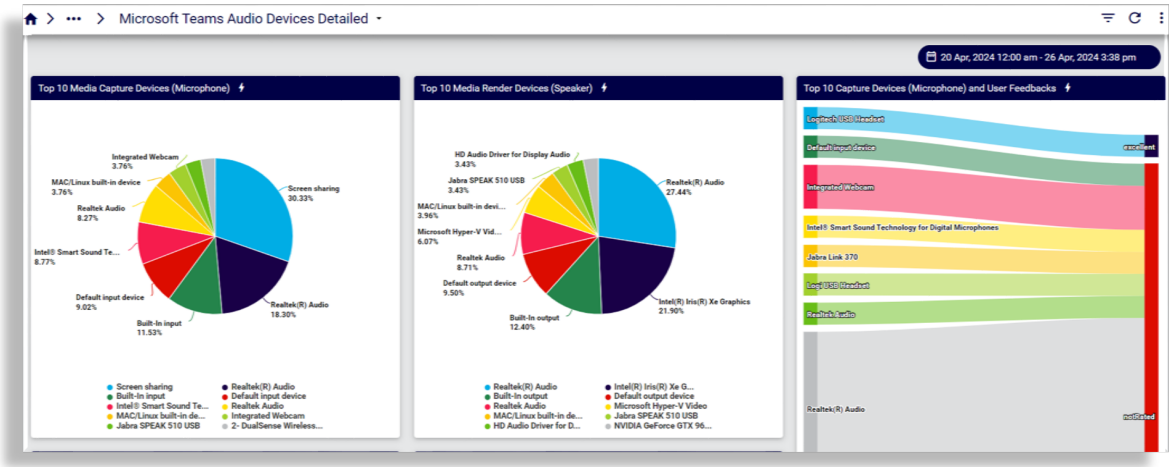
  Reports on user list with user details



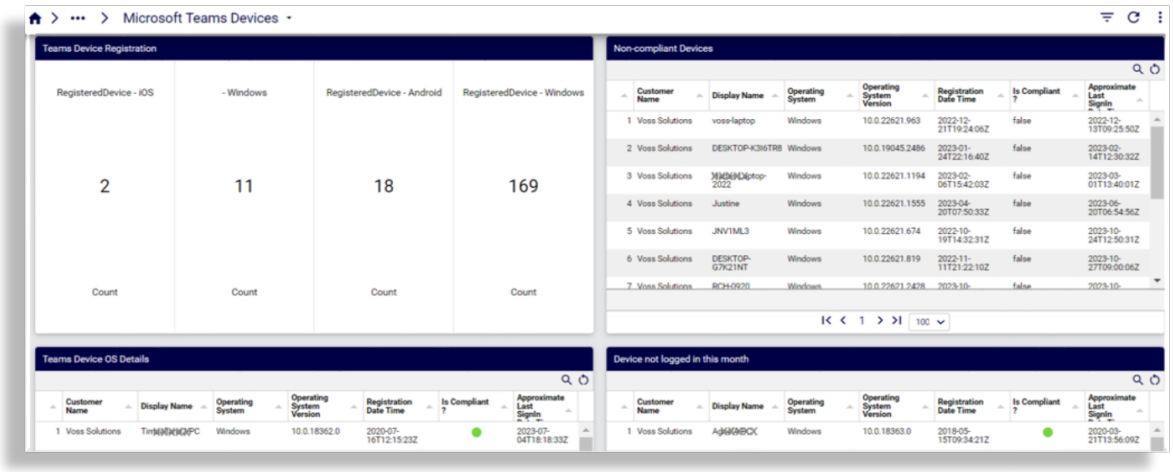
- Microsoft Teams Audio Device



- Microsoft Teams Audio Devices Detailed



- Microsoft Teams Devices



- Microsoft Teams Teamwork Devices

  Reports on device types, hardware models, buildings and meeting rooms

4.3. Custom Dashboards

You can create new dashboards based on one of the Insights reference dashboards that ship with the system, or create new, custom dashboards from scratch.

To create a new custom dashboard, use one of these options:

- Create a brand new dashboard. Click **Add Dashboard** from the dashboard library panel. See *Add a New Custom Dashboard*
- Choose one of the Insights reference dashboards, clone it (make a copy), and modify it for your requirements to create a new custom dashboard. See *Working with Dashboards*

Related Topics

- Introduction to Dashboards in the Dashboards Administration Guide.
- Insights Reference Dashboards in the Dashboards Administration Guide.
- Introduction in the Dashboards Administration Guide.

4.4. Working with Dashboards

4.4.1. View Dashboards

To access the dashboards library, click the toolbar **Main Menu** icon (hamburger) to expand the panel displaying a list of the available default and custom dashboards.

Note: Folders and dashboards display only if search definitions have been performed. You will need to create search definitions to view these items.

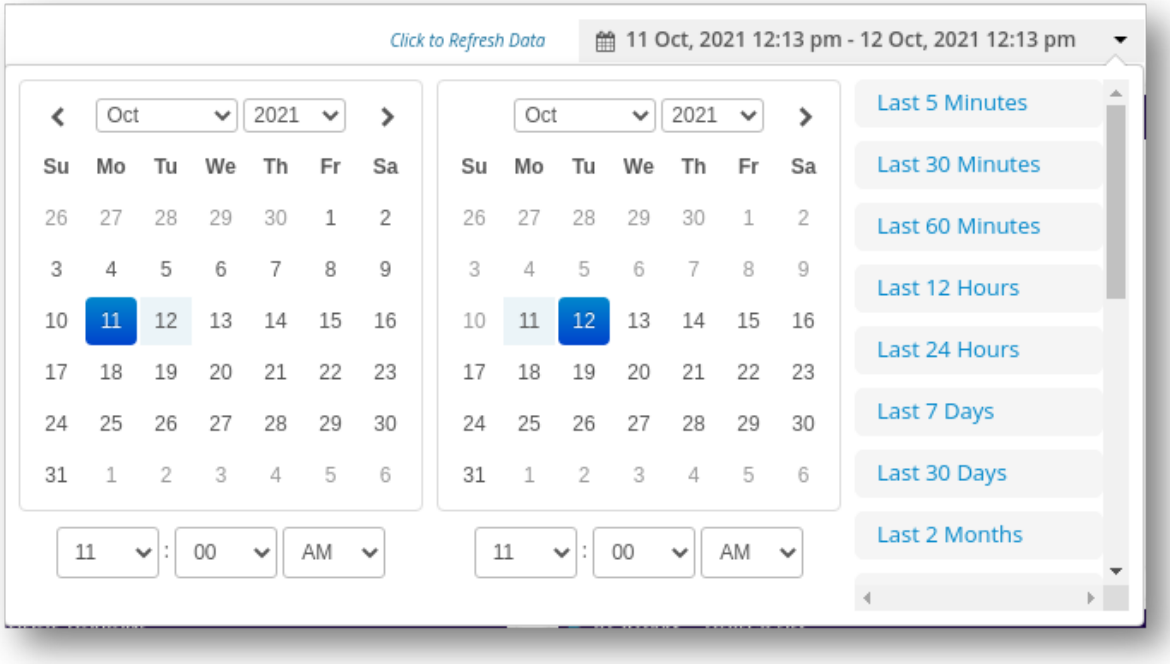
Related Topics

- *Add a New Custom Dashboard*

4.4.2. Define Dashboard Time Frame

Select a dashboard to define its date/time frame (the period for which data displays), which defaults to 24 hours.

Click on the date drop-down at the top-right of the screen to open the calendar, along with a list of pre-set time frames (for example, Last 5 minutes, Last 30 Minutes, Last Hour). Scroll through and select the date/timeframe that you want to include on the dashboard.



An option is available to toggle between **Local time** and **UTC time** in the display.

Note that, as with the search definition, the more time selected the more data to analyze thus time to render the widgets is based on the time frame selected and the amount of data to pull.

4.4.3. Clone a Dashboard

Cloning a dashboard creates a copy of an existing dashboard, which you can rename and edit to create a new dashboard.

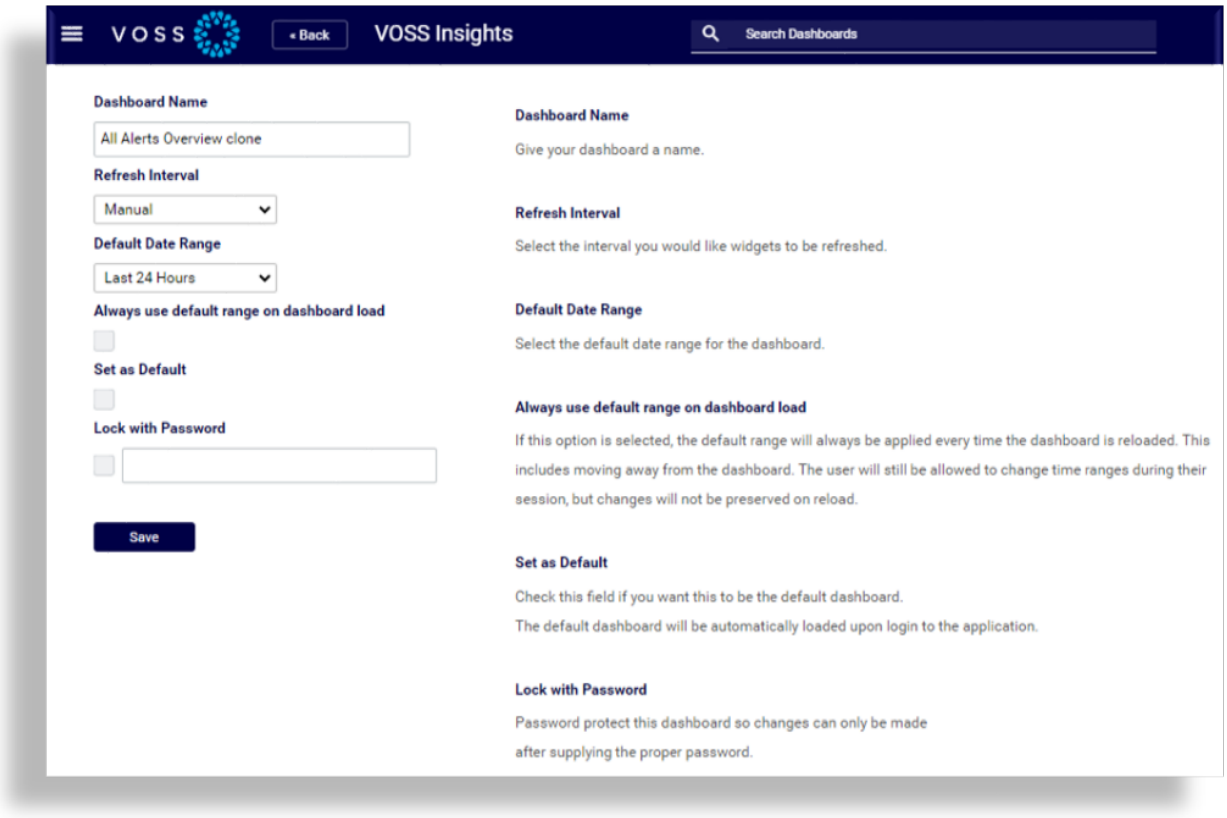
Note: The VOSS Reference Dashboards are read-only. You can clone a reference dashboard then edit the clone to suit your requirements.

---

1. Select a dashboard from the dashboard library.

2. Click the **Dashboard Operations** icon on the toolbar (vertical ellipsis), then select **Clone Dashboard** to open the Dashboard Editor with a copy of the dashboard's properties.
3. Change the dashboard name, then click **Save**.

   The new dashboard you created (copy of an existing dashboard) opens. Now you can edit the dashboard widgets.

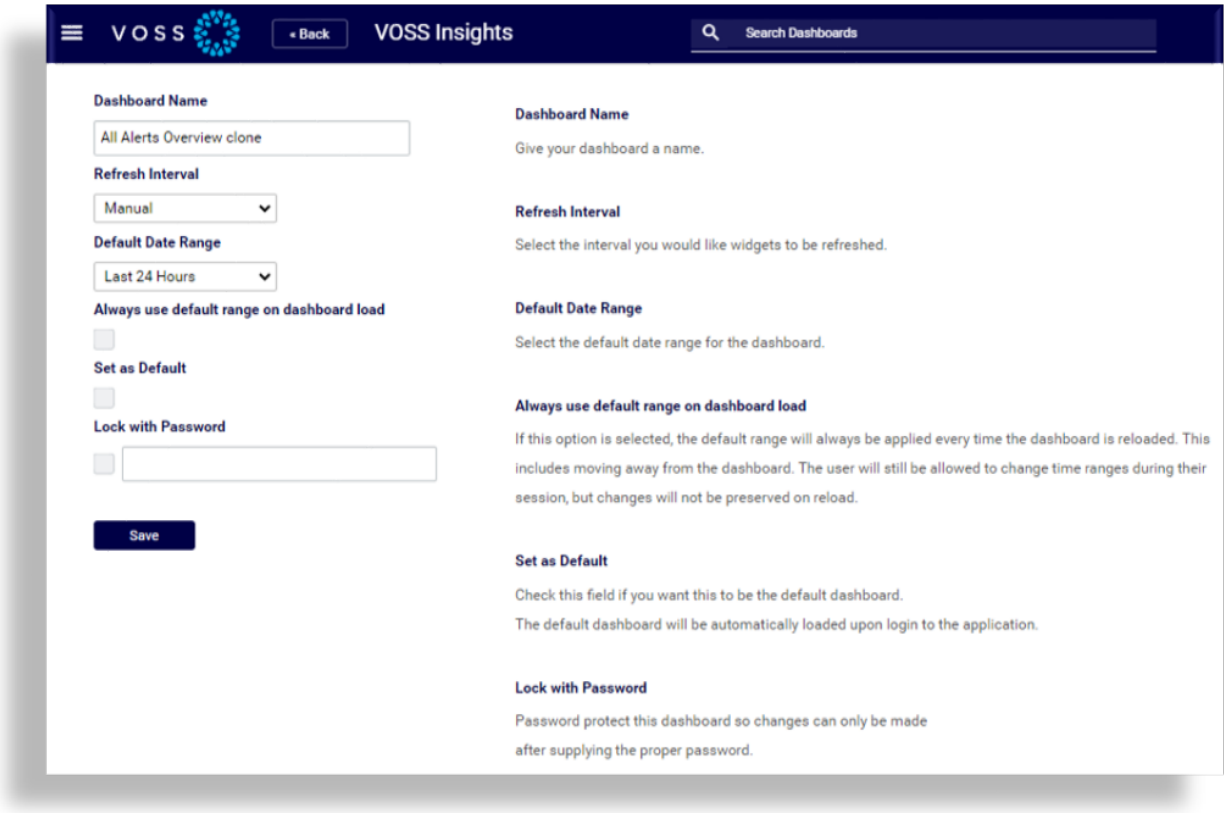


4.4.4. Edit Dashboard

1. Select a dashboard from the dashboard library.
2. Click the **Dashboard Operations** icon on the toolbar (vertical ellipsis), then select **Edit Dashboard** to open the Dashboard Editor.

   Note: The VOSS Reference Dashboards are read-only. You can clone a reference dashboard then edit the clone to suit your requirements.

3. Define a refresh interval from the drop-down to determine how often the system refreshes data from the database for this dashboard.
4. Edit settings as required, then click **Save**.



4.4.5. Add a Widget to a Dashboard

1. Select a dashboard from the dashboard library.
2. Click the **Dashboard Operations** icon on the toolbar (vertical ellipsis), then select **Add Widget** to open the Add Widget dialog.
3. Select the widget type
4. Build the widget, then save your changes. See *Working with Dashboard Widgets*

4.4.6. Position Widgets on a Dashboard

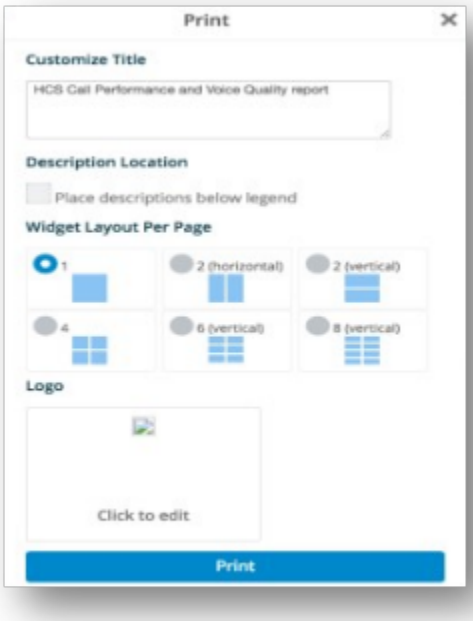
1. Select a dashboard from the dashboard library.
2. Click the **Dashboard Operations** icon on the toolbar (vertical ellipsis), then select **Position Widgets** to make the dashboard editable so that you can move widgets around the page and resize boxes.
3. You can drag the widget from the bottom right corner of the widget to resize it, or to move the widget, you can click on it and hold the mouse down, then move the widget to another location on the dashboard.
4. Save your changes.

4.4.7. Print Dashboard

1. Select a dashboard from the dashboard library.
2. Click the **Dashboard Operations** icon on the toolbar (vertical ellipsis), then select **Print Dashboard** to open the Print dialog.
3. Fill out a title for print job, and choose print options.

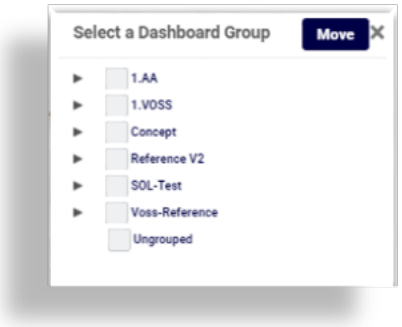
   For example, select **Place descriptions below legend** to place all description text in the widgets below the charts.

   You can also select the design by choosing the number of widgets to place on a page, and you can upload a logo.
4. Click **Print** to print the report (or click the Close icon, X, to cancel).



4.4.8. Move a Dashboard

1. Select a dashboard from the dashboard library.
2. Click the **Dashboard Operations** icon on the toolbar (vertical ellipsis), then select **Move Dashboard**.
3. On the pop-up, choose the folder to where you want to move the dashboard.
4. Click **Move**.

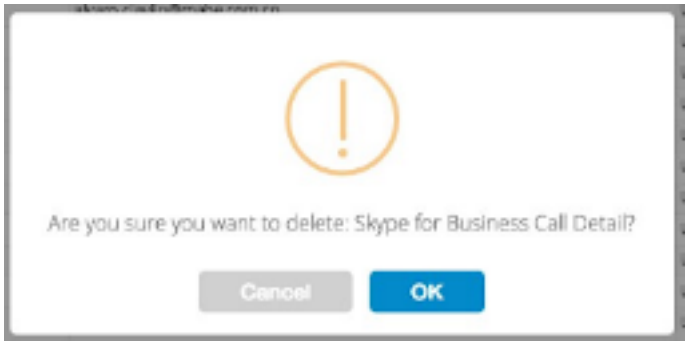


4.4.9. Delete a Dashboard

1. Select a dashboard from the dashboard library.
2. Click the **Dashboard Operations** icon on the toolbar (vertical ellipsis), then select **Delete Dashboard**.

   The dashboard will be deleted and removed from the menu.

Note: This does not delete the extraction definitions. You will need to go to the search screen for this function.

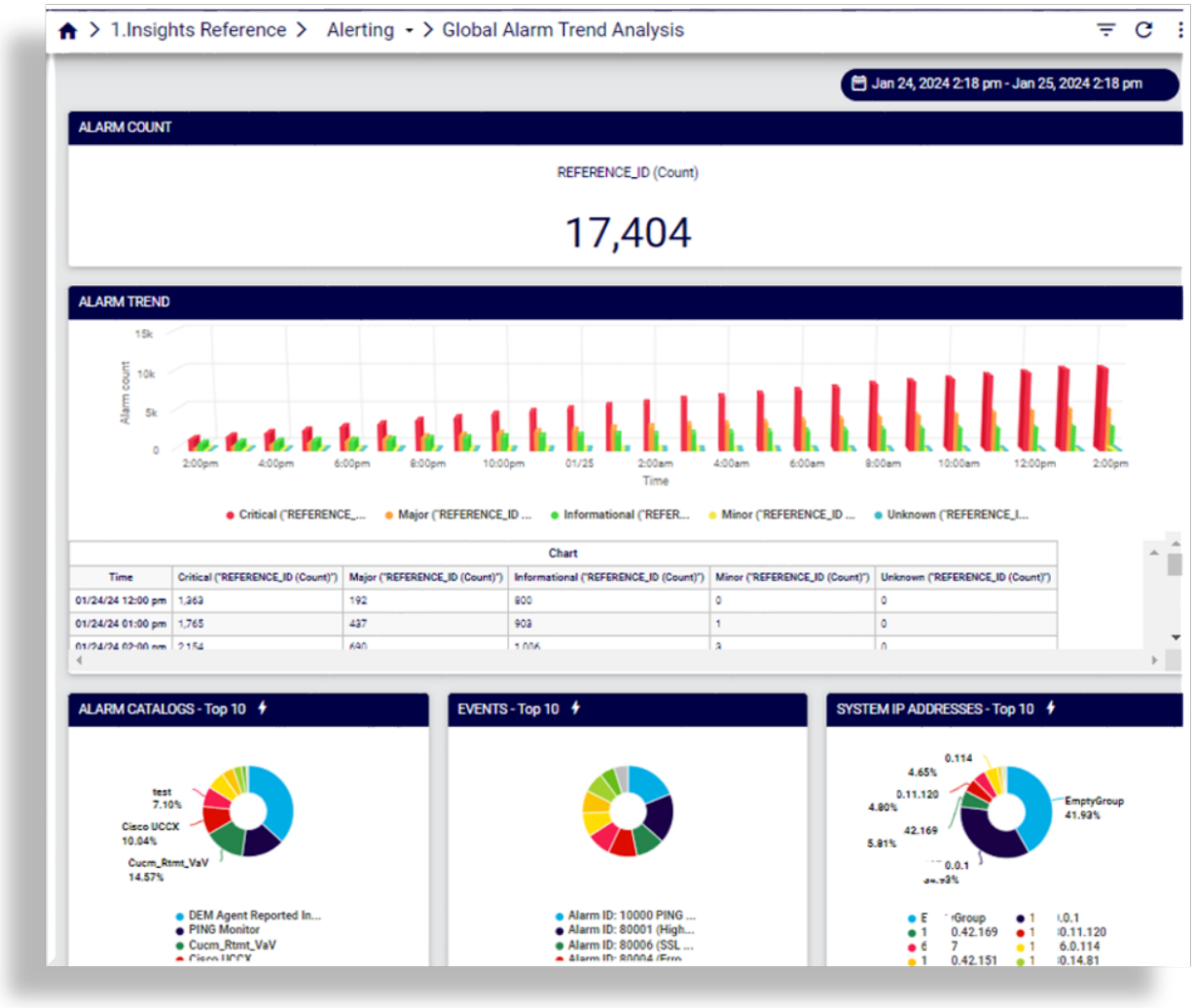


4.5. Working with Dashboard Widgets

4.5.1. Overview

Dashboards contain several editable widgets that you can configure in the **Widget Editor**. You can modify their look and feel, and configure the data presented in each widget.

The image shows a dashboard with several widget types:



Note: For details around adding a new widget to a dashboard, or for changing a widget's position on a dashboard, see *Working with Dashboards*.

A widget is set up to define the data to display on a dashboard. The data may come from various sources, including, for example, data from CDRs imported to a directory, data collected by probes, or data synced from Automate. Regardless of the source, the system processes the data and populates the appropriate database tables.

A CRON job, which runs every minute, processes the files to populate the tables on the Arbitrator. You can then set up a widget on the relevant dashboard and select the resource, for example, Oracle CDR data, and the required search definitions (data to display), to retrieve and display this data on the dashboard.

Note: When working with a dashboard, you may want to manually refresh the data in a widget (from the database). In this case, you can click the **Refresh** icon at the top right of the widget.

For details around choosing and configuring the resource and definitions for the widget, see *Resource Tab*

For details around adding customer CDRs to a directory, see:

- Add Customer CDR Folders in the Arbitrator Install Guide.

4.5.2. Edit a Widget

You can access widget editing options via the vertical ellipsis icon ⋮ at the top right of a widget. See *Widget Options Menu*.

To edit an existing widget:

1. Open the relevant dashboard.
2. Click the ellipsis icon (Widget Options) at the top right of the relevant widget on the dashboard to display the *Widget Options Menu*.
3. Choose the relevant option for updating the widget, for example, you can edit, clone, move, or remove the widget, or download data.

   Note: The widget editing options that display depend on the type of widget you're working with.

4. Make your changes, then save.

Related Topics

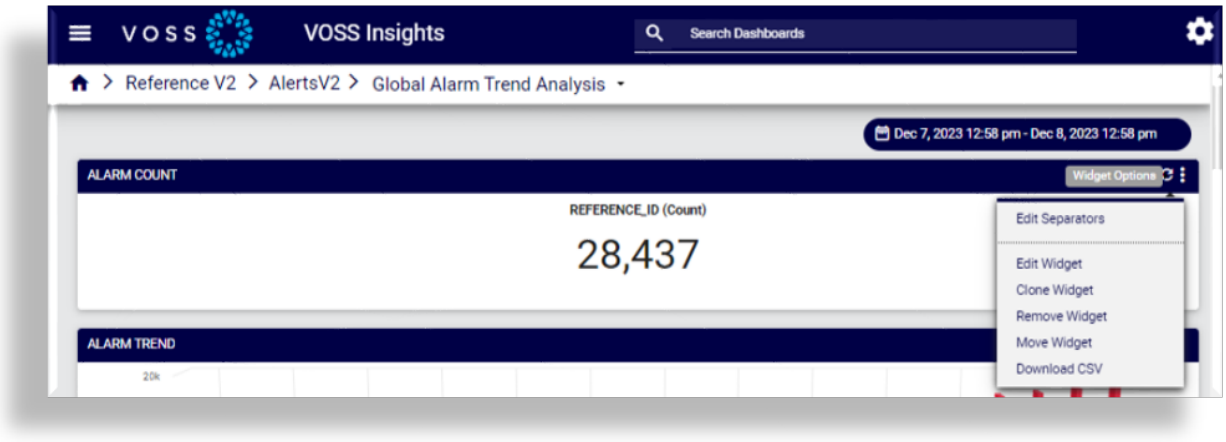
- *Build a Chart in the Widget Editor*
- *Widget Options Menu*

4.5.3. Widget Options Menu

Overview

Click the vertical ellipsis icon ⋮ at the top right of a widget to access the **Widget Options** menu.

Editing options in the **Widget Options** menu depend on the widget type and user permissions. For example, *Save Chart* is only available if the widget type is *chart*.



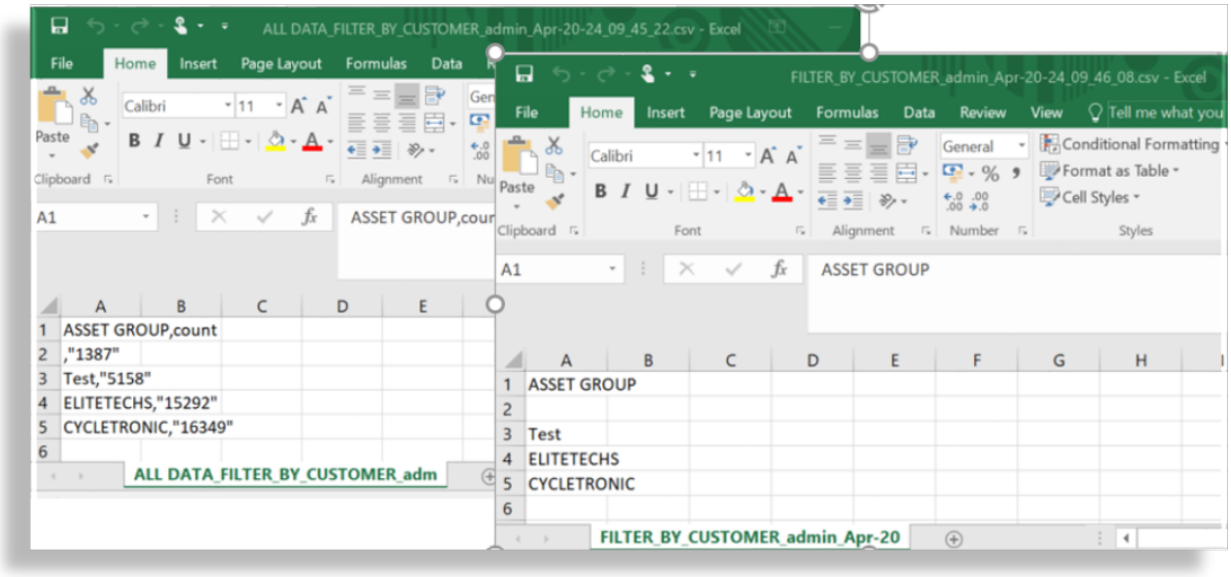
The table describes the possible widget editing options:

Option	Description
Save Chart	(Only available if the Widget is a Chart). Saves any widget to your desktop. This file can then be imported into documents for custom reporting.
Edit Separators	Opens a separate page where you can select one or more separators that you want to use on your widget, i.e. Left, Right, Top, Bottom or All.
Edit Widget	Opens the widget editor, where you can edit the data and the analysis of the data that is represented on the widget. See *Widget Editor* for details.
Clone Widget	Creates a copy of the widget, which you can then modify to meet the specific data analysis needed. This is much quicker than creating a brand new widget/dashboard.
Remove Widget	Deletes the widget from the dashboard.
Move Widget	Launches a tree of all the folders and dashboards in the system. Simply choose the folder and click on the dashboard destination you want.
Download CSV	Downloads (formatted) underlying data (chart or table) to `.csv` file, which you can save to your computer. Data is based on the time selected in the time-bar.
Download CSV - All data	Choosing “All data” downloads all table data (without formatting) in that widget (regardless of the time set in the time-bar) to a `.csv` file that you can save to your local computer. Global filters are considered.
Download Excel Workbook	(Only available if the Widget is a Table.) Downloads (formatted) table data to an Excel file that you can save to your local computer.
Download Excel Workbook - All data	(Only available if the Widget is a Table.) Downloads all table data to an Excel file that you can save to your local computer. Global filters are considered.

Downloading Files (CSV or Excel)

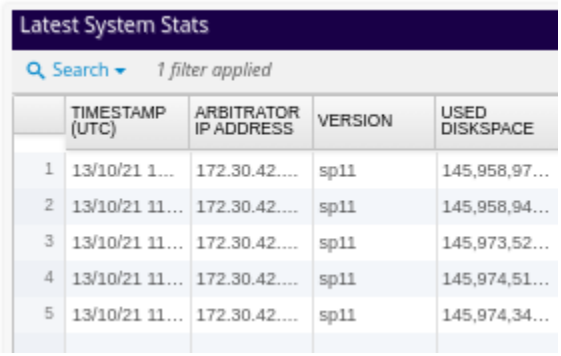
From the Widget Options menu you can download widget data in either CSV or Excel format files - standard download (formatted data), or *all* data (which includes underlying data in the widget).

The image shows a file download with formatted vs unformatted data:



Filter Data in Downloaded Files

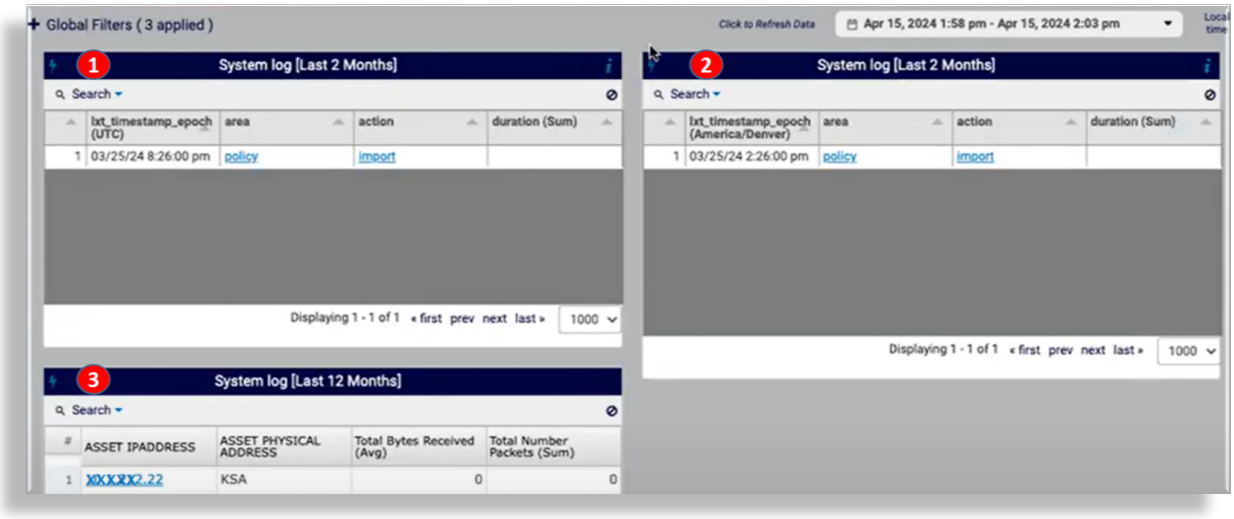
You can *filter* data in a widget before downloading a file (CSV or Excel). Use the widget **Search** function to filter for the data you wish to include in the downloaded file. The file will then only contain the filtered data.



Date Format for Downloaded Files

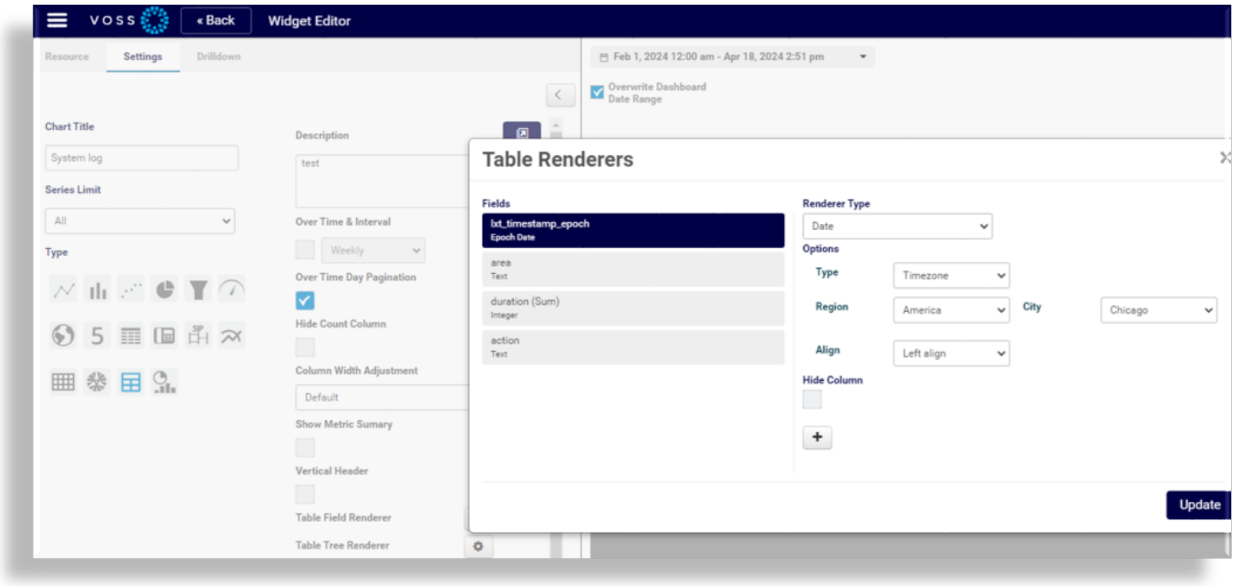
From the Widget Options menu, you can download CSV or Excel containing widget data. If you wish to download the file with a specific date format in the filename, you should be working with widget data in a *Table 2* chart type. For *Table 2* chart types, the date format also displays in the widget table header row.

The image displays Table 2 charts (marked 1 and 2), and a Table 1 chart (marked 3):



For *Table 2* type chart widgets, you can set up the date format for the table - either UTC, local time, epoch, or a specified regional timezone. Date format is configured via the Widget Editor. On the **Settings** tab, click the cog icon at **Table Field Renderer**, and in the **Table Renderers** dialog, change **Renderer Type** to *Date*, then choose a date format type. When selecting *Timezone*, you can also choose the region and city.

The image displays the date format settings in the **Table Renderer** dialog:



Related Topics

- *Build a Chart in the Widget Editor*

4.5.4. Widget Editor

The Widget Editor provides options for configuring data resources, settings for configuring how data displays, and drill down options. Configuring a widget in this way provides several powerful data analysis options.

To launch the Widget Editor:

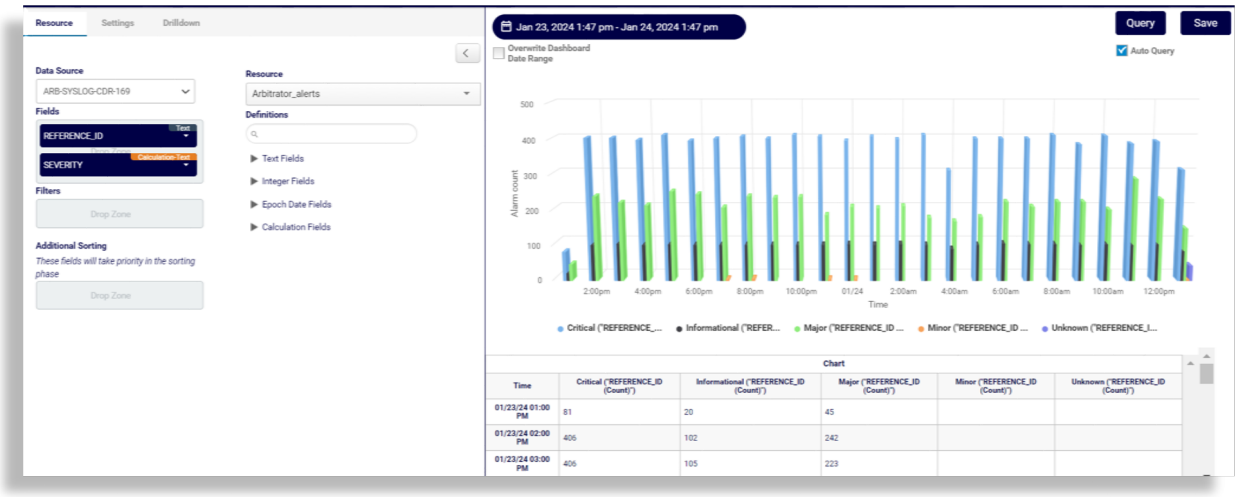
1. Open a dashboard.
2. Click the Vertical Ellipsis icon ⋮ at the top right corner of the widget you wish to edit, to display the Widget Options menu.
3. Select **Edit Widget**.

   Update the widget via these tabs:

   - *Resource Tab*
   - *Settings Tab*
   - *Drilldown Tab*

Chart pane in the Widget Editor

The panel on the right (the chart pane) on the Widget Editor page, displays data based on the widget configuration.



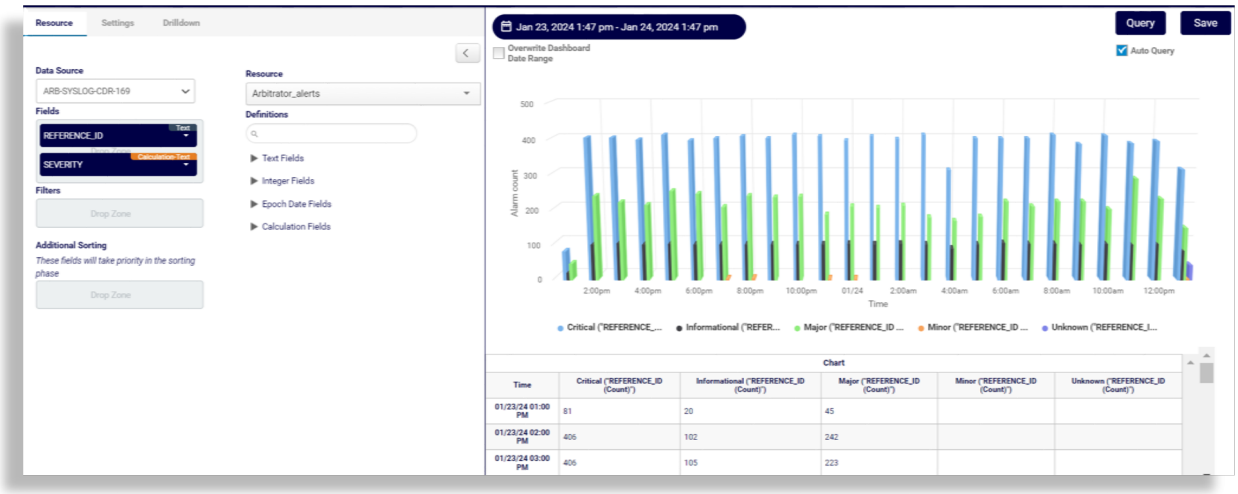
Note: If the widget you open for editing contains pre-existing configuration and data, this data displays in the chart pane without running additional queries. This means that you can view configuration changes immediately, based on pre-existing data.

The table describes the chart pane configuration options:

Configuration	Description
Date range calendar	Select a date range for the data you wish to analyze.
Overwrite Dashboard Date Range	Define whether to allow the widget date range to overwrite the dashboard date range.
Auto Query	Define whether to allow automatic queries. If you have this setting enabled, the system automatically runs the query to refresh data when you update the widget configuration. Disable this setting to limit the number of queries, and to only run the query manually once you complete the configuration. In this case, you'll click the **Query** button to run the query when you're ready to do so.

Resource Tab

This tab configures the widget's data sources, search definitions, fields, filters, and sorting.



The table describes the fields on the **Resource** tab:

Field	Description
Data Source	This drop-down lists all the databases to which the VOSS Insights platform has access. This can be its local database or it can contain multiple databases.
Resource	This drop-down lists existing resources. When editing an existing widget within a dashboard, the default name is the search definition used for that dashboard. However you can use this to pull data onto a widget from any defined search definition, thus creating a dashboard of widgets that analyze data from multiple data sources (Ex: Firewall, DNS, Router, Application) Data definitions are also available for: • VOSS Automate MSgraph, MSteams, and Spark objects (search for `msgraph`, `msteams`, `spark`). • Webex API data (search for `webex`). • Oracle SBC CDR (for visualization of Oracle SBC CDR data from Oracle tables)
Fields	Drag fields from **Definitions** that you want to analyze on the widget. You can add as many fields as required to a single widget.
Definitions	Definitions are categorized by type (Text fields, Integer fields, Float fields, Epoch Date fields, Calculated fields, and Filter Only fields), based on the data type extracted from the search definitions previously created and associated with the widget. First choose a resource to filter the field types and fields associated with the definition, then you can drag the required fields into the **Fields** panel on the left.
Filters	Allows you to set a filter definition for the widget. For example, filter only on values greater than 200. These filters allow the widget to be created to provide analysis of the data based on the specific context. Drag and drop fields here that you want to use as filters (from **Definitions**).
Additional Sorting	Allows you to set the starting order for fields that appear in a table. Using this field allows the column sort to be pre-set based on the fields dropped into this panel. Drag and drop fields here, from **Definitions**.

Note: Where dates are listed, the zero (0) value is not interpreted and shown as Jan. 1, 1970, but simply as 0.

Related Topics

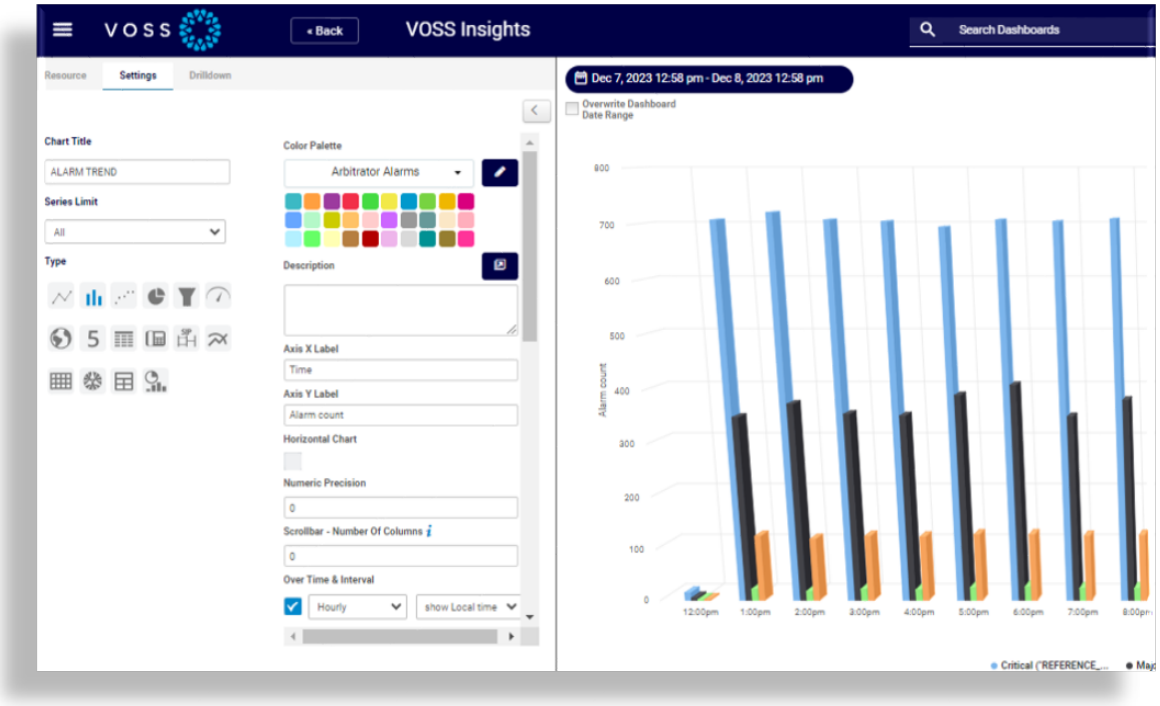
- For more information around working with fields on the Resource tab, see *Widget Editor - Fields*
- For more information around working with filters on the Resource tab, see *Widget Editor - Filters*

Settings Tab

This tab configures settings for widget data for charts, counters on cards, and tables:

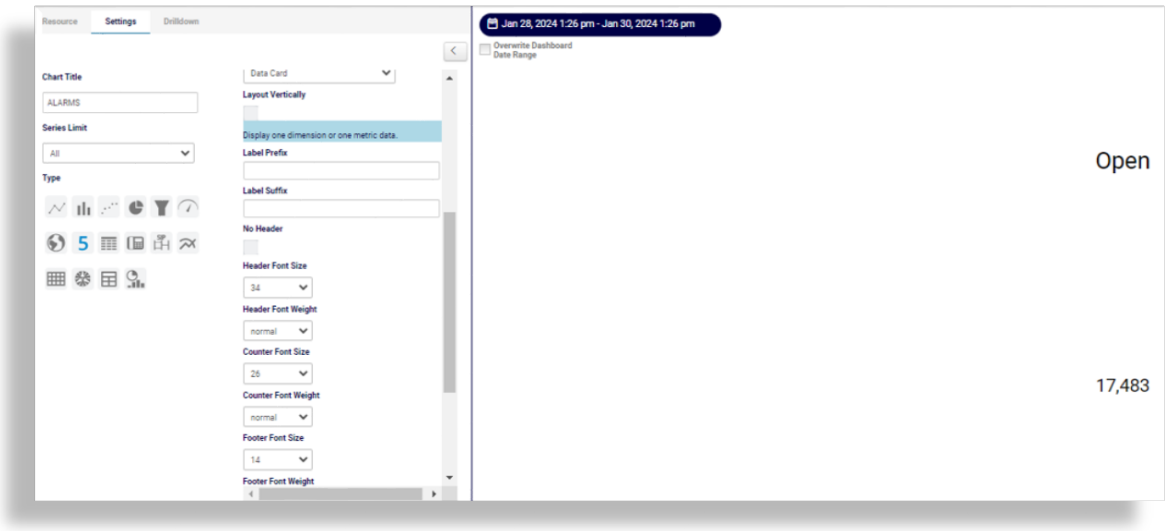
- Charts

  You can change the chart title, description, series limit, chart type, and chart colors. Additional configuration fields on the tab are based on the chart type you choose.



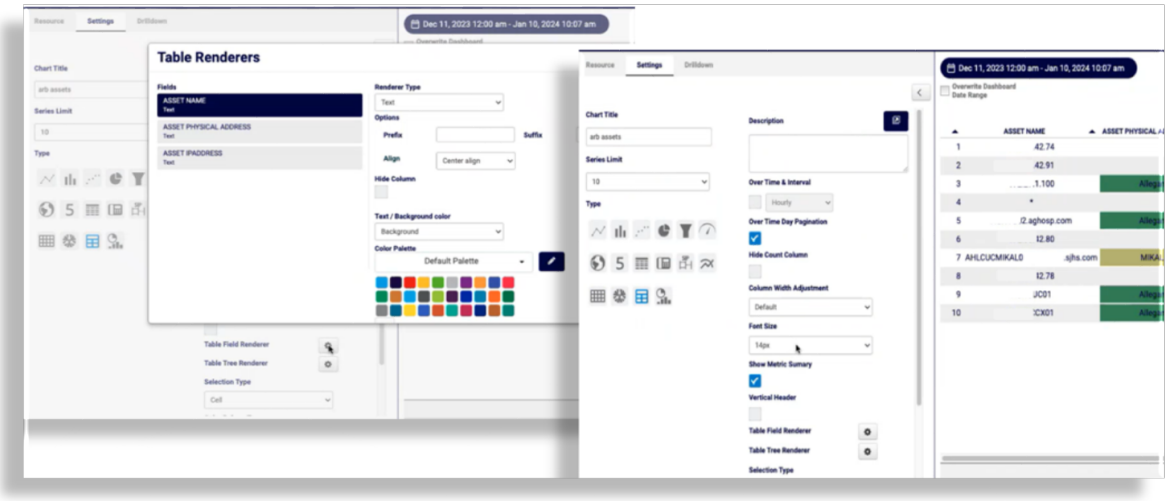
- Cards with counters

  Change the size and color of fonts for headers, counters, and footers. You can also choose to remove headers on the card, if preferred.



- Tables

  Change font sizes, and the background or text color in fields.



Related Topics

- *Tables*
- *Introduction to Building Charts*

Drilldown Tab

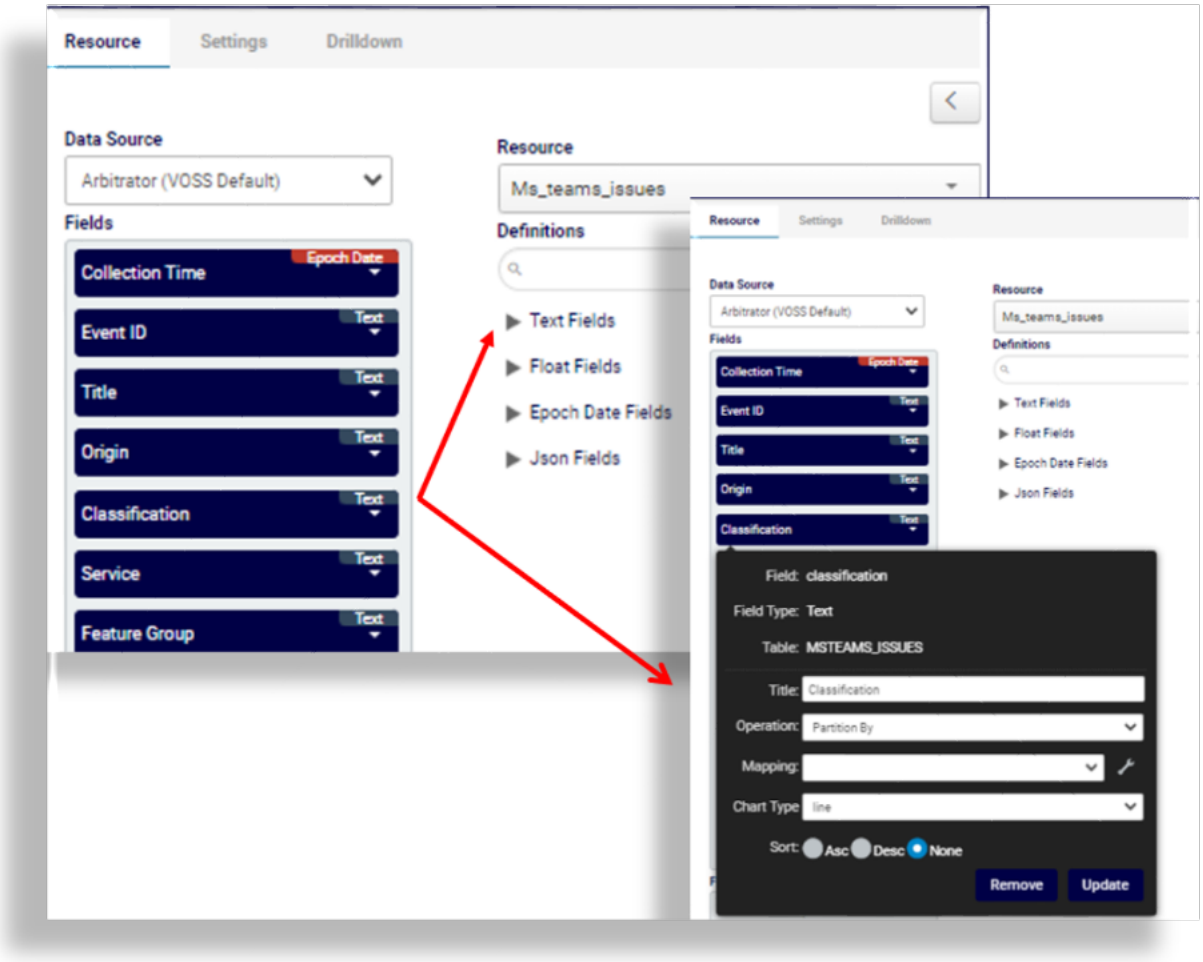
This tab defines the drill-down field behavior and allows you to choose the fields that will display as drill-downs.

4.6. Widget Editor - Fields

4.6.1. Overview

On the **Resources** tab in the Widget Editor you can choose field types to include in a widget, depending on the type of data to represent in the field and the analytics required; that is, the context and purpose of the field and its function. For example, an integer field with a SUM calculation.

Fields may be of type text, integer, calculate, float, epoch date, Json.



Related Topics

- *Working with Dashboard Widgets*

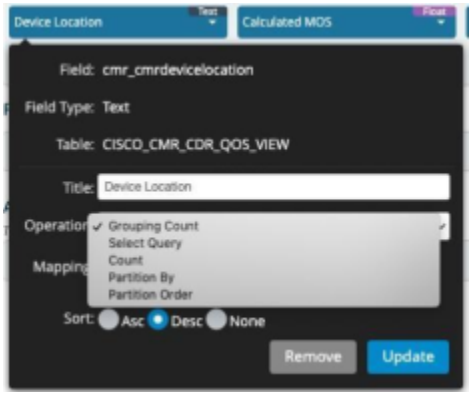
4.6.2. Text Fields

If the extracted field is a text field, the **Field Type** value is “Text”.

The **Title** is automatically populated with the field name from the log. This title can be changed to describe more accurately the data field.

An **Operation** box provides these options:

Option	Description
Grouping Count	Groups all of the same fields and counts the number of times they occur in the data, for example: Field is Acme Trading and it occurred 35 times. The output will be Acme Trading count of 35.
Select Query	Allows you to choose to output all records from the query without grouping them. Warning: This could result in a tremendous amount of data depending on the topic being analyzed. Example is a call table that could return millions of rows.
Count	Returns the total count of the value. If there are 1000 occurrences of the value “350” the output will be 1000.
Partition By and Partition Order	These two functions are specific to our PostgreSQL database and allow you to show the most recent or the earliest entries in the data. They are utilized with the “Select Query” on the data set.



4.6.3. Integer Fields

If the extracted field is an integer field then it will show *Integer* in the **Field Type**. The **Title** is automatically populated with the field name from the log. This title can be changed to describe more accurately the data field.

An **Operation** box provides eight options:

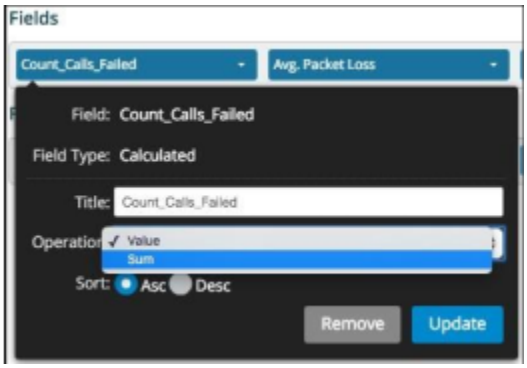
Option	Description
Grouping Count	Groups all of the same fields and counts the number of times they occur in the data, for example: Field is the value “350” and it occurred 10 times. The output will be 350 count of 10.
Select Query	Allows you to choose to output all records from the query without grouping them. Warning: This could result in a tremendous amount of data depending on the topic being analyzed. Example is a call table that could return millions of rows.
Count	Will return the total count of the value. If there are 1000 occurrences of the value “350”, the output will be 1000.
Min	Will calculate the minimum value that has occurred in the data and output that value.
Max	Will calculate the maximum value that has occurred in the data and output that value.
Avg	Will calculate the average value of all the data and output that value.
Sum	Will calculate the sum of all the data and output that value.
Variance	Will calculate the variance within the data and output that value. Variance is how far a set of integers are spread out, thus a variance value of zero indicates that all the values are identical.
Stddev	Will calculate the standard deviation within the data and output that value. Standard deviation will quantify the amount of variation or dispersion of the data set. A value close to zero indicates that the data points are close to the *mean* or the expected value while a high value indicates that the data points are spread out over a wide range of values.
Partition By and Partition Order	These two functions are specific to our PostgreSQL database and allow you to show the most recent or the earliest entries in the data. They are utilized with the “Select Query” on the data set.

4.6.4. Calculated Fields

If the extracted field is a pre calculated field, then it will show *Calculated* in the **Field Type**. The **Title** is automatically populated with the field name used in the database. This title can be changed to describe more accurately the data field.

An **Operation** box provides two options:

Option	Description
Value	Will output the exact value of the calculated field, for example: The calculation is the count of all failed calls then the output will be that value.
Sum	Will sum up all the values of the calculated filed, for example: The calculation is the call failure ratio then the output will be the sum of all of these values.



4.7. Widget Editor - Filters

4.7.1. Overview

This section allows filters to be applied to data elements being analyzed from the **Fields** element in the Widget Editor. As with Fields there are several analytic options depending on the context of the filter and the desired functions, i.e. Integer Field utilizing a greater than Calculation. The following options are available:

- Text
- Integer
- Calculate

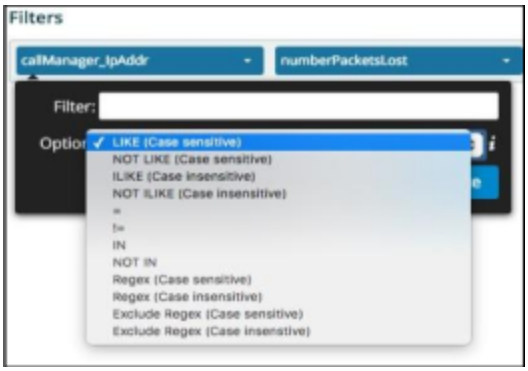
Related Topics

- *Working with Dashboard Widgets*

4.7.2. Text

There is an empty Filter box labeled **Filter** where the custom filter function needs to be input. Next is an **Option** box that provides/defines the filter that is applied in the filter box. There are 12 available filtering functions:

- LIKE (Case Sensitive) - is a function that based on the pattern entered in the filter field will return the data that matches the pattern from the extracted string. This function is case sensitive. An underscore (_) in the pattern indicates matches any single character while a percentage sign (%) indicates matches any sequence of zero or more characters.
- NOT LIKE (Case Sensitive) - is a function that based on the pattern entered in the filter field will return the data that does not match the pattern from the extracted string. This function is case sensitive. An underscore (_) in the pattern indicates matches any single character while a percentage sign (%) indicates matches any sequence of zero or more characters.
- ILIKE (Case Insensitive) - is a function that based on the pattern entered in the filter field will return the data that matches the pattern from the extracted string. This function is NOT case sensitive. An underscore (_) in the pattern indicates matches any single character while a percentage sign (%) indicates matches any sequence of zero or more characters.
- NOT ILIKE (Case Insensitive) - is a function that based on the pattern entered in the filter field will return the data that does not match the pattern from the extracted string. This function is NOT case sensitive. An underscore (_) in the pattern indicates matches any single character while a percentage sign (%) indicates matches any sequence of zero or more characters.
- Equals (=) - is a function that based on the pattern entered in the filter field will return the data that is equal to the pattern from the extracted string.
- Not Equal (!=) - is a function that based on the pattern entered in the filter field will return the data that is not equal to the pattern from the extracted string.
- IN - is a function that based on the pattern entered in the filter field will return the data that exists within a comma separated list, i.e. 1, 2, 3, 4.
- NOT IN - is a function that based on the pattern entered in the filter field will return the data that DOES NOT exist within a comma separated list, i.e. 1, 2, 3, 4.
- REGEX (Case Sensitive) - is a function that utilizes POSIX Regular Expressions to extract data. It is case sensitive.
- REGEX (Case Insensitive) - is a function that utilizes POSIX Regular Expressions to extract data. It is NOT case sensitive.
- EXCLUDE REGEX (Case Sensitive) - is a function that utilizes POSIX Regular Expressions to extract the data that doesn't match the pattern. It is case sensitive.
- EXCLUDE REGEX (Case Insensitive) - is a function that utilizes POSIX Regular Expressions to extract the data that doesn't match the pattern. It is NOT case sensitive.

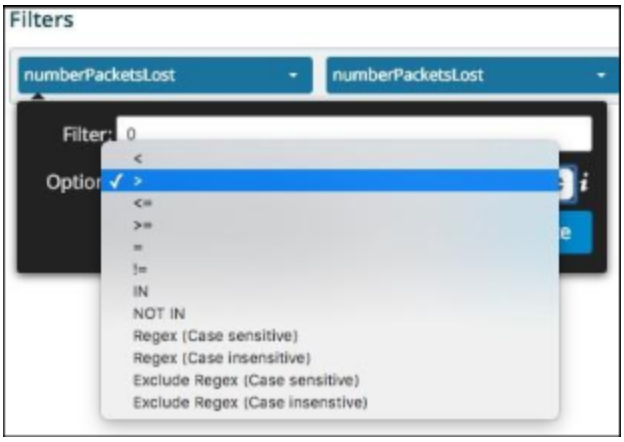


4.7.3. Integer

There is an empty Filter box labeled Filter where the custom filter function needs to be input. Next is an Option box that provides/defines the filter that is applied in the filter box.

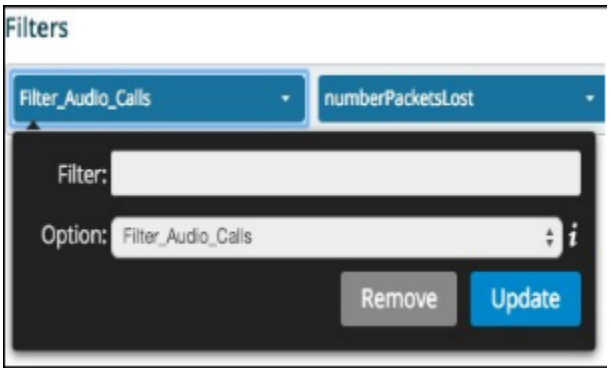
There are twelve available filtering functions:

- Less Than (<) - is a function that based on the value entered in the filter field will return the data that is less than the value from the extracted string.
- Greater Than (>) - is a function that based on the value entered in the filter field will return the data that is greater than the value from the extracted string.
- Less Than or Equal (<=) - is a function that based on the value entered in the filter field will return the data that is less than or equal to the value from the extracted string.
- Greater Than or Equal (>=) - is a function that based on the value entered in the filter field will return the data that is greater than or equal to the value from the extracted string.
- Equals (=) - is a function that based on the value entered in the filter field will return the data that is equal to the value from the extracted string.
- Not Equal (!=) - is a function that based on the value entered in the filter field will return the data that is not equal to the value from the extracted string.
- IN - is a function that based on the values entered in the filter field will return the values that exists within a comma separated list (i.e. 1,2,3,4)
- NOT IN - is a function that based on the values entered in the filter field will return the values that DOES NOT exist within a comma separated list, i.e. 1,2,3,4.
- REGEX (Case Sensitive) - is a function that utilizes POSIX Regular Expressions to extract data. It is case sensitive.
- REGEX (Case Insensitive) - is a function that utilizes POSIX Regular Expressions to extract data. It is NOT case sensitive.
- EXCLUDE REGEX (Case Sensitive) - is a function that utilizes POSIX Regular Expressions to extract the data that doesn't match the pattern. It is case sensitive.
- EXCLUDE REGEX (Case Insensitive) - is a function that utilizes POSIX Regular Expressions to extract the data that doesn't match the pattern. It is NOT case sensitive.

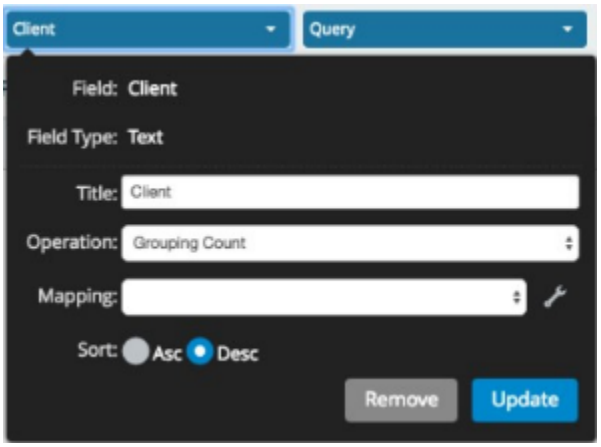


4.7.4. Filter Only

If utilizing a Filter Only value in the Option box there are not any additional options. This is a predefined function in the database and the system will utilize this for the filtered content.

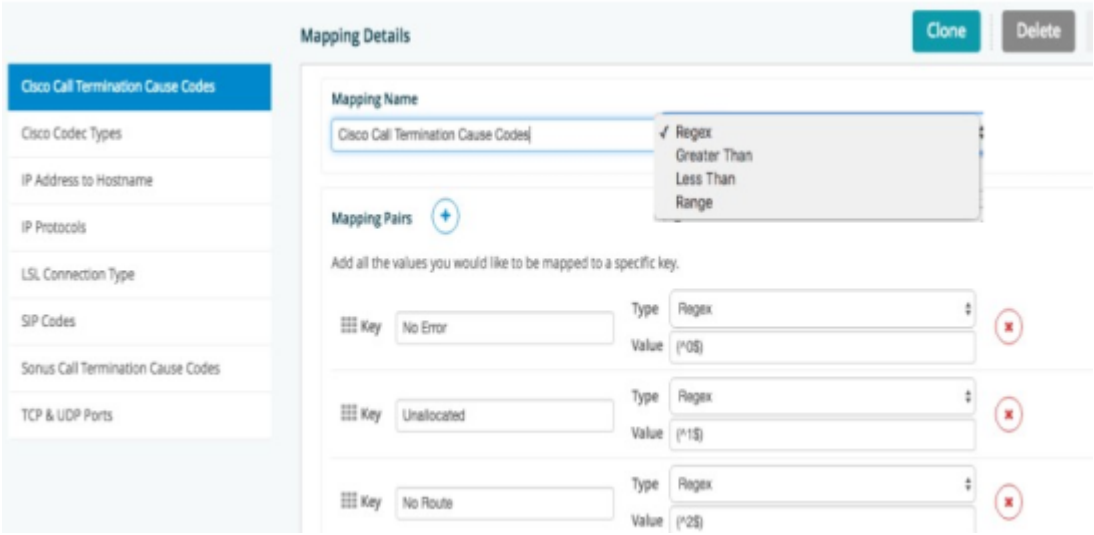


4.7.5. Mapping



By clicking on the wrench icon, a page will pop up allowing a powerful feature of mapping data elements to common names. This can be any data such as Cause Codes to Cause Names, Location Numbers to

Location Names, Protocol Numbers to Protocol Names, etc. When applying a mapping to a Field then the mapped value will show up in the widget in place of the data from the log.



There are four flexible functions to utilize to map the data from the log:

- Regex
- Greater Than
- Less Than
- Range

The order of each mapping element is important since precedence is top down. You can rearrange them by clicking and dragging the keypad icon next to the **Key** label.

4.8. Global Filters

4.8.1. Overview

Global filters allow you to view, edit, and apply a set of filters to a dashboard you've opened in the main pane.

Note: To display a dashboard in the main pane, you can search for it, or select it from the tree view in the dashboard library panel.

The global filters are based on a data element extracted from a saved search definition and a resource defined for the dashboard.

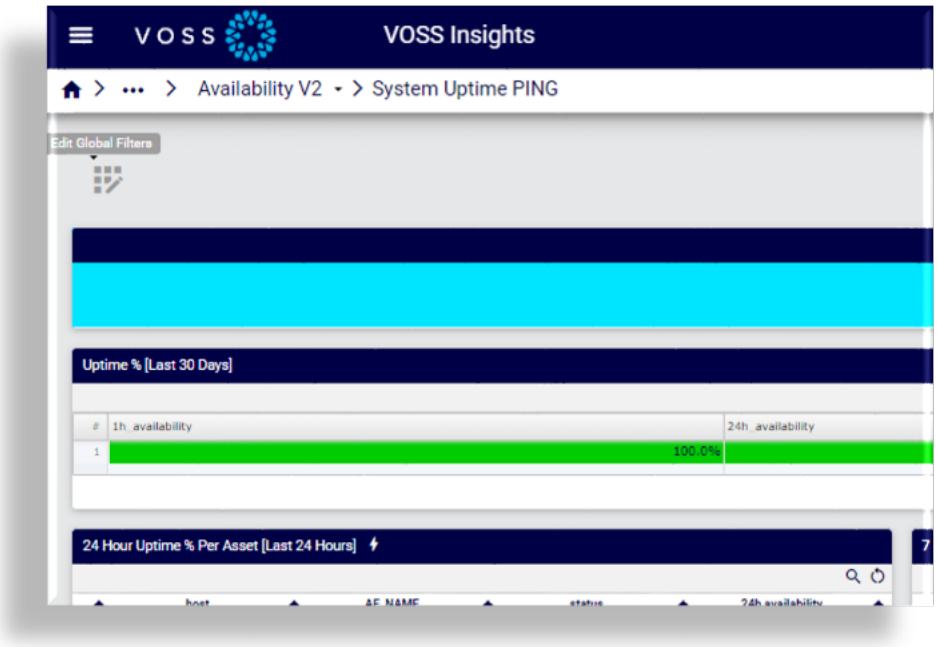
An example of a global filter is producing a performance dashboard by customer location. The widgets on the dashboard are all the performance statistics but the data is filtered by the customer location.

Related Topics

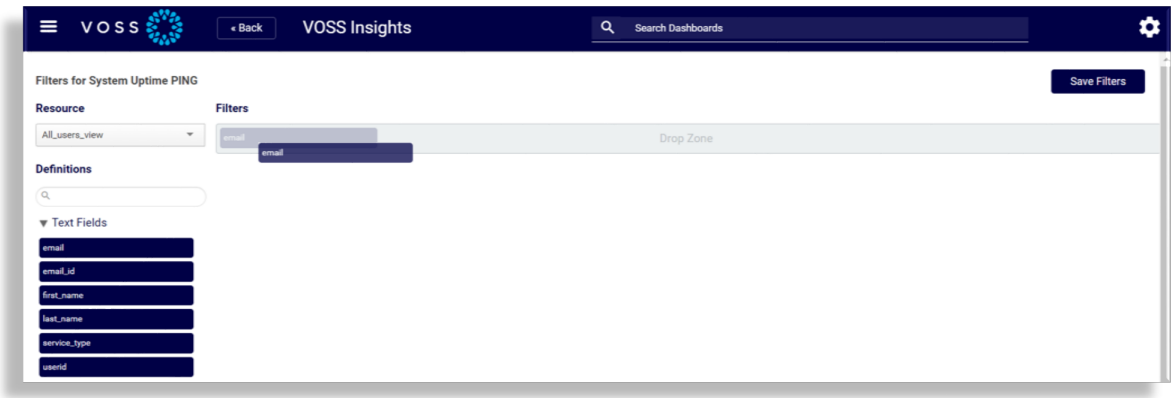
- *Saved Search Definitions*

4.8.2. Edit Global Filters

1. To show/hide the global filter configuration for a dashboard, open the dashboard, then click the toolbar **Show Global Filters** icon .
2. Click the **Edit Global Filters** icon to open the configuration screen for the filters.



3. On the filter configuration screen, select the resource and definitions to apply as a filter.



Note:

Global filters (and customer filters) work as an IN function that searches for exact string match in SQL. For example:

```
IN (172.30.42.1, 172.30.42.2)
```

You must type out all values in the search box (separated by commas), and then press Enter. If you press Enter after selecting each IP address, the search only returns data if all of the IPs are found in the field (which is unlikely).

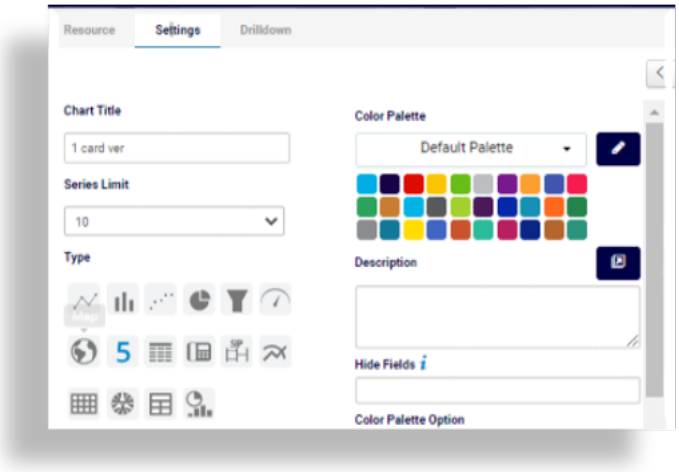
4. Save your changes to return to the dashboard you're working with.

5. Building a Chart

5.1. Introduction to Building Charts

5.1.1. Overview

Once you have the data elements defined for a widget (via the **Resource** tab in the Widget Editor), you can choose how you want to represent the analysis. This means you choose the widget type, via the **Type** section of the **Settings** tab of the Widget Editor.



5.1.2. Widget Types

Depending on the type of data you want to display on the widget, you can choose an appropriate widget type from the selection of icons on the page:

- *Line / Area Chart*
- *Column / Bar Chart*
- *Scatter Chart*
- *Pie / Donut Chart*
- *Funnel Chart*
- *Gauge Chart*

- Map
- *Card Chart*
- Table / Table 2 (see *Tables*)
- Call Hops
- SIP Ladder
- Multi Charts
- Heat Map
- Chord Diagram
- Combo Charts

Each widget type has conditions or rules that apply to specific data elements. For example, table data elements over time (i.e. DNS Entries for the day by IP address) won't display in a *Gauge chart* widget type.

Configuration options also vary, depending on the selected widget type.

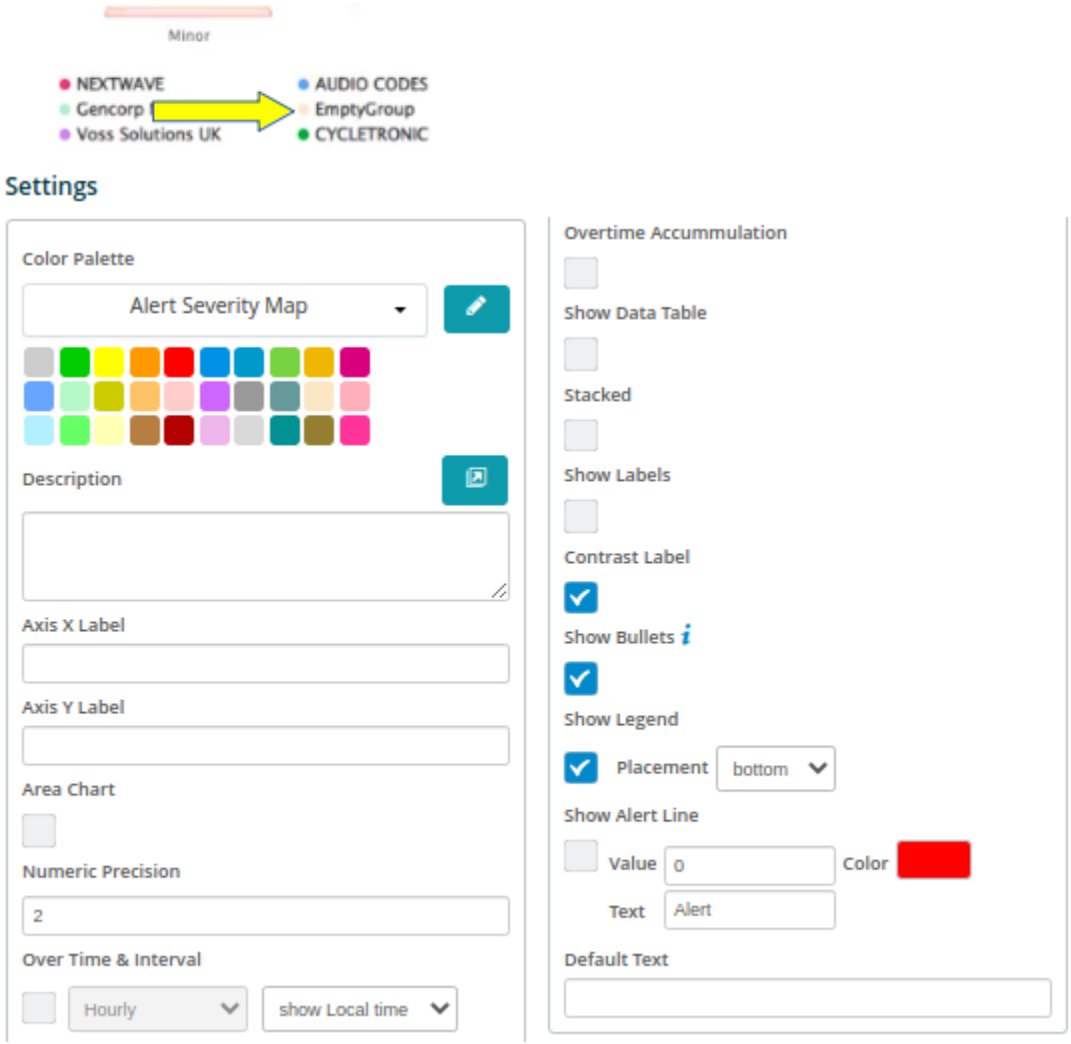
5.2. Chart Types

5.2.1. Line / Area Chart

When clicking on the **Line Chart** the **Settings** options below are adjusted to that particular selection. You have the following choices:

- Color Palette - This defines the colors to associate with data values, the line plus allows you to save that palette for use with additional widgets. See the options on how to define the palette below. (*Color Palette Changes*)
- Description - Allows you to enter a description of the chart to be displayed along the top portion of the chart.
- Axis X Label - Labels the X Axis (Horizontal) for the chart such as "Date".
- Axis Y Label - Labels the Y Axis (Vertical) for the chart such as "milliseconds".
- Area Chart - By selecting this check box the chart will display the area under the line versus simply the line within the chart.
- Numeric Precision - Select the decimal precision for each point.
- Over Time & Interval - By selecting this check box the chart will display the data over the specified time and based on the interval toggled within the adjacent box, i.e. Minute, Hour, Daily, Weekly, and Monthly.
- Over Time Accumulation – Selecting this box will accumulate all of the values as they are represented in the chart versus each value.
- Show Data Table - Selecting this will display data in a table below the chart.
- Stacked - By selecting this check box the chart will stack the values on top of each other.
- Show Labels - By selecting this check box then each value that defines the chart will be labeled on the chart.
- Show Bullets - By selecting this check box then a bullet will be placed on the chart for each value.

- Show Legend - By selecting this check box then the Field Definition for the values being charted will be displayed in the position selected, with the associated color representation.
- Placement – Drop-down box providing options on where to place the legend on the chart.
- Show Alert Line - This allows a value to be set to show a threshold or “Alert” line on the chart and have it represented in a different color.
- Empty Group Text - enter text to show if the group name is empty (instead of “EmptyGroup”).

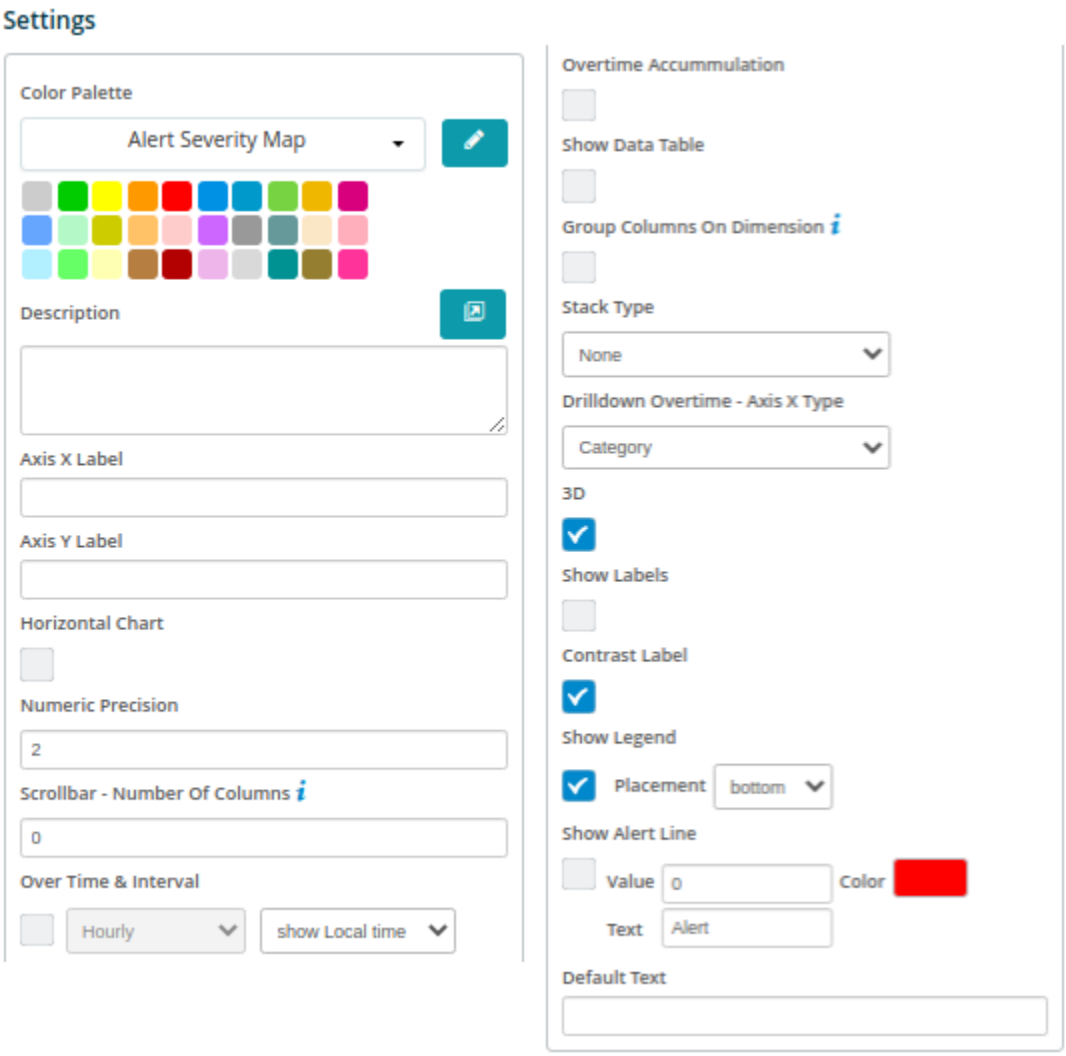


5.2.2. Column / Bar Chart

When clicking on the Column/Bar Chart, the **Settings** options below are adjusted to that particular selection. You have the following choices:

- Color Palette - This defines the colors to associate with data values, the columns/bars plus allows you to save that palette for use with additional widgets. See the options on how to define the palette below. (*Color Palette Changes*)
- Description - Allows you to enter a description of the chart to be displayed along the top portion of the chart.

- Axis X Label - Labels the X Axis (Horizontal) for the chart, such as “Date”.
- Axis Y Label - Labels the Y Axis (Vertical) for the chart, such as “milliseconds”.
- Horizontal Chart - By selecting this check box, the chart will display the columns/bars horizontally across the chart.
- Numeric Precision - Select the decimal precision for each point.
- Scrollbar – Number of Columns – Input the number of columns (vertical or horizontal) that you want to represent on the chart. A scrollbar will appear that will allow you to scroll through the remainder of the data while only representing the number of columns selected.
- Over Time & Interval - By selecting this check box the chart will display the data over the specified time based on the interval toggled within the adjacent box, i.e. Minute, Hour, Daily, Weekly and Monthly.
- Over Time Accumulation – Selecting this box will accumulate all of the values as they are represented in the chat versus each value.
- Show Data Table - Selecting this will display data in a table below the chart.
- Group Columns on Dimension – Selecting this will allow you to group the metrics on the dimensions being analyzed in the chart.
- Stack Type – By selecting this box the chart will stack the values based on the type selected: Stack, StackPercentage or Drilldown.
- Drilldown Overtime – Axis X Type: Select the X Axis drilldown for an overtime chart based on the “Category” or the “DateTime”.
- 3D - By selecting this check box the columns/bars will be displayed in a 3D representation.
- Show Labels - By selecting this check box, each value that defines the chart will be labeled on the chart.
- Contrast Label – Select this to provide better contrast on the font. Usually utilized with dark mode in the browser.
- Show Legend - By selecting this check box, the Field Definition for the values being charted will be displayed in the selected position on the chart with the associated color representation.
- Placement – Drop-down box providing options on where to place the legend on the chart.
- Show Alert Line – This allows a value to be set to show a threshold or “Alert” line on the chart and have it represented in a different color.
- Empty Group Text - enter text to show if the group name is empty (instead of “EmptyGroup”).

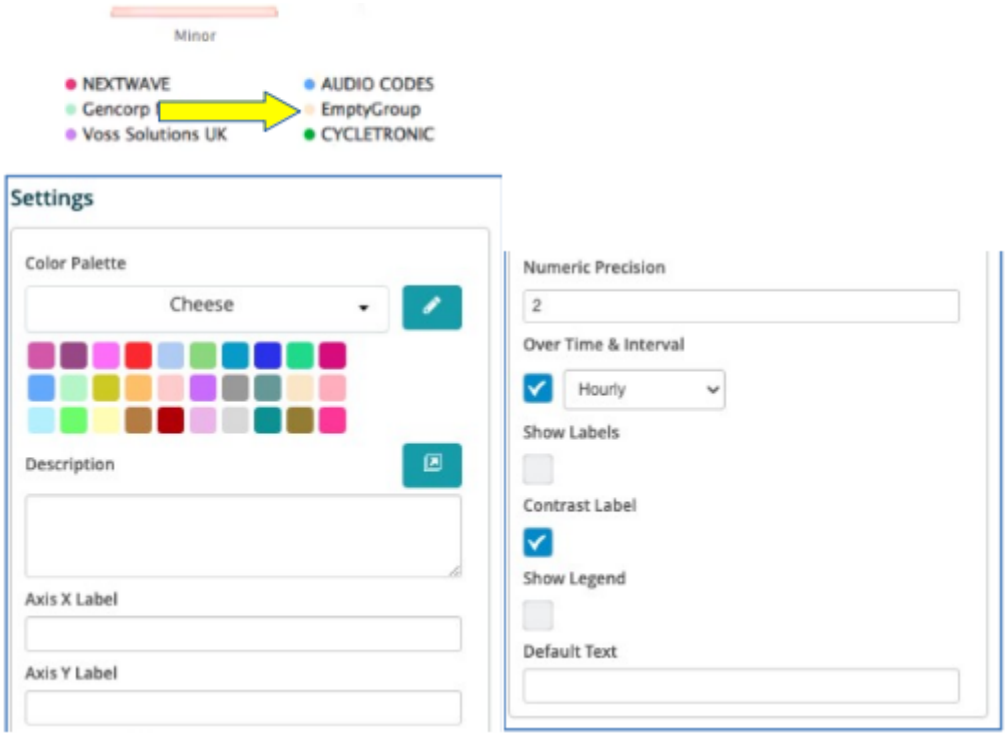


5.2.3. Scatter Chart

When clicking on the Scatter Chart the **Settings** options below are adjusted to that particular selection. You have the following choices:

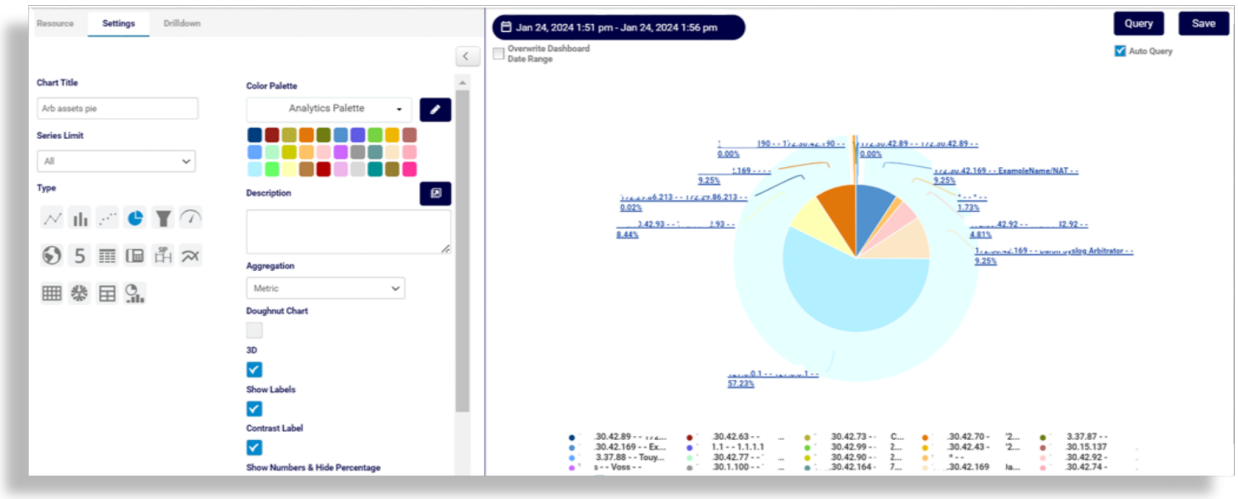
- Color Palette - This defines the colors to associate with data values, the scatter plots plus allows you to save that palette for use with additional widgets. See the options on how to define the palette below. (*Color Palette Changes*)
- Description - Allows you to enter a description of the chart to be displayed along the top portion of the chart.
- Axis X Label - Labels the X Axis (Horizontal) for the chart, such as “Date”.
- Axis Y Label - Labels the Y Axis (Vertical) for the chart, such as “milliseconds”.
- Numeric Precision - Select the decimal precision for each point.
- Over Time & Interval - By selecting this check box the chart will display the data over the specified time and based on the interval toggled within the adjacent box, i.e. Minute, Hour, Daily, Weekly and Monthly.

- Show Labels - By selecting this check box then each value that defines the chart will be labeled on the chart.
- Contrast Label - Select this to provide better contrast on the font. Usually utilized with dark mode in the browser.
- Show Legend - By selecting this check box then the Field Definition for the values being charted will be displayed in the selected position on the chart with the associated color representation.
- Empty Group Text - enter text to show if the group name is empty (instead of “EmptyGroup”).



5.2.4. Pie / Donut Chart

Clicking the **Pie** / **Donut chart** icon at **Type**, in the Widget Editor **Settings** tab adjusts whatever data you’re viewing in the chart pane, to a Pie chart.



The table describes Pie chart editing options on the **Settings** tab:

Field	Description
Color Palette	The colors to associate with data values and the pie/donut plots. You can save the palette to use with other widgets. For details around creating a custom color palette see *Color Palette Changes*
Description	Fill out a description for the chart, which will display along the top of the chart.
Doughnut Chart	Defines whether the chart changes to a doughnut chart with the values plotted around an empty space in the middle instead of wedges in a Pie chart.
3D	Displays the chart in 3-D.
Show Labels	Select this option to have each value as a label on the chart.
Contrast Label	Enhance contrast on the font, typically used for browser dark mode.
Show Numbers & Hide Percentage	Defines whether to show values/numbers on the chart instead of percentages.
Show Legend	Defines whether to display the field definition for values charted, in the selected position on the chart, with the associated color representation.
Empty Group Text	Fill out text to show if the group name is empty (instead of “EmptyGroup”).

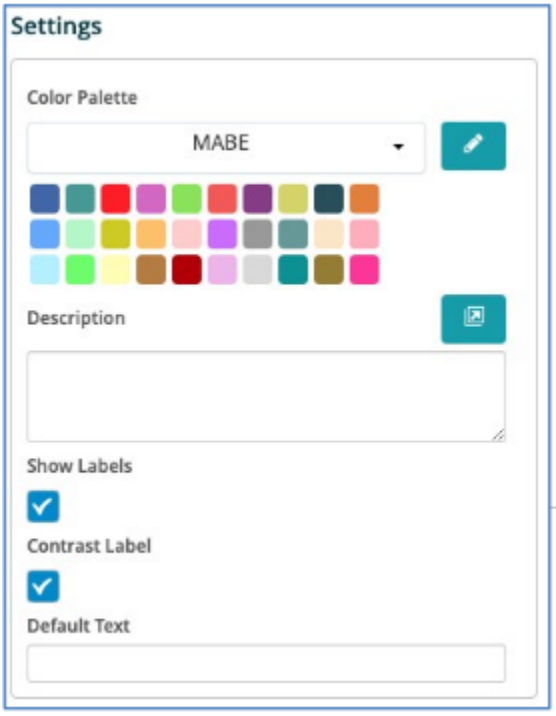
Related Topics

- *Working with Dashboard Widgets*

5.2.5. Funnel Chart

When clicking on the Funnel Chart the **Settings** options below are adjusted to that particular selection. You have the following options:

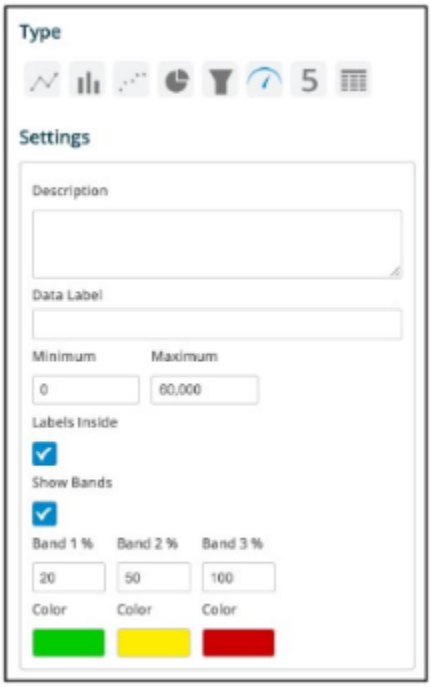
- Color Palette - This defines the colors to associate with data values and the funnel plots plus allows you to save that palette for use with additional widgets. See the options on how to define the palette below. (*Color Palette Changes*)
- Description - Allows you to enter a description of the chart to be displayed along the top portion of the chart.
- Show Labels - By selecting this check box then each value that defines the chart will be labeled on the chart.
- Contrast Label - Select this to provide better contrast on the font. Usually utilized with dark mode in the browser.
- Empty Group Text - enter text to show if the group name is empty (instead of “EmptyGroup”).



5.2.6. Gauge Chart

When clicking on the Gauge Chart the **Settings** options below are adjusted to that particular selection. You have the following choices:

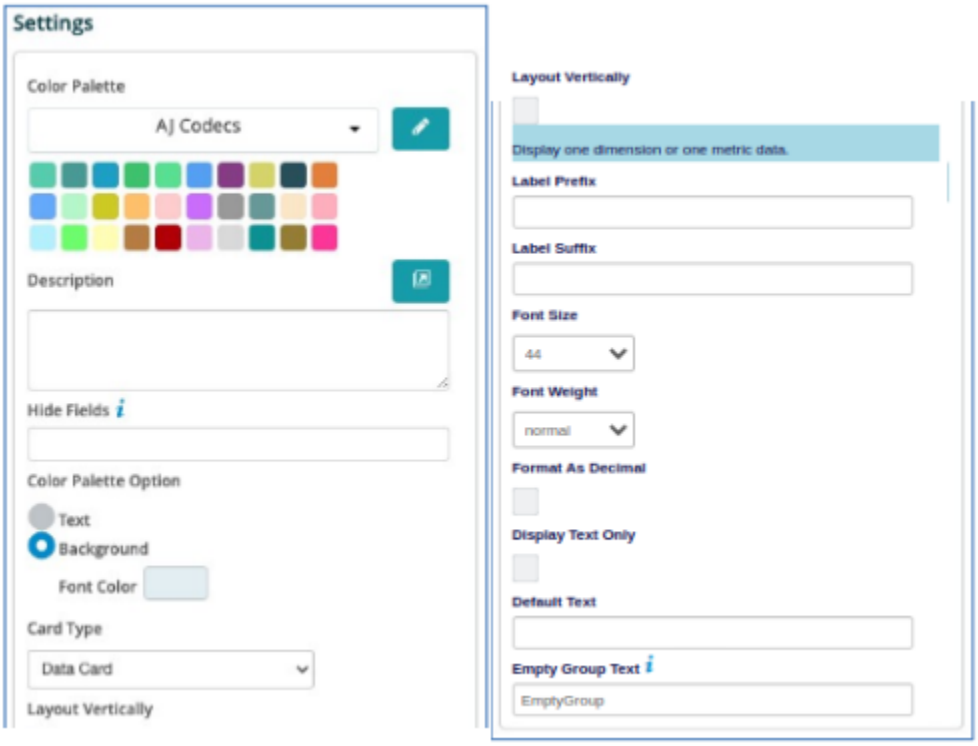
- Description - Allows you to enter a description of the chart to be displayed along the top portion of the chart.
- Data Label - Labels the middle of the gauge with value from field extraction.
- Minimum and Maximum - Place the starting value (Minimum) and the ending value (Maximum) for the gauge needle to traverse, i.e. Start at 0 and End at 60,000
- Labels Inside - By selecting this check box the value will be labeled with the definition based on the field extraction.
- Show Bands - By selecting this check box then the gauge will have a maximum of 3 colored bands indicating certain severity levels. These are user defined thus a good, minor and major severity can be easily defined based on the data elements extracted. Simply place values for each color in the associated box to represent the percentage of the gauge band that color is to occupy. Tip: Make your major issue (Red) 100 thus simply modifying the good and minor automatically recalculates the major.
- Modify each color band by simply clicking on the color swatch. A color box pops up where you can select the hue or enter specific values to change the color.



5.2.7. Card Chart

When clicking on the Card Chart the **Settings** options below are adjusted to that particular selection. This chart option creates a card for each value to analyze. You have the following choices:

- Colour Palette - This defines the colors to associate with data values, and the Card plots, plus you to save that palette for use with additional widgets. See the options on how to define the palette below. (*Color Palette Changes*)
- Description - Allows you to enter a description of the chart to be displayed along the top portion of the chart.
- Hide Fields - Allows you to hide fields that you may not want to show on a graph. The field choice starts at 1 from left to right. Enter the number or numbers of fields you want to hide. Separate each by a comma.
- Colour Palette Option - This allows you to select a specific color for either the **Text** or the **Background** on the Card Chart.
- Card Type - This allows you to select the type of data to show on a Card. There will be additional options that open up based on the value selected here. The types are Data Card, MM Data Card (Multiple Metrics and Dimensions displayed on the Card), Trending Card (Provides a Direction or Color change to indicate the positive or negative trend for the data), Accumulated Trending Card (same as trending but based on the accumulated values versus the individual values).
- Layout Vertically - By clicking in the check box this will orient all the cards in a vertical fashion in the widget.
- Label Prefix - This allows a description of the element on each card to be placed before the value.
- Label Suffix - This allows a description of the value on each card to be placed after the value.
- Font Size - Select the font size for the Label Prefix/Suffix and the data element.
- Font Weight - Select the font weight, i.e. normal or bold.
- Format As Decimal - Check this box to add the decimal point to the value on the card.
- Display Text Only - Select this value to only show the text on the card.
- Empty Group Text - enter text to show if the group name is empty (instead of “EmptyGroup”).



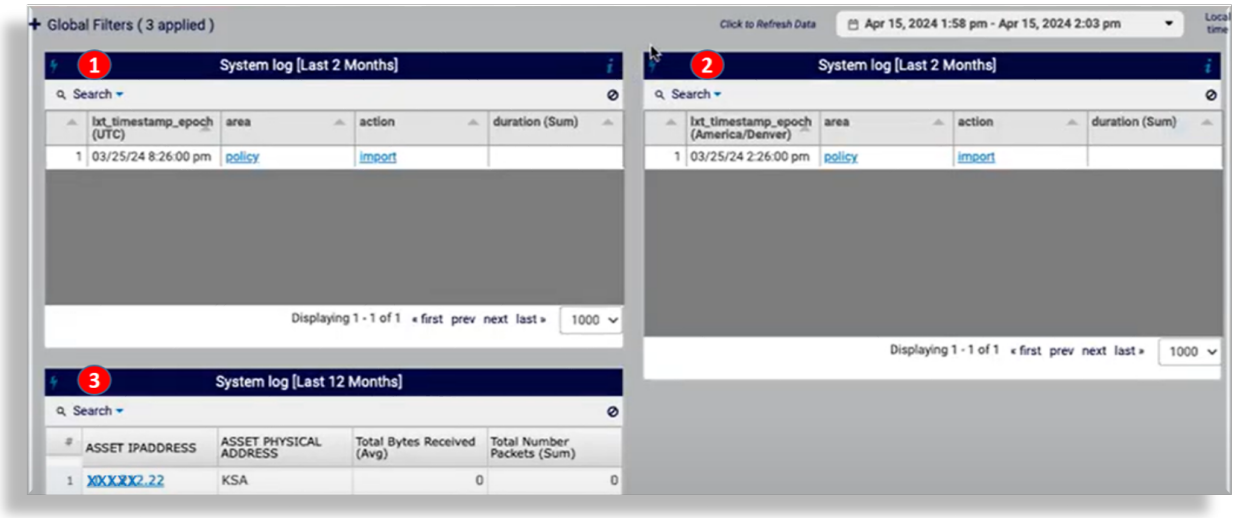
5.2.8. Tables

Overview

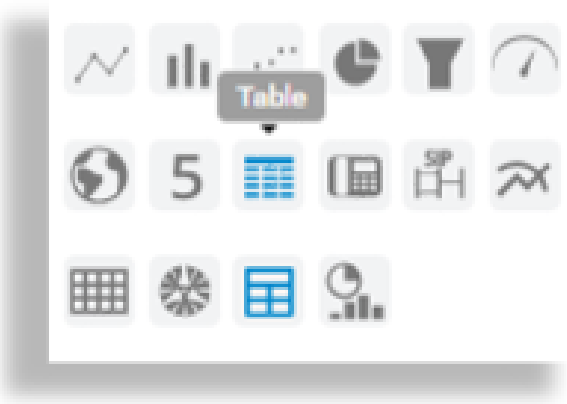
The Dashboard system provides two table chart types for widgets, *Table 1* and *Table 2*. You can select a table chart type when adding or editing the widget via the **Widget Editor**, on the **Settings** tab.

Configuration options for the tables depend on the table chart type you choose.

The image displays Table 2 charts (marked 1 and 2), and a Table 1 chart (marked 3):



Note: In the **Widget Editor** (**Settings** tab), the Table 1 icon appears in the row above the Table 2 icon.



Related Topics

- *Working with Dashboard Widgets*
- *Settings Tab*

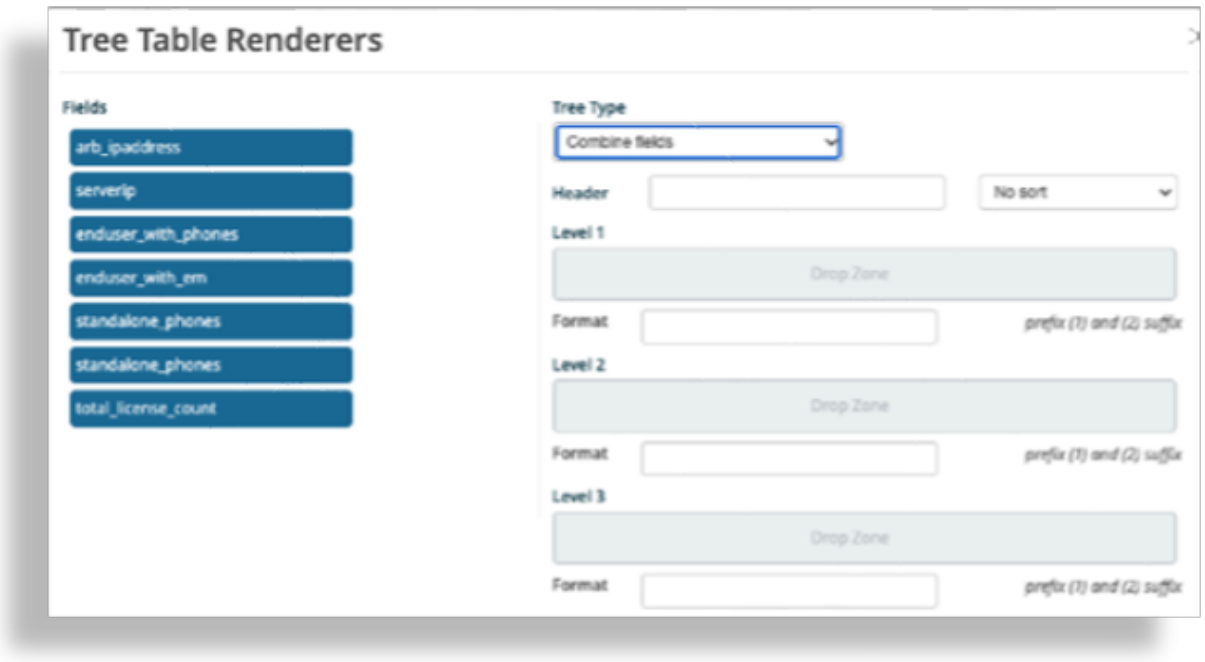
Configure Table Widgets

The table describes the configuration options for table widget types (Table 1 and Table 2), accessible via the **Settings** tab in the Widget Editor:

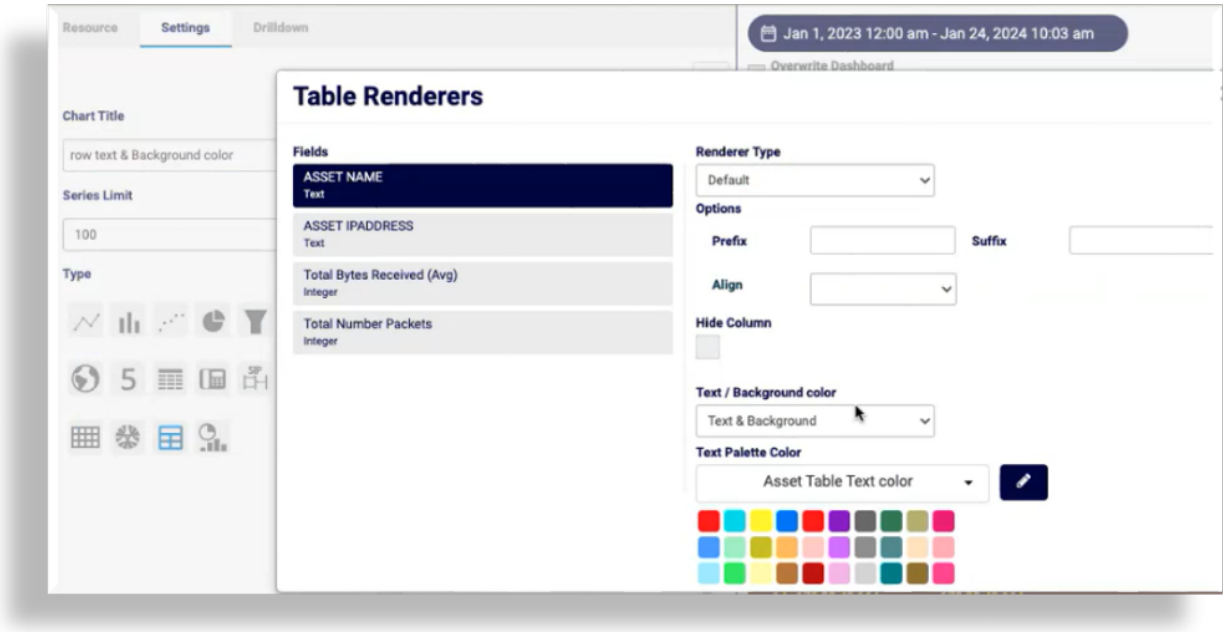
Field	Description
Description	The description that displays along the top of the table widget.
Over Time & Interval	Defines whether to display the data over the specified time and based on the interval toggled within the adjacent box, i.e. Minute, Hour, Daily, Weekly and Monthly.
Over Time Day Pagination	Allows you to view the table page by page, over the time interval.
Tree-Like Table	Table 1 only. Defines whether each row in the table has an arrow indicating parent / child relationships in a row. Clicking again displays only the parent level.
Hide Columns	Defines whether to hide columns in the table. Choose columns from 1, left to right. Fill out the number of columns to hide. Separate each by a comma.
Hide Count Column	A default “Count” column is added to the end of the table. Choose this option to hide the Count column.
Column Width Adjustment	Table 2. Column widths can fit contents or can be customized.
Font Size	Table 2. Adjust font size in the table.
Show Metric Summary	Table 2. Adds a summary row to the bottom of the table.
Vertical Header	Table 2. Defines whether to place the text within the header of each column in a vertical position.
Table Renderers	Table 2. Table Field Renderer and Table Tree Renderer. Click the Cog icon to open the configuration dialog for each of these, where you can design the data presentation format. The Table Renderer includes a color palette for the background, the text, or the text and background. For the *Text & Background* option, you can choose a different color for each of the text and background. Table Field Renderer Column names display below **Fields**. You can choose a renderer type, either of the following: • Default - Just as it is present in the table • Text - Convert the data to text • Traffic Light - A colored ball driven by values in the palette • Tick Cross - A symbol to represent the data type in the row Tree Table Renderer The Tree Table Renderer dialog allows you to control how data is grouped per tree table. Each selection provides for additional choices that are logically assigned. Additionally, you can choose to put in a custom prefix or suffix for the data. An example is a $ or a metric such as Gbps. The Table 2 Table Renderer dialog also allows you to choose a date format for the display of dates in the widget, and for downloading widget data (CSV or Excel). You can choose to present dates as UTC, local time, epoch time, or for a selected timezone.

Field	Description
Selection Type	Choose Row or Cell. Cell underlines the field (similar to a URL) that is being used in the drill-down selected at the bottom. Row is a standard view.
Color Palette Type	Row or Cell. Allows a custom color (based on values, regex, ranges, or comparisons) to be applied to either the cell or to the row.
Color Palette Option	Choose the color to apply. The color palette is applied based on the calculation set up and applied to the column selected next to that field. (Starts with column 1).

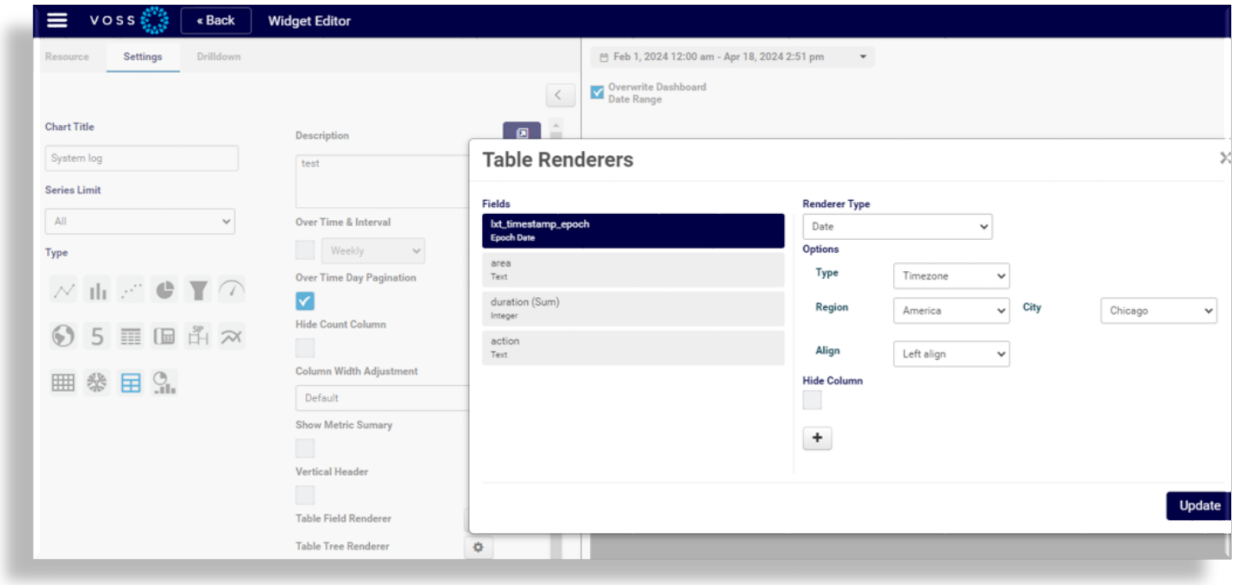
The image displays the configuration dialog for **Table Tree Renderer**:



The image displays the configuration dialog for **Table Field Renderer**:

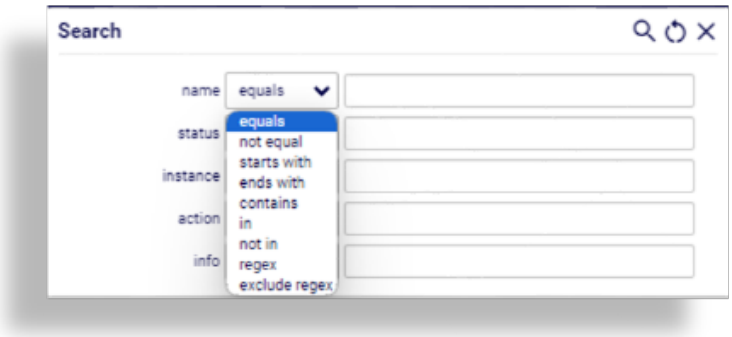


The image displays the date format settings (**Renderer Type** field) in the **Table Renderer** dialog:

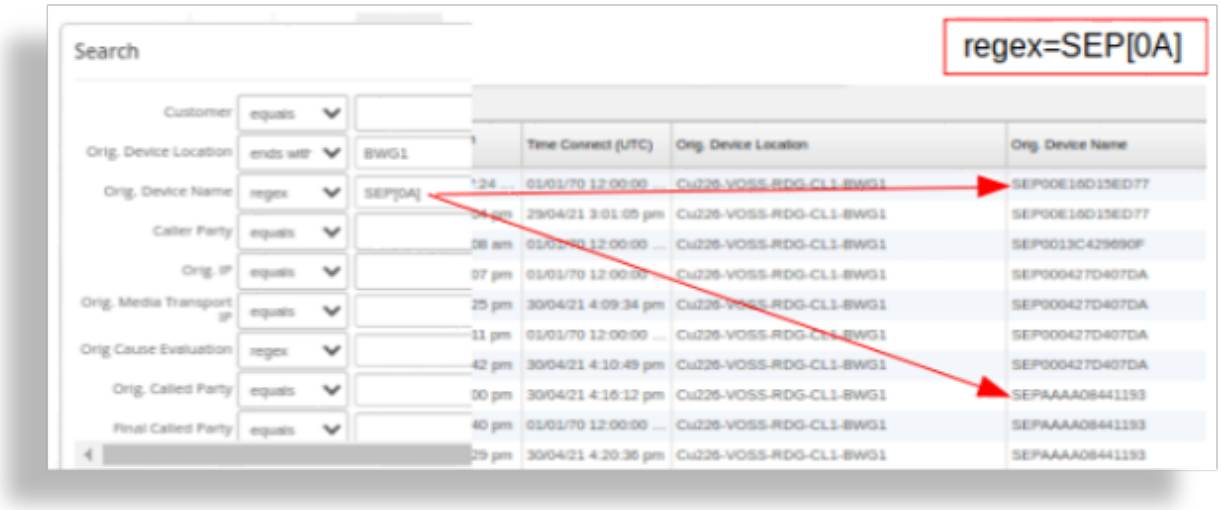


Search and Sort Table Widget Data

Table widget types include a Search box for displayed fields. You can search table data by a range of matching operators, including regex.



The following example illustrates the results of a combined “ends with” and regex *SEP[0A]* (contains *SEP* followed by either *0* or *A*):

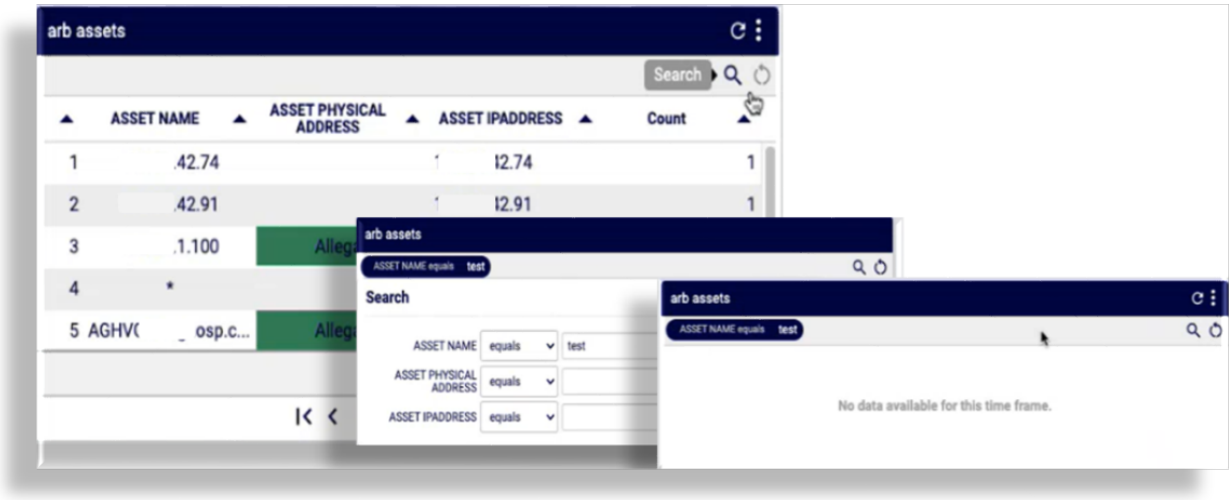


Search and filter data in widget tables

1. Click the **Search** icon at the top right of the table to launch the Search box.
2. Fill out search criteria, click the **Search** icon, then view results.

   Search criteria displays with search results.

   You can click the **Reset** icon to clear search filters.



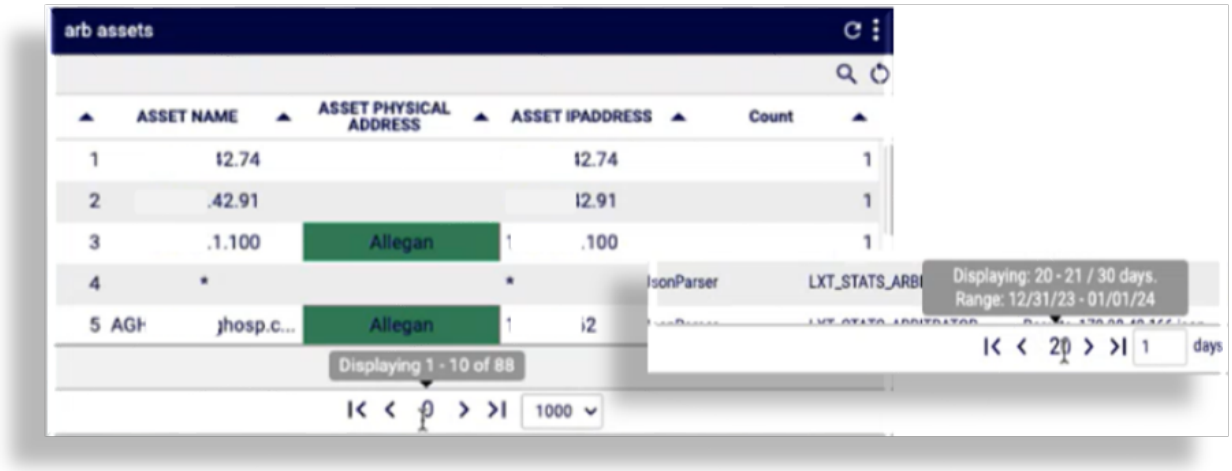
Sort table data in widget tables

Click a table header to sort table data. Click the **Reset** icon to clear the sort.

Paging in widget table data

For tables with two or more pages of data, you can click the left < or right > paging arrows to view additional data, or click the first page |< or last page >| paging icons.

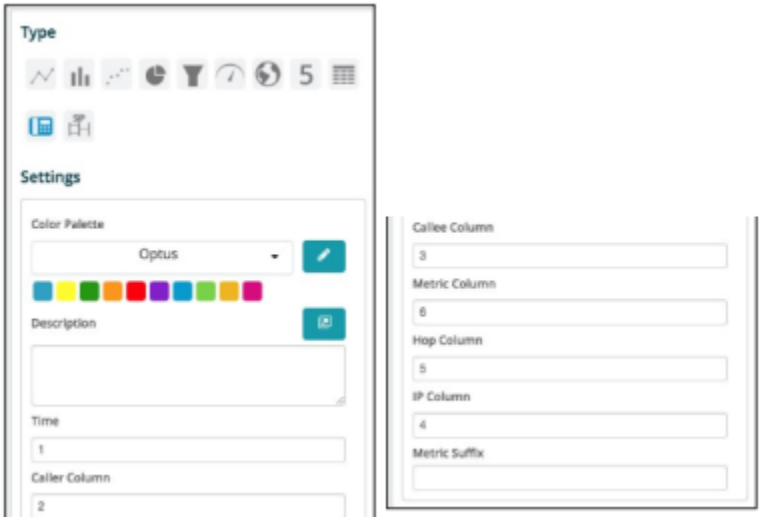
Hover over the paging icons to view a tooltip that tells you the page you're on and the total number of pages. In some tables, the paging tooltips include *over time range* information. In this case, clicking the first page |< paging icon displays the page for the first date where data exists, which may not be Page 1.



5.2.9. Call Hop Charts

When clicking on the Call Hop Chart the **Settings** options below are adjusted to that particular selection. This chart option creates a view where all the individual hops of the call are visible along with each hop latency.

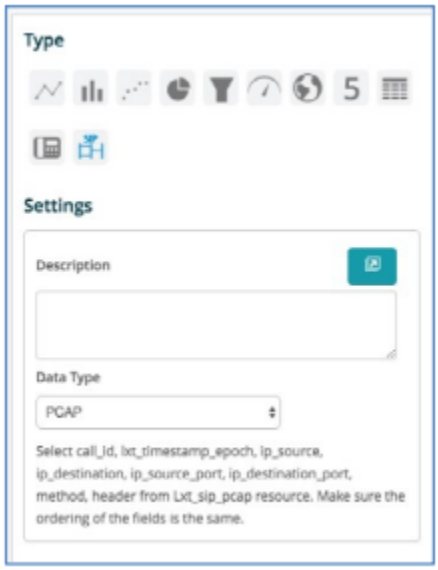
- Color Palette - The color palette can be utilized to design specific highlight colors based on the amount of latency on each hop. For example: If a hop is over 200ms of latency that value on that hop can be colored red. The color palette is a choice for the user.
- Description - A complete description of what this chart and widget represents can be typed in this box. This description will show up when you click the “i” in the top right corner of the widget.
- Call Displaying Type - There are two choices. Call Hops utilized for Skype for Business and Call Paths utilized for Avaya RTCP.
- The boxes just under the description are auto created based on the fields dragged out on the “Fields” bar. The numbers can be changed to represent the position that each of these fields show in the Call Hop chart. The last box **Metric Suffix** allows you to enter the metric measurement that the latency is presented in, i.e. ms for milliseconds.



5.2.10. SIP Signaling Ladder Diagram Charts

This chart is a speciality chart utilized only when you are collecting SIP signaling data from pcap files. Select the specific data type from the drop-down menu under **Data Type**.

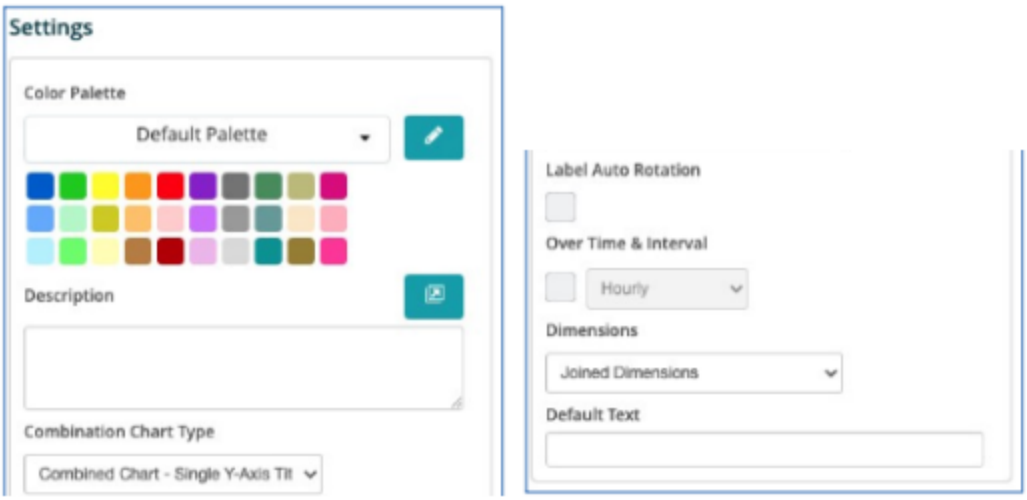
A full description of the chart content can be placed in the box under **Description**.



5.2.11. Multi Chart

When clicking on the Multi Chart the **Settings** options below are adjusted to that particular selection. You have the following choices:

- Color Palette - This defines the colors to associate with data values, the columns/bars plus allows you to save that palette for use with additional widgets. See the options on how to define the palette below. (*Color Palette Changes*)
- Description - Allows you to enter a description of the chart to be displayed along the top portion of the chart.
- Combination Chart Type - There are 3 choices to choose from.
  - Single Y-Axis Title - This places the data on a single axis.
  - Multi Y-Axis Titles - The titles and the data are represented across the Y Axis individually
  - Individual Charts - Each data point is graphed across the chart individually.
- Over Time & Interval - By selecting this box the chart will display the data over the specified time and based on the interval toggled within the adjacent box, i.e. Minute, Hour, Daily, Weekly and Monthly.
- Dimensions - This allows the dimension to be displayed with the metric on the chart label if applicable.

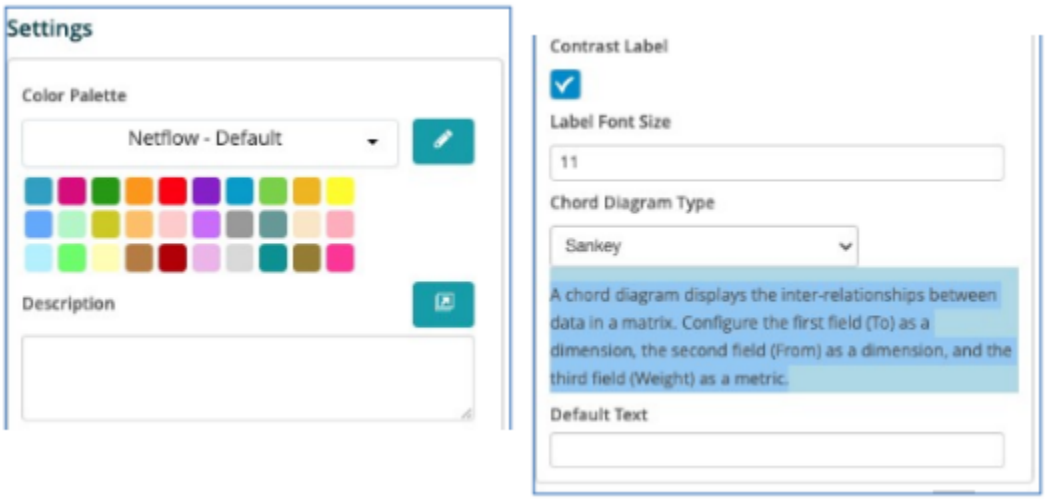


5.2.12. Chord Diagram

A chord diagram displays the inter-relationships between data in a matrix. Configure the first field (to) as a dimension, the second field (From) as a dimension and the third field (Weight) as a metric.

When clicking on the Chord Diagram the **Settings** options below are adjusted to that particular selection. You have the following choices:

- Color Palette - This defines the colors to associate with data values, the columns/bars plus allows you to save that palette for use with additional widgets. See the options on how to define the palette below. (*Color Palette Changes*)
- Description - Allows you to enter a description of the chart to be displayed along the top portion of the chart.
- Contrast Label - Select this to provide better contrast on the font. Usually utilized with dark mode in the browser.
- Label Font Size - Input the font size.
- Chord Diagram Type - The two choices are Sankey, which shows the relationship horizontally or Dependency Wheel, which connects the relationship in a wheel design.

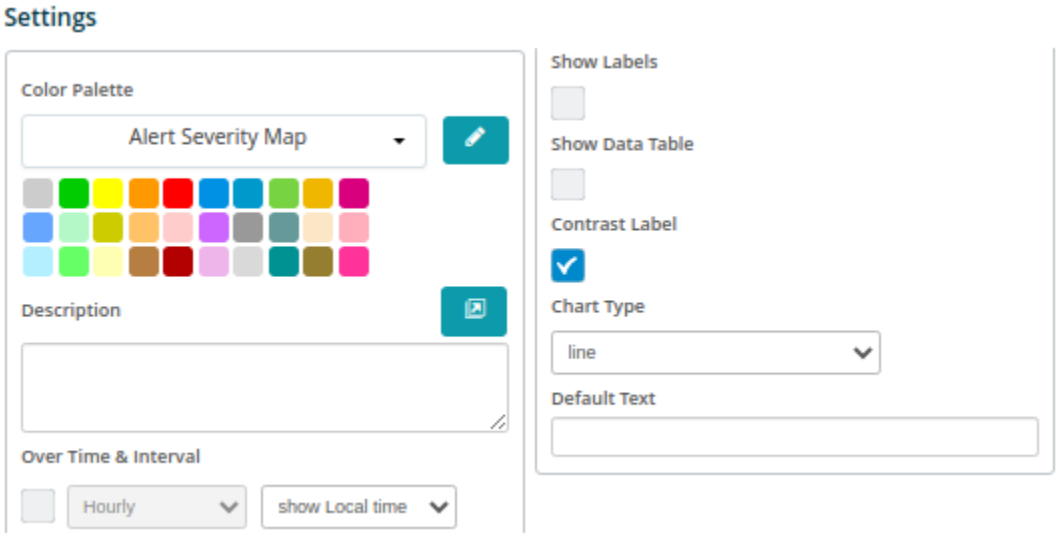


5.2.13. Combo Chart

A combo chart allows you to combine multiple metrics with a dimension to be displayed on the chart.

When clicking on the Combo Chart the **Settings** options below are adjusted to that particular selection. You have the following choices:

- Color Palette - This defines the colors to associate with data values, the columns/bars plus allows you to save that palette for use with additional widgets. See the options on how to define the palette below. (*Color Palette Changes*)
- Description - Allows you to enter a description of the chart to be displayed along the top portion of the chart.
- Over Time & Interval - By selecting this box the chart will display the data over the specified time and based on the interval toggled within the adjacent box, i.e. Minute, Hour, Daily, Weekly and Monthly).
- Show Labels - By selecting this box then each value that defines the chart will be labeled on the chart.
- Show Data Table - Selecting this will display data in a table below the chart.
- Contrast Label - Select this to provide better contrast on the font. Usually utilized with dark mode in the browser.
- Chart Type - The choices are Line, Spline, Column, Bar, Area or Areaspline. Select what works best to represent the data on the chart.

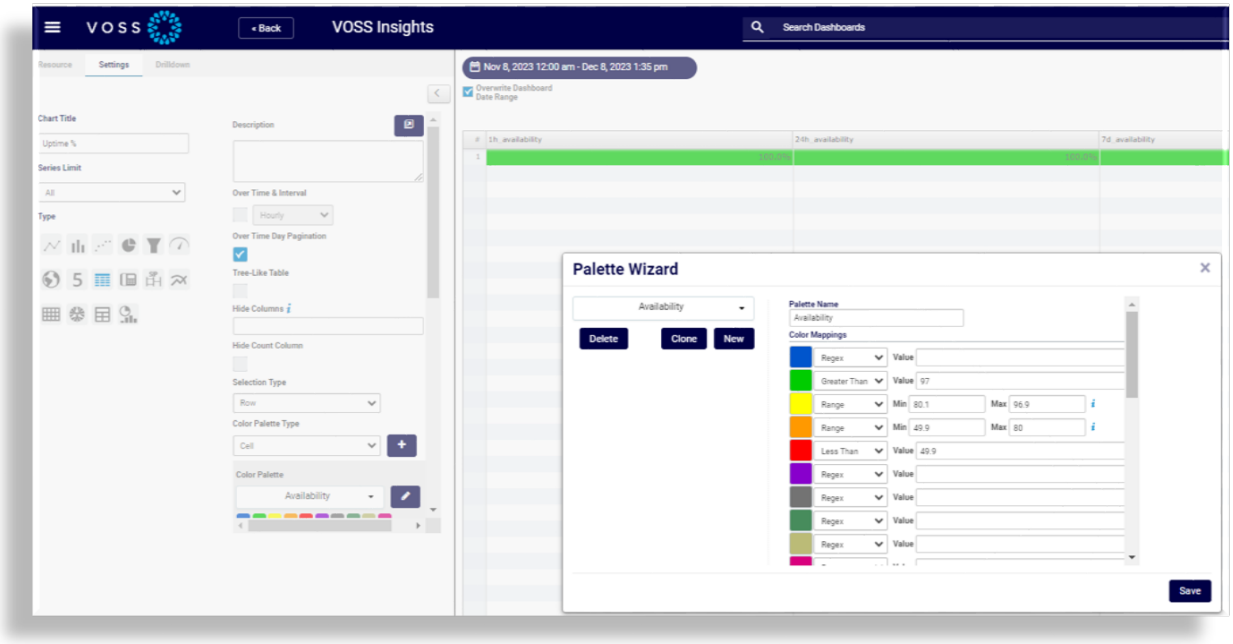


5.3. Manage Charts

5.3.1. Color Palette Changes

Click the **Edit** button next to the Color Palette name and a box is displayed allowing the color palette to be changed.

Select the color to represent each data elements/values extracted from the log field definitions. Name the choices and click **Save**. Now you can simply select this name in the Color Palette drop-down box. The associated chart will apply the colors based on the selected Color Palette name.



5.3.2. Build a Chart in the Widget Editor

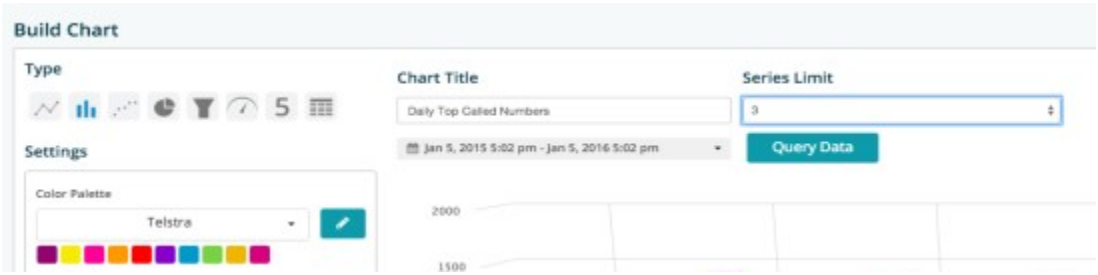


Chart Title

Once you've completed the design of your widget, give it a title. In the text box below Chart Title, enter the specific name you want to represent the data in the Widget. This name will be at the top of the widget on the dashboard.

Series Limit

Next select the number of data points that need to be reflected in the chart.

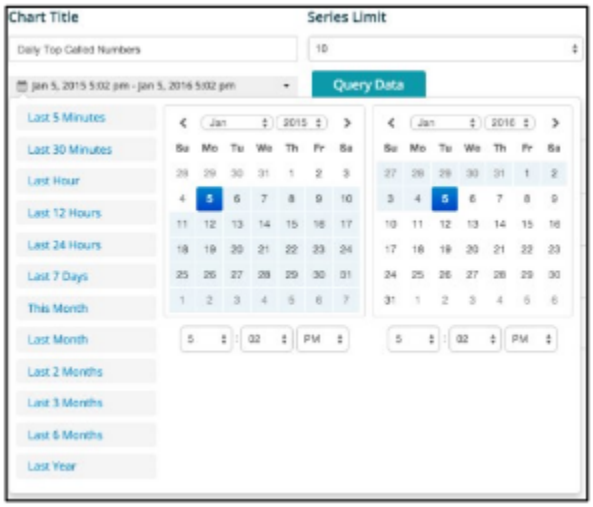
This is an upper limit thus the chart will not reflect more than selected here.

Timeframe

Next select the time frame by clicking on the data box just below the Chart Title.

A box will pop up showing a preset list of time frames.

If desired select one of these, i.e. This Month, otherwise a custom date and time frame can be selected by choosing the day/month/year/time in the left hand **from** calendar and the same in the right hand **to** calendar.



Query Data

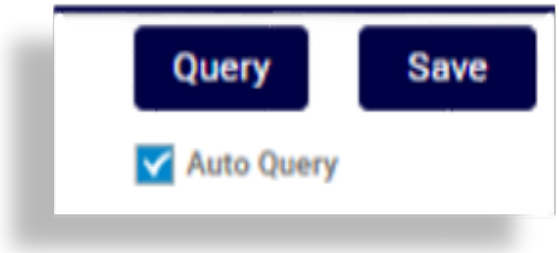
By clicking this button the system will query the data based on your inputs and return a chart to inspect.

The chart will auto update its preview chart upon any field changes.

Save Widget

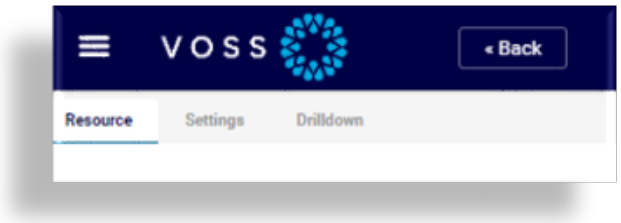
The **Save Widget** button is located in the top-right corner of the screen.

Make sure that you click this button before exiting the widget editor. If you don't click this button, changes will not be saved.



Back

The **Back** button is located in the top-left corner of the screen. Clicking this button returns you to the dashboard associated with that widget.



5.3.3. Drilling down into the Data

Drilldown Options

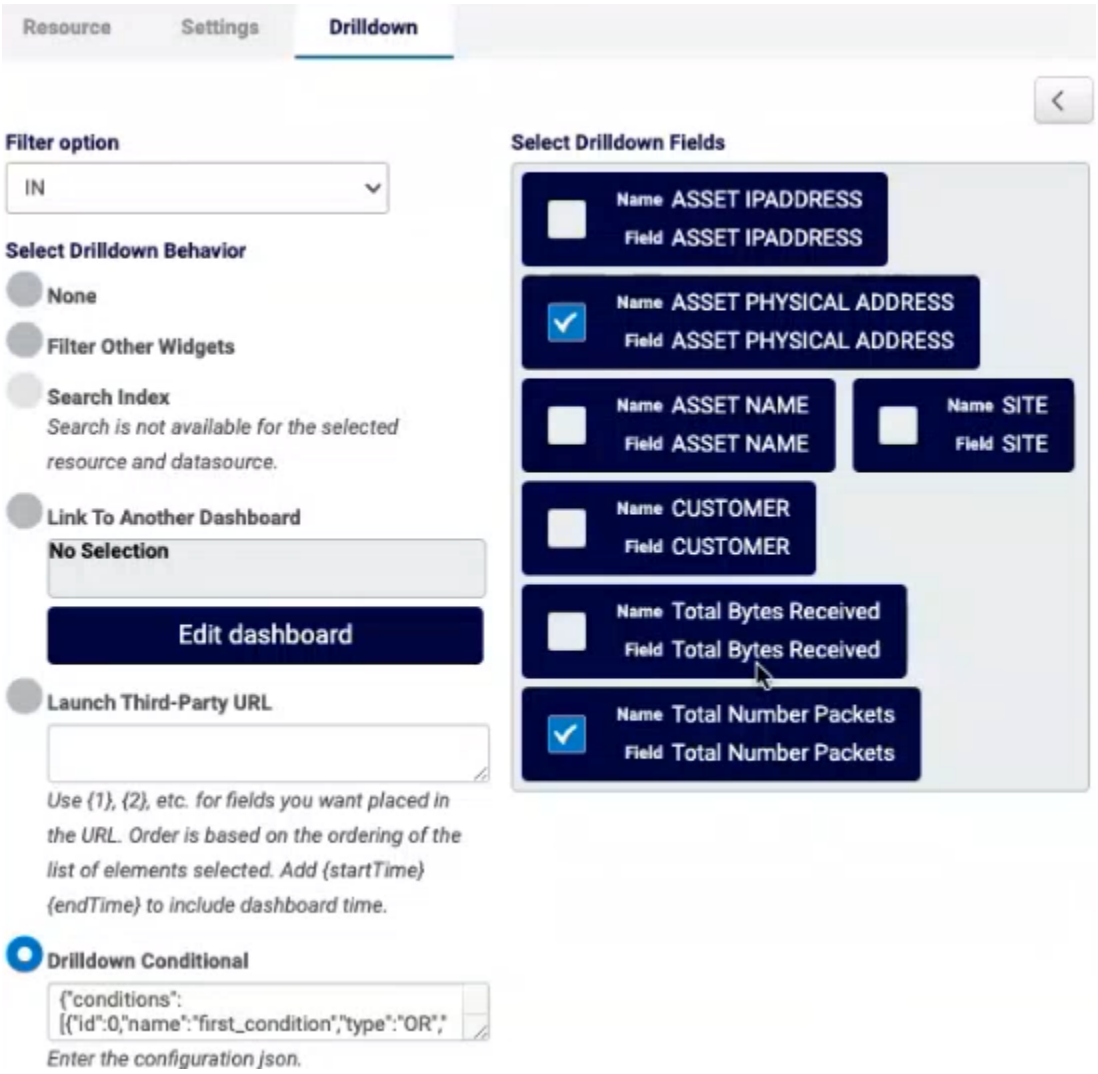
After you have your widgets and data sources defined you will find an option at the bottom of the Widget Editor screen that will allow for drilling into the data elements within your dashboard. This enables rapid viewing of data associated with certain elements and enables consolidated workflow through the data analysis.

If the selected data elements for your widget allow for drilldown then they will automatically appear in the **Select Drilldown Fields** bar.

Check the check box next to the field that you want to utilize as the basis of drilling into the data. An example could be an interface address on a router to see all data associated with that interface.

- **Filter option**: For example, if **Filter Other Widgets** is selected, then IN will match “Ann” exactly in other widgets and REGEX will match “Ann”, “Anne”, “Annie”.

Next select the type of drilldown behavior you want for this widget.



- Selecting **None** disables drilldown functions for this widget.
- Selecting **Filter Other Widgets** causes all of the other widgets on the dashboard to recalculate based on the selected field/data element checked in the bar to the side. This will allow a field such as an IP address in a table to be selected within the widget and all of the other analytic widgets on the dashboard will recalculate to only show the data associated with that IP address.
- Selecting **Search Index** enables the automatic launching of the Index data search screen. Populating it with the exact text selected within the widget and then setting the date range in the search return based on what is defined in the dashboard, pulls up all the logs that match that text string. This is a very rapid way of searching for all logs based on certain analysis observed within a dashboard widget.
- Selecting **Link to Another Dashboard** opens up a tree of all the dashboards defined within the system. Select the dashboard to which you want to link the drilldown function. You can also select to edit this dashboard prior to the linking. This function allows the flexibility of defining dashboard for certain analysis and linking to them from an overview type of dashboard. The example is an overall dashboard of multiple customers with a drilldown to a specific customer dashboard enabled by selecting that customer identifier within the widget.
- Selecting **Launch Third-Party URL** and entering the URL for the selected page to launch in the **URL** text box, will tie that URL to the data fields within the widget on the dashboard. This is a very quick analytic drilldown into more detail about certain elements and behaviors within the dashboard. An

example is to tie a Malware definition website to malware behaviors observed from firewall log data.

- The **Drilldown Conditional** option is only available if it is enabled in the **User Settings** - see: *User Settings*.

  The options allows for the definition of a series of pre-conditions to to determine drilldown behavior: to drilldown to a different widget or dashboard. For details, see: :ref"*drilldown-conditional-syntax*.

5.3.4. Drilldown Conditional Syntax

When selecting the **Drilldown Conditional** option, the condition needs to be entered in JSON format into the input box. This section provides syntax details and examples for this configuration.

If an item matching the condition is selected from the dashboard, the conditional drilldown is then carried out.

JSON format

- If `conditions` are all met
- then carry out `actions`
- else Defaults (`"default..."`)

Structure

```
{
  "conditions": [],
  "actions": [],
  "defaultDrilldown": 1,
  "defaultDashboardId": "",
  "defaultUrl": "",
  "defaultFilterFields": []
}
```

`conditions`

`conditions`: list of conditions on `rules`.

- `id`: "integer" - zero-based
- `name`: "text" - condition name
- `type` : "OR" or "AND"
  - `conditions.type`: "AND" means action will be taken when *all* conditions are met.
  - `conditions.type`: "OR" means action will be taken when *one* condition is met.

rules

- `rules`: list of rules:
  - `ruleid`: “integer” - zero-based
  - `field`: “integer” - zero-based

    Field order in the drilldown tab (0 base)
  - `fieldType`: “text”, “integer” or “float”
  - `operator`: “==”, “!=”, “<=”, “>=”, “<”, “>” or “regex”
    - `fieldType` text `operator` choices: “==”, “!=”, “regex”
    - `fieldType` integer and float `operator` choices: “==”, “!=”, “<=”, “>=”, “<”, “>”
  - `value`: value of the field; according to `fieldType`: “text”, “integer” or “float”

actions

List of actions:

- `drilldown`: “integer”
  - Drilldown type:
    - 1 (drilldown to other widgets)
    - 2 (drilldown to other dashboard: `dashboardid`)
    - 4 (drilldown to external link: `url`)
- `dashboardid`: “text”

  The ID is available as `dashboard_id` URL parameter value when on a dashboard.
- `url`: “text”

  The value is a URL containing position variables for `filterFields` references, whose values in turn are substituted into the URL. The position variables are one based, for example:

  ```
  "url":  "https://{1}/ui/index.html?{2}"
  ```

  refers to the first and second `filterFields` list entries, which in turn take the format

  ```
  "filterFields":  [0,1]
  ```

  The value of the first `filterFields` entry is therefore for example substituted into the URL variable `{1}` above.
- `filterFields`: list of fields (“integer” = index number)

  Field order in the drilldown tab (0 base)

Defaults

- `defaultDrilldown`: “integer”
- `defaultDashboardid`: “text”
- `defaultUrl`: “text”
- `defaultFilterFields`: list of fields (“integer” = index number)

  Field order in the drilldown tab (0 base)

Examples

Drilldown to other widgets

Explanation:

- If 7th field (`"field": 6`) data != 0 and 6th field (`"field": 5`) <= 0 then
  - run action drilldown to other widgets (`"drilldown": 1`)
    - using filter values of first, second and 4th field (`"filterFields": [0,1,3]`).
- If the condition is not met, then
  - run default action which is drilldown to other widgets (`"defaultDrilldown": 1`)
    - using filter values of first and second field.

JSON:

```
{
  "conditions": [
    {
      "id": 0,
      "name": "first_condition",
      "type": "AND",
      "rules": [
        {
          "ruleid": 0,
          "field": 6,
          "fieldType": "integer",
          "operator": "!=",
          "value": "0"
        },
        {
          "ruleid": 1,
          "field": 5,
          "fieldType": "float",
          "operator": "<=",
          "value": "0"
        }
      ],
      "actions": [
        {
          "drilldown": 1,
```

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```
          "dashboardid": "",
          "url": "",
          "filterFields": [
            0,
            1,
            3
          ]
        }
      ]
    }
  ],
  "defaultDrilldown": 1,
  "defaultDashboardId": "",
  "defaultUrl": "",
  "defaultFilterFields": [
    0,
    1
  ]
}
```

Drilldown to other dashboard

Explanation:

- If second field data is “keller, texas” or 5th field is “TX” then
  - run action drilldown to other dashboard (`"drilldown": 2, "dashboardid":...`)
    - using filter values of first, second and 4th field.
- If the condition is not met, then
  - run default action which is drilldown to other widgets
    - using filter values of first and second field.

JSON:

```
{
  "conditions": [
    {
      "id": 0,
      "name": "first_condition",
      "type": "OR",
      "rules": [
        {
          "ruleid": 0,
          "field": 1,
          "fieldType": "text",
          "operator": "==",
          "value": "keller, texas"
        },
        {
```

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```
          "ruleid": 1,
          "field": 4,
          "fieldType": "text",
          "operator": "==",
          "value": "TX"
        }
      ],
      "actions": [
        {
          "drilldown": 2,
          "dashboardid": "M2OQQMVN3IWI1O2P1686581558847Y2FRT98M8V24GS",
          "url": "",
          "filterFields": [
            0,
            1,
            3
          ]
        }
      ]
    }
  ],
  "defaultDrilldown": 1,
  "defaultDashboardId": "",
  "defaultUrl": "",
  "defaultFilterFields": [
    0,
    1
  ]
}
```


Drilldown to external link

Explanation:

- If second field data is “keller, texas” or 5th field is “TX” then
  - run action drilldown to other external link
    - using filter values of first and second field.
- If the condition is not met, then
  - run default action which is drilldown to other widgets
    - using filter values of first and second field.

JSON:


```
{
  "conditions": [
    {
      "id": 0,
      "name": "first_condition",
```


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(continued from previous page)

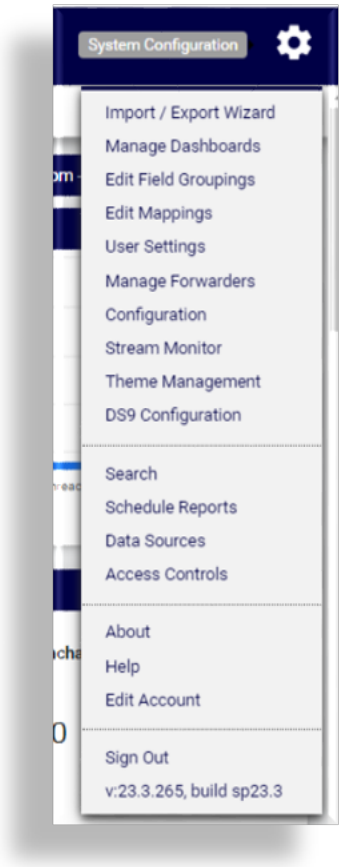
```
      "type": "OR",
      "rules": [
        {
          "ruleid": 0,
          "field": 1,
          "fieldType": "text",
          "operator": "==",
          "value": "keller, texas"
        },
        {
          "ruleid": 1,
          "field": 4,
          "fieldType": "text",
          "operator": "==",
          "value": "TX"
        }
      ],
      "actions": [
        {
          "drilldown": 4,
          "dashboardid": "",
          "url": "https://{1}/ui/index.html?{2}",
          "filterFields": [
            0,
            1
          ]
        }
      ]
    }
  ],
  "defaultDrilldown": 1,
  "defaultDashboardId": "",
  "defaultUrl": "",
  "defaultFilterFields": [
    0,
    1
  ]
}
```

6. System Configuration

6.1. System Configuration Menu

To access the **System Configuration** menu, click the Cog icon on the toolbar to open a menu with the following options:

- Import/Export Wizard
- Manage Dashboards
- Edit Field Groupings
- Edit Mappings
- User Settings
- Manage Forwarders
- Configuration
- Stream Monitor
- Theme Management
- DS9 Configuration
- Search
- Schedule Reports
- Data Sources
- Access Controls
- About
- Help
- Edit Account
- Sign Out



6.2. Import/Export Wizard

The Import/Export Wizard allows you to save dashboard templates and to move them between systems.

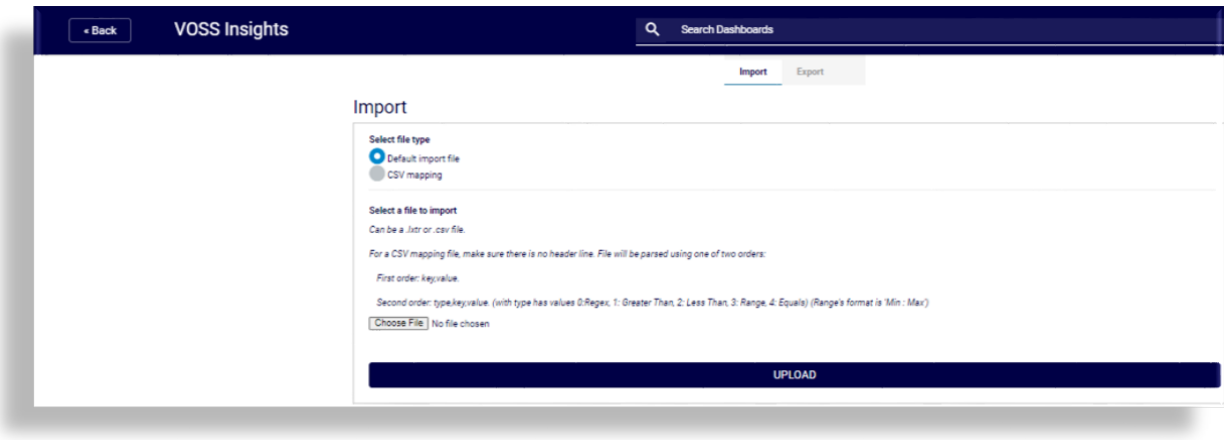
To open the Import/Export Wizard, click the **admin** menu then select **Import/Export Wizard**.

The Import / Export Wizard page contains the following tabs:

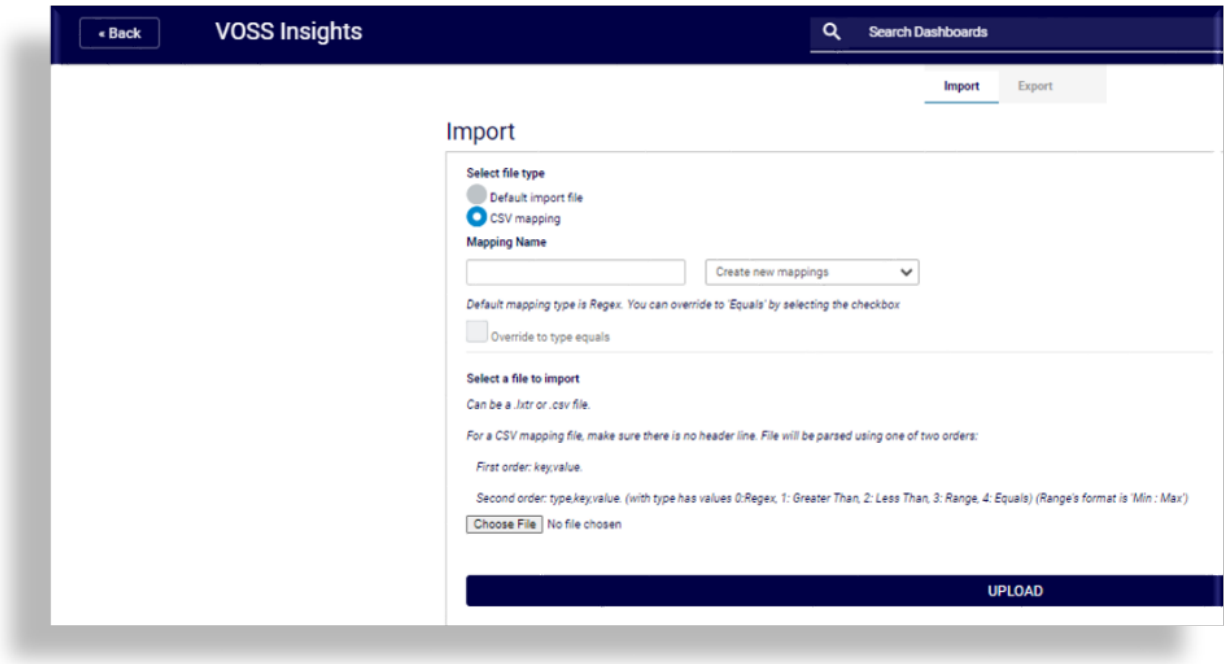
- Import
- Export

6.2.1. Import Tab

This tab allows you to select a saved template and to import it into your system. The saved files are in a proprietary format (`.lxtr`).



With a **CSV Mapping** import, options are available to create, overwrite, or append the new mappings.



Click **Choose File**, select the required file and click **Upload**. The dashboard template will be imported into the system where you can modify, customize and arrange it as needed.

If the dashboard you're importing contains widgets using field groupings, the field groupings are also imported.

6.2.2. Export Tab

This tab allows you to select a dashboard template on your system and to export it to another system.

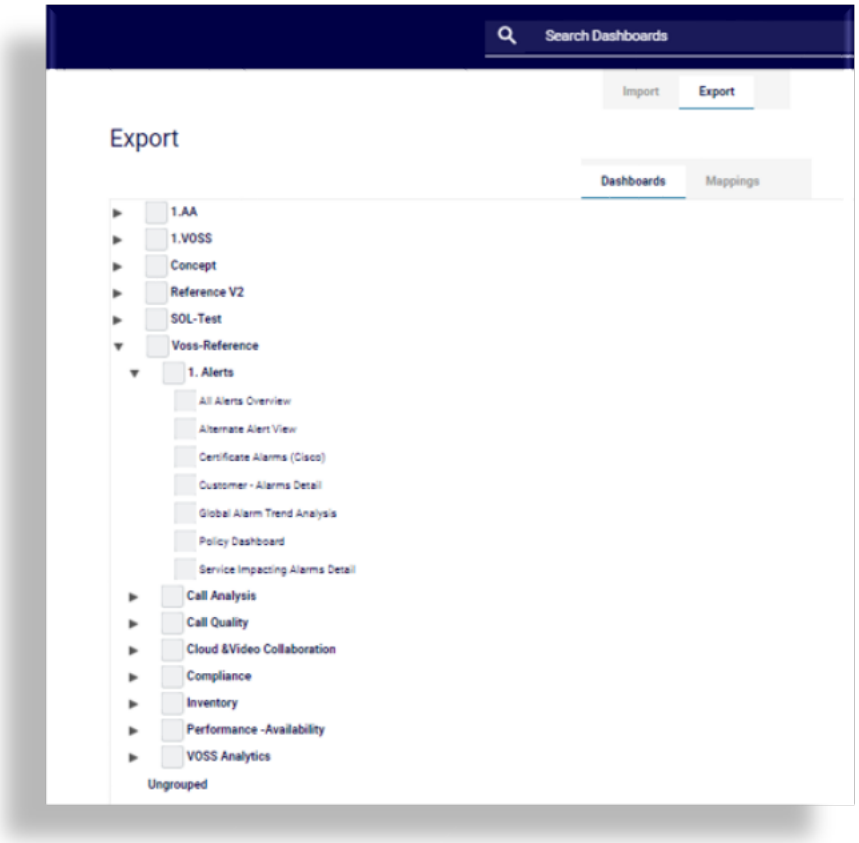
Click **Export** to open a window showing all of your dashboards as well as a 'drop zone'.

On **Export** dashboards tab:

1. Click the triangle button(s) to display and expand the dashboard tree.
2. Select the folder or dashboard checkbox(s).
3. Click the **Export .lxtr** button when complete.

The `.lxtr` file will be saved to your local computer.

The export retains any field groupings created on the dashboard. See *Edit Field Groupings*.



6.3. Manage Dashboards

6.3.1. Overview

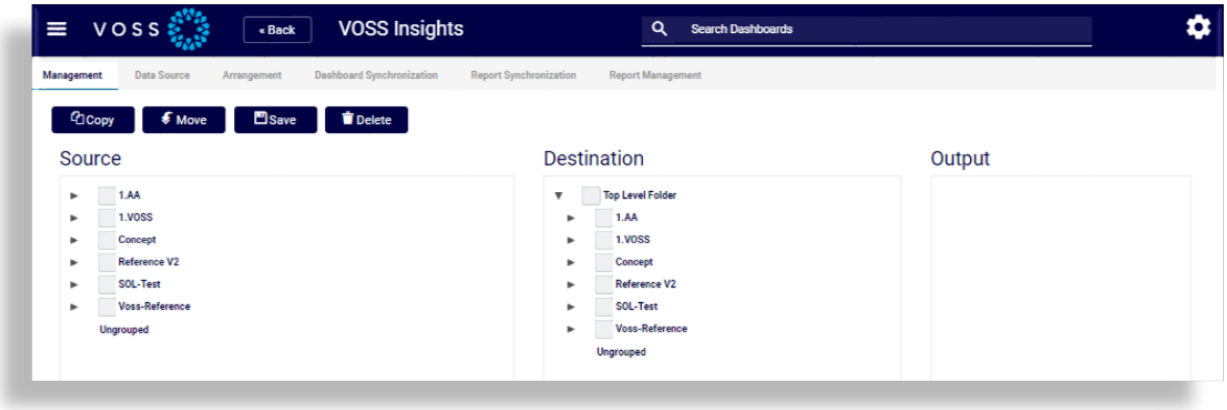
When logging in, users can view available dashboards via the Main Menu icon .

Admin users can manage the tree and the list of dashboards via the **Admin** menu. To access the **Manage Dashboards** page, select **Admin > Manage Dashboards**

Note: You cannot edit, move, or delete the standard, default, read-only VOSS reference dashboards that ship with the system. You can only clone these dashboards to create new custom dashboards.

You can select the following tabs on this page:

- Management
- Data Source
- Arrangement
- Dashboard Synchronization
- Report Synchronization
- Report Management



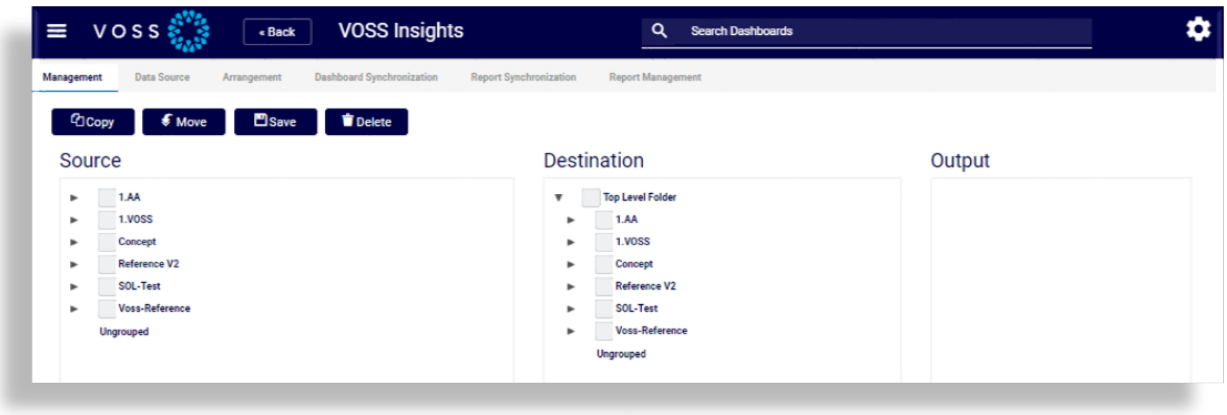
6.3.2. Management Tab

This tab provides the following dashboard management options:

- **Source**: a tree of all the dashboards defined in the system along with all the user accounts defined in the system. This column shows available dashboard screens.
- **Destination**: the top level and sub folders the dashboards will be copied or moved to.
- **Output**: shows the output of the command used, for example, if **Copy** was used, the heading `Copying` will be shown, followed by the list of copied items.

Select items from **Source** and use **Copy**, **Move** or **Delete** to carry out tasks on the selection. When copying, duplicate dashboards will be cloned: the text “(clone)” will be appended to the dashboard name.

Click **Save** to save the dashboards after you’ve made any changes.

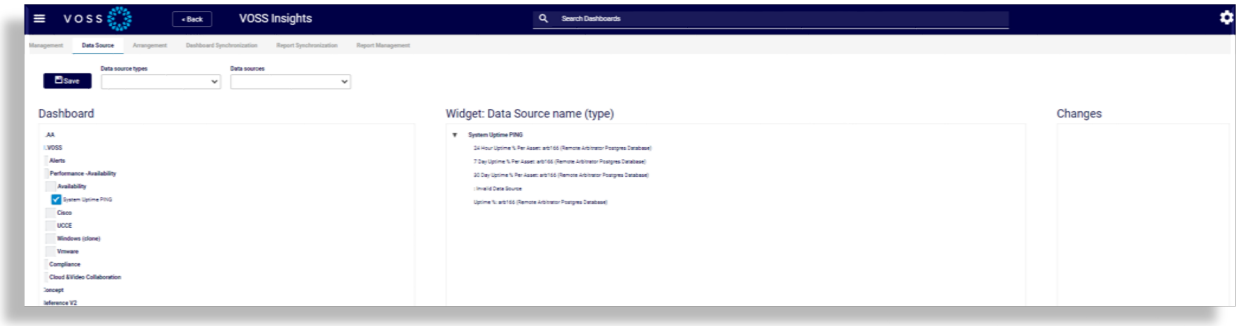


6.3.3. Data Source Tab

This tab provides the following dashboard management options:

- Drop-downs: **Data source types**, **Data sources**
- Columns:
  - **Dashboard**: select elements from the tree to carry out the bulk update of data sources.
  - **Widget**: displays the current data sources of the selection
  - **Changes**: according to the selected values in the **Data source types**, **Data sources**, shows updates to be made to the data sources of the selected elements.

Click **Save** to save the dashboards after you’ve made any changes.



6.3.4. Arrangement Tab

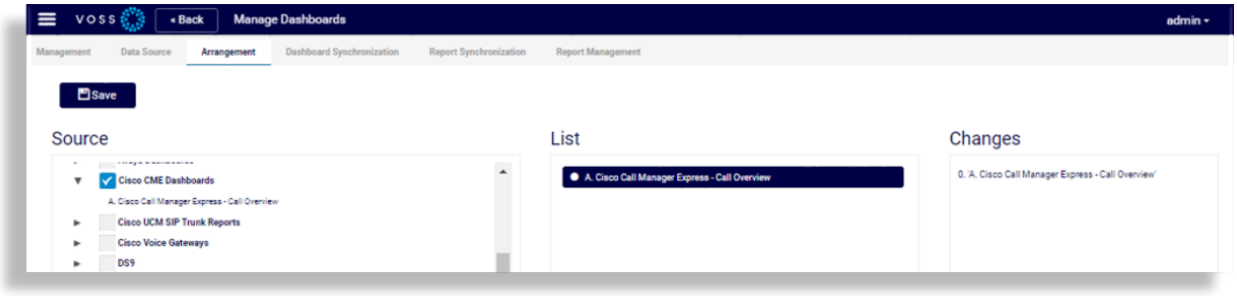
This tab provides the following dashboard management options:

- **Source**: a tree of all the dashboards defined in the system along with all the user accounts defined in the system. This column shows available dashboard screens.

  To arrange, select dashboard folder. It will then show up in the **List** column.

- **List**: this column will allow you to arrange the order of items, using drag-and-drop.
- **Changes**: shows the output of the arrangement.

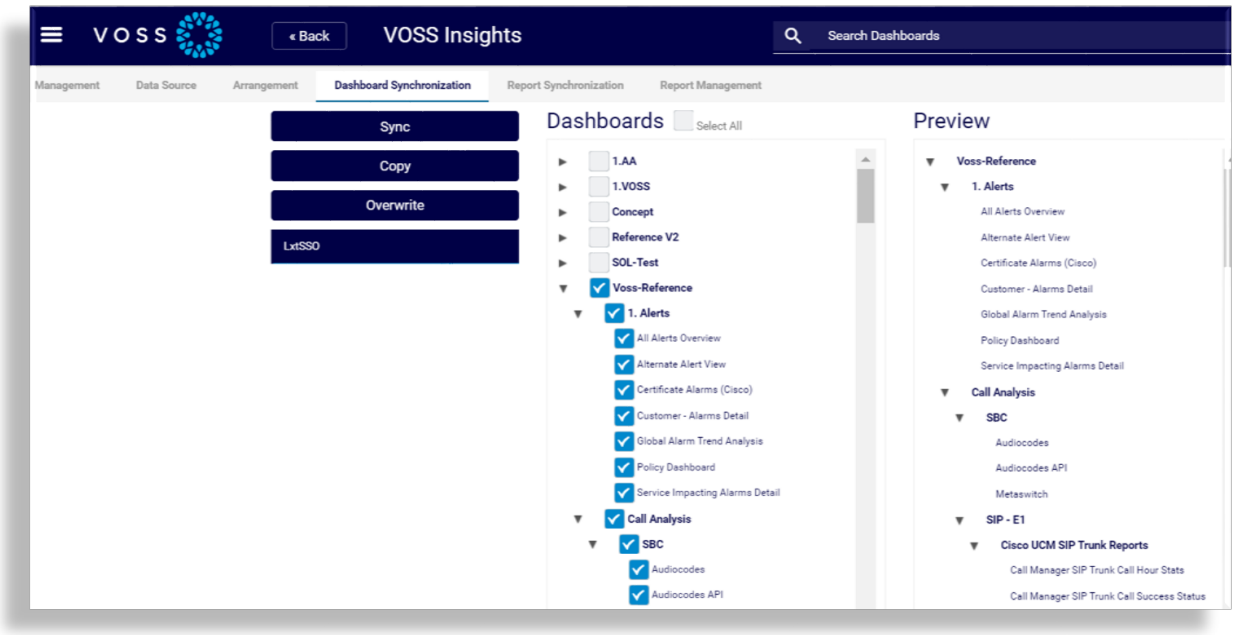
Click **Save** to save the arrangement.



6.3.5. Dashboard Synchronization Tab

This tab provides the following dashboard management options:

- Actions: **Sync**, **Copy** and **Overwrite**
- Columns:
  - Choose the relevant user to which you want to to sync selected dashboards
  - **Dashboards**: user associated dashboards are selected. Select or un-select manually.
  - **Preview**: output of selection



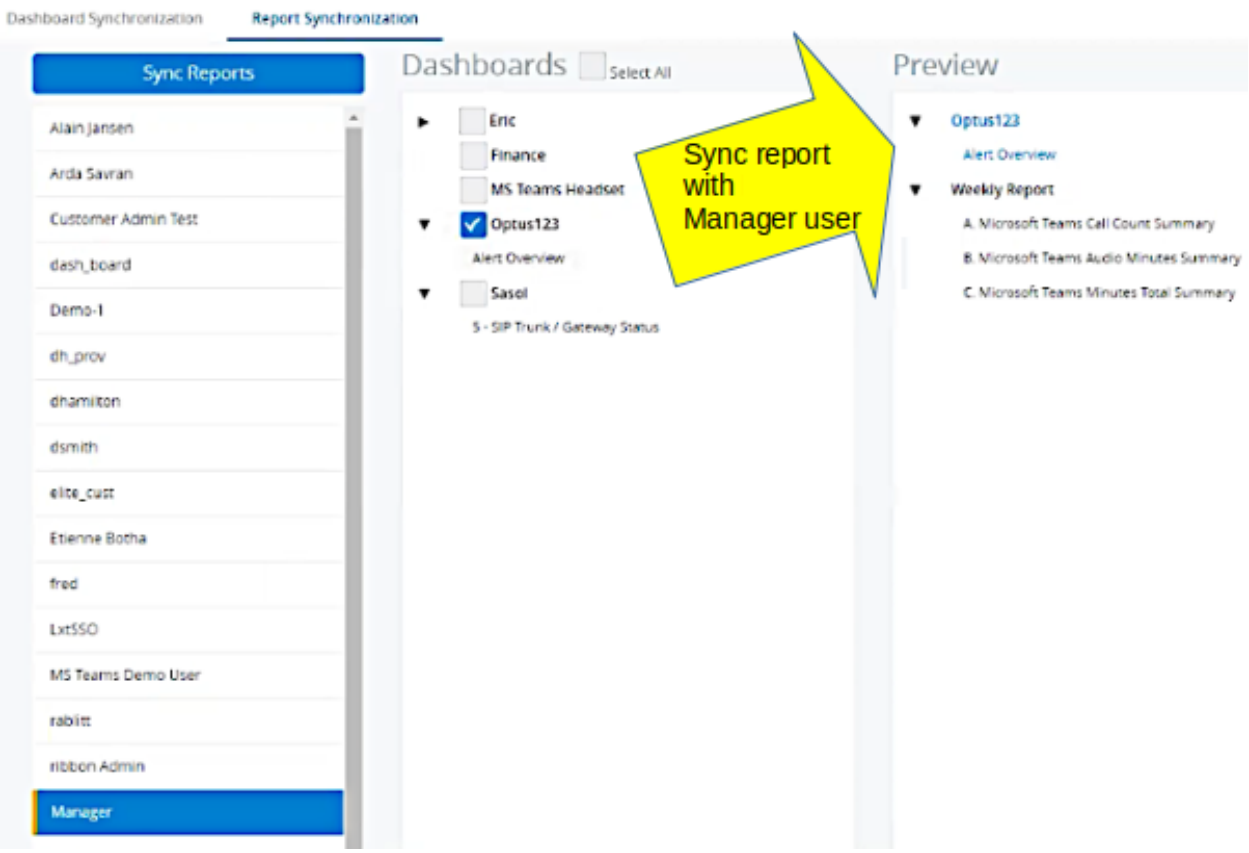
6.3.6. Report Synchronization Tab

This tab allows you to sync reports (via the **Sync Reports** button), and to view available reports that can be synced (via the **Dashboards** column).

Logged in users can create and share reports with other users.

Target users won't need to recreate synced scheduled reports, and they will be able to delete synced reports, if necessary.

The **Preview** column displays the target user's reports and any synced reports.



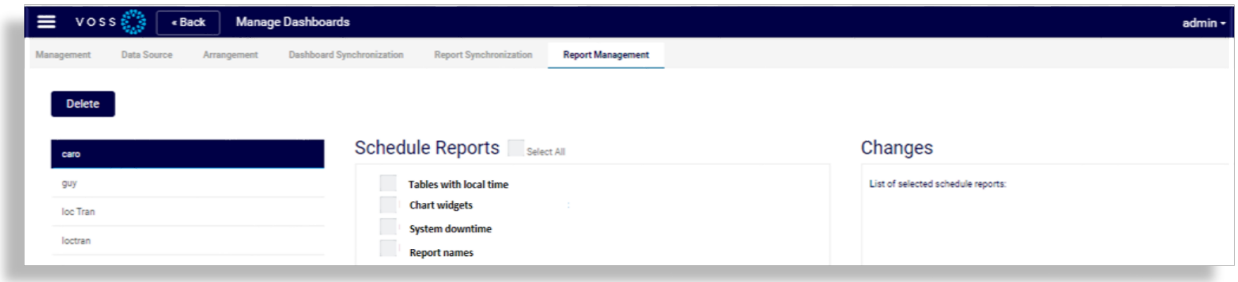
6.3.7. Report Management Tab

admin-users-only

This tab, which is only available to admin users, allows an admin user to delete scheduled reports belonging to other (non-admin) users.

The tab lists all non-admin users that have scheduled reports associated with their usernames. You can click on a user to view their scheduled reports, and select any reports you wish to remove. You can do this for one or more users, then click **Delete** to remove the reports.

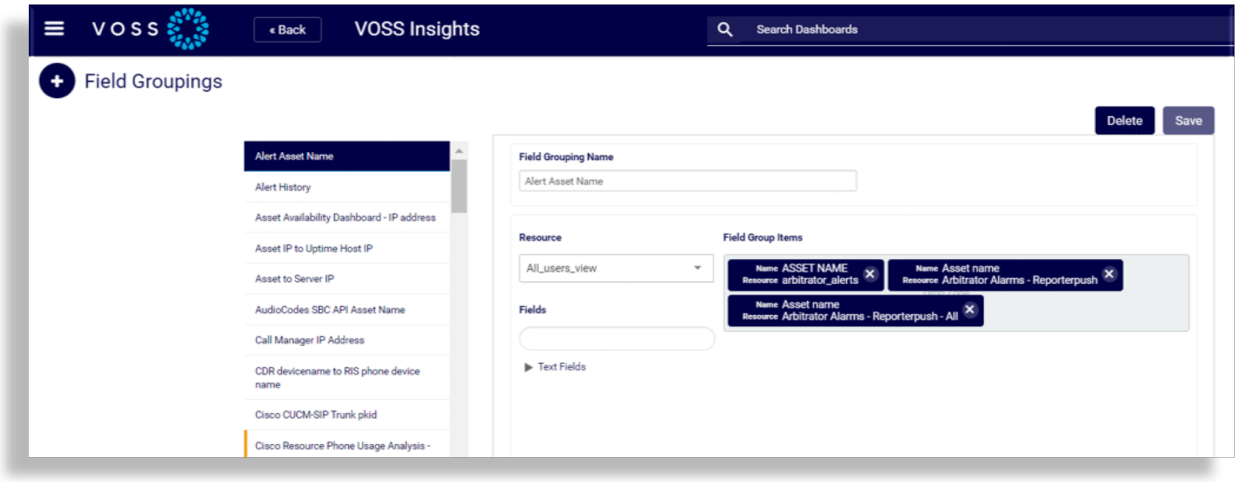
Once processed, the page refreshes with the updated list of non-admin users and their remaining scheduled reports.



6.4. Edit Field Groupings

Click the **Admin** drop-down menu and select the **Edit Field Groupings** option. This function will pull up another window where you will be able to define and label similar groups of data that will provide for common analysis and drill down functions on a single dashboard.

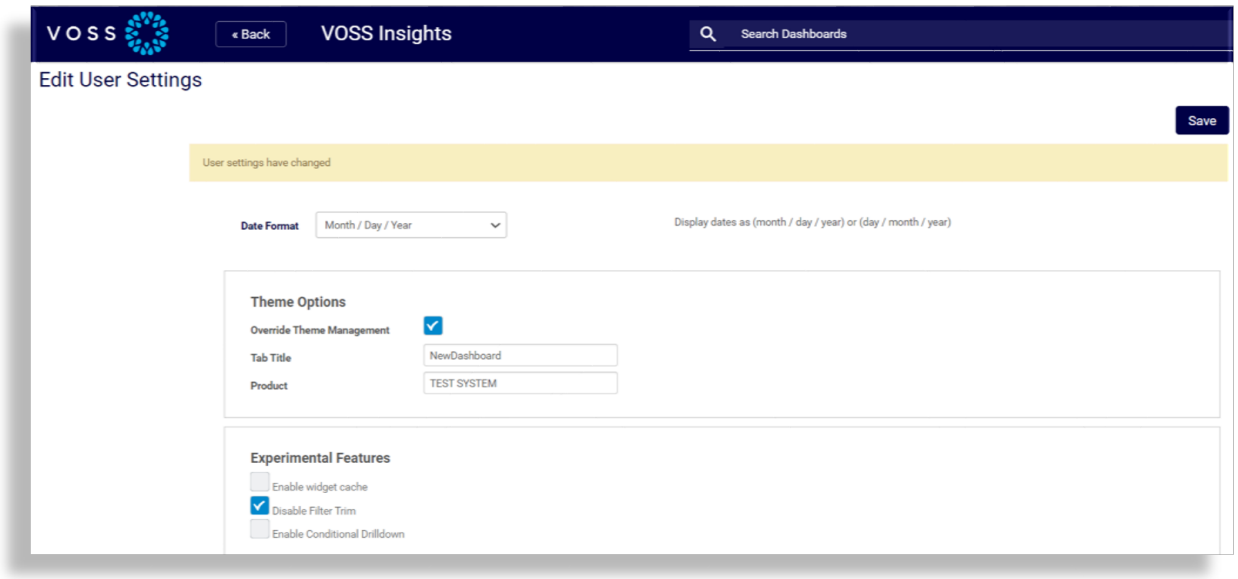
An example is the device IP address from three different data resources such as SNMP Query Stats, API Calls and Log Data. This will allow all of the drilldown functions defined in a widget to recalculate the data associated with these multiple data sources on a single dashboard.



6.5. User Settings

Click the **System Configuration** (Cog icon) to open the admin menu, then select **User Settings**.

This functionality is primarily intended for international date representations on dashboard and reporting output.



Experimental Features are also available under **User Settings**.

The **Enable Conditional Drilldown** setting can be enabled to expose the **Drilldown Conditional** option - see: *Drilling down into the Data*.

Note: Since this option requires knowledge of the conditional drilldown JSON syntax, it is hidden by default.

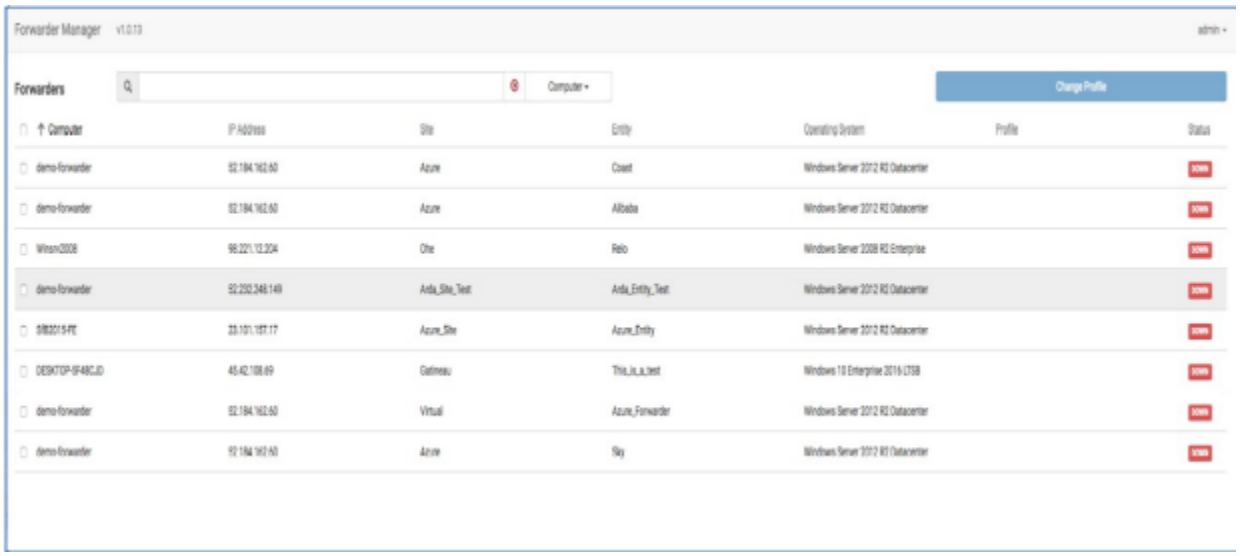
Other user specific settings will be added to this section in the future.

6.6. Manage Forwarders

admin-users-only

Forwarders are individual Windows applications that load on Windows-based servers to allow for the definition, monitoring, and extraction of data from the server, the Windows operating system, and the resident applications.

This section provides for a centralized method of acquiring status and changing configuration profiles on each Forwarder deployed. The Forwarder is scheduled to check into this dashboard host on a regular interval. If there is a new profile loaded, then it will update itself automatically.



6.7. Configuration

6.7.1. Overview

admin-users-only

The Insights Dashboard **Configuration** page, accessible only to admin users, provides several options for configuring and administering application functionality.

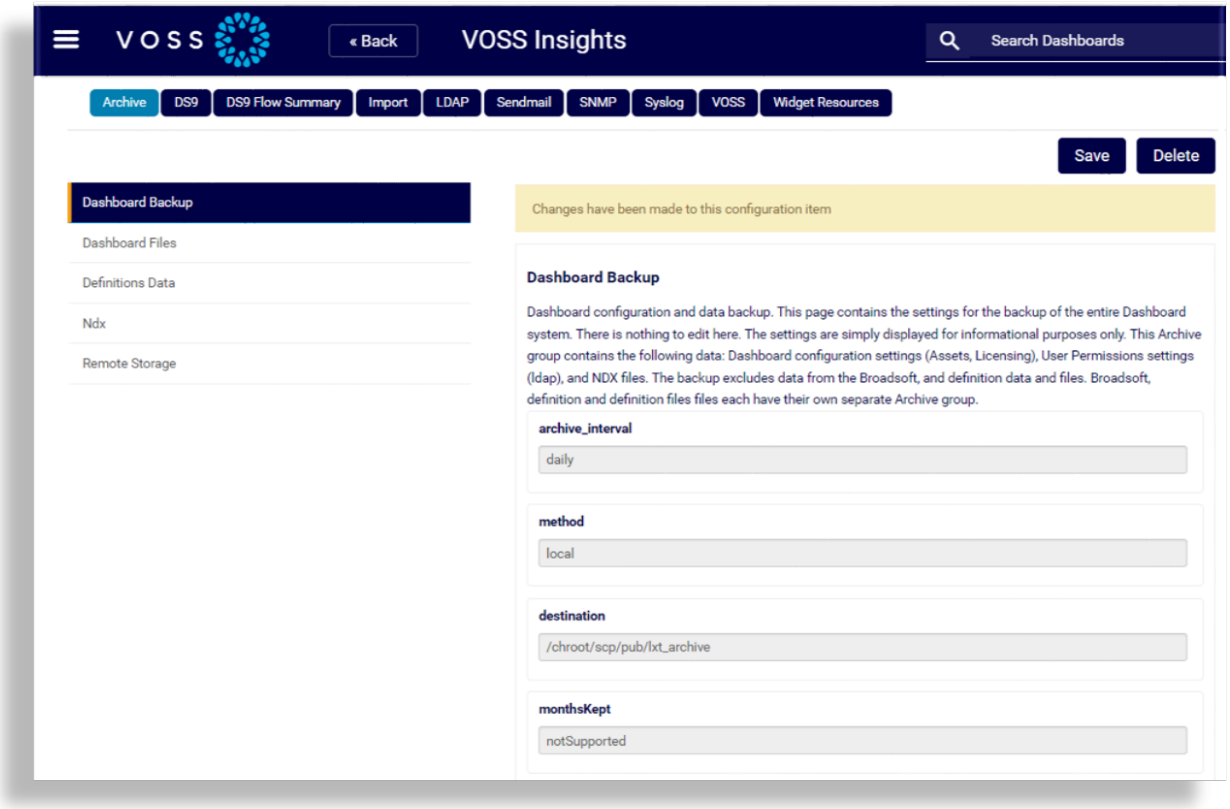
Note: To access this page, log in as an admin user, then click the **System Configuration** (Cog icon) to open the admin menu, then select **Configuration**.

You can select the following tabs on this page:

- *Archive*
- *DS9*
- *DS9 Flow Summary*
- *Import*
- *LDAP*
- *Sendmail*
- *SNMP*
- *Syslog*
- *VOSS*
- *Widget Resources*

6.7.2. Archive

The **Archive** tab configures archiving (backup) settings for the Insights Dashboard application.



You can select the following tabs on this page:

- *Dashboard Backup*
- *Dashboard Files*
- *Definitions Data*
- *Ndx*
- *Remote Storage*

Dashboard Backup

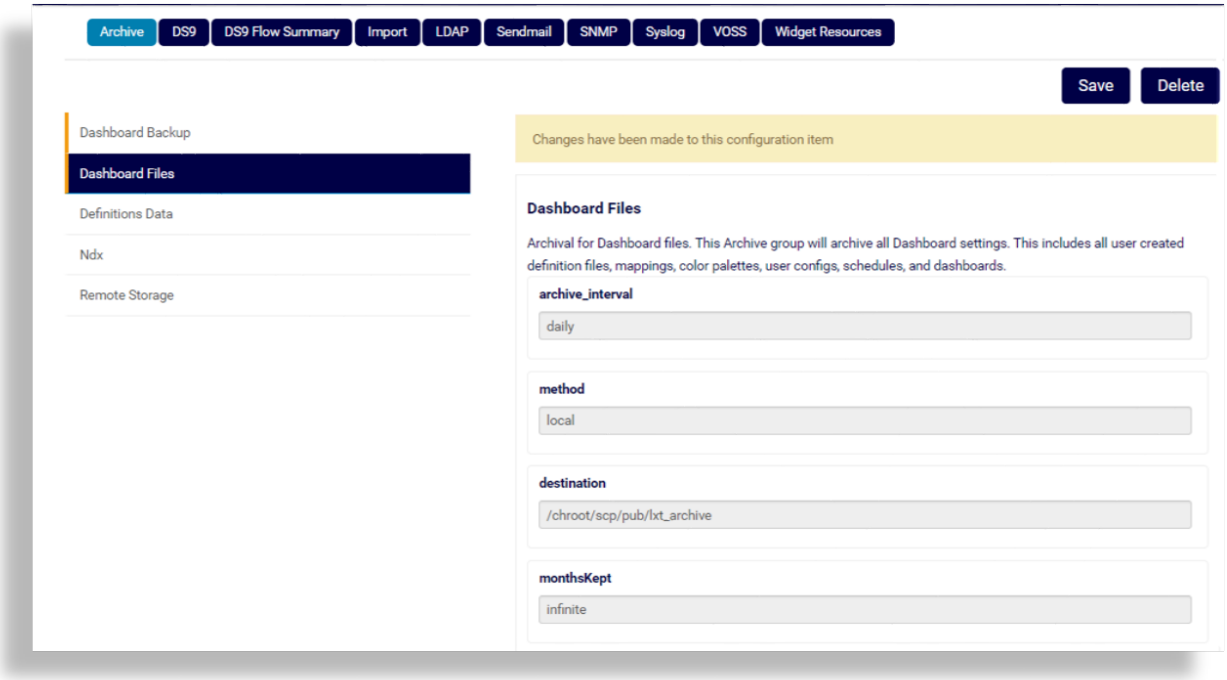
This tab displays the Dashboard backup settings. The settings are read-only, for informational purposes only.

This Archive group contains the Dashboard configuration settings (assets, licensing), user permissions settings (LDAP), and NDX files.

The backup excludes data from the specific Broadsoft data store, along with definition data and files. Broadsoft definitions and definition files each have their own separate Archive group.

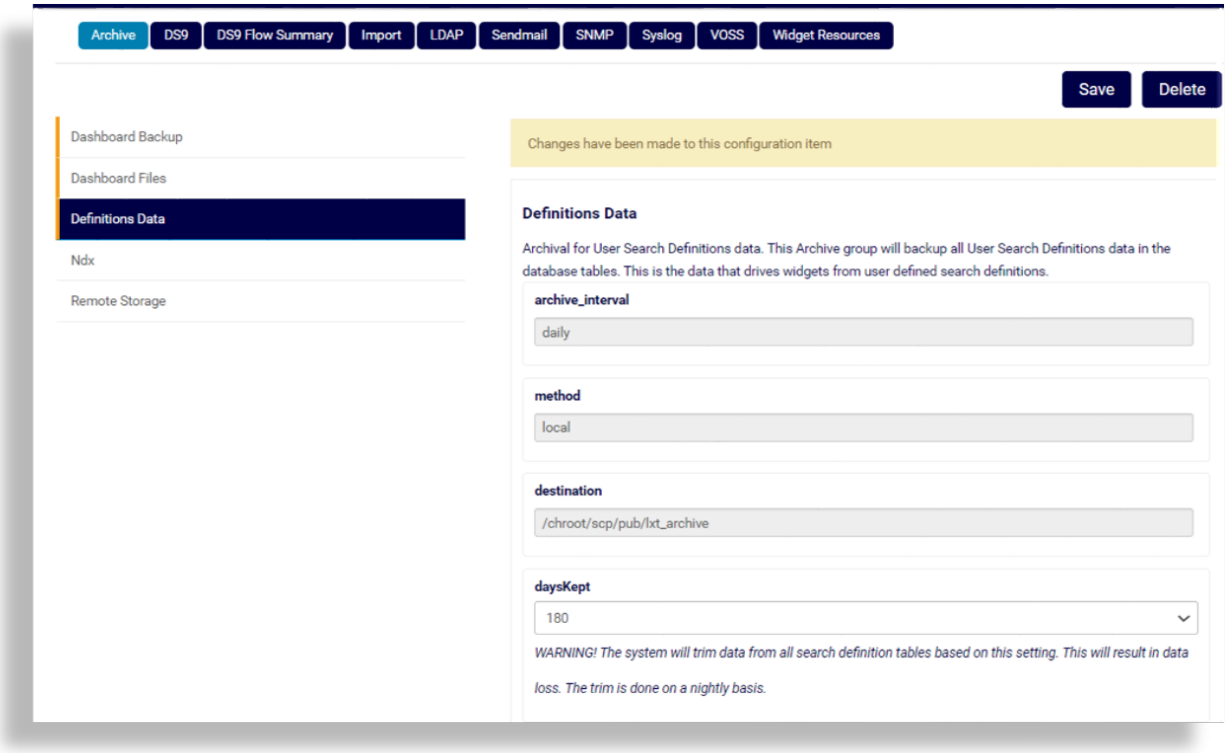
Dashboard Files

Read-only, Dashboard files archive group settings. This archive group will archive all Dashboard settings. This includes all user created definition files, mappings, color palettes, user configs, schedules, and dashboards.



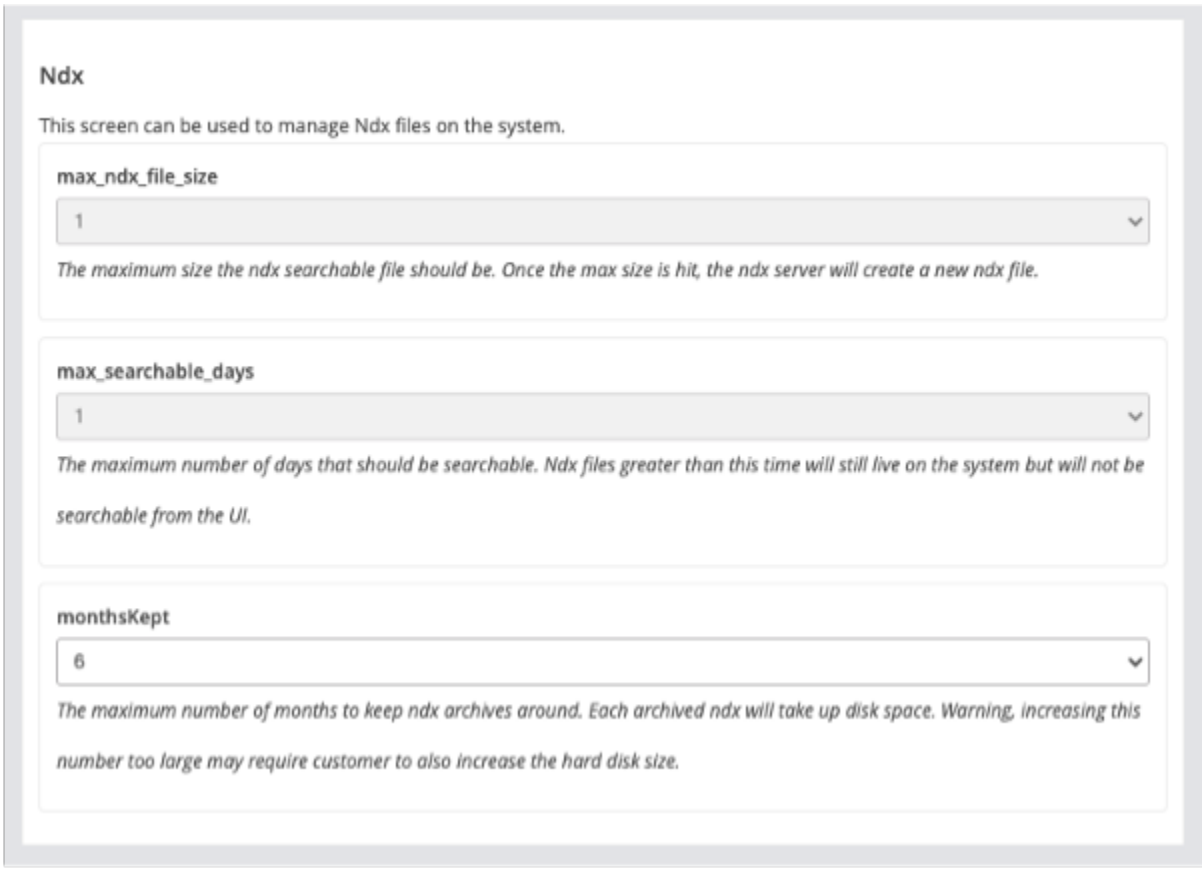
Definitions Data

Read-only, Dashboard definitions archive group settings. This archive group backs up all User Search Definitions data in the database tables. This is the data that drives the widgets.



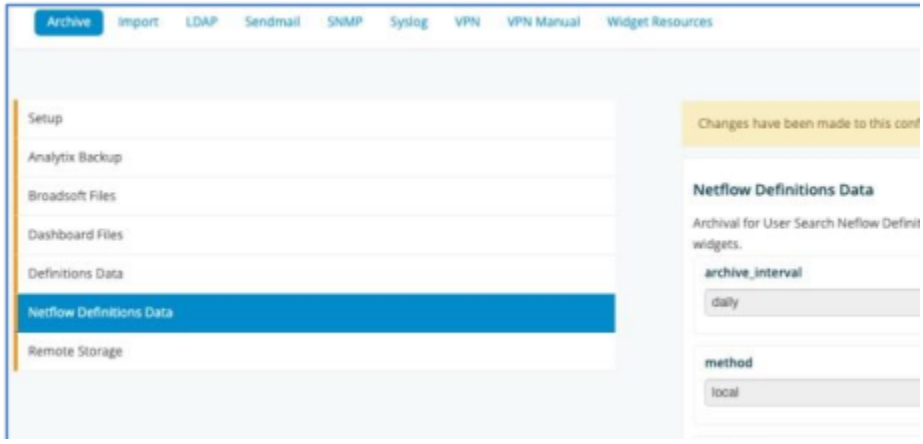
Ndx

This archive group manages Ndx files. The default for **monthsKept** is 6 months.



Netflow Definitions Data

The NetFlow definitions data archive group backs up all Netflow Definitions data, which is the data that drives the widgets. These are read-only settings, for information purposes only.



Remote Storage

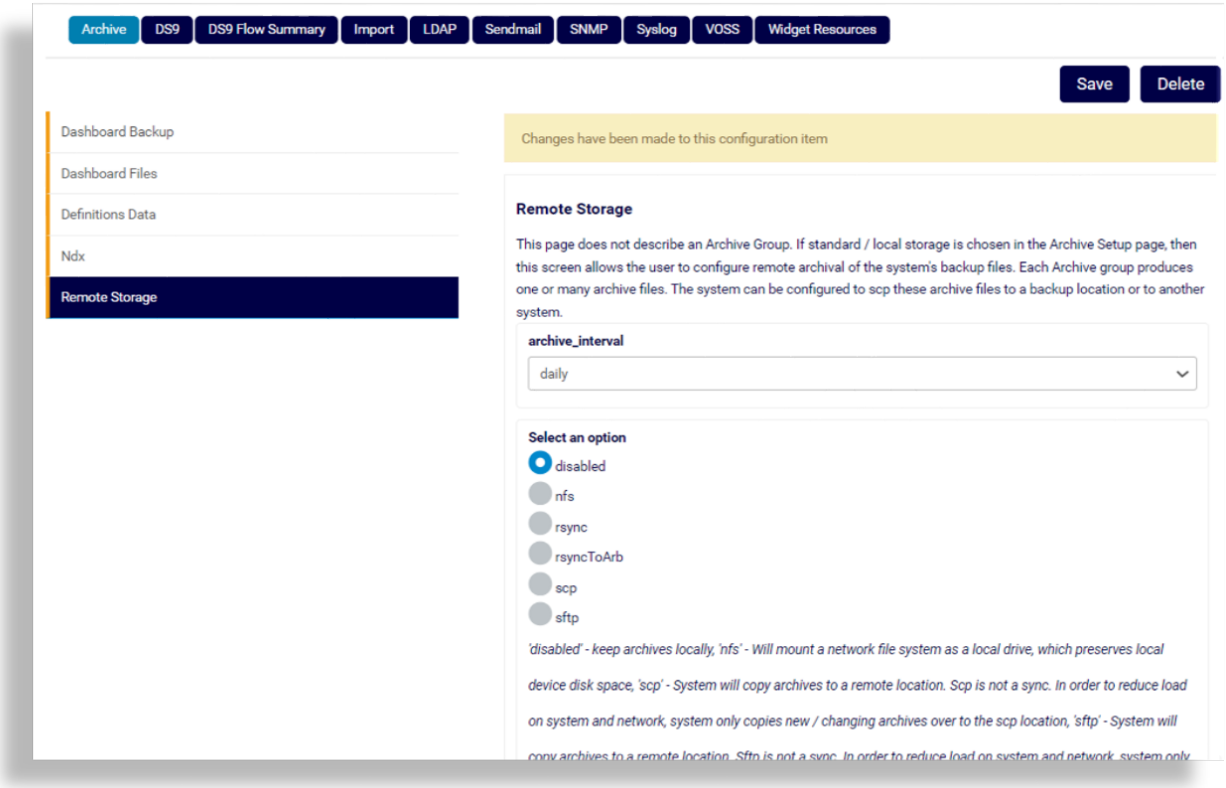
This tab allows you to configure remote archiving of the system backup files, if you've chosen standard / local storage in the setup.

Each archive group produces one or many archive files. The system can be configured to scp these archive files to a backup location or to another VOSS Insights system.

The archives can be sent to a separate backup location (SFTP-server, SCP or remote synced to another Dashboard).

The table describes settings on this tab:

archive_interval	Choose a schedule, either Daily, Weekly, or Monthly.
method	Choose a method. Either of the following: • `scp`: System will copy archives to a remote location. Scp is not a sync. To reduce load on system and network, system only copies new / changing archives over to the scp location. • `sftp`: System will copy archives to a remote location. Sftp is not a sync. To reduce load on system and network, system only copies new / changing archives over to the sftp location. • `rsync`: System will sync the archive directory to remote system. The remote system must have rsync installed for this to work. • `rsyncToArb`: System will sync the archives directory to a remote Dashboard. This utilizes the rsync protocol so both Dashboards will always be in sync.
IP location	The IP address. Also add **username** and **password**.
destination	The path on the remote server to the folder where backups are to be stored.
monthsKept	Choose how long to retain the backup.



Related Topics

- *Backup and Restore the Dashboard*

6.7.3. DS9

This tab configures settings for DS9.

For details, refer to the *DS9 Configuration on the Dashboard* section in the DS9 for NetFlow Install Guide.

6.7.4. DS9 Flow Summary

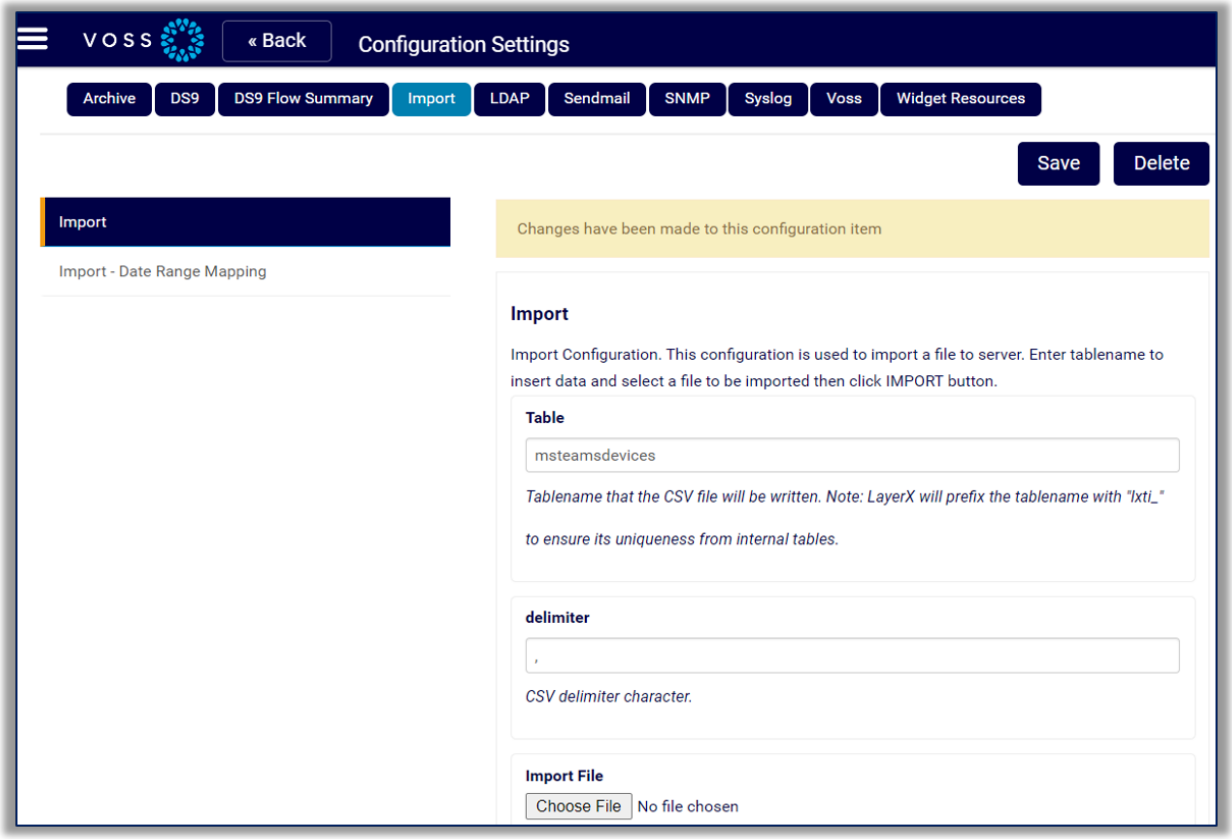
This tab displays and configures DS9 NetFlow summary status, options for detection of applications, internal subnets, and NetFlow, and port filtering.

6.7.5. Import

This tab allows you to import data into the system from a `.csv` file.

Note: Only `csv` file imports are supported.

File import allows you to manually add data that can be used in various contexts within the VOSS Insights platform. An example could be specific costs associated with calling functions.



Import- Date Range Mapping

This setting allows you to import in a list of named date ranges (for example: Fiscal Quarters that may not align to standard calendar quarters, etc.).

If a date range mapping is imported, the Dashboard GUI allows you to change the Dashboard calendar by the imported date range name. Multiple named date ranges may be provided. Only dates are currently supported. The times for the entire day will be used (midnight to midnight).

Select a file to be imported then click **IMPORT**.

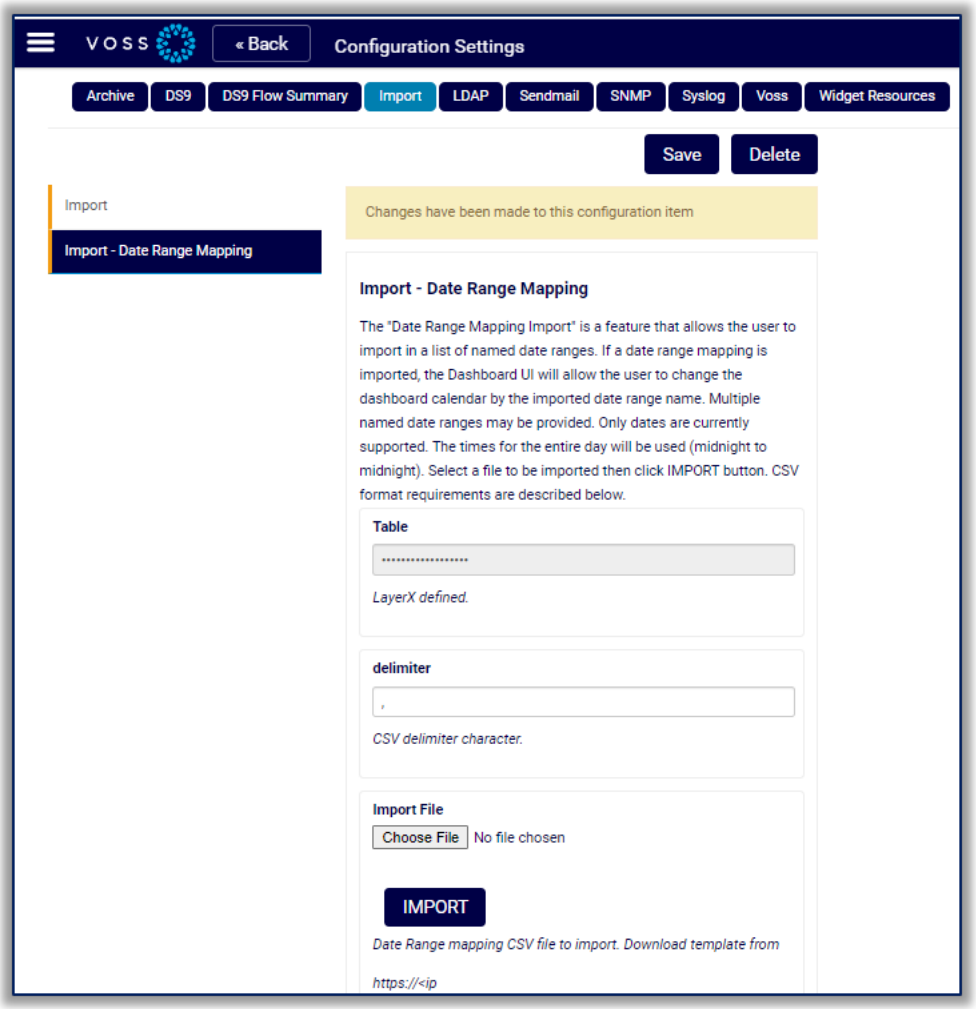
Note the instructions on this page around formatting rules for the `.csv` file.

```
CSV file to import. The CSV should adhere to the CSV RFC https://www.ietf.org/
↪rfc/rfc4180.txt.
```

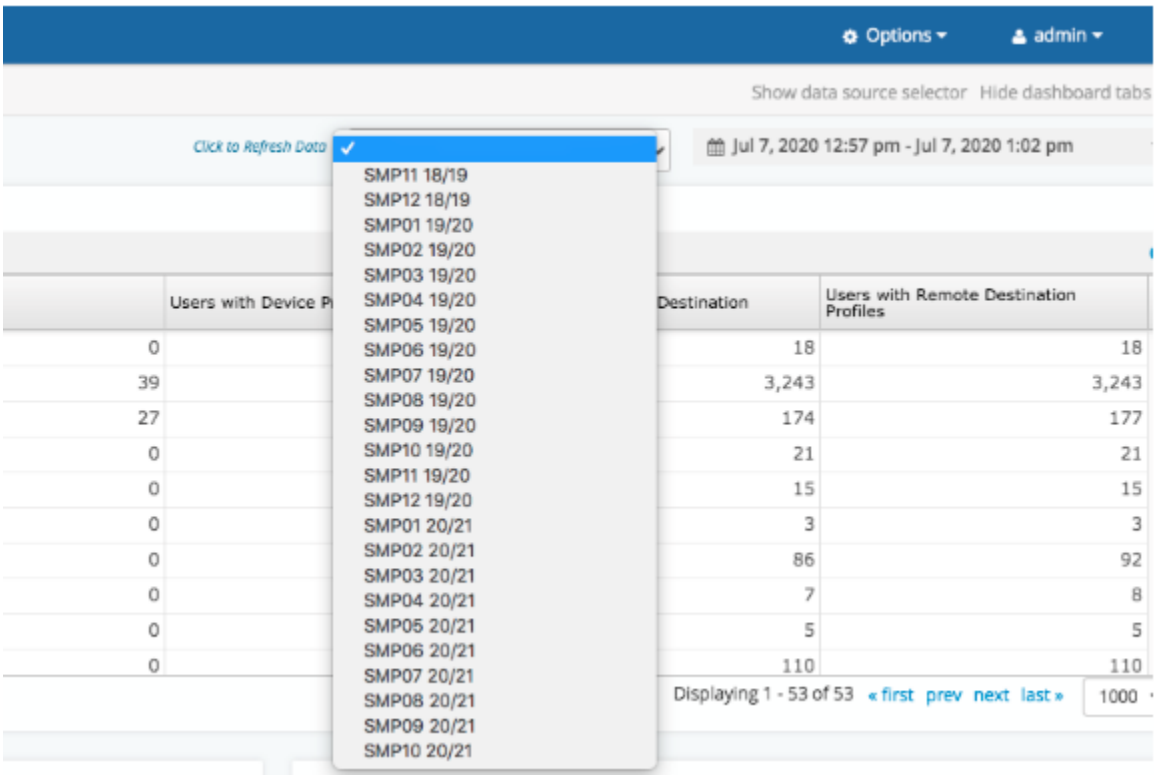
(continues on next page)

(continued from previous page)

```
Additionally, there are two more requirements. First, the first line of the␣
↪CSV must contain the
desired names for each CSV placement. Secondly, the second line of the CSV␣
↪must contain the desired
types for each CSV placement. Use 'integer', 'float', or 'string'. The normal␣
↪CSV data can then start
on lines 3 and above. Inherently a CSV file does not describe the names or␣
↪types of each CSV placement.
This is required so the system can create the proper database table and store␣
↪the data appropriately.
Failure to include these two lines will result in a failure to import in the␣
↪CSV data.
```



Once imported, you can use the date range drop down to cycle through and select the custom dates.



6.7.6. LDAP

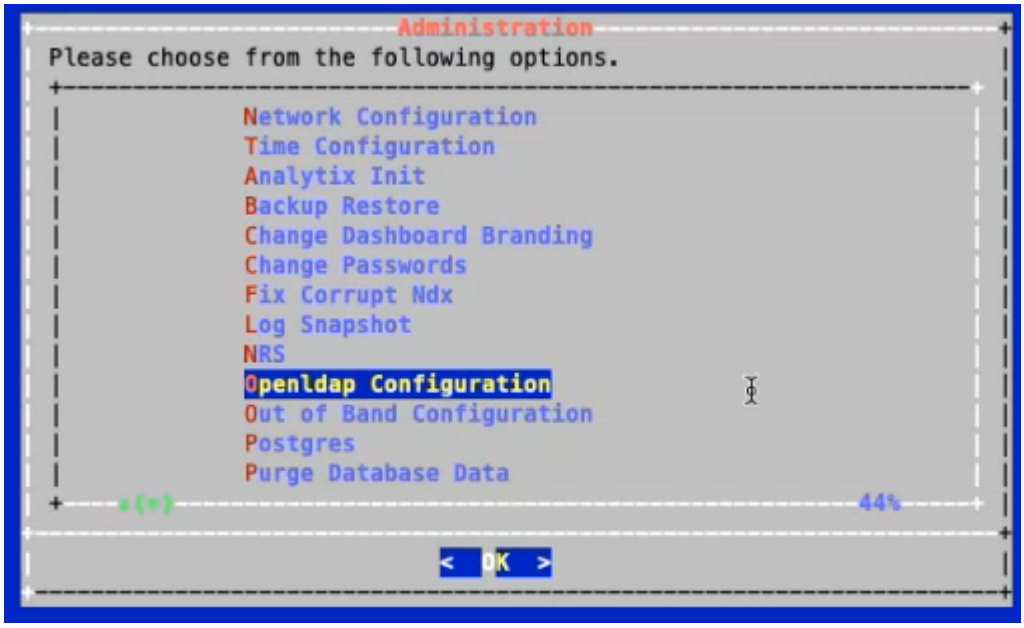
The system uses a local LDAP server to store user information.

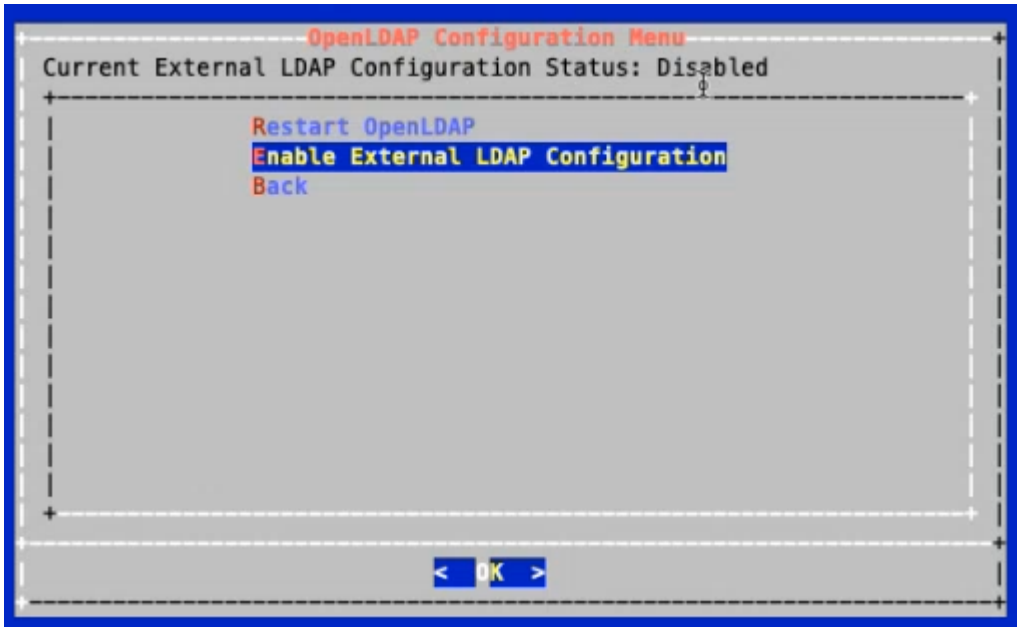
For all types of external authentications, if the user is successfully authenticated, a user account will be created locally for that user. Local user accounts are necessary to set specific system privileges. Please note that passwords are never stored locally. Authentication always occurs with the external system. Once authenticated, the system allows the user access based on the user's local system privileges.

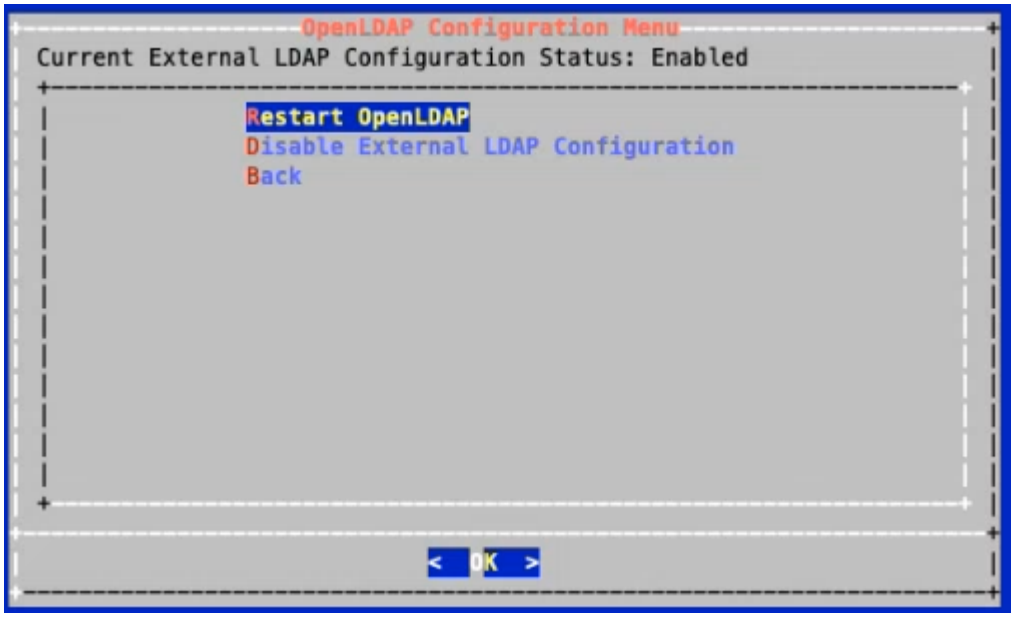
The system also supports:

- Authenticating with an external Microsoft Active Directory server:
  - **external_type** is set to `windows`.
  - Authentication server details are required: **is_ssl**, **ip**.
  - Refer to the additional settings required for the **external_type** = `windows` setting.
- Authenticating with an external VOSS Automate server:
  - **external_type** is set to `automate`.
  - Authentication server details are required: **is_ssl**, **ip**.
  - The user credentials should exist on the VOSS Automate server.
- Authenticating with a *central*, external Dashboard server:
  - **external_type** is set to `dashboard`.
  - Authentication server details of central dashboard server are required: **is_ssl**, **ip**.
  - The user credentials should exist on the central Dashboard server.

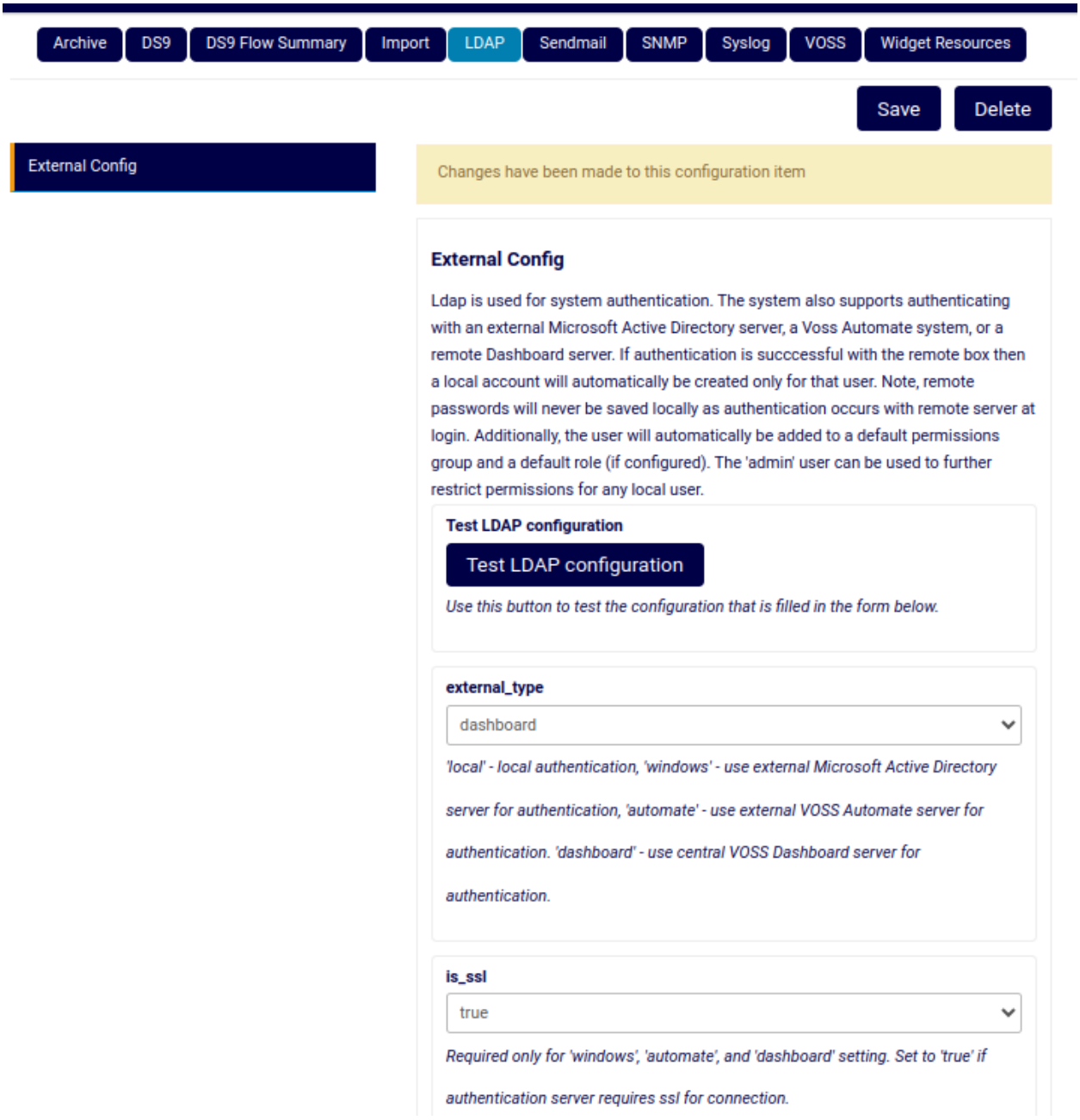
Important: By default, LDAP ports are *not* open for communication with the central Dashboard server. If this option is needed, the ports need to be enabled from the admin CLI menu: **Enable External LDAP Configuration**. This menu setting is available from the main **Administration > Openldap Configuration** menu.





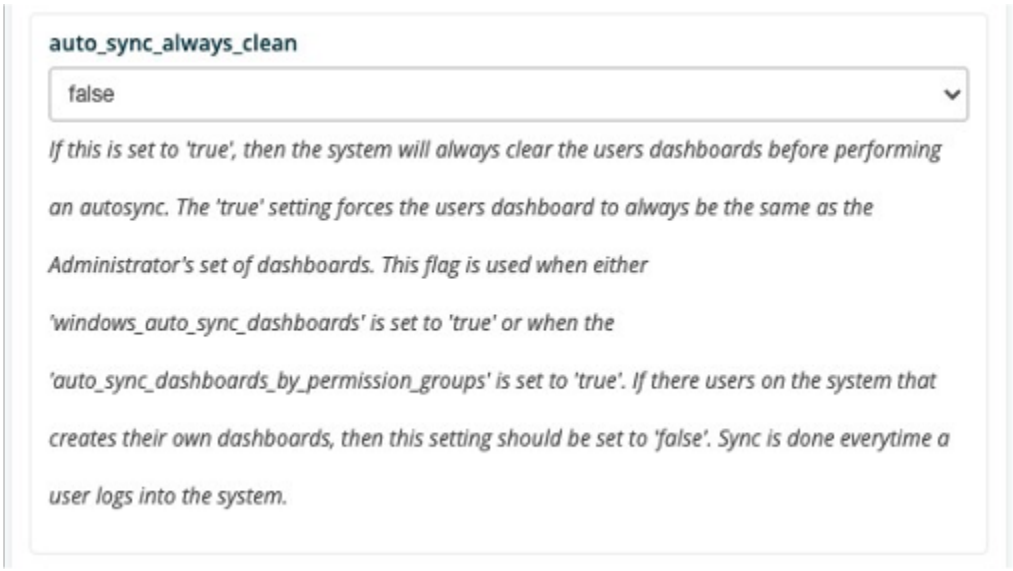


Also refer to *Port Requirements > Arbitrator and Dashboard System Connectivity* in the Analytics Install Guide.



The **username** and **password** fields can be used to test your authentication configuration by completing these according to a known user on the authentication server and then selecting the **Test LDAP configuration** button.

The **auto_sync_always_clean** option can be set to clear user dashboards before sync.

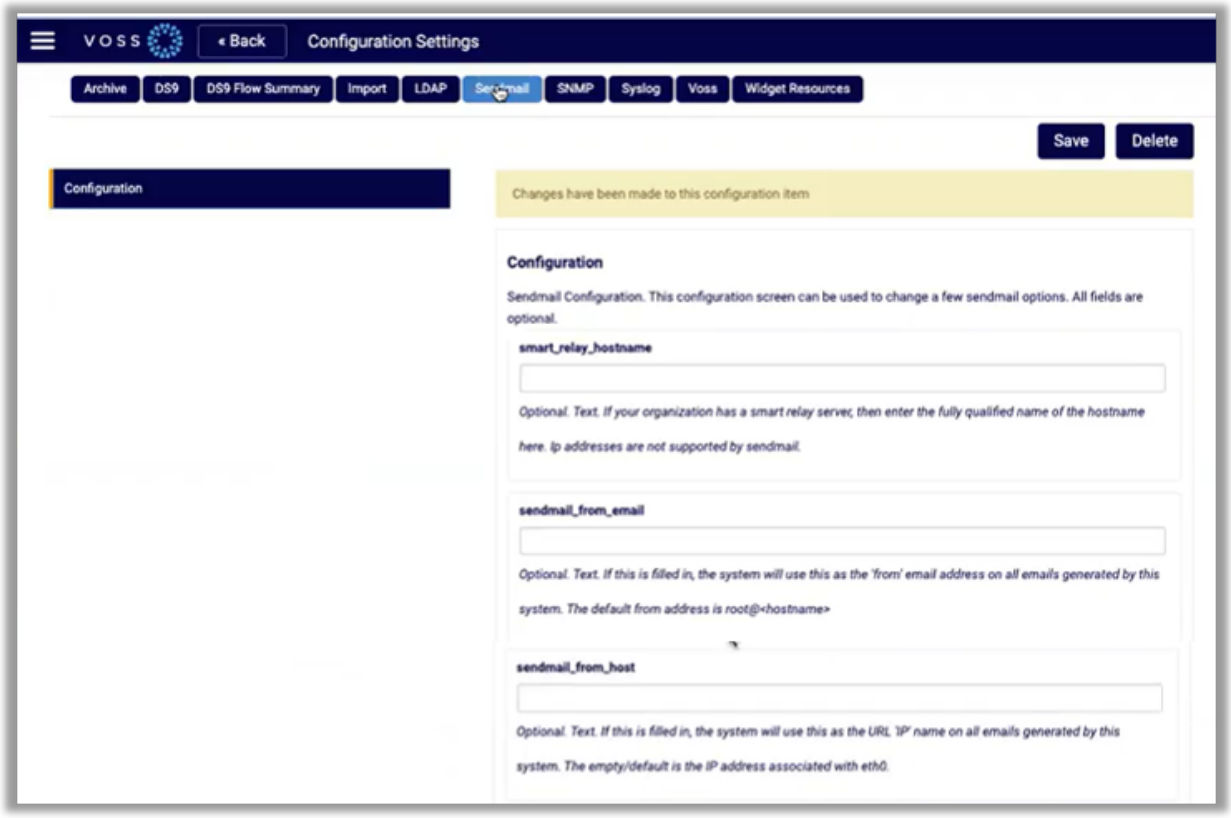


6.7.7. Sendmail

Although the system has Sendmail built in, this tab allows for specific configuration changes to allow the system to interface with specific customer mail functions.

For example, you can set up an alternative IP address, in the **sendmail_from_host** field, to define the IP address used in email reports. This is useful where Dashboard systems may have multiple network interfaces, especially if end-users cannot access the Dashboard system's default IP address. Emailed report recipients will find the IP address you configure here, in the email notification they receive for the report.

Note: All settings on this tab are optional.

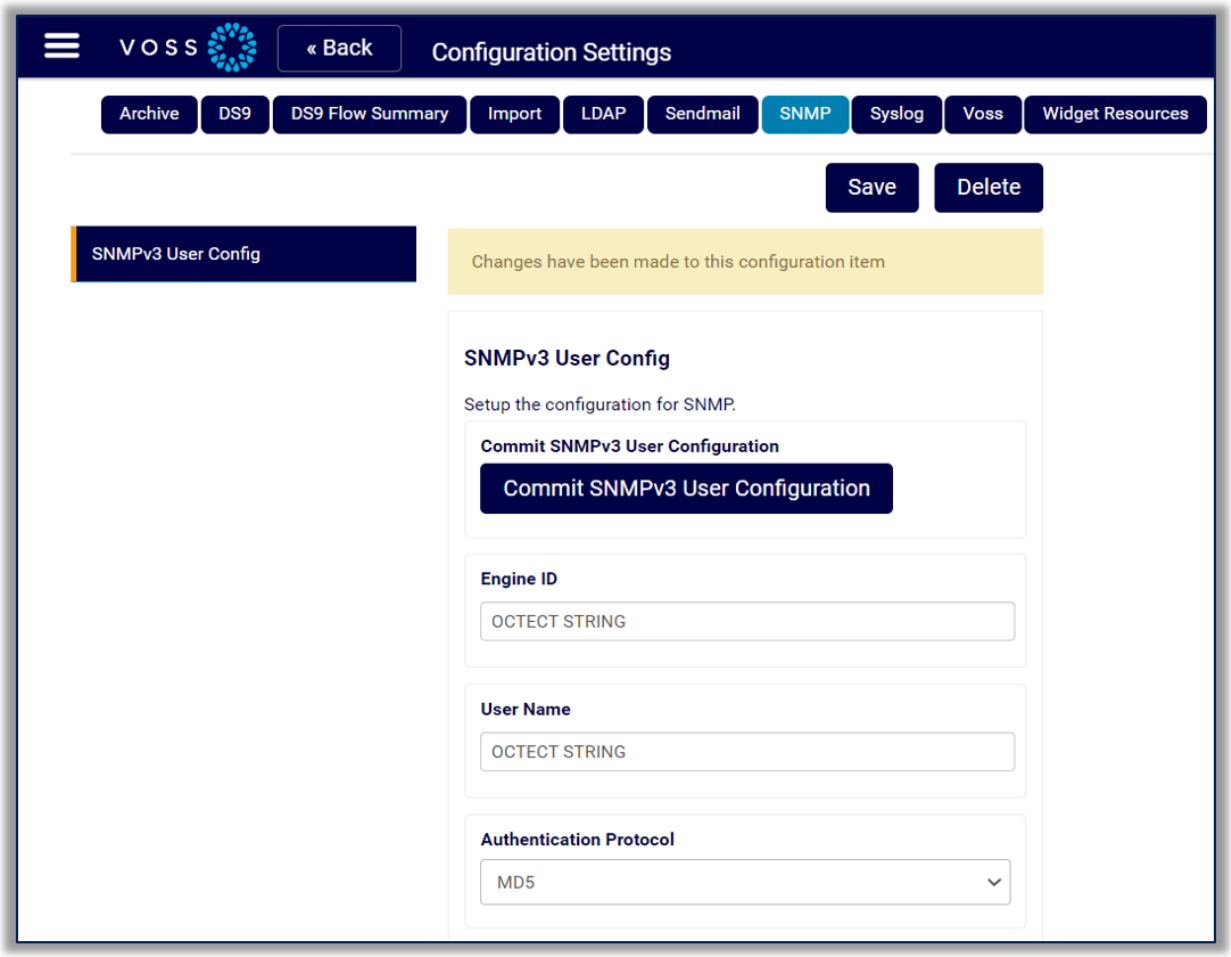


Related Topics

- *Schedule Reports*
- *Access Controls*

6.7.8. SNMP

This tab allows the system to be configured to work with SNMP v3. It allows you to select the specific authentication and encryption methods to be utilized.

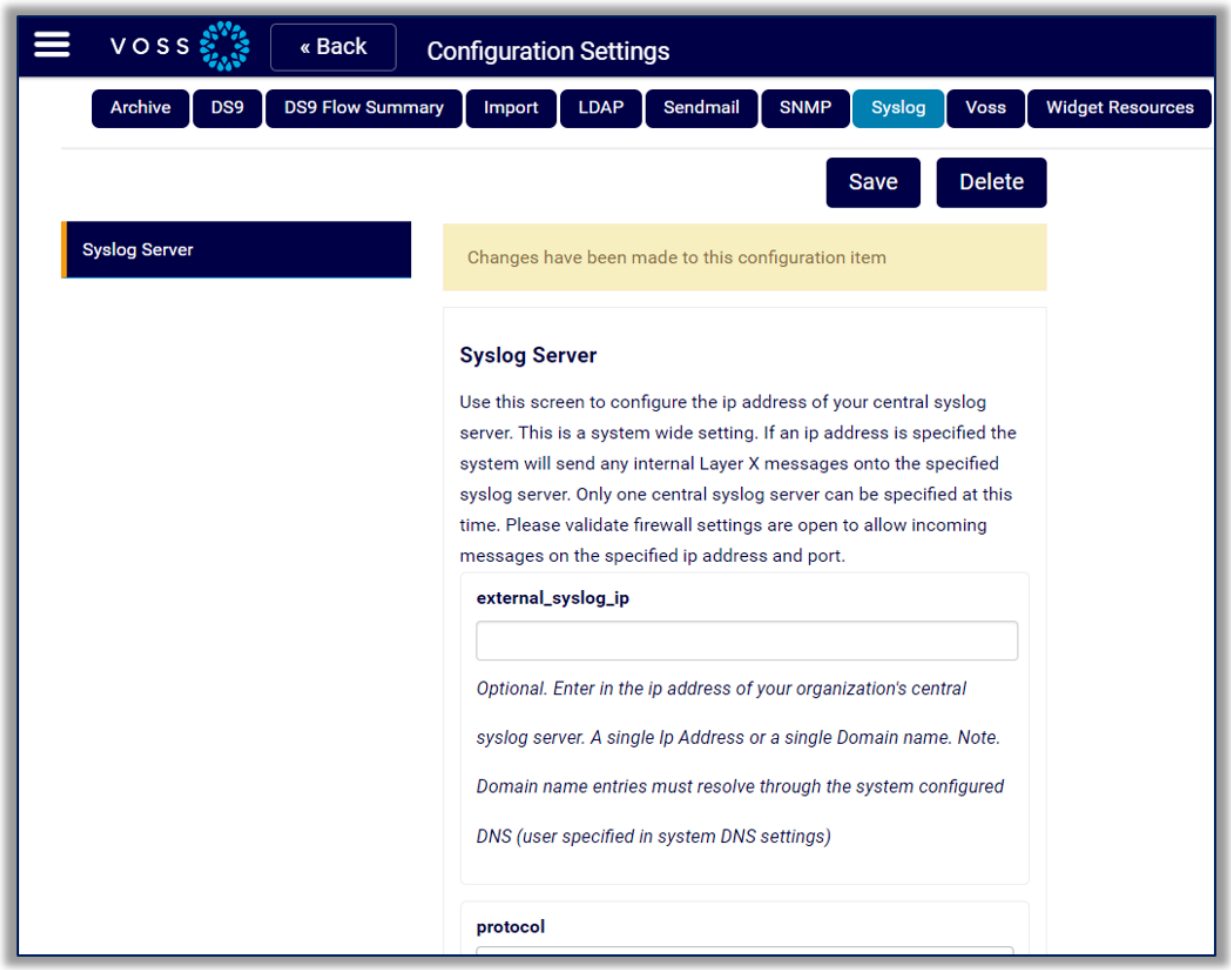


6.7.9. Syslog

This tab configures the IP address of your central syslog server.

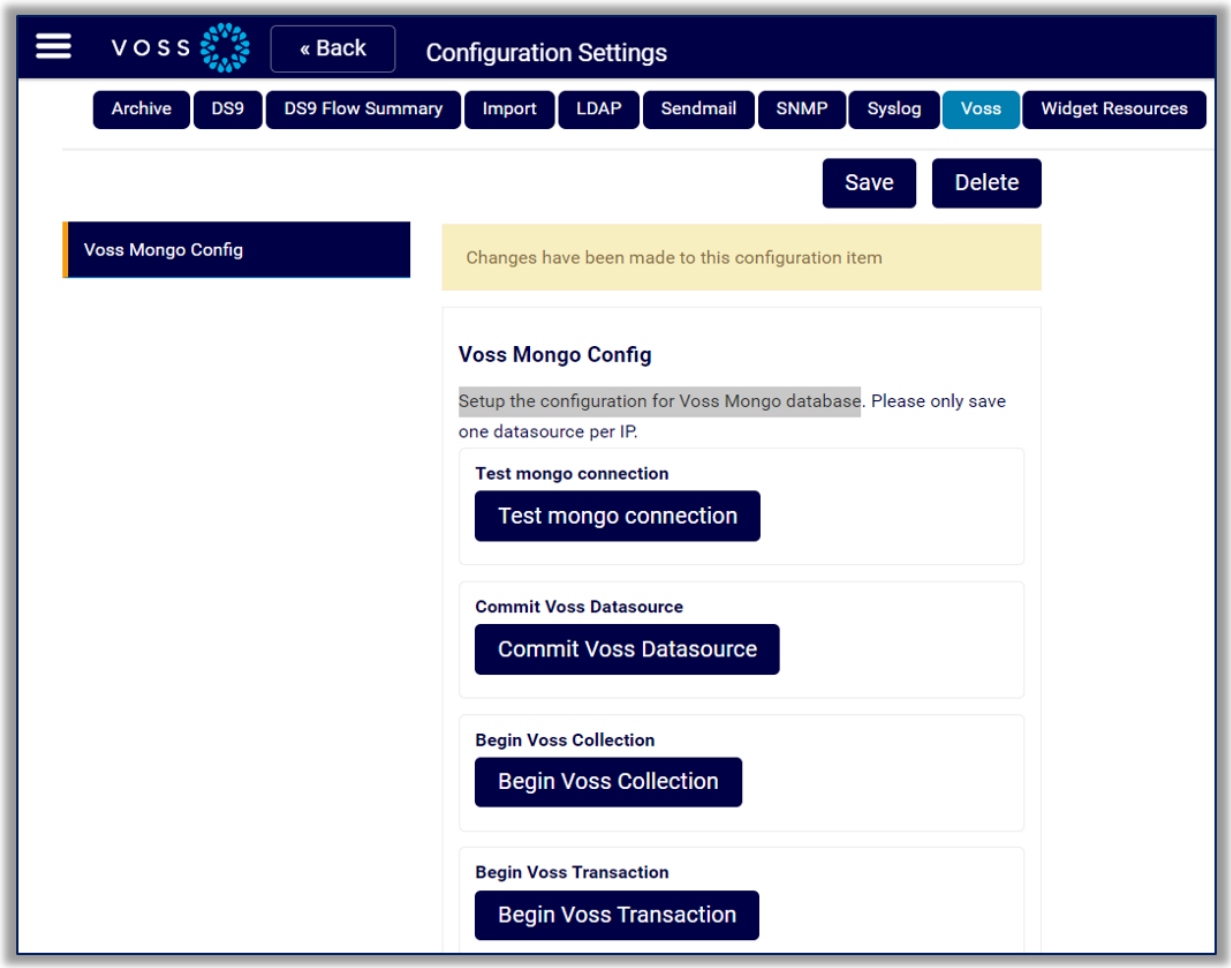
The system can send out syslog messages about several of the internal functions, including backup and archival success.

This is a system-wide setting. If an IP address is specified, the system will send any internal messages onto the specified syslog server. Only one central syslog server can be specified at this time. Please validate firewall settings are open to allow incoming messages on the specified IP address and port.



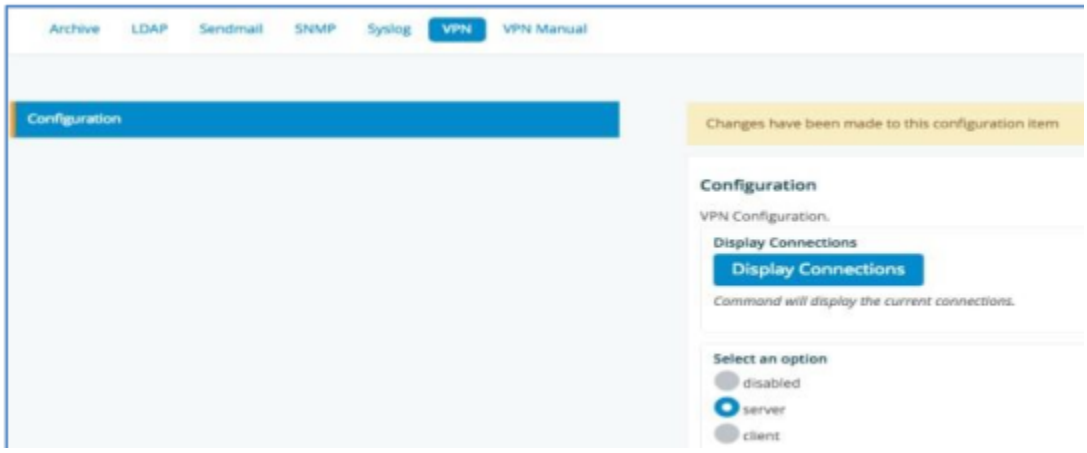
6.7.10. VOSS

This tab configures the setup for VOSS Mongo database.



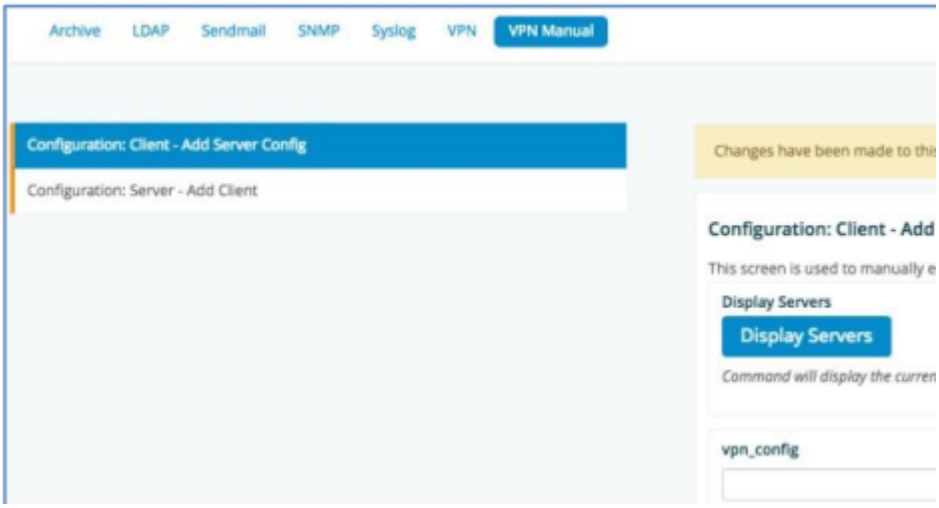
6.7.11. VPN

The system can be connected to another Dashboard/Reporting platform, an Arbitrator Correlation platform, a Windows Forwarder or other client that supports the connectivity. Utilize this screen to set up automated connections to a server or client. The default port utilized is port 1194. Note that the screen selections will change based on the context selected (server or client).



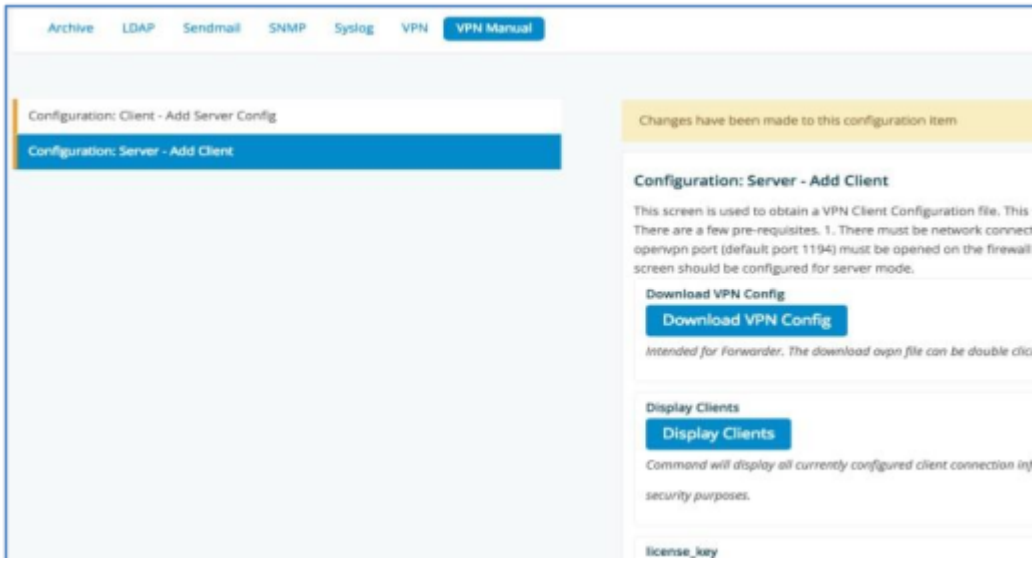
6.7.12. VPN Manual

- **Configuration: Client - Add Server Config**: The system allows you to enter a VPN configuration file directly into the system. Just paste the config directly into the bar under the label **vpn_config**.



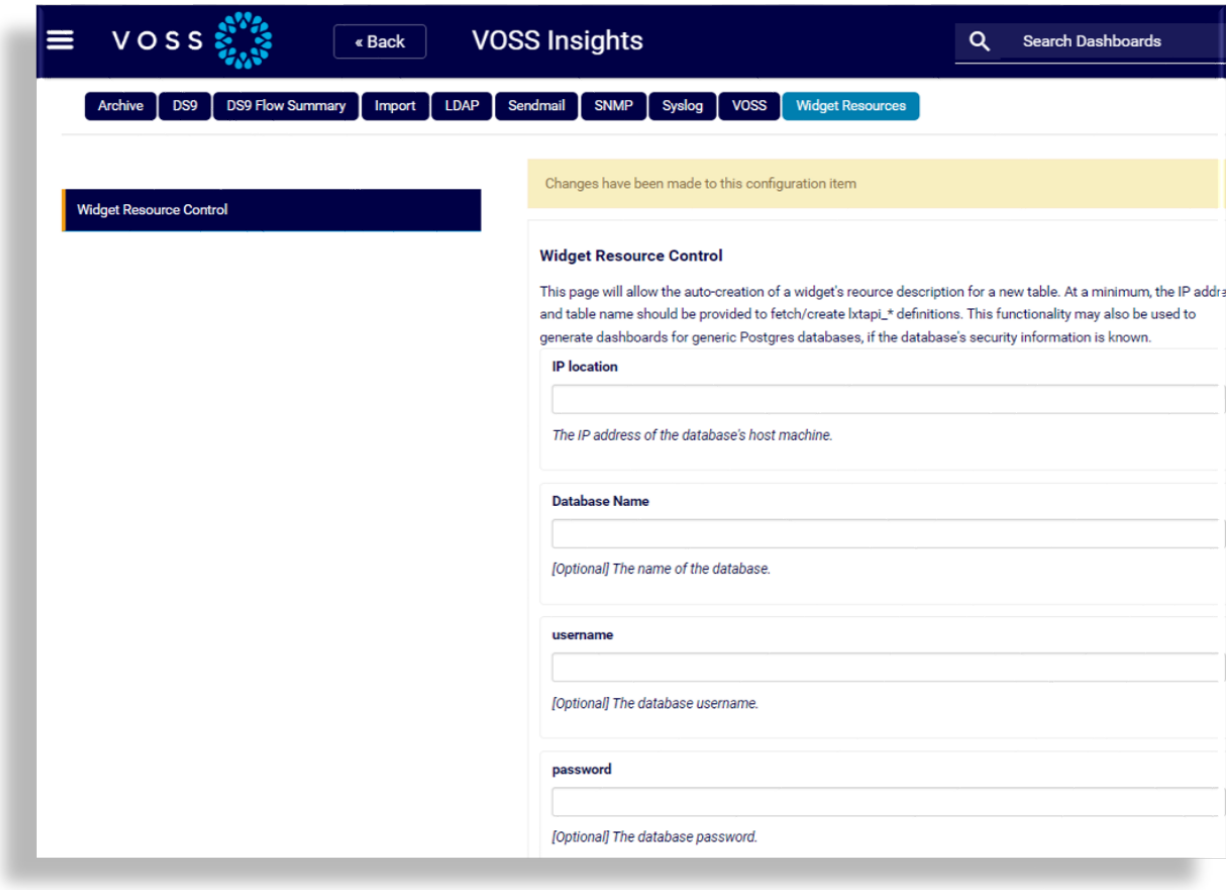
- **Configuration: Server – Add Client**: This screen is used to obtain a VPN Client Configuration file. This will allow connectivity from the Windows Forwarder directly to this server utilizing OpenVPN. There are a few prerequisites:

  1. There must be network connectivity between the Windows Forwarder machine to this server.
  2. The specified OpenVPN port (default port 1194) must be opened on the firewall between this server and the Windows Forwarder IPs.
  3. This server VPN Configuration screen should be configured for server mode.



6.7.13. Widget Resources

This tab allows the auto-creation of a dashboard widget's resource description for a new table. At a minimum, the IP address and table name should be provided to fetch/create the `lxtapi_*` definitions. This functionality may also be used to generate dashboards for generic Postgres databases, if the database's security information is known.

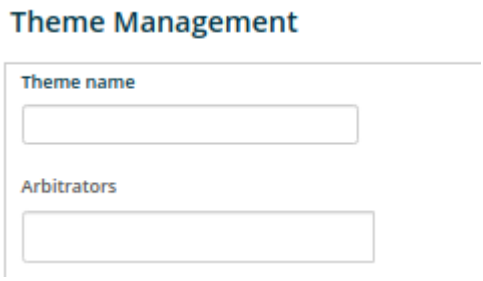


6.8. Theme Management

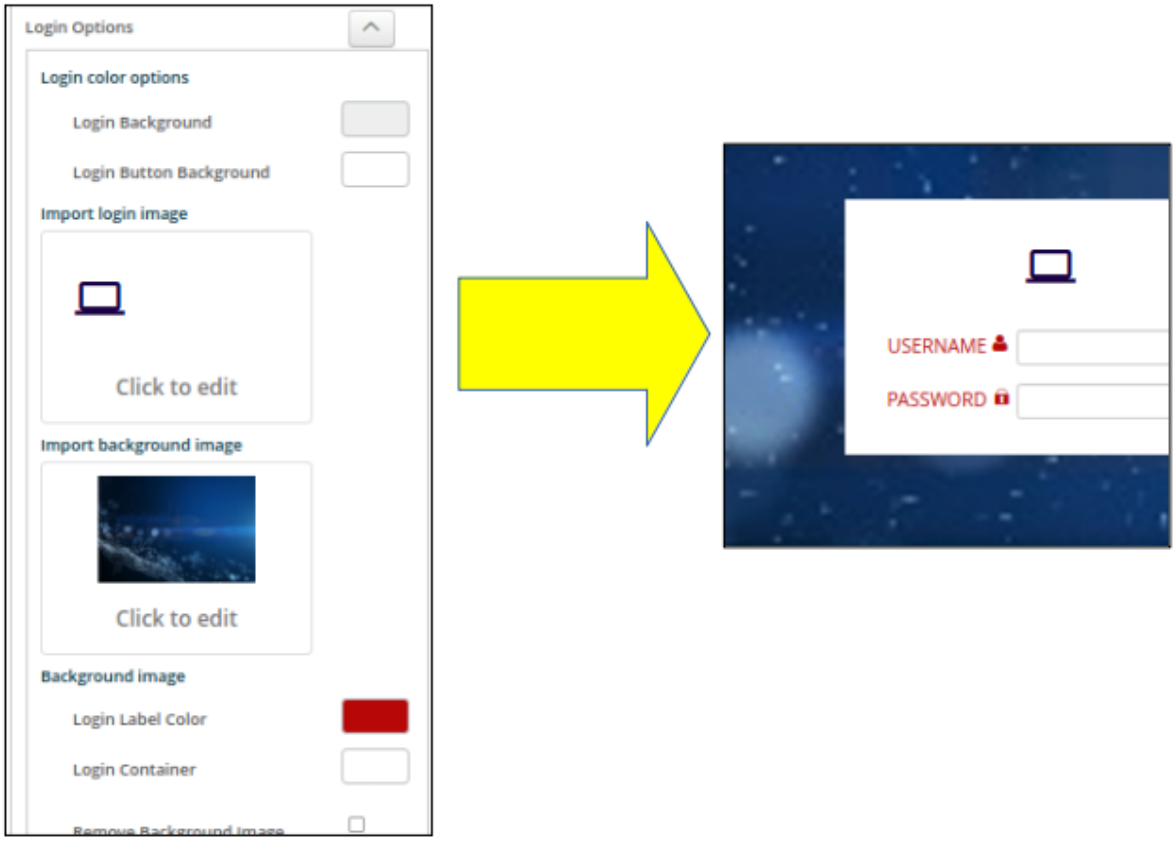
The Theme Management screen provides several options to configure themes: create, modify, reset and delete. Custom themes can also be created.

6.8.1. Create a New Theme

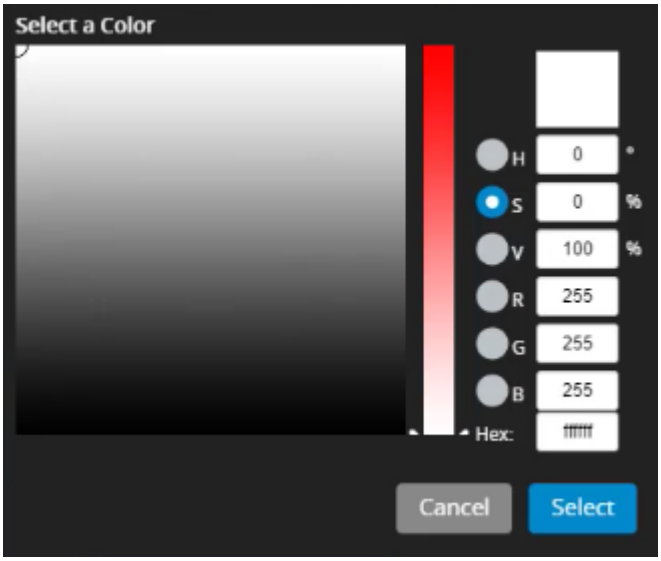
1. From the reporter user menu on the main screen, choose **Theme Management**.
2. From the **Select action** drop down, choose Create New Theme.



3. Enter a **Theme Name** and optionally any arbitrator to share the theme.
4. **Login Options**: refer to the **Login sample** for a preview of changes.



a. For **Login color options** (Login Background, Login Button Background), click in the color box to open a color picker widget. You can use the sliders, buttons and input boxes to set a color. Verify your color shows in the **Hex:** input as a hex value and click **Select**.

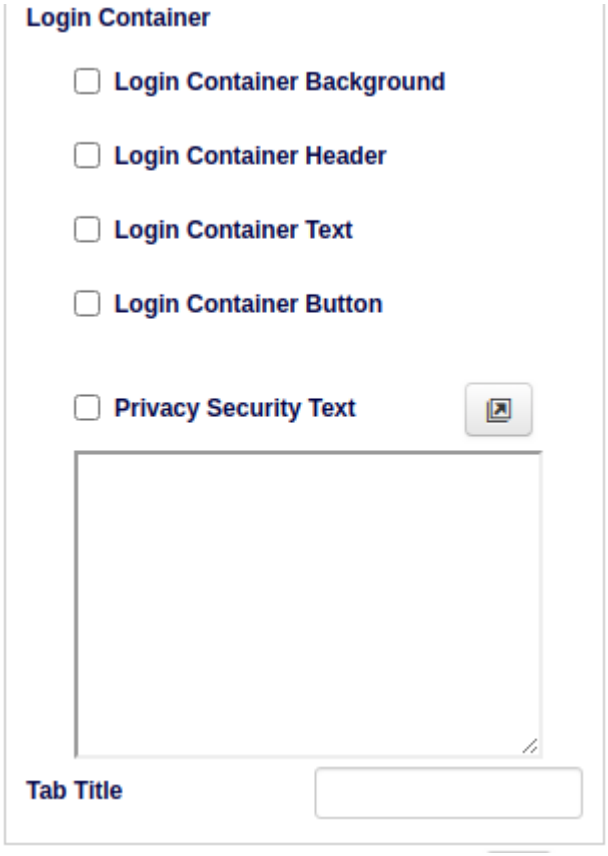


b. From **Import login image**, select the image to show on the login page, above the username and password input boxes.

c. From **Import background image**, select the image to show as background on the login page, behind the login box. If not used, then the **Login Background** color applies.

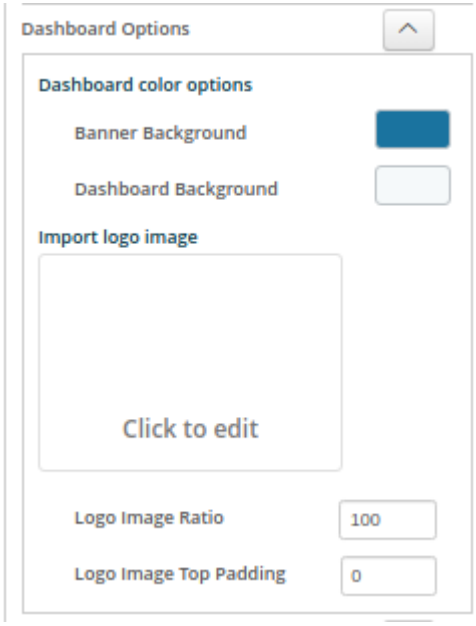
   If needed, select the **Remove Background image** check box to remove any imported background image.

d. From **Login Container**, select the required color options. The **Privacy Security Text** box can be used to enter login privacy text:



A **Tab Title** text value can be entered to show as the browser tab text.

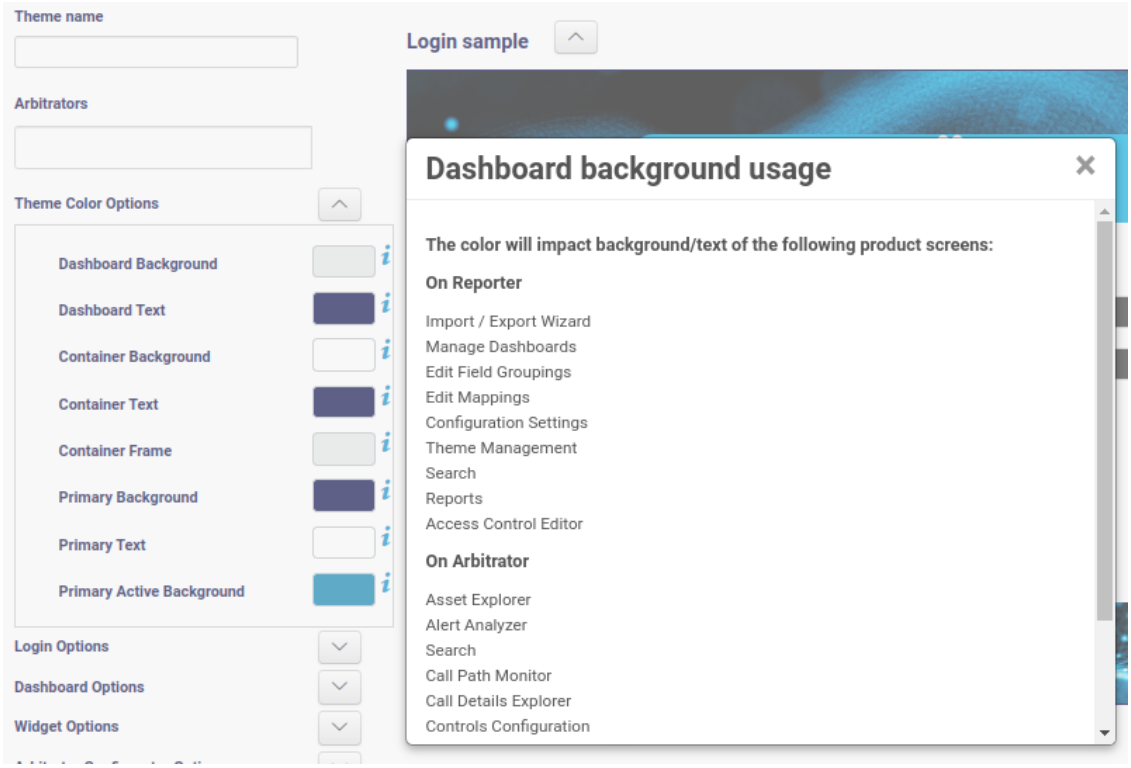
5. **Dashboard Options**:: refer to the **Dashboard sample** for a preview of changes.



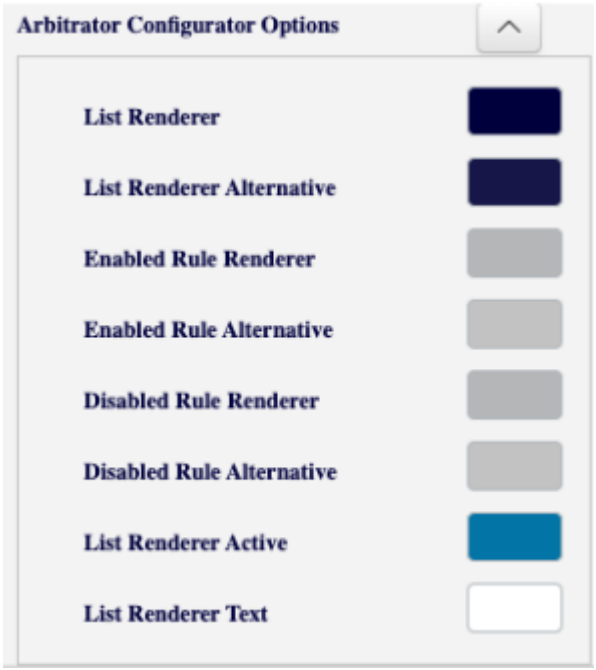
a. For **Dashboard color options** (Banner Background, Dashboard Background), click in the color box to open a color picker widget. You can use the sliders, buttons and input boxes to set a color. Verify your color shows in the **Hex:** input as a hex value and click **Select**.

For the dashboard, Theme Color Options are also available for text, Container, Primary Active elements and Containers.

Click the **i** icon to open a list of screens affected by a color option, for example, for **Dashboard Background**:



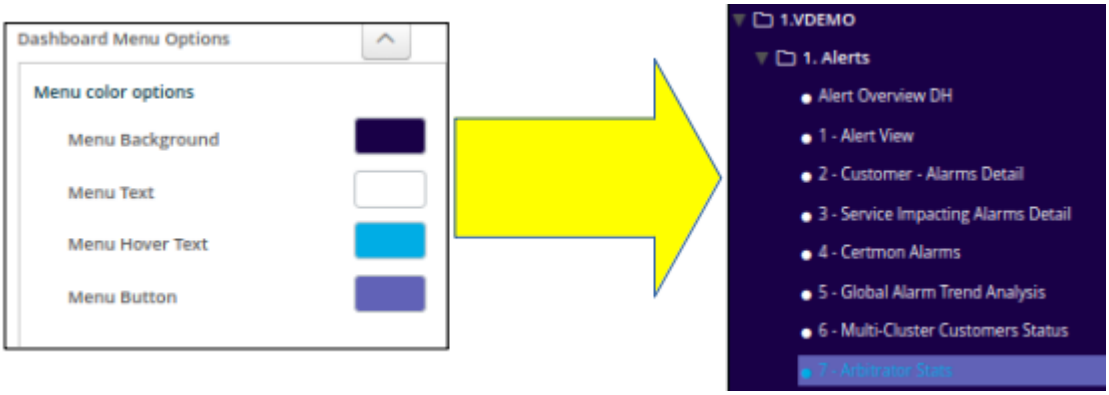
Additional Arbitrator Configurator colors are also available:



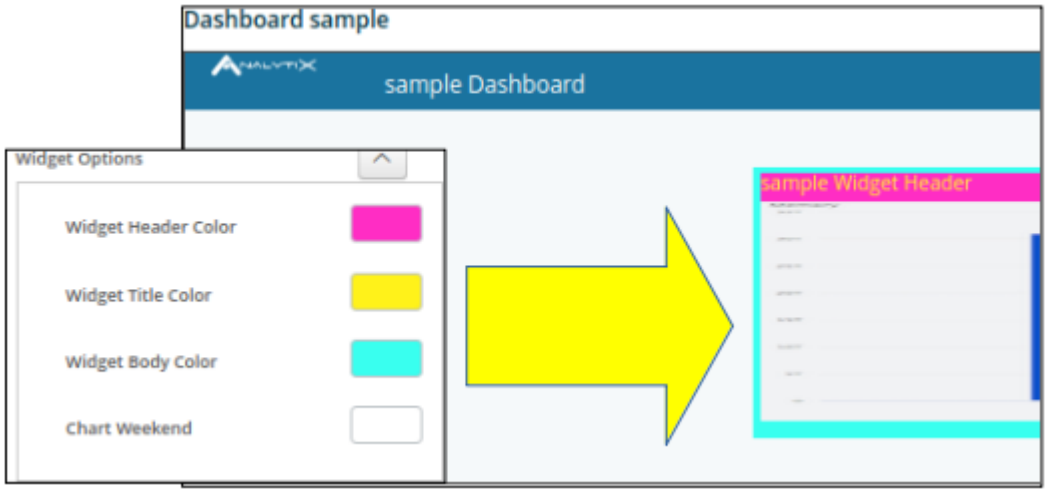
b. Select an image from **Import logo image** to use as a logo on the banner. The image can be

scaled and positioned using **Logo Image Ratio** and **Logo Image Top Padding**. An option is also available for a browser tab icon: **Import Favicon image**.

6. **Dashboard Menu Options**: the **Menu color options** group of settings are available to customize the colors of the menu and its text (Menu Background, Menu Text, Menu Hover Text, Menu Button) - using the color pricker widget.

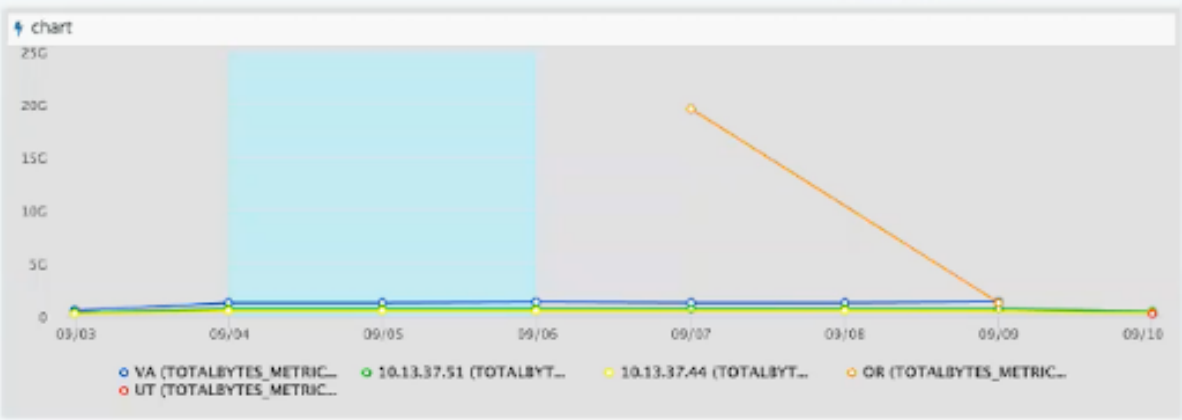


7. **Widget Options**:: refer to the **Dashboard sample** for a preview of changes. The widget sample is shown on the dashboard.



Set the **Widget Header Color**, **Widget Title Color** and **Widget Body Color** using the color picker widget.

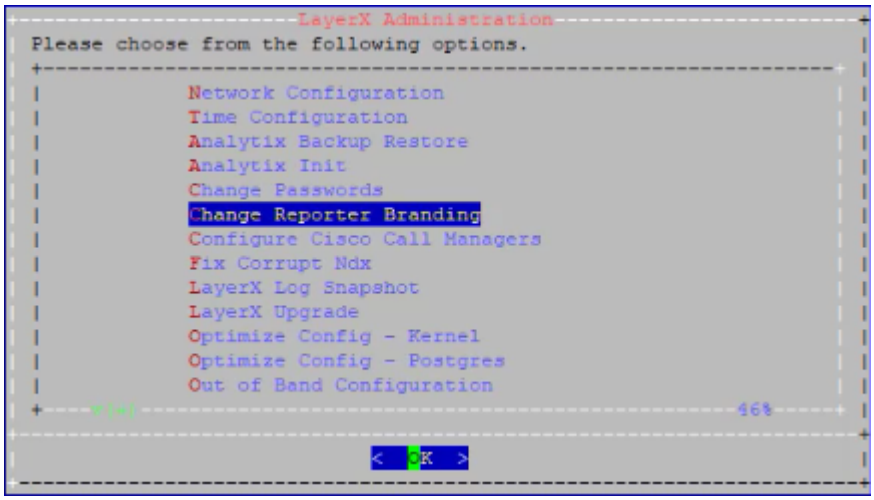
The **Chart Weekend** setting can be used to set a different chart color for charts that show daily data over a number of weeks.



8. Click **Save**. When done, the **Status** shows 100% and a message shows “Theme saved successfully”.

6.8.2. Apply a Theme to the Dashboard

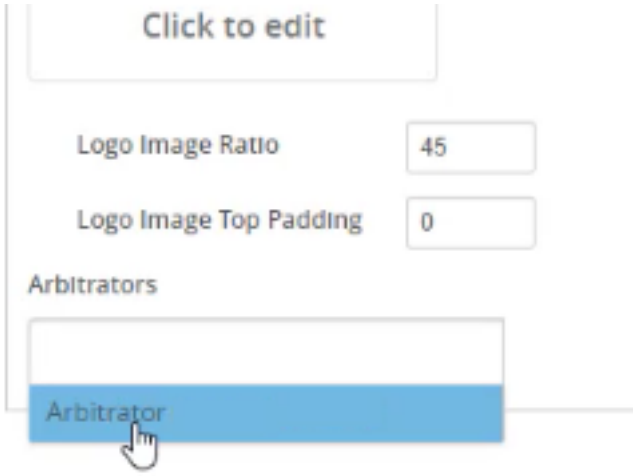
1. Log in on the command line and navigate to the **Change Reporter Branding** menu.



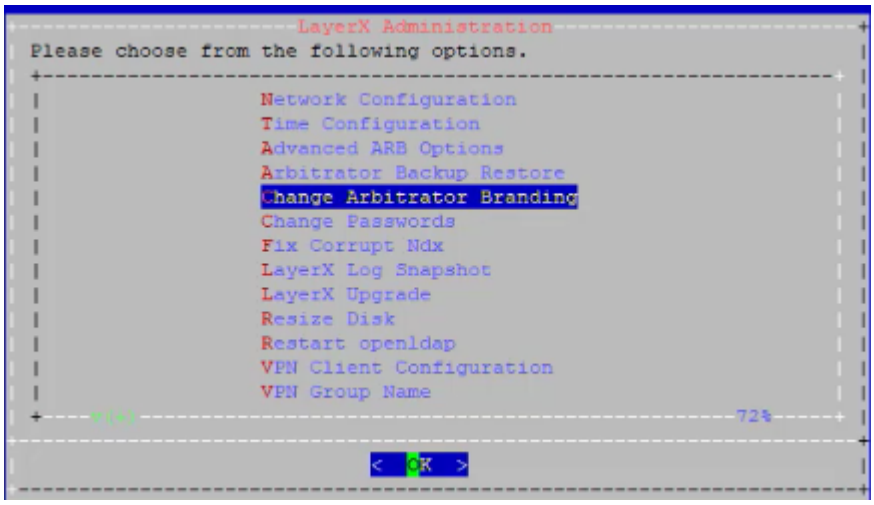
2. At **Enter Branding Theme:** input box, enter `themes/<your-theme-name>` and select **OK**. A console message shows: `Putting THEME:themes/<your-theme-name>`.
3. If you log in on the reporter now, the theme is shown.

6.8.3. Apply a Theme to the Arbitrator

1. On the selected theme on the **Theme Management** menu, ensure that the arbitrator is selected in the **Arbitrators** drop down box and that the theme is saved. (You need to make a change to the theme to save.)

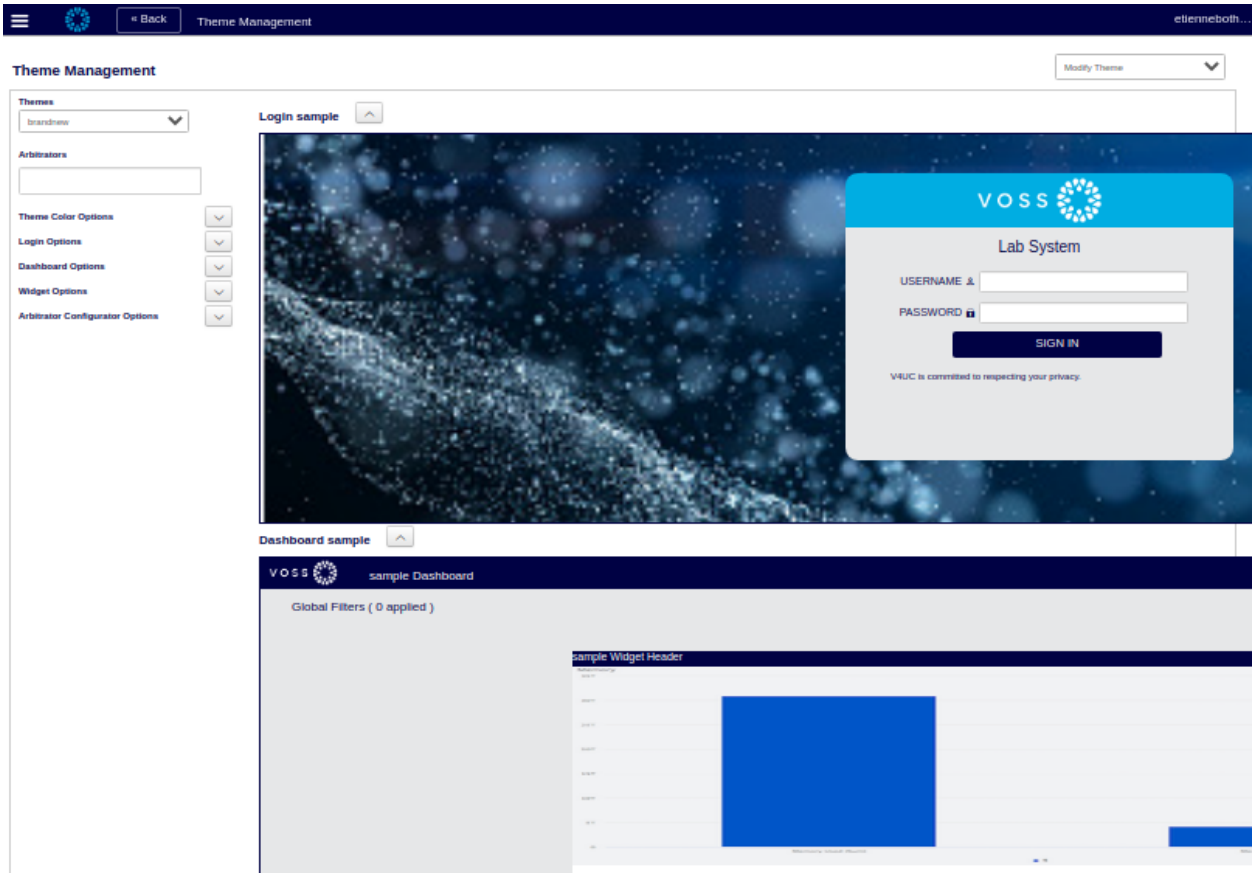


2. Click **Save**. You should now also see an **Output:** message: “Generating Arbitrator <IP> theme <your-theme-name>”
3. Log in on the command line and navigate to the **Change Arbitrator Branding** menu.



4. At **Enter Branding Theme:** input box, enter `themes/<your-theme-name>` and select **OK**. A console message shows: `Putting THEME:themes/<your-theme-name>`.
5. If you log in on the arbitrator now, the theme is shown.

6.8.4. Example Custom Theme



6.9. DS9 Configuration

6.9.1. Overview

admin-users-only

The DS9 Alert Management page allows you to view, edit, disable, or delete existing alerts for DS9, and to add new alerts for DS9.

Note: To access this page, log in to the dashboard as admin user, and from the **admin** menu, select **DS9 Configuration**.

6.9.2. Alert types

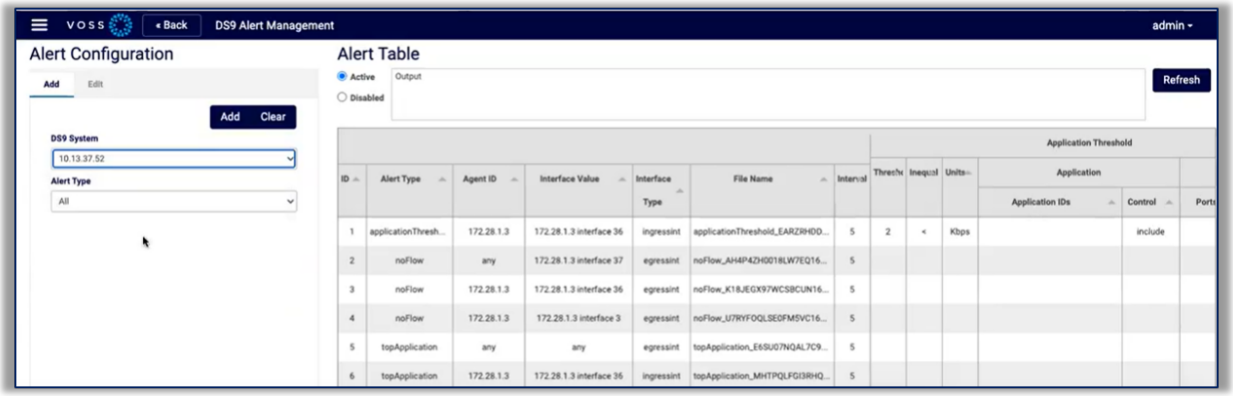
DS9 ships with three standard alert types:

Alert type	Description
Application Threshold	This alert notifies you that a NetFlow-reporting node reports traffic for an application over or under a certain threshold. After you create an alert for the application and the threshold for a particular node, the alert is triggered when the traffic exceeds the threshold. The alert can be created across multiple applications. This means that the alert will be triggered when the combined threshold of all selected applications is reached.
Top Application	This alert notifies you whether an application is present in Top XX Applications lists. After you create an alert for a specific application for a node or interface, the alert is triggered when the application is missing in the Top XX Applications resources.
No Flow	The flow is no longer being received. This alert notifies you that a device (node or interface) is not sending data over a defined time period.

6.9.3. View alerts

1. Log in to the Dashboard as admin user.
2. From the **admin** menu, select **DS9 Configuration** to open the **DS9 Alert Management** page.
3. On the **DS9 Alert Management** page, select a DS9 system to view alerts for this system in the table in the **Alert Table** panel.

Note: You can choose to view details for all alert types or choose one. In the **Alert Table** panel, you can choose to view active or disabled alerts. Click the **Refresh** button to update alert configuration details in the table.



6.9.4. Add an alert

This procedure creates a DS9 alert.

1. Log in to the Dashboard as admin user.
2. From the **admin** menu, select **DS9 Configuration** to open the **DS9 Alert Management** page.
3. On the **DS9 Alert Management** page, click **Add**.
4. At **DS9 System**, choose a DS9 system from the list.

   Note: The list is populated based on DS9 data sources. Once you choose a DS9, the system runs a query and populates the table in the **Alert Table** panel, displaying the details of any active / disabled alerts already configured for the DS9 you choose (active or disabled, depending on whether you select the **Active** or **Disabled** radio button).

5. At **Alert Type**, choose the alert type you want to add. Options are: No Flow, Top Application, Application Threshold
6. Configure the alert:
   - Choose the agent ID (the address for the alert) (relevant for all alert types).

     Note: The option you choose at **Agents** populates the **Interfaces** drop-down.

   - Choose interface type (relevant for all alert types).
   - Choose interfaces (relevant for all alert types).

     Note: The list is dynamically populated based on the agent you select, via an API call to the DS9 data source or the local database.

   - Choose time interval (the number of minutes to query in the past) (relevant for all alert types).
   - Configure threshold (unit, compare symbol, and value) (relevant for alert type *Application Threshold* only)
   - Define whether to include applications, and if yes, specify application IDs (one or more, in a comma-separated list) (relevant for alert type *Application Threshold* only)
   - Define whether to include ports, and if yes, specify ports, one or more, in a comma-separated list (relevant for alert type *Application Threshold* only)
   - Choose severity (minor, major, or critical) (relevant for alert types *No Flow* and *Top Application* only).
   - Choose the condition at **Exists**, either true or false (relevant for alert types *No Flow* and *Top Application* only).
   - Mandatory. Define a numeric value as the limit (relevant for alert type *Top Application* only).
7. Click **Add**.

   The system adds the new alert and progress displays in the display field adjacent to the **Refresh** button.

Wait a short while (approximately one minute) to allow the system to process the new alert and to run the query, then click the **Refresh** button to view the new alert in the table.

Note: The **Clear** button clears the interfaces data and the agent. If you don't clear these fields before adding a new alert, the value for agent and interfaces is the same as the last alert you added.

6.9.5. Edit, disable, or delete an alert

This procedure edits, disables, or deletes a DS9 alert.

1. Log in to the Dashboard as admin user.
2. From the **admin** menu, select **DS9 Configuration** to open the **DS9 Alert Management** page.
3. On the **DS9 Alert Management** page, click **Edit**.
4. At **DS9 System**, choose a DS9 system from the list.
5. View active alerts for this system in the **Alert Table** panel.

Note: Select **Disabled** to view disabled alerts.

6. In the table, choose the alert you wish to edit. The alert's details populate the configuration fields, including a file name.
7. Choose an option:
   - To modify the alert, update the data, then click **Edit** to update the alert.
   - To disable the alert, click **Disable**. The alert is removed from the table of active alerts, and is added to disabled alerts.
   - To delete the alert, click **Delete**. The alert is removed.

6.10. Schedule Reports

6.10.1. Overview

The Report Scheduler allows you to schedule each report based on customer, duration, repeat time-frame, and email address.

You can access the reports functionality via the **System Configuration** menu (Cog icon) on the toolbar, then select **Schedule Reports**.

You can select two tabs on this page:

- Configure

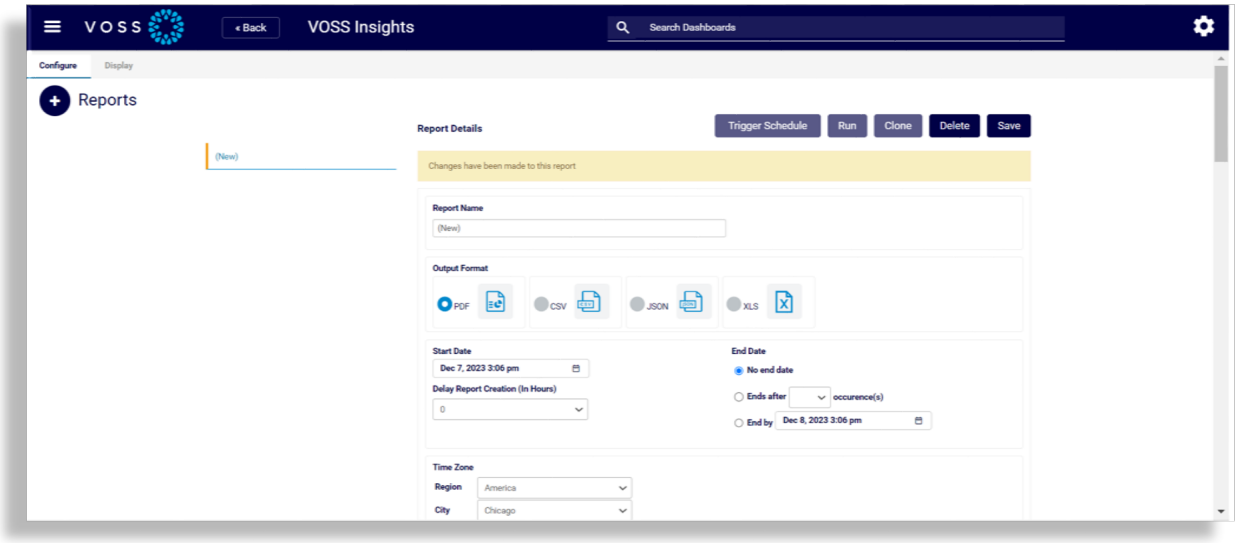
- Display

6.10.2. Configure Tab

On the Configure tab you can trigger a schedule, run a report, delete a report, or clone (copy) a report.

Note: Cloning allows you to create a copy that you can customize to add new recipients or a different time zone, for example.

On this tab you can also scheduling and arrange dashboards into reports.



The table describes options for working with reports:

Action	Description
Plus icon (+)	Click the Plus icon (+) at **Reports** to add a new report.
Run	To run a report manually, select the report, then click **Run**. In the **Print** dialog, choose a date for the report, then click **Print** to run the query and generate the report. You can view the progress and details of the query as it runs. When it's done, click **Download** to save the report to your local computer or to a network location.
Clone	To clone a report, select the relevant report, then click **Clone**. This allows you to create a new report based on settings in the cloned report.
Trigger Schedule	To manually trigger the schedule for a scheduled report, select the report, then click **Trigger Schedule**. For reports executed via a schedule, the system writes the report log details to the database (to the *lxt_perf_data* table). Event data display in a Dashboard widget (*lxt_perf_data widget*), where you can view progress and print the details.

Related Topics

- *Introduction to Dashboards*
- *Access Controls*

6.10.3. Schedule and Arrange Dashboards into Reports

This procedure sets up reports.

Prerequisites:

- In **Access Controls**, add users who may receive emailed reports, along with their email address. See *Access Controls*
- For emailed reports, if you need to set up an alternative IP address that will allow recipients to access the Dashboard to view reports in the Dashboard system via an IP address in the email notification sent to them:
  - Go to **System Configuration > Configuration**.
  - On the **Sendmail** tab, in the optional **sendmail_from_host** field, add an IP address to use as the URL for all emails that the system generates.

    See *Configuration*

To schedule and arrange dashboards into reports:

1. Go to **System Configuration > Scheduled Reports**.
2. On the **Configure** tab, click the Plus icon **+** at **Reports** to add a new report.
3. In the **Report Name** field, give your new report a custom name.
4. Choose the output format. Options are PDF, CSV, JSON, or XLS.

   Note: Outputting to Excel workbooks (`.xls`) creates a new tab for each widget inside a single Excel workbook file.

   Configuration options on the page depend on the output format you choose. For example, only the PDF output format allows you to define widget layout per page.

   ---

5. At **Start Date** and **End Date**, select a start date, and report end date options.
6. At **Time Zone**, choose a time zone region and city.

   Note: The system uses a city library that represents most zone locations. If your city is unavailable, choose an option matching your required time zone.

   ---

7. At **Report Interval**, choose the period to query data for the report. For example, **Last 12 hours**.
8. At **Repeats**, choose how often you want to repeat the running of this report. Options are: Never, Daily, Weekly, Monthly.
9. At **Descriptions Placement**, choose whether to display widget descriptions below the chart(s).

10. At **Widget Layout Per Page**, select the number of widgets to print on a page
11. At **Users**, click the Plus icon (+) to add recipients (one or more), then select the users who should receive the report.

    Note: Non-admin users can also add other users to reports.

12. At **Destination**, choose whether to:
    - only display the report on the GUI: **Display only**, i.e. no destination
    - send the report via **Email**
    - send the report via **SFTP**

    Note: Reports can be sent via SFTP to a host destination.

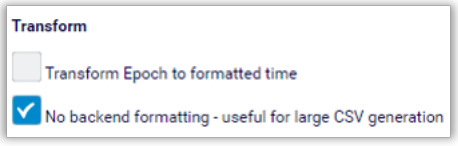
13. Under **File name option**, if the **Override default File name** checkbox is selected, report filename options are available to include the username, date and time (`HH_mm_ss`) with the name (separated by an underscore _).

    - The date format is obtained from the User Settings: (`MMM-D-YY` or `D-MMM-YY`)

14. At **Transform**, choose formatting options.

    For the output format you chose (PDF, CSV, JSON, or XLS), define whether to transform epoch to formatted time, and if your selected file output format is CSV, you can also define whether to remove backend formatting in the generated CSV file.

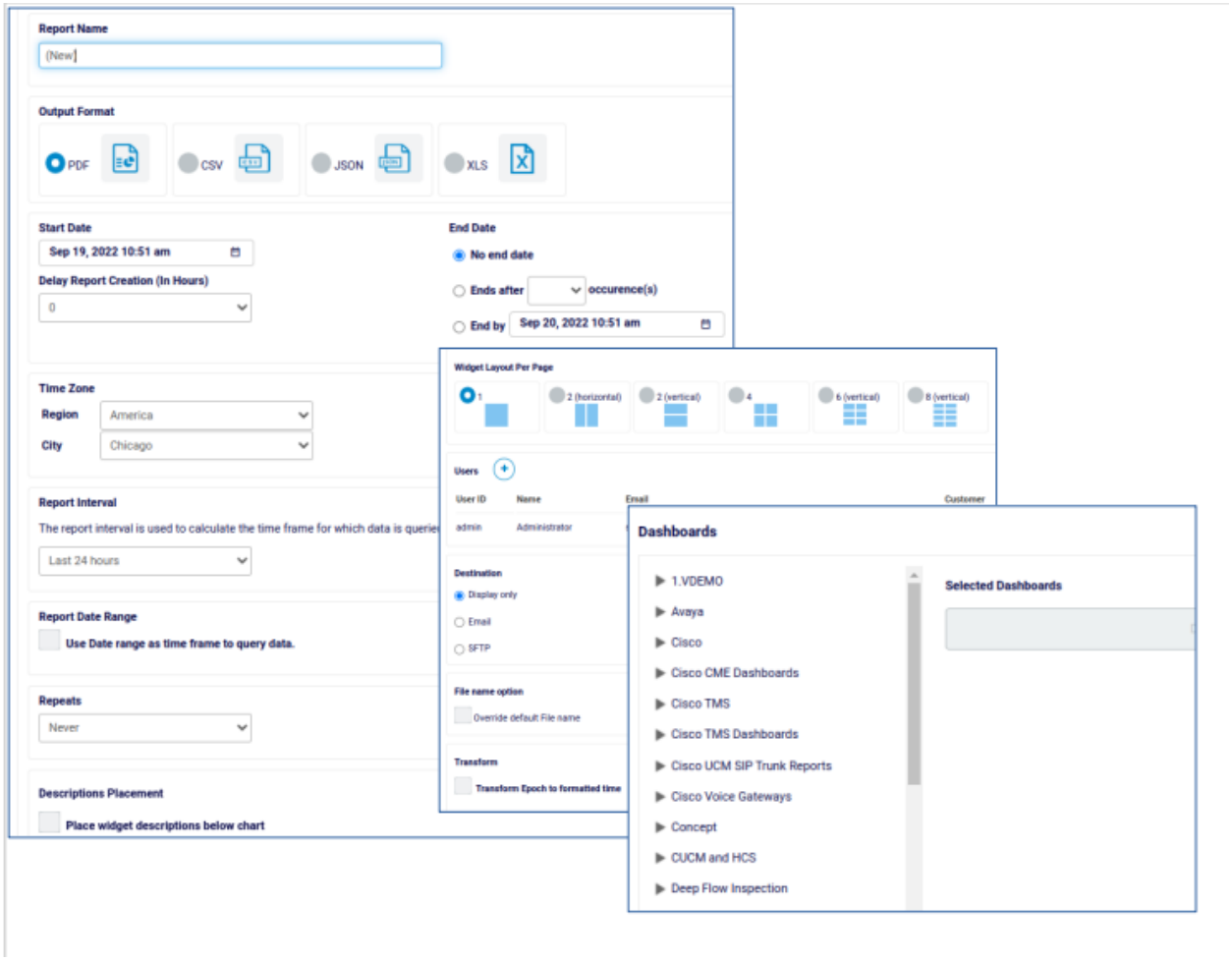
    Note: If you've chosen the option to remove backend formatting (CSV output only), then all data in the CSV (each cell) will have minimum formatting applied. This speeds up file generation for reports, and when you wish to download a CSV file (via a dashboard widget). This option is thus useful for large files.



15. At **Dashboards**, drag the dashboards you want to include in the report, to the **Selected Dashboards** field.
16. At **Summary Page**, use the text editor to design a summary page (including images) that will be placed at the top of the report.

17. Click **Save**.

Note: Now you can manually run the report, or you can click **Trigger Schedule** to generate the report at the predefined schedule value. If you've chosen to email the report, the report is emailed to the recipient you specified in **Users** on the **Reports** page. Email recipients click the link in the email to open the report in the format you specified, and at the specified IP address - either the default, or a value you provided.



6.11. Data Sources

The Data Sources page allows you to define multiple data sources to extract data on which to analyze and report. Several options are provided for connecting to external data sources.

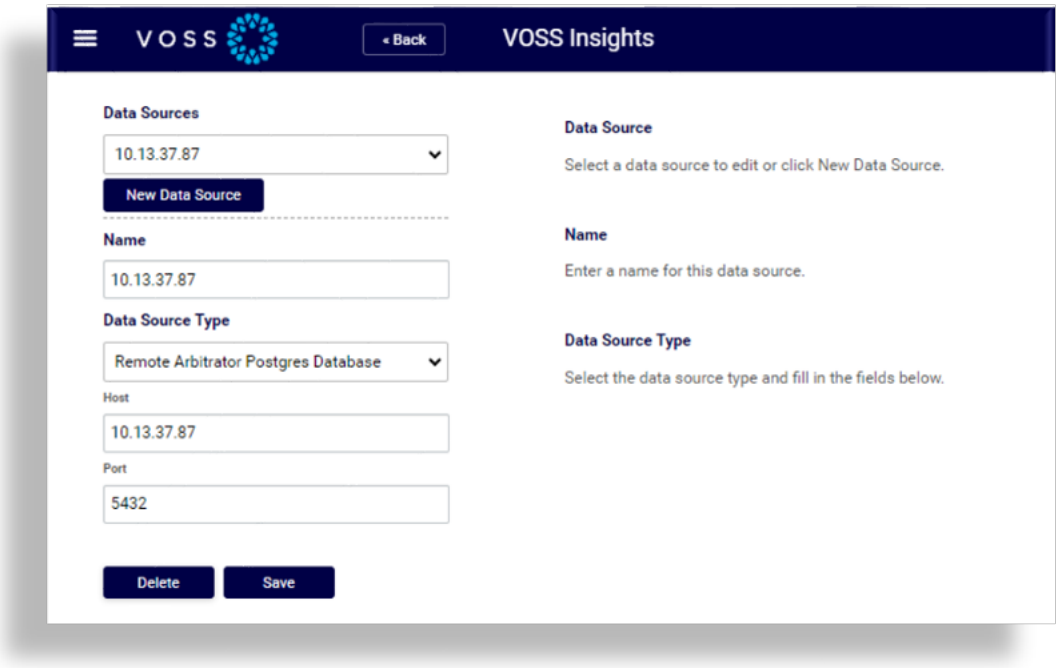
Note: To access Data Sources, click the **System Configuration** icon, then select **Data Sources**.

Insights can extract data from any SQL data source as well as all VOSS systems. The **Data Sources** page displays all of the data sources from which the system is currently configured to extract.

To add a new data source:

1. Click **New Data Source**, then fill out a name for the new data source.
2. Select a data source type from the drop-down, then fill out details relevant to the selected data source, for example, Microsoft SQL Server, Ndx, or any of the other available data source types.
3. Fill out required credentials.
4. Save.

   This source will now be available to extract data and define resources.



6.12. Access Controls

6.12.1. Overview

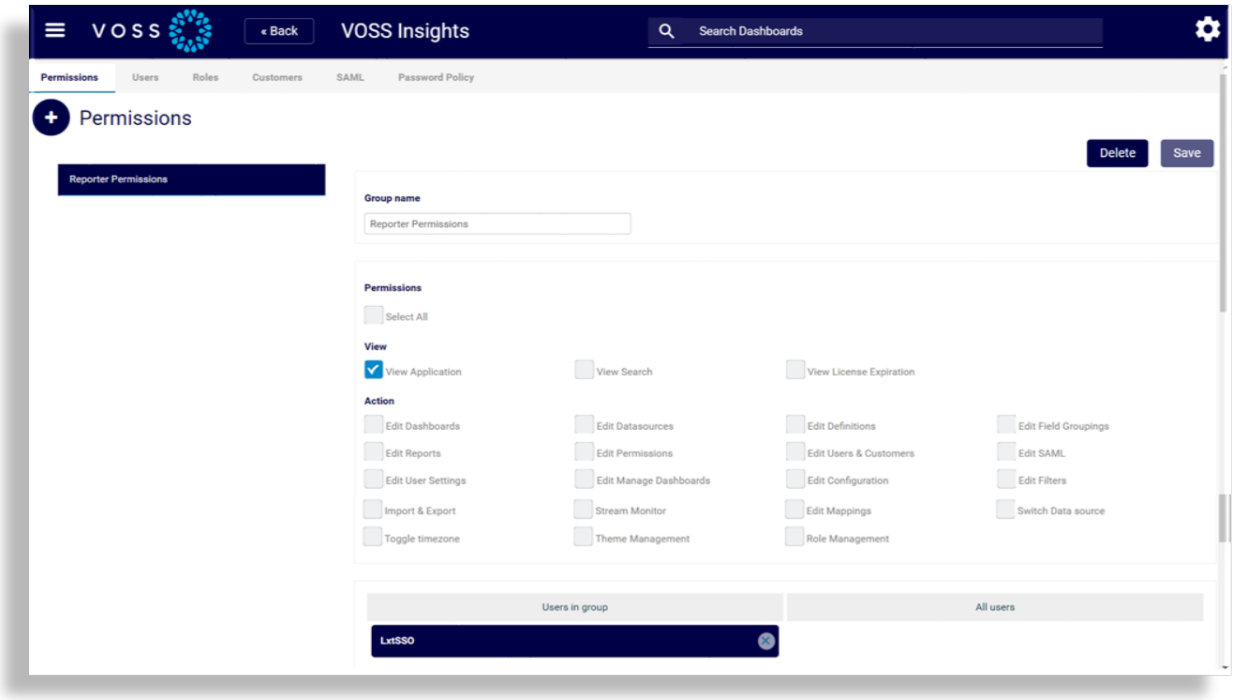
The Insights Dashboard system Access Controls page allows you to set up and configure the following:

- Set up multi-tenant customers and users

  Note: You can set up multiple tenants to have their own, read-only only access to dashboards, and to receive their own reports.

- Configure role-based access to the dashboards
- Configure system permissions
- Add or configure users and customers
- Configure SAML settings
- Configure user log in credentials and system password policy

Note: Only the system super user (admin account) may view and edit the password policy.



To launch Access Controls, click the toolbar **System Configuration** (Cog) icon, then select **Access Controls**.

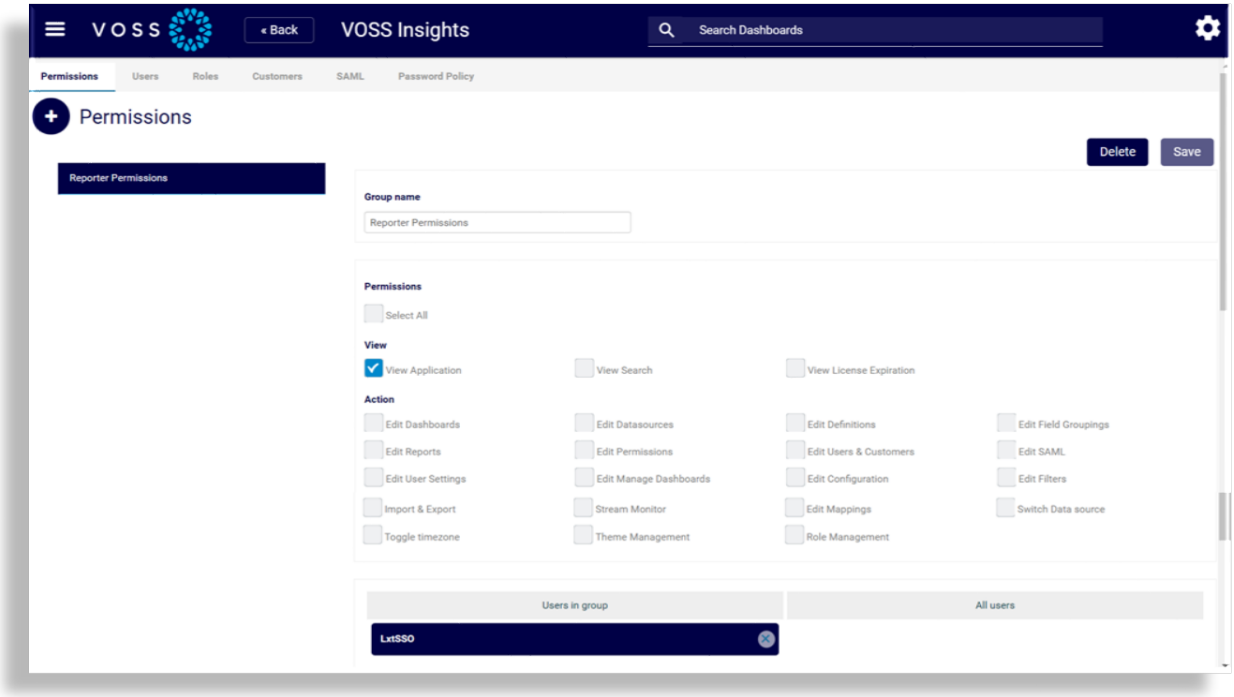
6.12.2. Access Controls Editor

You can select the following tabs in the Access Controls editor:

- *Permissions Tab*
- *Users Tab*
- *Roles Tab*
- *Customers Tab*
- *SAML Tab*
- *Password Policy Tab*

Permissions Tab

This tab adds and configures permission groups.



The **Reporter Permissions** group is a default permissions group, and is assigned by default to the **Default** role.

All new users added to the system are automatically assigned to the **Reporter Permissions** permissions group, which provides **View Application** rights to the system.

You can add new permissions groups, and for each permission group, you can choose permissions, and add or remove users.

Note: A user can be in one or more permission groups, but only the most restrictive one is used.

- The **Users in group** and **All users** fields display the names of users added to the system.
- The **View** and **Action** checkboxes define the permissions that can be assigned to a selected permission group.
- To create a new permission group, click the Plus (+) icon at **Permissions**, define a group name, choose permissions, add users to the group, and save your changes. Users in this group will have access to the system based on permissions configured for their permission group.

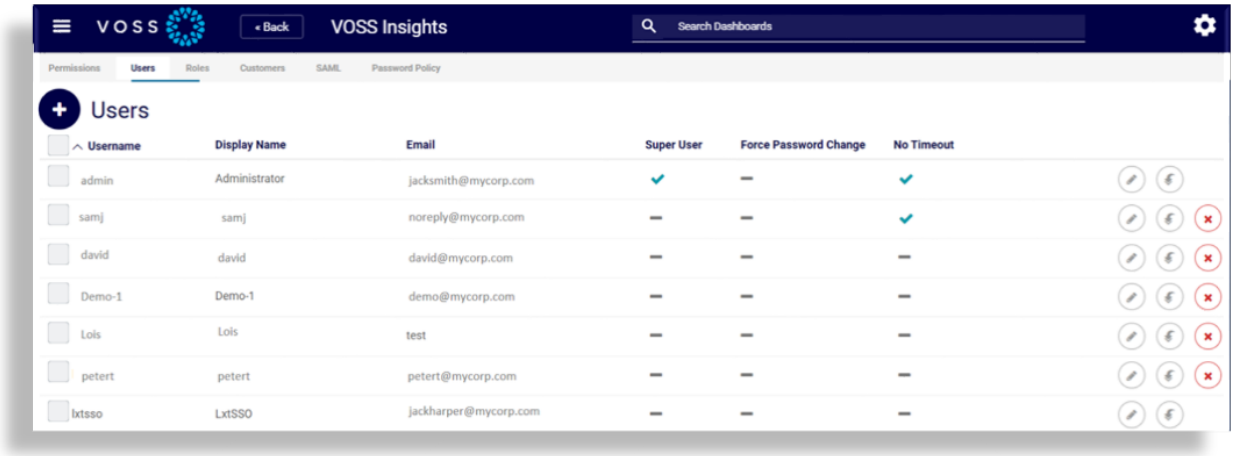
  Note: All permission groups should have at least the **View Application** permission.

Related Topics

- *Add and Configure Permission Groups*

Users Tab

This tab adds, edits, and deletes users.



There are two default users upon installation:

admin	A system superuser. The admin can perform all functions in the system. Set these credentials and only share them with your administrator.
lxtsso	A single sign-on credential, used only when the system is integrated to another platform, such as an IT Operations platform.

All new users are automatically created with a default role (called **Default**), and the **Reporter Permissions** permission group, which gives at least the **View Application** permission. Provided the default role is enabled and has dashboards associated to it, new users can log in to the system and will have access to the predefined collection of dashboards you associated to the default user role (typically dashboards you want all users to have access to). This simplifies the onboarding process.

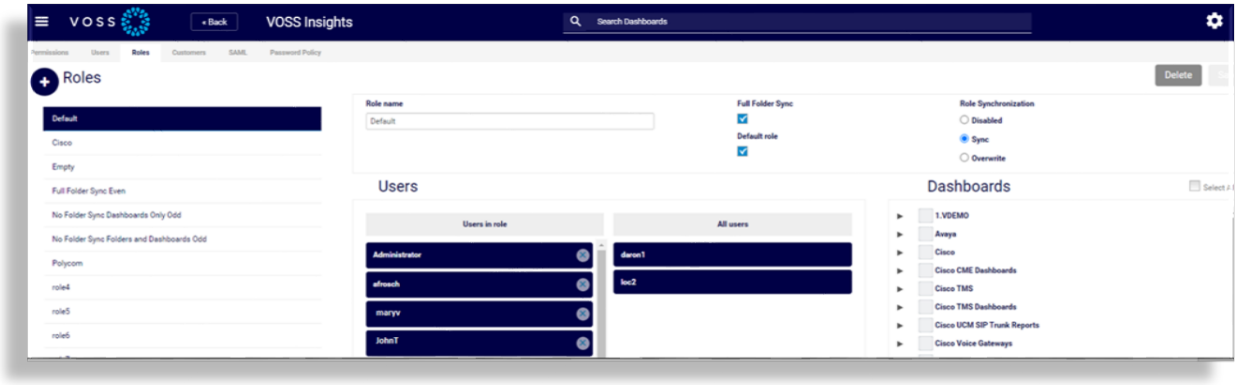
Related Topics

- *Assign Dashboards to Users via User Roles*
- *Add New User with Default Role and Dashboards*
- *View a User's Roles, Permissions, and Dashboards*

Roles Tab

This tab adds and edits role-based access to the dashboards.

Note: You can assign dashboards to specific roles. Users can be part of one or many roles. If the role is *enabled* (see Role Synchronization settings), any user with that role will have all the dashboards assigned to that role. Roles tie together permission groups and dashboard collections.



The table describes the fields on the Roles tab in the Access Control Editor:

Field	Description
Roles	Click the Plus icon (+) to add a new role. Select a role then add or remove users associated with the role. The system ships with a role called *Default*. All new users are automatically associated with the *Default* role. It is recommended that you assign a selection of dashboards to the *Default* role. These are dashboards that you want all new users to have access to as soon as they're added to the system. You can create additional roles based on the requirements of your organization, then add or remove users as required, and choose the dashboards to assign to users based on their roles (users can have more than one role).
Users	Associate and remove users from a selected role.
Dashboards	Choose dashboards to be associated with a selected role. These dashboards will be available to users assigned to the role when saving your changes.
Role name	A customizable name for the role. The system ships with a default role (called *Default*).
Full Folder Sync	Defines that when syncing dashboards to user roles, the system syncs the entire folder where dashboards are selected for the role. If **Full Folder Sync** and **Overwrite** is selected, when an admin user adds another dashboard to the folder, that dashboard is available to the user the next time the user logs in.
Default role	Defines that the selected role is the default for the system. Any new users added to the system are assigned to this role, and will have access to any dashboards associated with this role. Additionally, new users are automatically assigned *Reporter Permissions* (permissions group), which gives them view access to the system.

Field	Description
Role Synchronization	Options for how a selected role is synced and dashboards made available or removed for users associated with the role: • Disabled - The role is disabled. Any dashboards assigned to this role won't be synced to users added to this role. • Sync - When a user with this role logs in, they will have access to any dashboards associated with the role. Sync occurs when a user logs in. If a user is logged in when dashboards associated with their role is changed, they will see the change the next time they log in. This option deletes all dashboards currently assigned to users with the role, and copies over the current dashboard selection for the role. Manually assigned dashboards and roles are replaced in this automatic sync. • Overwrite - The existing dashboard to role association is overwritten when the next role sync occurs. If **Full Folder Sync** and **Overwrite** is selected, when an admin user adds another dashboard to the folder, that dashboard is available to the user the next time the user logs in.

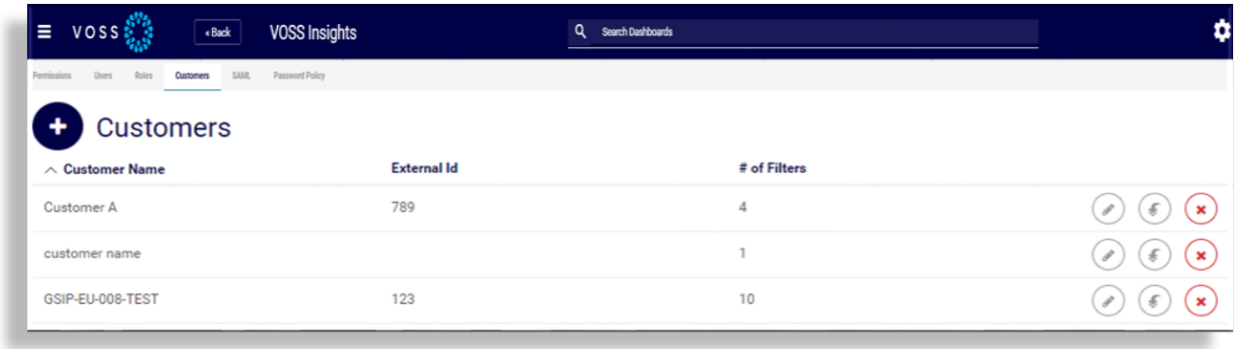
Related Topics

- *Add and Configure Roles*
- *Assign Dashboards to Users via User Roles*
- *Add New User with Default Role and Dashboards*
- *View a User's Roles, Permissions, and Dashboards*

Customers Tab

This tab adds, edits, clones, and deletes customers.

Customers can be actual companies (if you are an MSP), or they can be departments/individuals (if you are an enterprise).



Related Topics

- *Add and Configure a Customer*

SAML Tab

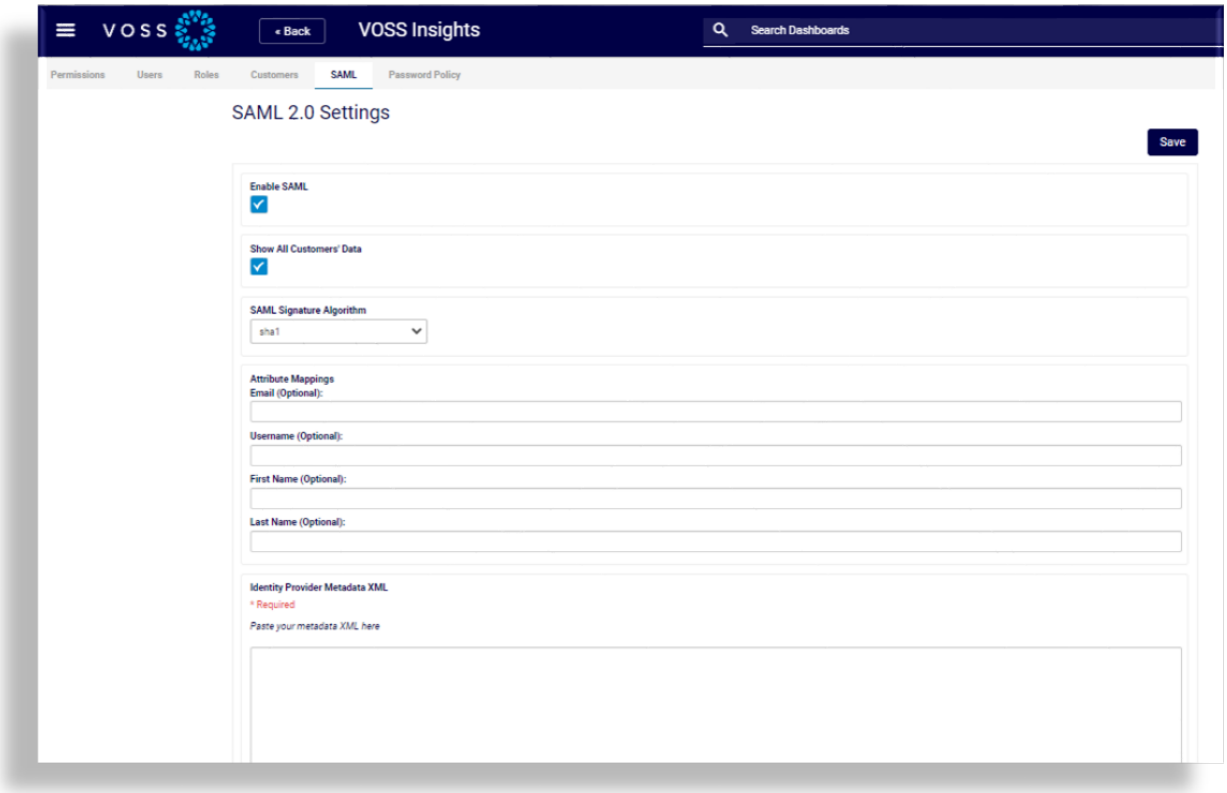
This tab configures SAML settings, which are used to enable single sign-on across security domains.

You can choose to enable SAML along with the specific signature algorithm and various attributes. This function often requires close interaction between the customer and the VOSS engineer.

Note: Security Assertion Markup Language (SAML) is an open standard for exchanging authentication and authorization data between parties, in particular, between an identity provider and a service provider. As its name implies, SAML is an XML-based markup language for security assertions (statements that service providers use to make access-control decisions).

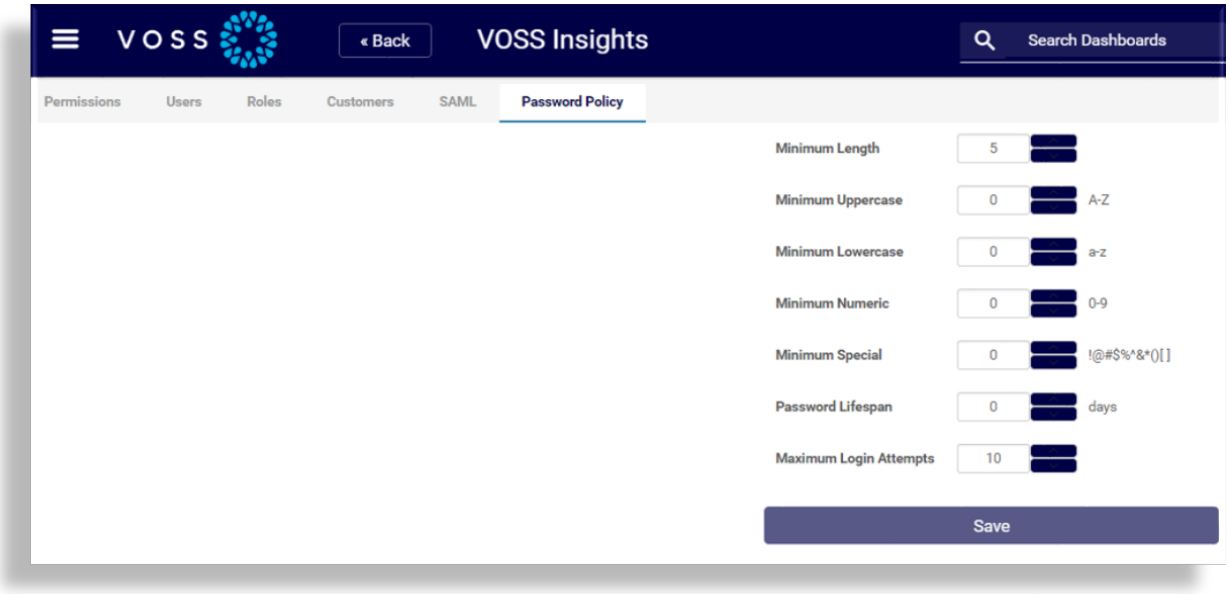
VOSS Insights supports single sign on (SSO) for authentication via the SAML v2.0 standard for SSO. When SAML is enabled for your system, the **Sign Out** menu option (accessible via the **admin** menu) is not required or available as the Insights system does not initiate the termination in this case.

SAML is enabled/disabled on the SAML tab of the Access Control Editor on Insights Dashboard. To bypass SAML authentication, you can set `nosaml=true` in the URL.



Password Policy Tab

This tab configures the system password policy, allowing the system administrator (super user with admin role) to enforce an application user password policy across all local users.



Related Topics

- *Configure Password Policy*

6.12.3. Add and Configure Roles

This procedure adds and configures a new user role.

Note: Roles are used to give users access to a collection of dashboards. The system ships with a default role called **Default**. This role must be enabled, and you will need to select the dashboards that all users should have access to by default. All new users are assigned the **Default** role, and will have immediate access to the dashboards associated with this role when they first log in. This simplifies the onboarding process for new users.

---

1. Log in to the Dashboard application as admin user.
2. Click the System Configuration icon (Cog), then select **Access Control** to open the **Access Control Editor**.
3. Select the **Roles** tab.
4. Click the Plus icon (+) at **Roles**, then configure the new role:
    - At **Role name**, fill out a name for the role.
    - At **Users**, move relevant users from **All users** to **Users in role**.
    - Choose whether this is a default role.

- Choose whether to enable full folder sync.
- Choose role synchronization options.
- Choose dashboards to associate with this role.

5. Click **Save**.

   Provided the role is enabled and you have selected one or more dashboards for this role, any users with this role will have access to these dashboards the next time they log in.

Note:

- To edit a role, select the role on the **Roles** tab, update the role, and save.
- To delete a role, select the role on the **Roles** tab, click **Delete**.

Related Topics

- *Roles Tab*

6.12.4. Add and Configure Permission Groups

Permission groups are a way to give users specific permissions in the system.

Note: The system ships with a default permissions group called **Reporter Permissions** and a default user role called **Default**. New users are automatically assigned the **Default** role, and the **Reporter Permissions** permission group. **Reporter Permissions** automatically assigns the **View Application** permission to new users. A default collection of dashboards must be added to the **Default** role, and this role must be enabled (via the **Roles** tab in the Access Control Editor). These are dashboards that you want all new users to have access to as soon as they sign in to the system, and is a quick way of onboarding new users.

---

1. Log in to the Dashboard application as admin user.
2. Click the System Configuration icon (Cog), then select **Access Control** to open the **Access Control Editor**.
3. Select the **Permissions** tab.
4. Click the Plus icon (+) at **Permissions**, then configure the new permission group:
   - Fill out a name for the permission group.
   - Choose permissions.

     Note: All permission groups should have at least the **View Application** permission.

   - Add users to the permission group.
   - Click **Save**.

     Users in this permission group will have access to the system based on permissions configured for their permission group.

Related Topics

- *Permissions Tab*

6.12.5. Configure Password Policy

This procedure configures the password policy for local users.

1. Log in to the Dashboard application as admin user.

   Note: Only a user with the admin role (super user) can view and configure the password policy.

2. Click the System Configuration icon (Cog), then select **Access Control** to open the **Access Control Editor**.
3. Select the **Password Policy** tab.
4. Configure the password policy settings, including:
   - minimum length of password
   - minimum uppercase letters to be included in the password
   - minimum lowercase letters to be included in the password
   - minimum numeric characters to be included in the password
   - minimum special characters to be included in the password
   - password lifespan (number of days before password will need to be changed)
   - maximum login attempts
5. Click **Save**.

Related Topics

- *Password Policy Tab*

6.12.6. Assign Dashboards to Users via User Roles

This procedure automatically assigns a collection of dashboards to users via their user role.

Pre-requisites

- Add the user. See *Add New User with Default Role and Dashboards*
- Add the role.

Associate dashboards and users to a role

1. Log in to the Dashboard application.
2. Click the System Configuration icon (Cog), then select **Access Control** to open the **Access Control Editor**.
3. Select the **Roles** tab.
4. Select the role.
5. In the **Users** fields, move the relevant users from the **All users** field to the **Users in role** field, or remove users from the **Users in role** field to the **All users** field.
6. At **Dashboards**, select the relevant dashboards. Select an entire dashboard folder tree, or select a dashboard folder and select or deselect dashboards, as required.
7. Choose options for the sync:
   - Select **Full Folder Sync** if you want to refresh the users's dashboard whenever changes are made to the selected dashboard folders.
   - Select **Default role** if you want this role (and the associated dashboards) to be assigned to any user with this role.
   - Choose a **Role Synchronization** option:
     - Select **Disabled** if you don't want this role to sync dashboards to users with this role.
     - Select **Sync** to remove dashboards previously assigned to users with this role, and to replace manually assigned dashboards with dashboards associated to this role. When the user next logs in, they will have access to these dashboards.
     - Select **Overwrite** to replace existing instances of this dashboard with the dashboards associated with the role.

   Note: If you have both **Full Folder Sync** and **Overwrite** selected, if the admin adds another dashboard to a dashboard folder, the user has access to the new dashboard the next time they log in.
8. Repeat this procedure to configure additional roles, if required.
9. Click **Save**.

   The sync runs based on the settings you defined per role. The next time the user logs in, they will have access to the dashboards associated with their roles (one or more).

6.12.7. Add New User with Default Role and Dashboards

This procedure adds a new user so they have the dashboards they require for onboarding purposes.

Note: New users are automatically assigned the **Default** role, which should contain a default collection of dashboards that you want every user to have access to. This role is also assigned the **Reporter Permissions** permissions group, which provides at least **View Application** (read) access to the system. When a new user logs in the first time, they will have access to the default collection of dashboards. This makes it easier to onboard new users. The **Default** role must be enabled for your system, and you will need to associate the default collection of dashboards to the **Default** role (via the **Roles** tab in the Access Control Editor). The **Default Role** does not ship with dashboards already assigned to it.

1. Log in to the Dashboard application as admin user.
2. Click the System Configuration icon (Cog), then select **Access Control** to open the **Access Control Editor**.
3. Select the **Users** tab.
4. Click the Plus icon (+) at **Users** to add a new user.
5. Fill out details for the new user:
    - Add a username, display name, and email address.

      Note: The username is used to log in to the system. The display name is the name that displays at the top right on the GUI.

    - Define whether to force the user to change their password when they first log in.
    - Define whether the user's session can continue without a timeout.
    - Choose the customer where this user will be assigned.
    - Optionally, select additional roles for this user.

      Note: All new users are automatically assigned the **Default** role.

    - Optionally, select additional permission groups for the new user.

      Note: All new users are automatically assigned to the **Reporter Permissions** group via the **Default** role. This permission group provides **View Application** (read) access to the system.

    - Optionally, select additional permissions for the user.
    - Fill out a password for the user.
6. Save your changes, then click out of the screen to refresh it.
7. View the new user listed on the **Users** tab. Use the icons to the right of the username to manage the user:
    - To edit a user account, click the **Edit** icon (pencil).
    - To clone (copy) a user account, click the Clone icon (down arrow).
    - To delete a user account, click the **Delete** icon (X).

    Note: The user can now log in to the system with their username and **Default** role. On log in, the user has access to the dashboards associated with the **Default** role, plus any dashboards assigned via additional roles you may have configured for this user.

Related Topics

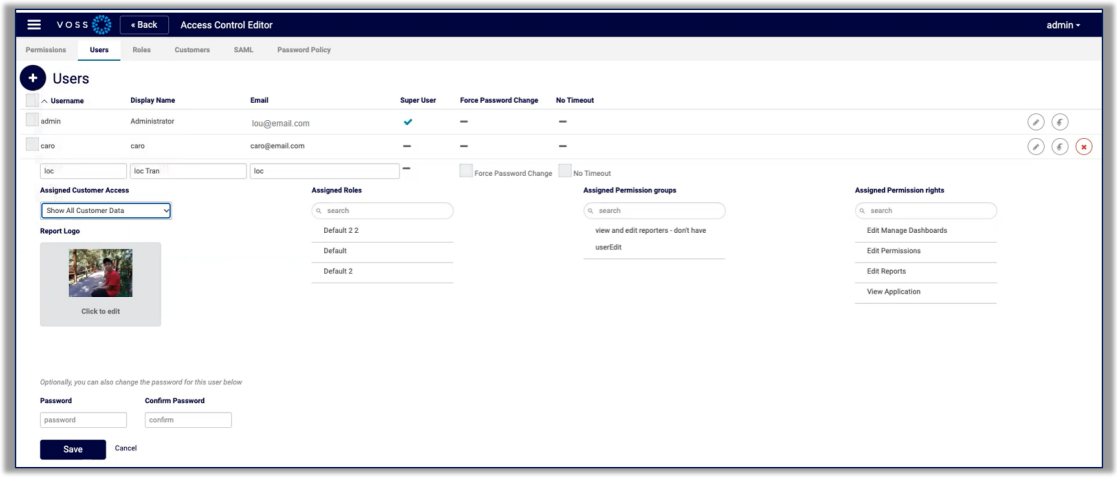
- *Users Tab*

6.12.8. View a User's Roles, Permissions, and Dashboards

This procedure displays a user's account, their permissions, roles, and the dashboards associated with their role.

1. Log in to the Dashboard.
2. Click the System Configuration icon (Cog), then select **Access Control** to open the **Access Control Editor**.
3. To view or update a user's account:
   - Select the **User** tab.
   - Locate the relevant user, then click the Edit icon (pencil) for this user.
   - View the user's settings, including their assigned roles, permission groups, and permission rights.

   Note: The following settings are editable: username, display name, email, whether to force a password change, whether timeout applies for a user's session, the assigned customer access (that is, display data only for a selected customer, or all customers, or no customers), the report logo, and the password.



4. To view the dashboards this user has, select the **Roles** tab, then:
   - Select a role.
   - At **Users in role**, inspect whether the user is assigned to the role.
   - Once you locate a user in a role, inspect the dashboards selected in the **Dashboards** tree structure for that role. These are the dashboards the user has access to.

   Note: All new users are assigned the **Default** role and the collection of dashboards associated with this role. A user can have one or more roles, and will have access to the dashboards selected for each role.

5. To view a user's permissions, select the **Permissions** tab, then:
   - Select a permission group.
   - At **Users in group**, inspect whether the user is in the permission group.
   - Once you locate a user in a permission group, inspect the permissions selected for the group.

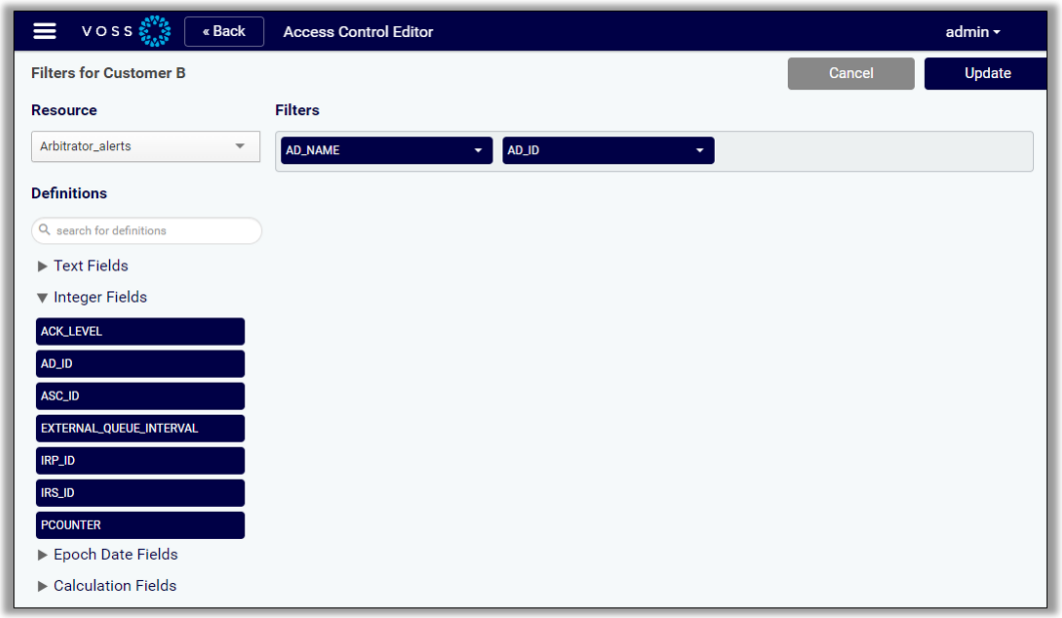
Note: All new users are assigned the **Reporter Permissions** permissions group in the **Default** role. All permission groups must have at least the **View Application** permission. A user can be in one or more permission groups.

6.12.9. Add and Configure a Customer

This procedure displays, edits, clones, and deletes an existing customer, and adds a new customer.

1. Log in to the Dashboard.
2. Click the System Configuration icon (Cog), then select **Access Control** to open the **Access Control Editor**.
3. Select the **Customers** tab. Existing customers are listed on the page.
4. Choose an option:
   - To add a customer, click the Plus (+) icon at **Customers**.
     – In **Display Name** field, fill out a name for the customer.
     – Click **Edit Filters**, then configure filters:

Note: Filters allow you to define the data (tenanted) that only this customer will see.



   * At **Resource**, select the resource that applies to the customer.

        * At **Definitions**, select the specific definition that is unique to that customer. Drag and drop that definition to the **Filters** field. You can select multiple filter definitions.
        * Click **Update** to return to the **Customer** tab in the **Access Control Editor** (or click **Back** to cancel).
      - Click **Save** to create the new customer.
  - To create a clone of a customer, select the Clone icon (down arrow) at the relevant customer (the one you want to clone).

    You can create a clone (copy) of an existing customer, then modify the clone to create a new customer based on the settings in the clone. Save the new customer.
  - To edit a customer, click the Edit icon (pencil). Update the customer, then save.
  - To delete a customer, click the Delete icon (X) for that customer.

6.12.10. Change your Password, Display Name, and Report Logo

This procedure allows a system user with minimum permissions to change their own password, their display name, email address, and the report logo.

Note: By default, all new system users are assigned the **Default** role, with **Reporter Permissions**. This role and permissions group allows the minimum **View Application** permission, but also allows non-admin users to change their own password, their display name, email address, and report logo, via the **Access Controls** menu (accessible via the Main Menu).

Admin users (superuser account) change their password via the Profile menu (click on the profile, then select **Edit Account**.)

To update your profile

1. Log in to the Dashboard.
2. Click the System Configuration icon (Cog), then select **Access Control** to open the **Access Control Editor**.
3. On the **Users** tab, click the **Edit** icon (pencil).
4. Update your profile.

   You can change your own password, your display name, your email address, and the report logo.
5. Click **Save**.

Related Topics

- *Edit Account*

6.13. About

admin-users-only

Click the **Admin** drop-down menu and select the **About** option. This will pull up a window that displays the current product key and license details.

6.14. Help

Click the **System Configuration** (Cog icon) to display the drop-down menu, then select **Help** to open the online system help.

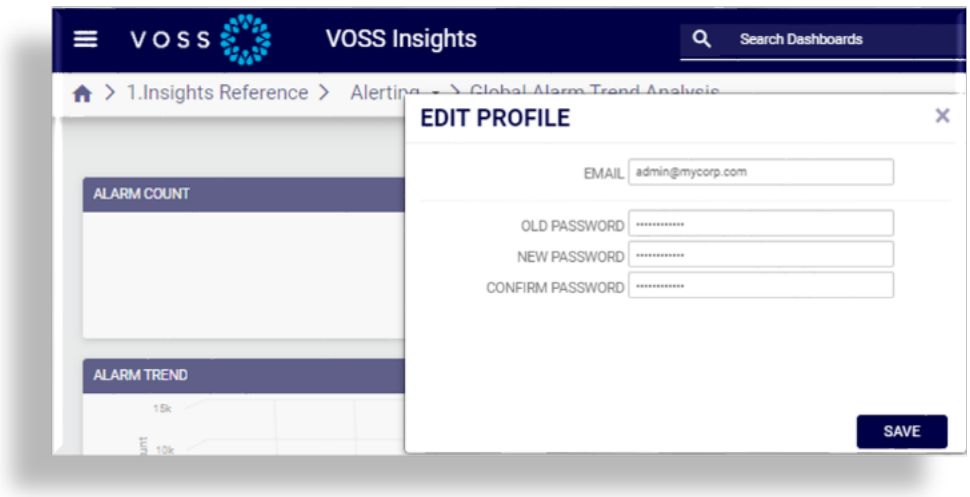
6.15. Edit Account

admin-users-only

Click the **System Configuration** (Cog icon) to display the drop-down menu, then select **Edit Account** to open the **Edit Profile** dialog, where the Dashboard admin user (superuser) can change their password.

Fill out your old password, and then your new password. Confirm your new password, then click **Save**.

Note: By default, all new system users are assigned the **Default** role, with **Reporter Permissions**. This role and permissions group allows the minimum **View Application** permission, but also allows users with minimum permissions to change their own password, display name, email address, and report logo, via the **Access Controls** menu (accessible via the Main Menu).



6.16. Sign Out

To log out of the system, click the **System Configuration** icon (Cog) to display the drop-down menu, then select **Sign Out**.

Note: This option is not available when SAML is configured for your system as VOSS Insights does not support sign out when SAML is enabled. See *SAML Tab*. To bypass SAML authentication, you can set `nosaml=true` in the URL.

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7. Dashboard Maintenance

7.1. Backup and Restore the Dashboard

7.1.1. Step 1: Backup

To configure the Dashboard backup, see *Archive*

Next steps

- Restore

7.1.2. Step 2: Restore

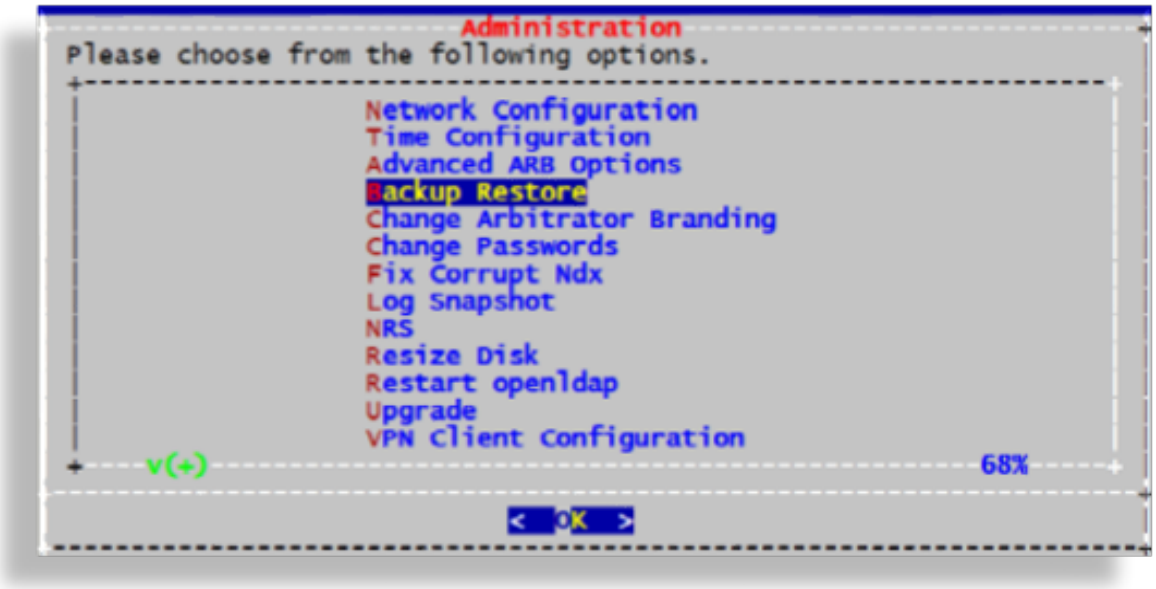
This procedure restores a backup of the Insights Dashboard.

Pre-requisites:

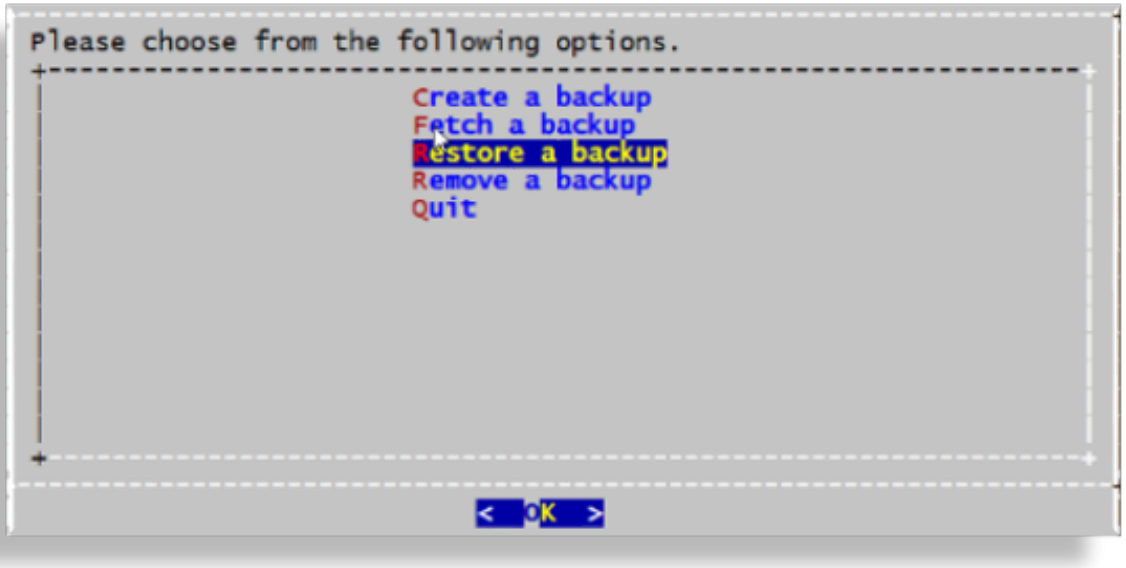
- Backup (see see: *Archive*)

To restore the Dashboard application from a backup:

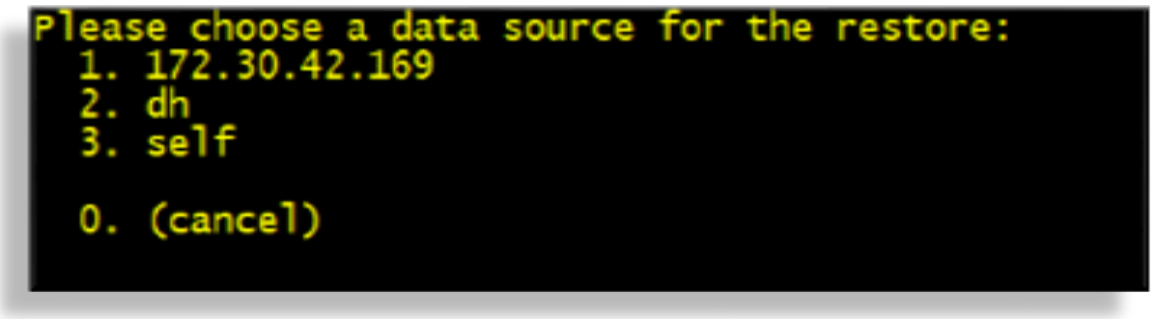
1. Log in to CLI as an admin.
2. Go to **Backup Restore** and click **OK**.



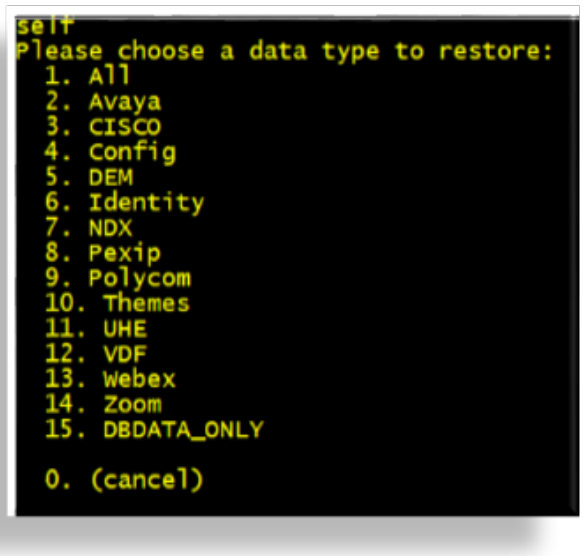
3. Navigate to **Restore a backup**.



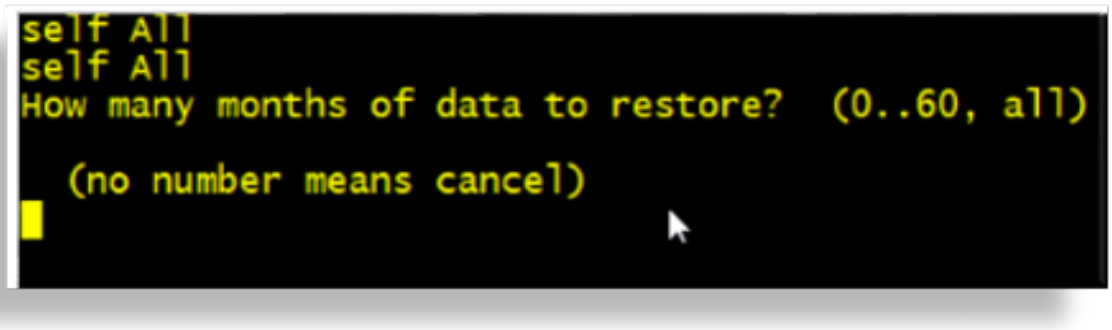
4. Select the data source of the backup. This will be either `self` - which is stored locally, or a remote location. The example below has `dh` as an sftp server.



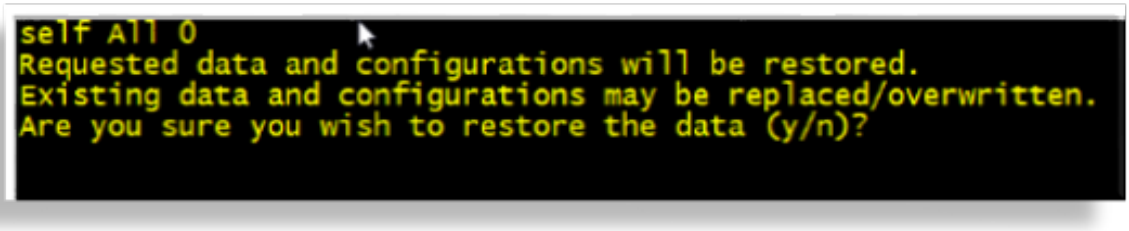
5. Select the data types to restore.



6. Select the number of months to restore (0 to 60 or all).



7. Confirm the restore.



8. View the message that displays when restore is complete.