Juniper Networks | Engineering Simplicity

Juniper Mist Analytics Guide

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Juniper Mist Analytics Guide

The information in this document is current as of the date on the title page.

YEAR 2000 NOTICE

Juniper Networks hardware and software products are Year 2000 compliant. Junos OS has no known time-related limitations through the year 2038. However, the NTP application is known to have some difficulty in the year 2036.

END USER LICENSE AGREEMENT

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About This Guide

Use this guide to learn about the Juniper Mist™ Premium Analytics cloud service. Additionally, the guide shows you how to use the default or standard analytics dashboards that you can access in the Juniper Mist portal without any license.

CHAPTER 1

Overview

Introduction to Juniper Mist Analytics

IN THIS SECTION

The Juniper Mist™ Premium Analytics is an advanced, cloud-based analytics service that offers network visibility and business intelligence to drive your digital transformation journey. With this service, you can have insights into your network and business operations. In addition, you can overcome the complex challenges associated with the influx of big data from the multitude of networks and clients.

Why Analytics?

The relentless growth of cloud computing, mobility, and Web-based applications has increased the complexity of network operations. You must continuously monitor and optimize networks to maintain the required customer experience. You can use analytics reports to perform these maintenance tasks. Analytics is a critical necessity for making sense of volumes of data generated from various sources such as network devices, users, flows, and locations in the network. Analytics provides deeper insights into the performance of your network, user experience, and how an organization is using the network.

Analytics involves:

- Collection of network data
- Processing of information to identify patterns and trends
- Visualizing the insights.

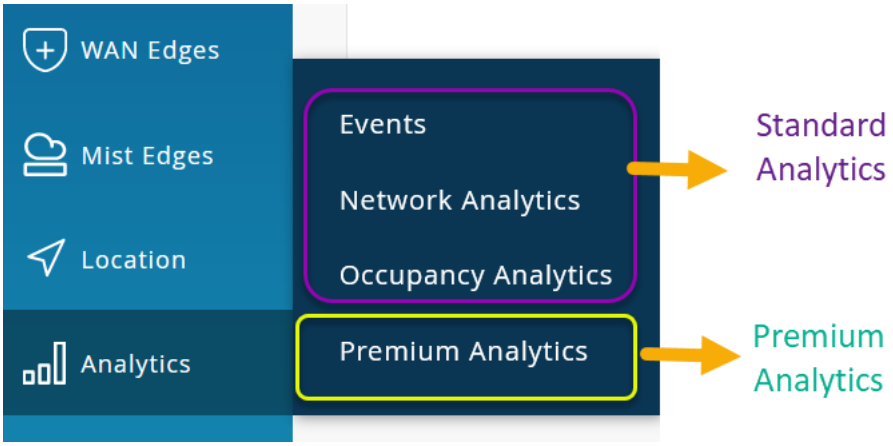
Visual insights enable quick identification of network issues, traffic flow details, user behavior patterns, and resource utilization. This facilitates trend prediction, threat mitigation, and in-depth investigations to boost network performance and security.”

Juniper Mist™ Analytics Tools

Juniper Mist™ provides different types of dashboards for analytics. Dashboards provide a consolidated view of data and insights in the form of easy-to-understand visualizations reports. In the dashboards, you see categories of information in the form of tiles. You can get the needed information by clicking a specific panel or customize the information that you see by using different filters. With dashboards, you can easily monitor your network and make data-driven decisions for your organization.

Figure 1 on page 3 shows types of analytics tools available in Juniper Mist cloud portal.

Figure 1: Analytics Tools in Juniper Mist



- Premium Analytics (licensed service)—The Mist dashboard includes Premium analytics; an advanced analytics service that provides insights across your entire network – wired, wireless, location, WAN and others such as logs and inventory. Premium Analytics allows you to run reports over data sets at a more granular level, mix and match different datasets, and observe data going back up to 13 months. Premium Analytics is a licensed service.

- Standard Juniper Mist Analytics—The Mist dashboard comes with built-in network, events, and occupancy analytics reports as part of its standard analytics. The standard analytics provides observability of historical data upto 30 days These analytics dashboards are included by default in the Mist cloud portal, and you don't need license to view these reports.

  - Events—See important resolved and ongoing events on a site.

  - Network Analytics—Get a detailed view of network performance, traffic throughput, and connected device details.

    - Measures—Trends about Dynamic Host Configuration Protocol (DHCP) and Domain Name System (DNS) latency, received signal strength indicator, and the level of service-level expectation (SLE) your network achieves

    - Entities—Site's or organization's interaction with access points (APs), applications, servers, and wireless LAN (WLANs), and more
    - Events—AP events, client events, switch events
- Occupancy Analytics—View overcrowded areas in your sites and there by plan space distribution and utilization.
- Engagement Analytics—Get in-depth data—dwell time, visit trends, and wait time—about clients connected to a site.

NOTE: Premium analytics requires a subscription. You'll need to purchase and activate these subscription in order for the options to appear in Juniper Mist portal. See "Mist Premium Analytics License" on page 8.

Features

- Presents reports about application, traffic, and client behavior.
- Provides data on historic and average SLE achieved on your network.
- Provides WAN visibility for link and application quality of experience (QoS).
- Enables data ingestion from Juniper Networks and third-party network devices (not managed by Juniper Mist™ cloud architecture).
- Stores and manages historic data.
- Provides insights on device operating system (OS) and device manufacturers
- Reports on traffic metrics on the basis of switch interfaces, WAN zones, or a service set identifier (SSID).
- Insights such as space occupancy, user visits, user dwell times, repeat visits, and location history.
- Facilitates insights on unique visitor trends with popular motion flows for user journey mapping and proximity tracing.

Benefits

- Enhance decision-making—Long-term storage of data helps historical time series analysis of networks, applications, and visitor behavior to enhance business decision-making.
- Improve resource management—Insights across wired, wireless, and WAN networks help you plan IT infrastructure, manage resources, and improve IT operations.

- Optimize Space management—Engagement, occupancy analysis, and proximity tracing enable you to optimize the space in your site and manage assets and occupancy.
- Manage diverse networks—Juniper Mist Premium Analytics applies a full-stack approach to generate comprehensive insights about diverse networks. With this perspective, you can better manage network performance.
- Improve scalability—By analyzing usage patterns of wireless networks that Juniper Mist Premium analytics provide, you can anticipate trends and adjust to evolving demands, such as a surge in bandwidth requirements or a rise in the number of clients.

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Premium Analytics—Frequently Asked Questions

What is Premium Analytics?

Juniper Mist Premium Analytics is an advanced, cloud-based analytics service that offers end-to-end network observability. You can gain unique networking and location insights based on any combination of Juniper Mist data sets and, optionally, third-party data sets.

Premium Analytics stores data for up to 13 months. This feature extends observability of historical data beyond the 30 days available with the standard Juniper Mist analytics service, enabling users to perform long-term historical time series analyses of network, app, visitor, and employee behavior to enhance business decision-making

What is the difference between analytics features (network, engagement, and occupancy analytics) available by default in the Juniper Mist portal and Premium Analytics?

The Juniper Mist portal comes with built-in network, events, and occupancy analytics reports that are part of Freemium Analytics. These analytics dashboards are included by default in the Juniper Mist portal, and you don't need a license to view these reports.

See Table 1 on page 6 for the difference between Premium Analytics and standard analytics.

Table 1: Difference in Premium Analytics and Standard Analytics

Features	Standard Analytics	Premium Analytics
Separate Subscription	No. Part of Juniper Mist™ Wireless Assurance	Yes. You need a separate subscription license (SUB-PMA)
Data Duration	30 days	More than 13 months
Schedule and E-mail	No	Yes
Report Details	Standard reports	In-Depth reports with additional datasets, filters, and views)
Third-Party Data Ingestion	No	Yes

What is the maximum duration for which Premium Analytics can store data?

By default, Premium Analytics stores data up to 13 months. You can request an extension by creating a support ticket in the Juniper Mist portal.

Does Premium Analytics support single sign-on with Juniper Mist credentials?

Premium Analytics does not currently support single sign-on with Juniper Mist credentials.

Can Premium Analytics build reports from the extended historical data immediately after activation?

The Juniper Mist dashboard by default stores historical data for 30 days. When you activate Premium Analytics, the dashboard initially builds reports with data from the last 30 days. Subsequently, the dashboard stores data going back up to 13 months and builds reports with this data.

Can you customize Premium Analytics reports?

The Juniper Mist portal does not support customizing Premium Analytics report structure and the tiles. Premium Analytics includes options to filter a report by date, time, site, devices, interfaces, and wireless LAN (WLAN). These options provide the flexibility to see specific information in a report by following a few simple steps.

Does Premium Analytics support role-based access control (RBAC) to limit specific users from generating reports?

The Juniper Mist portal does not support RBAC. For any specific requests related to RBAC, create a support ticket in the Juniper Mist portal to make a specific request related to RBAC.

How do you integrate third-party data with Premium Analytics reports?

You can integrate third-party data in analytics reports through professional services engagement, as this integration requires development work.

Does Premium Analytics support API?

No, the Juniper Mist portal does not support API. Premium Analytics is a data visualization tool, which uses data from the Juniper Mist cloud to generate reports.

How do you obtain Premium Analytics trial subscriptions?

Refer to "Create Support Ticket for Trial Premium Analytics License" on page 9.

How do you order Premium Analytics subscriptions?

Contact your Juniper account team or partner to obtain a license. For more information, visit: https://www.juniper.net/us/en/how-to-buy/form.html.

Table 2: Premium Analytics Subscriptions Package

Package	Wireless Assurance	Wired Assurance	WAN Assurance
Ala-Carte	SUB-PMA	SUB-PMA	SUB-PMA
Bundle	2S Bundles (Option to choose PMA with assurance)	–	–
AI Bundle	AI Bundle includes all wireless services including PMA	–	–

How do you activate Premium Analytics after purchasing the license?

After you purchase the license, you must activate the Premium Analytics service by creating a support ticket in the Juniper Mist portal.

For more information, refer to "Activate Premium Analytics License" on page 9 .

Can Premium Analytics subscriptions be applied to specific sites?

No. You can apply the Premium Analytics subscription to the whole organization.

How do you count the Premium Analytics subscriptions?

Similar to other Juniper Mist subscriptions, you count Premium Analytics against the number of devices including access points (APs), switches, and WAN edge devices.

What are the prerequisites or dependencies for using Premium Analytics?

If you want to view a specific dataset on the Premium Analytics dashboard, you must purchase the corresponding base subscription service. For example, to generate a report on the Premium Analytics dashboard for the wireless network, you require a Juniper Mist™ Wi-Fi Assurance subscription. This subscription feeds the required data to the Premium Analytics service.

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Mist Premium Analytics License

IN THIS SECTION

You need a license to enable the Juniper Mist™ Premium Analytics features.

Activate Premium Analytics License

To activate the Juniper Mist™ Premium Analytics license, you must purchase a Juniper Mist Premium Analytics license key. You can contact your Juniper Mist representative (or write to support@mist.com) for more information. When you purchase the license key, you'll receive an order number. You must open a Juniper Mist support ticket in the Juniper Mist portal to activate the license.

Keep the order number with you when you activate the license.

To activate the Premium Analytics license:

1. On the Juniper Mist™ portal, click the question icon near the top-right corner of page and select **Support Tickets**.
2. On the Support Tickets page, click **Create a Ticket**.
3. On the New Ticket page, complete these fields:
   - **Ticket Type**—Select **Subscriptions** from the drop-down menu.
   - **Ticket Summary**—Enter a brief description.
   - **Order Number**—Enter the order number that you received through an e-mail.
   - **Description**—Enter your organization name, organization ID, reports you are looking for, and e-mail address of each person requiring the access.

   The Juniper Mist support activates the Premium Analytics feature for your organization.

Create Support Ticket for Trial Premium Analytics License

You can opt for trial license for Premium Analytics. To request a trial license, create a support ticket in the Juniper Mist portal.

To create a support ticket for a trial license:

1. On the Juniper Mist™ portal, click the question icon near the top-right corner of page and select **Support Tickets**.
2. On the Support Tickets page, click **Create a Ticket**.
3. On the New Ticket page, complete these fields:
   - **Ticket Type**—Select **Subscriptions** from the drop-down menu.
   - **Ticket Summary**—Enter a brief description.
   - **Description**—Enter your organization name, organization ID, reports you are looking for, and e-mail address of each person requiring the access.

The Juniper Mist support provides a trial license for the Premium Analytics feature for your organization.

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Mist Premium Analytics Dashboards

IN THIS SECTION

Juniper Mist™ Premium Analytics is an advanced, cloud-based analytics service that provides enterprises with end-to-end network observability. You can gain insights from client to cloud that enable you to effectively identify and solve any issues. You can use client and traffic utilization data for better planning, resource management, and network security.

Premium Analytics allows you to run reports over data sets at a more granular level and can store up to 13 months (or more) of data. This feature extends observability of historical data beyond the 30 days available with the standard Juniper Mist analytics service, enabling users to perform long-term historical time series analyses of network, applications, visitor, and employee behavior to enhance business decision-making

Watch the video for additional details—Juniper Mist Premium Analytics Overview.

Features and Benefits

- Stores up to 13 months+ of data
- Enables report scheduling
- Supports ingestion of Mist AI-driven data
- Supports optional 3rd-party data ingestion
- Provides ability to mix and match data sets
- Offers simple, easy-to-use, preconfigured dashboards

View Available Dashboards in Premium Analytics

With Juniper Mist Premium Analytics, you can gain insights across the network by viewing different dashboards—wireless, wired, location, WAN, and others—that provide data visualization.

1. In the left menu of the Juniper Mist portal, click **Analytics** > **Premium Analytics**.

Figure 2: Access Premium Analytics

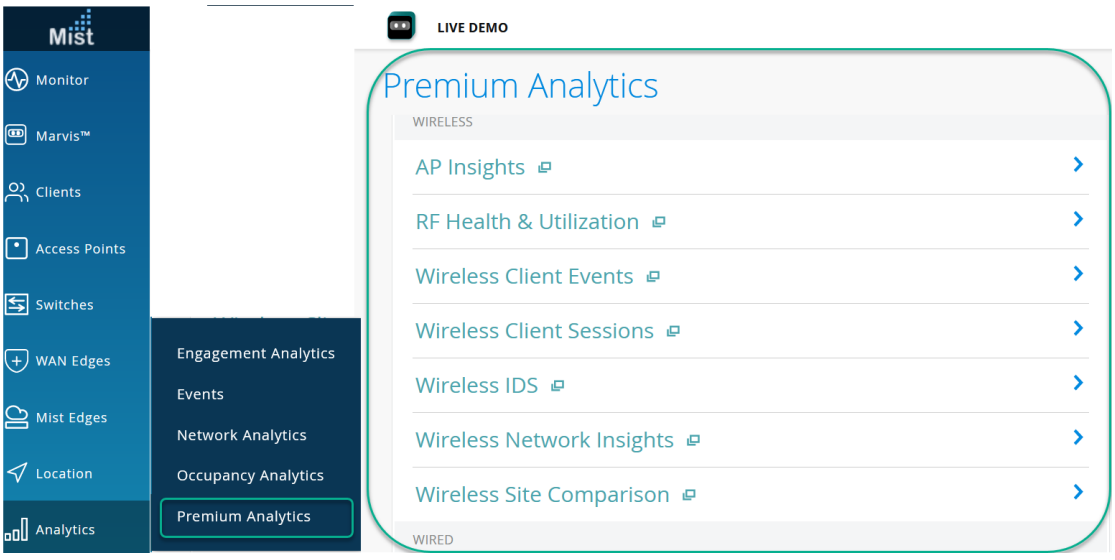


Table 3 on page 12 shows available dashboards in Premium Analytics.

Table 3: Premium Analytics Dashboards

Category	Dashboards	Insights Available on Dashboards
Wireless	AP Insights	AP-specific insights for traffic and clients
	RF Health and Utilization	• Channel Utilization analytics for RF bands • Interference, Neighbor count and co-channel metrics • -RM and DFS information
	Wireless Client Events	• Organization wide client-failure analysis • Failure types and distribution by Site, WLAN, AP, Client type, OS • Failure analysis for clients, Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), authorization, association, and roaming
	Wireless Client Sessions	• Client sessions and guest session details and trends • Session distribution views for top APs, WLANs, Client OS's
	Wireless IDS	Long term storage of Rogue and IDS events

Table 3: Premium Analytics Dashboards *(Continued)*

Category	Dashboards	Insights Available on Dashboards
	Wireless Network Insights	• Organization wide SLE and traffic trends • Client distribution by device-type, OS, 802.11 protocols • Traffic and application insights by SSID and clients • Busiest AP and SSID
	Executive Summary - Wireless	Usage of the wireless network, client devices, applications, and traffic
	Wireless Site Comparison	Comparison of up to three sites or site groups across various wireless metrics such as SLE, client, traffic, and application
Wired	PoE Switch Details	Switch-specific insights for Power over Ethernet (PoE) ports, power draw and consumption trends
	Sustainability Analytics	PoE usage, ports, power draw, PoE budget (total power output available to PoE ports), and consumption trends.
	Switch Insights	AP-specific insights for traffic and clients
	Wired Network Insights	• Switch SLE metrics • Traffic metrics of wired network by site, switch, port, and VLAN • Port utilization trends

Table 3: Premium Analytics Dashboards *(Continued)*

Category	Dashboards	Insights Available on Dashboards
	Wired Site Comparison	Comparison of up to three sites across various wired metrics such as SLEs, interfaces, traffic, and PoE
WAN	• WAN Network Insights-SRX	• WAN SLE metrics • Application distribution by users • Traffic metrics by site, devices, and zones
	• WAN Network Insights-SSR	• WAN SLE metrics • Application distribution by users • Traffic metrics by site and devices
	WAN Security - SSR	IDP and URL events
Events	Wireless Client Events	• Organization-wide client-failure analysis • Failure types and distribution by site, wireless LAN (WLAN), AP, client type, OS • Detailed failure analysis • Information about DHCP, DNS, authorization, association, and roaming

Table 3: Premium Analytics Dashboards *(Continued)*

Category	Dashboards	Insights Available on Dashboards
Location	Engagement Analytics	• Visitor footfall metrics and trends • Dwell time metrics and trends • Zone ranking and zone movement analytics
	Occupancy Analytics	• Occupancy and dwell-time details of sites, floors, and zones • Details about wireless functions, Bluetooth Low energy (BLE) tags, and BLE app clients • Visitor footfall metrics
	Occupancy Analytics Zone	Zone-specific occupancy insights on device trends, device visits, and dwell times
	Proximity Tracing and Occupancy Compliance	User journey map and proximity tracing
Other	Audit	• Long-term storage of audit logs • Top actions grouped by type and user
	Inventory	• Organization-wide inventory report • Firmware and model details

2. Select one of the above dashboards to see the dashboard in a separate tab.

Premium Analytics Dashboard Overview

Juniper Mist Premium Analytics provides easy-to-use dashboards that you can use to generate a report by specifying some criteria and using filters. You can use the report to identify issues and trends and generate, schedule, and deliver customized reports through e-mails.

Figure 3 on page 16 shows a Premium Analytics dashboard, which displays wireless client sessions.

Figure 3: Premium Analytics Dashboard Overview

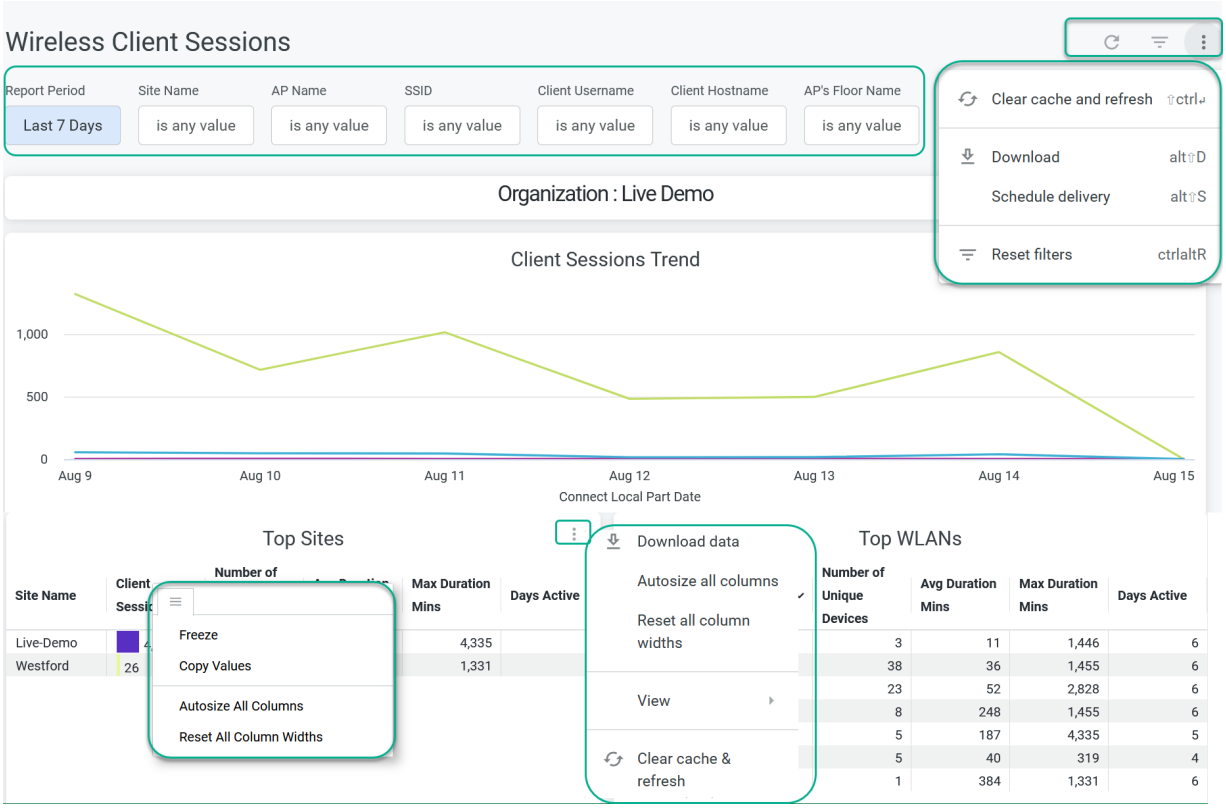


Figure 4: Use Premium Analytics Dashboard Options

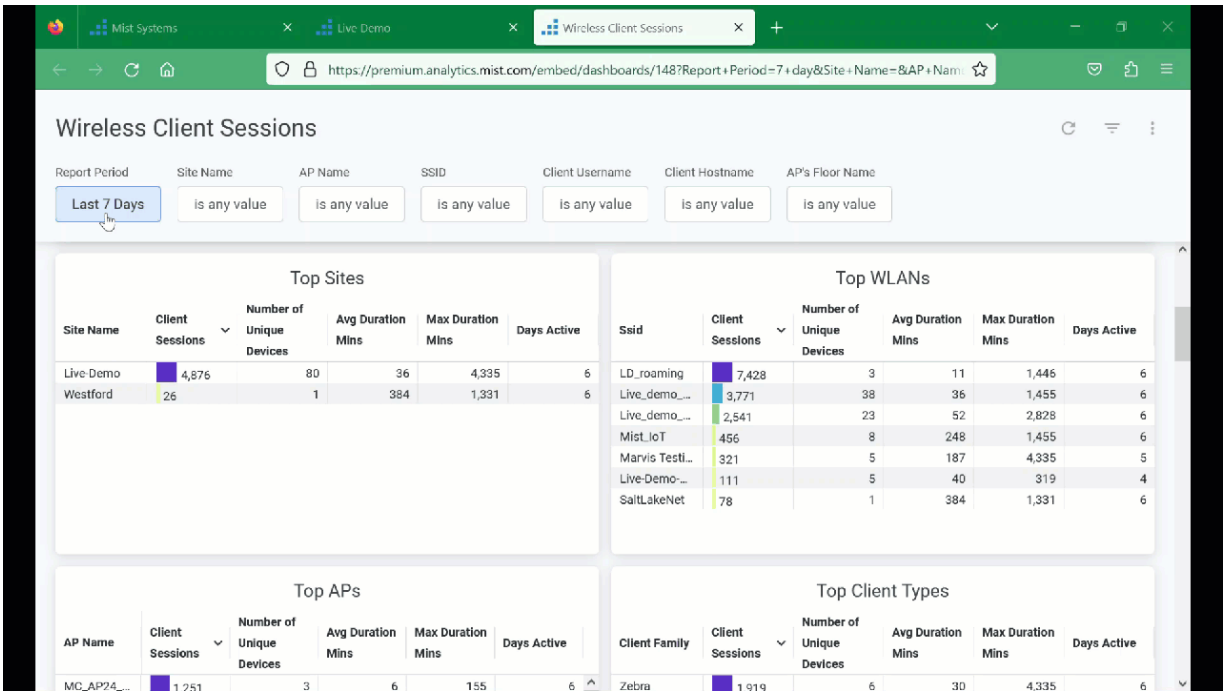


Table 4 on page 17 shows you the different options that you can use on the dashboard to work with the report.

Table 4: Premium Analytics Dashboards Options

Dashboard Options	Description
Filter	Depending on the analytics dashboard that you select, the available filters are site, AP, SSID, and other network elements. On all the dashboards, you can specify a period for which you want to generate an analytics report.

Table 4: Premium Analytics Dashboards Options *(Continued)*

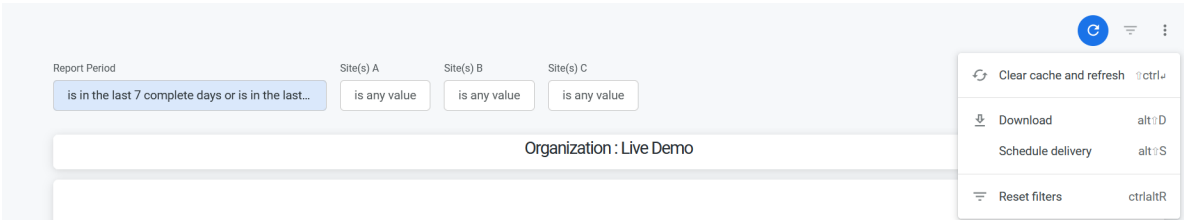
Dashboard Options	Description
Dashboard actions	On the top-right corner of the page, you can see the dashboard actions menu (ellipsis icon). You can use the menu options to perform various actions for the report at the dashboard level such as: • Clear the cache and refresh the page. • Download a site comparison report. • Schedule a delivery of a report. • Reset filters.
Tile actions	On the top-right corner of each tile, you can see the tile actions menu (ellipsis icon). You can use the menu options to perform tile-level actions such as: • Download data. • View the tile-specific data in an expanded or full-screen view. • Clear the cache and refresh the page.
Column options	On the top-right corner of each column in a tile, you can see the column options menu. You can use the menu options to perform tile-level actions such as: • Freeze column heading. • Copy values. • Autosize and resize all columns.

Download Dashboards Reports

You can download the entire dashboard report or schedule delivery of the report to contacts. To download the report:

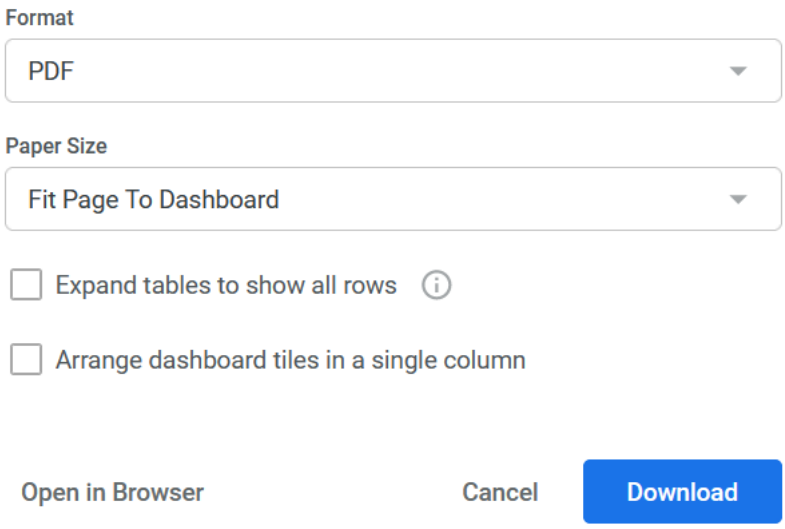
1. Click the **Dashboard Actions** menu (ellipsis icon) and select **Download**

Figure 5: Download Dashboard Report



The **Download Report** window appears.

Figure 6: Report Download Window



2. Select the options shown in Table 5 on page 19 before you download the report.

Table 5: Download Dashboard Report

Options	Descriptions
Format	Select **PDF** or **CSV**.
Paper Size	Select the paper size for the report. The available options include page fit to dashboard, tabloid, letter, legal, A3, A4, and more.

Table 5: Download Dashboard Report *(Continued)*

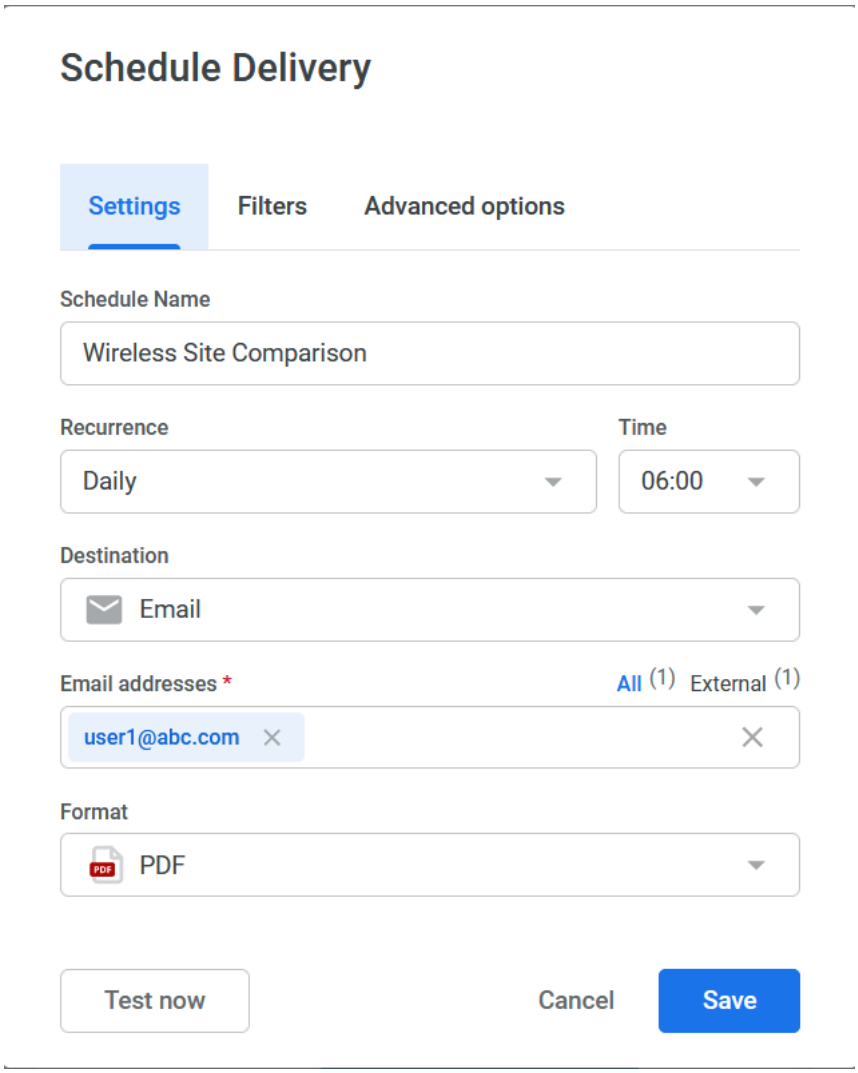
Options	Descriptions
Expand tables to show all rows	(Optional) Select the option to view all the rows of the table.
Arrange dashboard tiles in a single column	(Optional) Select the option to view all the items in a single column.
Open in Browser	Click the option to open the report in a new browser. You can download and save the report on your local storage device.

Schedule Report Generation and Delivery

You can create a schedule to run the report at regular intervals and deliver the report by e-mail.
To schedule report generation and delivery:

1. On the dashboard, click the **Dashboard Actions** menu (ellipsis icon) and select **Schedule Delivery**. The **Schedule Delivery** window appears.

Figure 7: Schedule Report Delivery



2. Select the options and complete the fields shown in Table 6 on page 21 before you download the report.

Table 6: Schedule Delivery of Report Settings

Settings	Description
Schedule Name	Enter the name of the report. Specify a name that indicates the purpose of the report.

Table 6: Schedule Delivery of Report Settings *(Continued)*

Settings	Description
Recurrence	Select the frequency at which you want to generate the report. You can select one of these options: months, weeks, daily, hours, minutes, specific months, specific days, and datagroup update.
Time	Set a time to generate the report.
Destination	Select e-mail (default option) as the destination.
Email Addresses	Enter the e-mail address to send the report.
Format	Select one of these formats: PDF, CSV, and PNG.
Filters	Use filters—report period and sites— to generate a concise report. You can select up to three sites.
Advanced Options	Use the following advanced options to modify the report: • Custom Message—Add message to include in the e-mail. • Include Links—Include HTML link to view the report in a browser. • Expand tables to show all rows—View all the rows of the table. • Arrange dashboard tiles in a single column—View all items in a single column • Paper size—Select the paper size for the report. The available options include page fit to dashboard, tabloid, letter, legal, A3, A4, and more. • Delivery timezone—Select the appropriate time zone from the list to send the report.

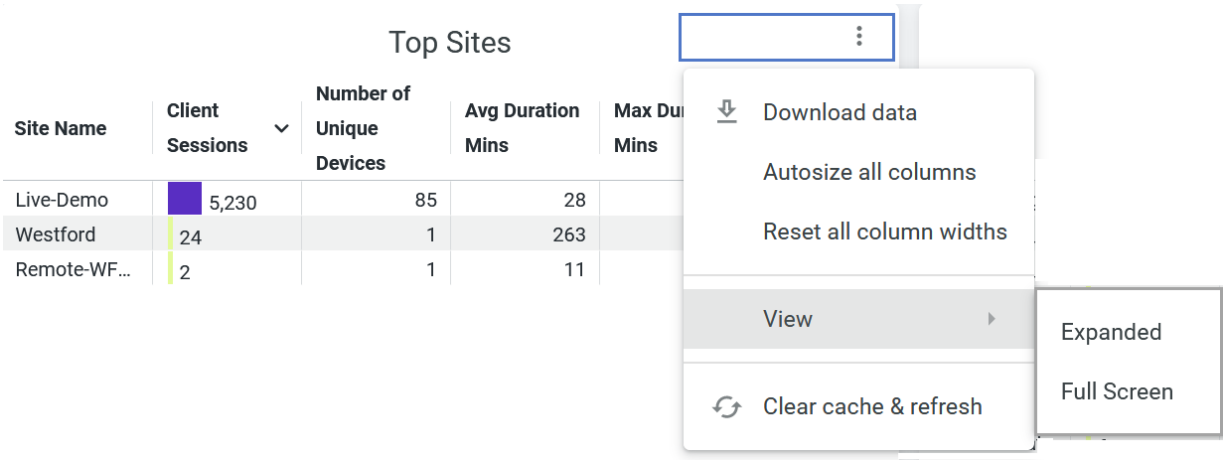
3. Click **Save**.
   A window with a scheduler and the attached report and e-mail appears. You can edit, delete, or duplicate the report.

4. Click **Send Now** to send the report and click **Done** to close the window.

Download Tile-Specific Report

You can expand, download, or view a visualization for specific tiles within the dashboard. In the tile, click the tile actions icon on the right-side corner of the tile as shown in the figure:

Figure 8: Tile-specific Report Options



You can perform the following tasks:

- Download data
- Autosize all columns
- Reset all column widths
- View (expanded or full-screen)
- Clear cache and refresh

To download the tile-specific details, complete the following steps:

1. From the drop-down list on the top-right of a tile, select **Download Data**.
2. Select the options, which you see in Table 6 on page 21, according to your requirement before you download the report.

Table 7: Schedule Report Delivery of Settings

Settings	Description
Format	Select one of the following formats: • Excel Spreadsheet • CSV • JSON • Markdown • PNG (Image Visualizations) • HTML • TXT (tab-separated values)
(Optional) Use **Advanced Options** to modify the report according to your requirements.	
Results	• **With visualizations options applied**—Select the visualization options that you want to apply on the report. The options include relabeling columns, hiding totals, or adding conditional formatting. • **As displayed in the data table**—Generate a report without any visualization changes compared to the table that you see on the screen.
Data Values	• **Formatted**—Report with the same format that you see on the screen. • **Unformatted**—Report in the plain text format (raw, unstyled state of the data). This format excludes special characters, rounded off numbers, and so on.

Table 7: Schedule Report Delivery of Settings *(Continued)*

Settings	Description
Number of rows to include	• **Current result table**—Report with the same number of rows that you see on the screen. • **Custom**—Report with more rows than the results in the screen. • **All results**—Report with all rows. (not supported)
Open in Browser	Report appears in a new browser. You can download and save the report on your local storage device.

3. Click **Download** to save the report to your local computer.

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Mist Standard Analytics Dashboards

IN THIS SECTION

The Juniper Mist™ analytics service includes standard analytics service, which provides a dashboard view of historical and real-time activity in your network. You can use this service to see:

- Network analytics
- Occupancy analytics

- Engagement analytics
- Events

The Juniper Mist portal includes the standard analytics dashboards by default. You can to view these dashboards without a subscription.

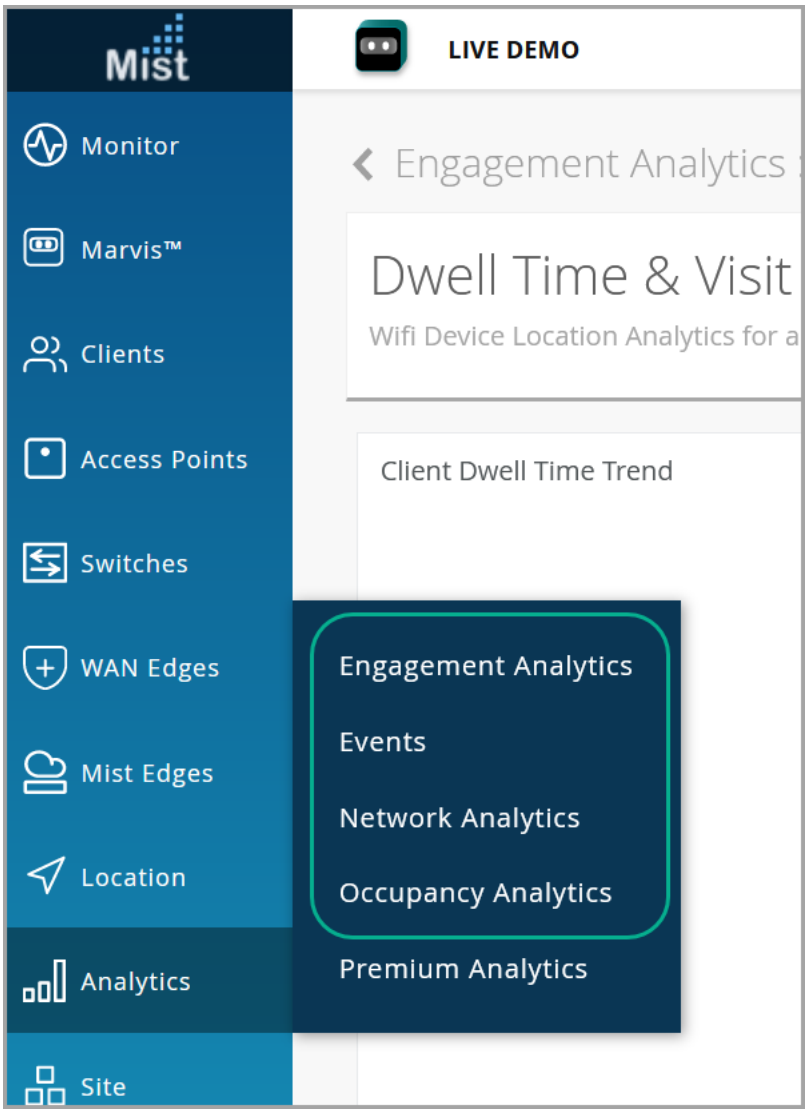
View Dashboards in Standard Analytics

The Juniper Mist analytics dashboards provide a comprehensive view of network activity and usage trends through data visualizations. To access a standard analytics dashboard:

From the left menu of the Juniper Mist portal, select **Analytics** and then select any one of the analytics dashboards:

- **Engagement Analytics**
- **Network Analytics**
- **Occupancy Analytics**
- **Events**
- **Premium Analytics**

Figure 9: Analytics Dashboards



On each of the dashboards, you can see the information that "Mist Standard Analytics Dashboards" on page 25 lists.

Table 8: Juniper Mist Standard Analytics Dashboards

Category	Insights Available on Dashboard
Network Analytics	• Site and organization activities • Traffic utilization data • Active client trend across all wireless LANs (WLANs)
Engagement Analytics	• Visitor metrics or Visitor count • Loyalty visitor, one-time visitor, passerby visitor • Monthly and weekly visitor count • Dwell time metrics and trends
Events	• Important resolved and ongoing events on the site
Occupancy	• Occupancy and dwell-time details of sites, floors, and zones • Occupancy sources that you can filter by wireless functions, Bluetooth Low Energy (BLE) tags, and BLE application clients • Zone ranking and heatmap • User journey map and proximity tracing

For details about Juniper Mist™ Premium Analytics, see "Mist Premium Analytics Dashboards" on page 10.

To know the difference between the standard and premium analytics services, see "Premium Analytics—Frequently Asked Questions" on page 5.

2
CHAPTER

Premium Analytics- Wireless Dashboard

AP Insights

IN THIS SECTION

The AP Insights dashboard provides statistics at access points(AP)-levels allowing you to view in-depth information about traffic usage by APs, clients' connection trends, and client device information. With the information, you can perform a comprehensive analysis APs usage.

Features and Benefits

- Generates insights about client session trends and session distribution across all APs in your site. With these insights, you can spot the APs that experience problems.
- Provides data on the amount and types of traffic passing through AP.
- Reports on the clients attached to the AP along with client device details.

Before you Begin

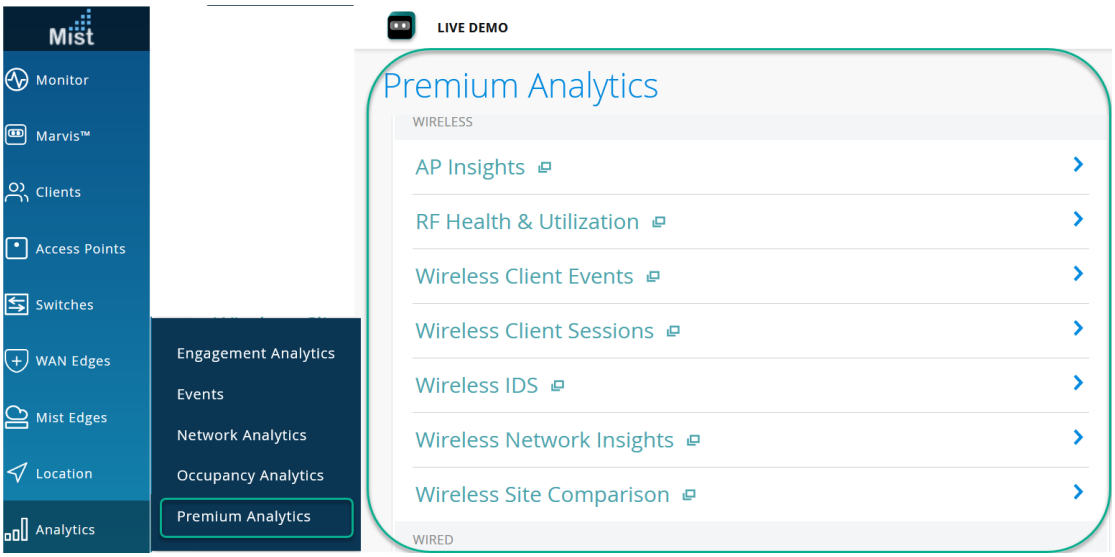
- Familiarize with the options available on your dashboard. See Figure 4 on page 17.
- See Juniper Mist Wireless Configuration Guide for wireless configuration details.
- You need a license for using the Juniper Mist Premium Analytics dashboard. See "Mist Premium Analytics License" on page 8.

Access Wireless Network Insights Dashboard

To access the AP Insights dashboard:

1. In Juniper Mist portal, click **Analytics > Premium Analytics** .
2. In the Premium Analytics page, click **AP Insights**.

Figure 10: AP Insights



The **AP Insights** page appears.

3. Use the filter options available at the top of the screen to view specific information.
   - Click **Report Period** and select one of the defined reporting periods. Alternatively, select a range of days from the calendar to customize the reporting period. By default, the dashboard shows data for the last 7 days.
   - Filter by **Site Name**, **SSID**, **MAC**, **Floor Names**, and **AP Names**.
   - From the dashboard actions on the top-right corner of the page, select **Reset filter** to reset the filters.

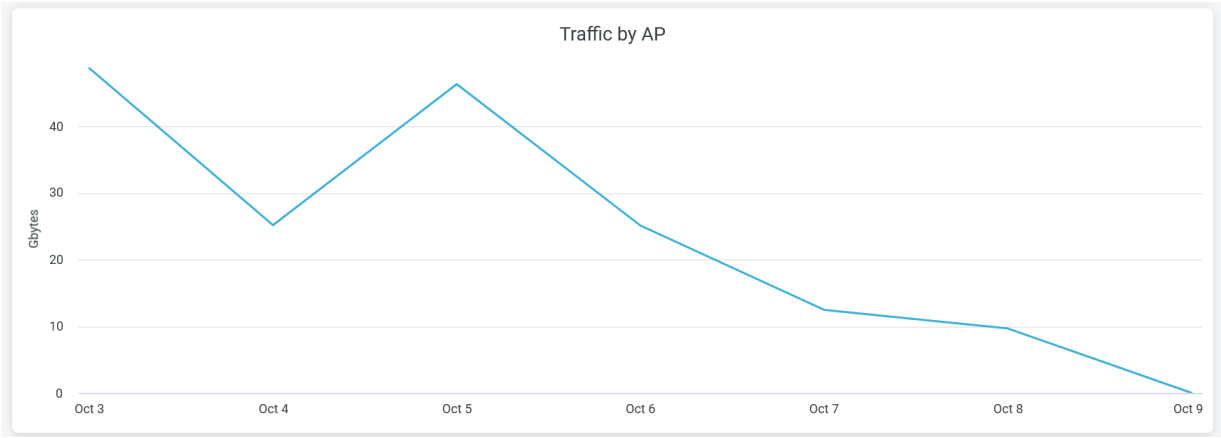
AP Insights Tiles

IN THIS SECTION

Traffic by AP

The **Traffic by AP** tile shows the volume of traffic usage by APs for the selected duration.

Figure 11: Traffic by AP



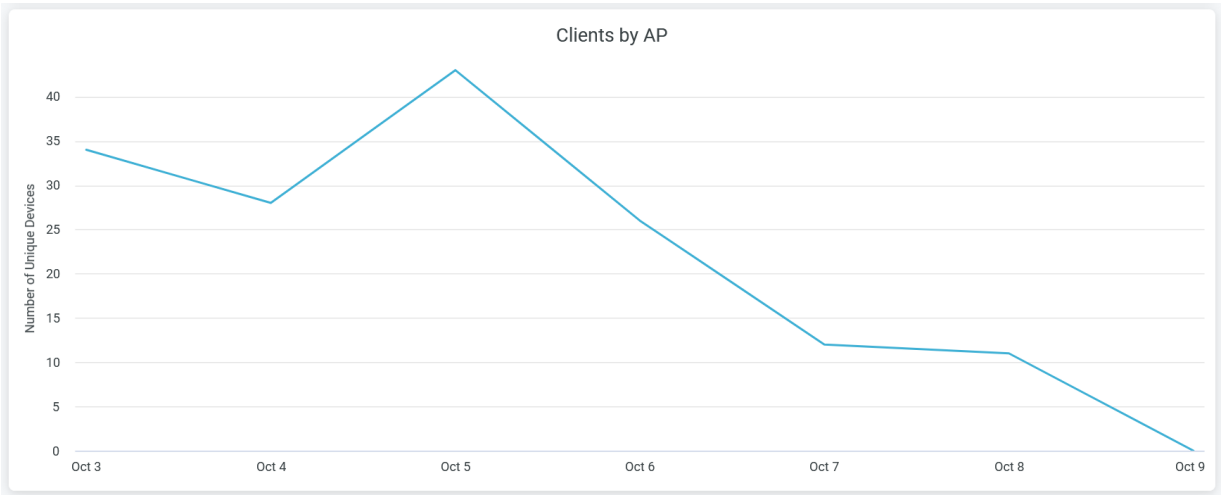
Hover over the chart to view the volume of traffic usage by APs at a given time.

Click the chart to open a new window that displays the table listing all APs with their traffic usage details. You can download the table using the **Download** option.

Clients by AP

The **Clients by AP** tile shows the client connection trends for the selected duration.

Figure 12: Clients by AP



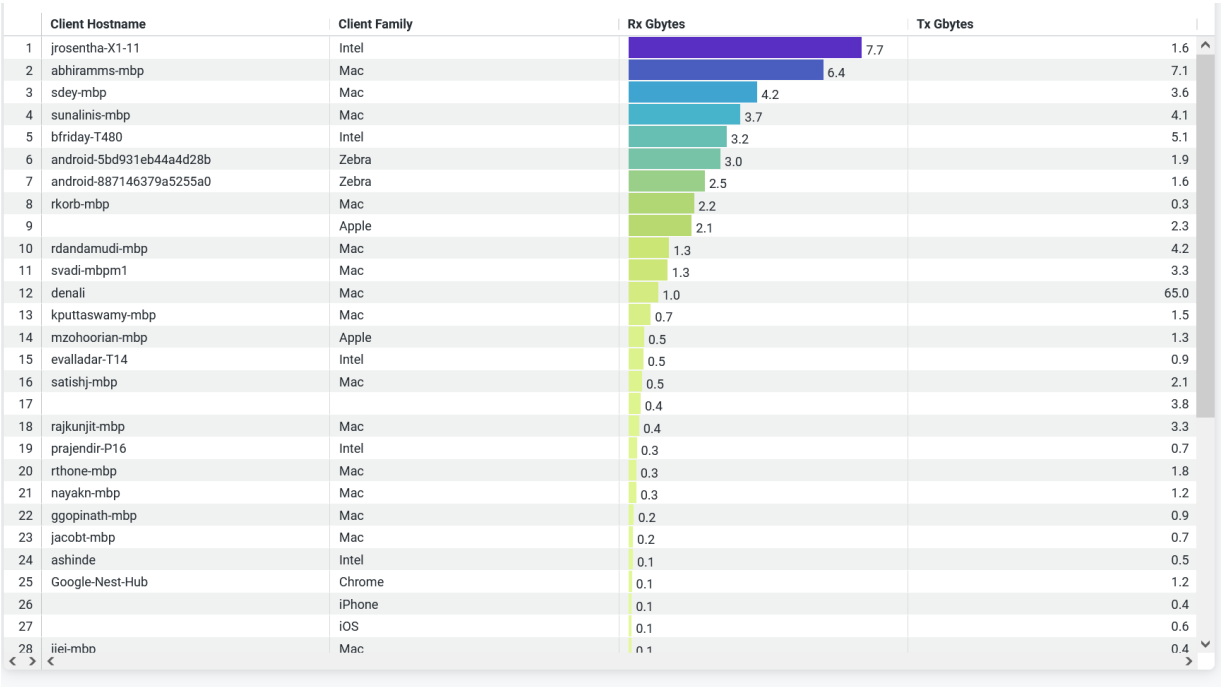
Hover over the chart to view the number of unique client devices connected to APs at a given time.

Click the chart to open a new window that displays the table listing all client devices names, VLAN, service set identifier (SSID), and APs details. You can download the table using the **Download** option.

Client Statistics

The tile displays analytics for client devices, ranking according to the volume of traffic.

Figure 13: Client Statistics



	Client Hostname	Client Family	Rx Gbytes	Tx Gbytes
1	jrosentha-X1-11	Intel	7.7	1.6
2	abhiramms-mbp	Mac	6.4	7.1
3	sdey-mbp	Mac	4.2	3.6
4	sunalinis-mbp	Mac	3.7	4.1
5	bfriday-T480	Intel	3.2	5.1
6	android-5bd931eb44a4d28b	Zebra	3.0	1.9
7	android-887146379a5255a0	Zebra	2.5	1.6
8	rkorb-mbp	Mac	2.2	0.3
9		Apple	2.1	2.3
10	rdandamudi-mbp	Mac	1.3	4.2
11	svadi-mbpm1	Mac	1.3	3.3
12	denali	Mac	1.0	65.0
13	kputtaswamy-mbp	Mac	0.7	1.5
14	mzohoorian-mbp	Apple	0.5	1.3
15	evalladar-T14	Intel	0.5	0.9
16	satishj-mbp	Mac	0.5	2.1
17			0.4	3.8
18	rajkunjit-mbp	Mac	0.4	3.3
19	prajendir-P16	Intel	0.3	0.7
20	rthone-mbp	Mac	0.3	1.8
21	nayakn-mbp	Mac	0.3	1.2
22	ggopinath-mbp	Mac	0.2	0.9
23	jacobt-mbp	Mac	0.2	0.7
24	ashinde	Intel	0.1	0.5
25	Google-Nest-Hub	Chrome	0.1	1.2
26		iPhone	0.1	0.4
27		iOS	0.1	0.6
28	jiei-mbp	Mac	0.1	0.4

You can view the following details on the tile:

- Client Hostname—Hostnames of client devices.
- Client Family—Device type, model, manufacturer, and operating system of the device.
- Rx Bytes (Gbps)—Volume of the transmitted traffic.
- Tx Bytes (Gbps)—Volume of the received traffic.

SEE ALSO

Introduction to Juniper Mist Analytics | 2

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Wireless Client Session | 66

Wireless Site Comparison | 99

Executive Summary—Wireless

IN THIS SECTION

The Executive Summary - Wireless dashboard provides a summary of your wireless network. You can view the number of connected devices, traffic throughput, application usage, and service-level expectation (SLE) metric trends. With the information, you can perform a comprehensive analysis of your wireless network to optimize the usage of your network resources.

Features and Benefits

- Generates insights about organization-wide client trends, traffic trends, and SLE trends. With these insights, you can spot the network areas that experience problems.
- Provides reports on SLE metrics at the site and organization levels. With SLE details, you can understand the experiences of clients utilizing your network.
- Provides data on the amount and types of traffic passing through the network.
- Reports on the clients attached to the network along with client traffic utilization.
- Gives visibility to the devices and applications that use the network's bandwidth.

Before You Begin

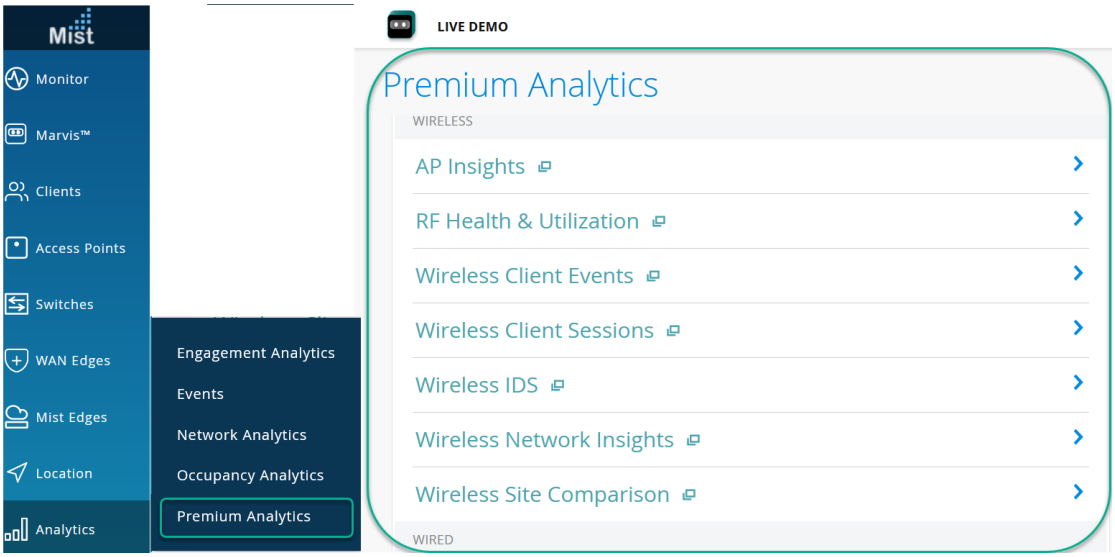
- Become familiar with the options available on your dashboard. See Figure 4 on page 17.
- See Juniper Mist Wireless Configuration Guide for wireless configuration details.
- You need a license for using the Juniper Mist Premium Analytics dashboard. For more information, see "Mist Premium Analytics License" on page 8.

Access Executive Summary - Wireless Dashboard

To access the Wireless Network Insights dashboard:

1. In Juniper Mist portal, click **Analytics > Premium Analytics** .
2. On the Premium Analytics page, click **Executive Summary - Wireless** .

Figure 14: Access Premium Analytics



The **Executive Summary - Wireless** dashboard appears.

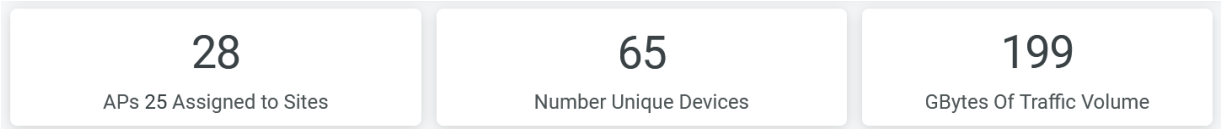
3. Use the filter options available at the top of the dashboard to view specific information.
   - Click **Report Period** and select one of the defined reporting periods. Alternatively, select a range of days from the calendar to customize the reporting period. By default, the dashboard shows data for the last 7 days.
   - Filter by **Site Name**, **Site Group Name**, and **SSID**.
   - From the dashboard actions on the top-right corner of the page, select **Reset filter** to reset the filters.

Executive Summary - Wireless Tiles

IN THIS SECTION

At the top of the dashboard, you can get a summary of your site's wireless network. The dashboard displays the number of assigned APs, number connected devices, and the volume of traffic flow.

Figure 15: Executive Summary - Wireless

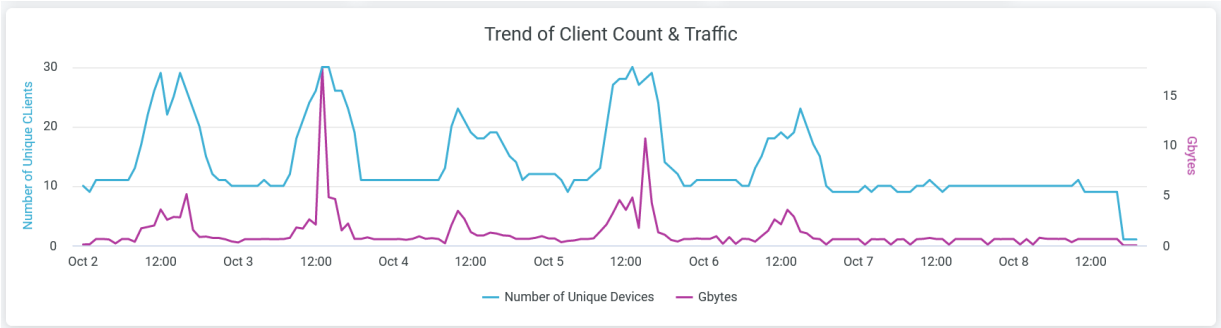


The Wireless Network Insights dashboard includes various tiles that provide graphical representations of analytics at a granular level. On the tiles, you can see the number of connected clients and information about applications, sites, traffic, and SLE metrics.

Trend of Client Count and Traffic

The tile shows the traffic trend and the number of connected clients over a period of time.

Figure 16: Trend of Client Count and Traffic



The chart shows two lines—one that represents the number of unique client devices and another that represents traffic volume. You can hide one of these two graphs by clicking the name in the legend below the chart.

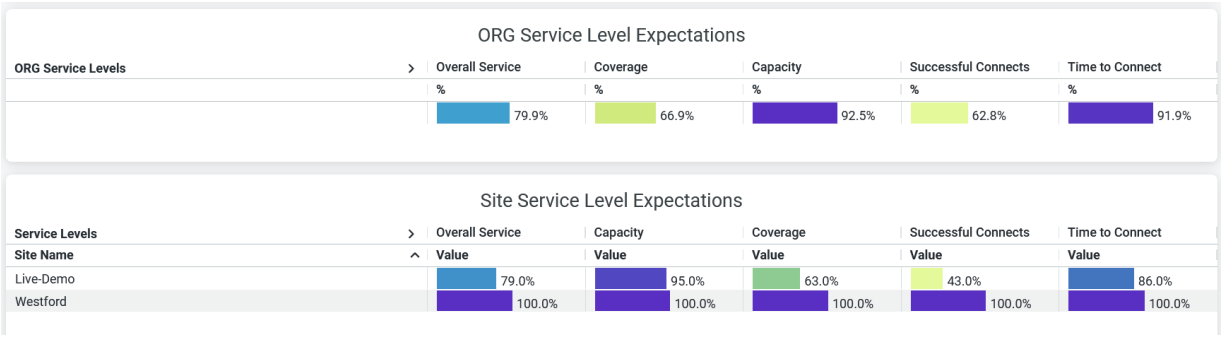
Place the cursor on the line graphs, which represent the number of client devices and volume of traffic, to see the actual numbers at any given time.

Click the chart to open the report in a new window with additional details. You can view details such as names of client devices, WLAN SSID, AP name, and traffic usage per device. You can download the table by using the **Download** option.

Service Level Expectations

The tile shows the SLE at organization-level and at site-level.

Figure 17: Site and Organization Level SLEs



The tile displays the performance of each of the following SLE metrics as a percentage that represents the success rate of the metric:

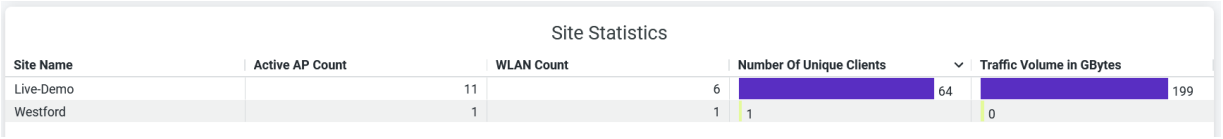
- Overall Service—Number of connections that experience the specified SLE goals.

- Coverage—Percentage of user minutes for which a client's received signal strength indicator (RSSI), as measured by the access point (AP), matches the SLE goal.
- Capacity—Percentage of user minutes for which a client experiences a good coverage. The capacity depends on factors such as interference, number of attached clients, and usage by attached clients.
- Successful Connects—Percentage of successful connections (initial, roaming, and ongoing).
- Time to Connect—Percentage of successful connections established with the Internet within the specified threshold time.

Site Statistics

The Site Statistics tile displays the list of sites according to the number of client connections and traffic volume.

Figure 18: Site Statistics



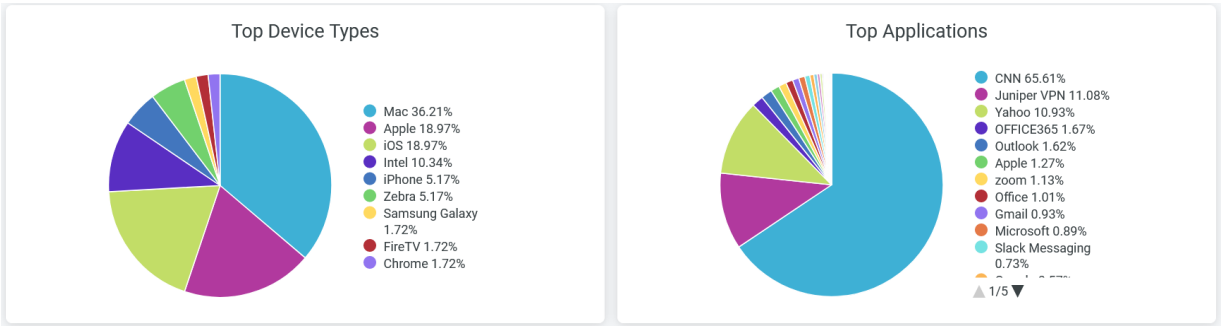
You can see the name of each site and the number of unique client devices connected to each site. You can view for each site:

- Active AP count
- WLAN count
- Number of unique client devices connected
- Traffic usage

Top Applications and Device Types

The tile shows the **Top Device Types** and **Top Applications**pie charts.

Figure 19: Top Applications and Device Types



Top Device Types

The **Top Device Types** pie chart shows the client devices in the network classified according to the operating systems.

Click a wedge, which represents an operating system, of the pie chart to view additional information about the devices that use that operating system.

You can also see in the legend next to the chart the percentage of devices using each operating system.

To hide information about an operating system and see information only about the remaining operating systems, click the operating system name in the legend.

Top Applications

The **Top Applications** pie chart displays the bandwidth usage by all the applications or websites in a site. Hover over the chart to see the volume of traffic that application or website receives and transmits.

Click a wedge, which represents an application, of the pie chart to view additional information about the devices that use that application.

Additionally, you can see in the legend below the chart the percentage of traffic that an application receives and transmits. To hide data for an application or website and see data for only the remaining ones, click the application name in the legend.

SEE ALSO

Introduction to Juniper Mist Analytics | 2

Mist Premium Analytics Dashboards | 10

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RF Health and Utilization

IN THIS SECTION

The RF Health and Utilization dashboard provides long-term radio frequency (RF) health and utilization pattern for your network. With the information, you can analyze channel utilization trends for different radio bands across various sites, floors, and access points (APs), ensuring optimal performance and capacity planning.

Watch Juniper Mist Premium Analytics: RF Health Utilization for more details.

Features and Benefits

- Provides insights into channel utilization breakdown, identifying traffic, background noise, and interface sources, empowering you to optimize network resources.
- Provides information to detect the worst DFS channels affected by radars, understand radar patterns, and proactively mitigate interference maintaining a reliable wireless network.

Before You Begin

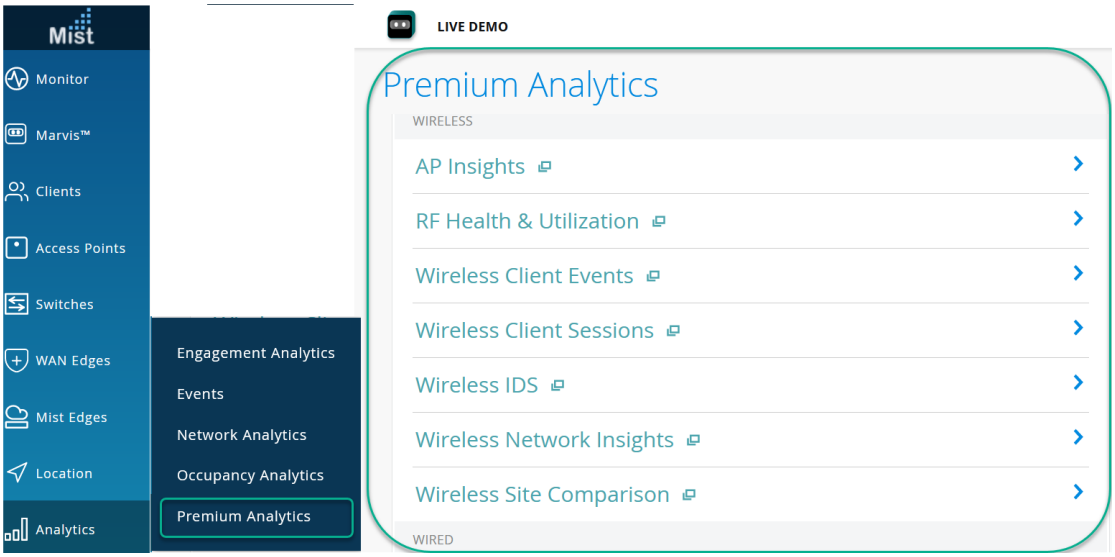
- Familiarize with the options available on your dashboard. See Figure 4 on page 17.
- See Juniper Mist Wireless Configuration Guide for wireless configuration details.
- You need a license for using the Juniper Mist Premium Analytics dashboard. See "Mist Premium Analytics License" on page 8 for more information.

Access RF Health and Utilization Dashboard

To access the RF Health and Utilization dashboard:

1. In Juniper Mist portal, click **Analytics > Premium Analytics** .
2. On the Premium Analytics page, click **RF Health and Utilization**.

Figure 20: AP Insights



The **RF Health and Utilization** dashboard appears.

3. Use the filter options available at the top of the dashboard to view specific information.
   - Click **Report Period** and select one of the defined reporting periods. Alternatively, select a range of days from the calendar to customize the reporting period. By default, the dashboard shows data for the last 7 days.
   - Filter by **Site Name**, **Floor Name**, and **Access Points**.
   - From the dashboard actions on the top-right corner of the dashboard, select **Reset filter** to reset the filters.

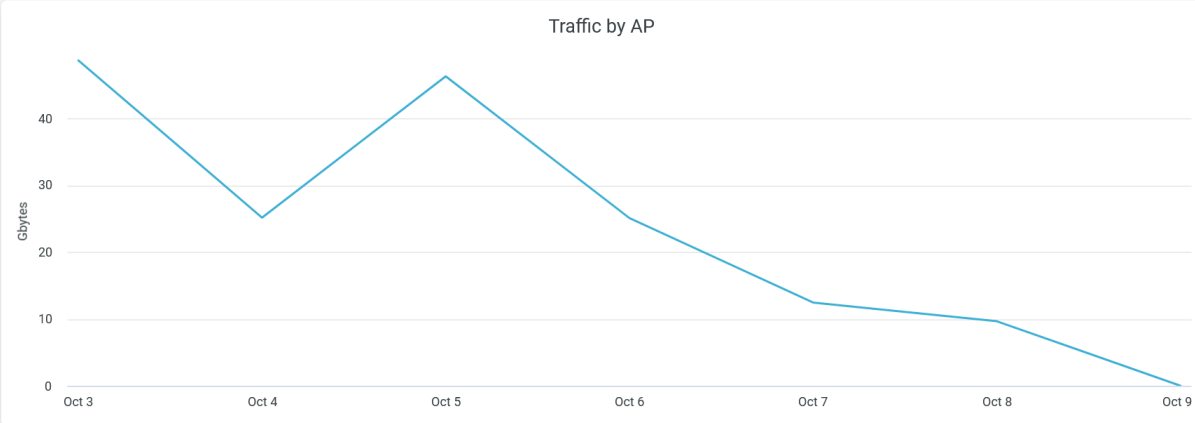
RF Health and Utilization Tiles

IN THIS SECTION

SLE - Coverage and Capacity

The Traffic by AP tile shows charts for SLE metrics—coverage and capacity—for the selected duration.

Figure 21: Traffic by AP



In the graph, one line represents the coverage of SLE, while the other denotes the capacity of SLE. Place the cursor on the line graphs to see the SLE percentage at any given time.

The Juniper Mist portal displays each SLE metric as a percentage that represents the success rate of the metric.

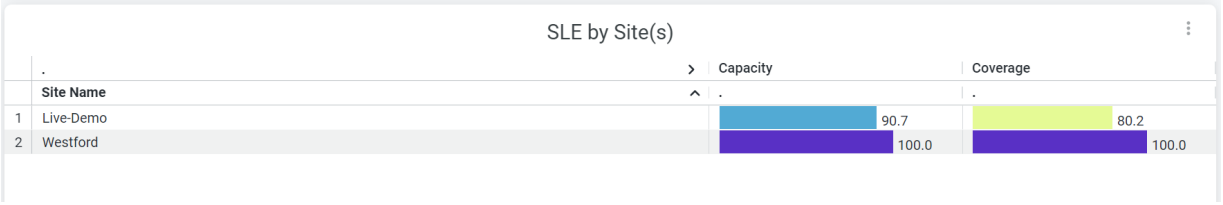
- Coverage—Identifies the number of user minutes that a client's received signal strength indicator (RSSI), as measured by the access point, are within the configured threshold.
- Capacity—Tracks the user minutes that a client experiences low capacity because of interference, number of attached clients, and usage by the attached clients.

You can hide one of these graphs by clicking the name in the legend below the chart.

SLE by Site(s)

The tile shows charts lists sites with SLE metrics - coverage and capacity for the selected duration.

Figure 22: SLE by Site(s)



The tile displays coverage and capacity SLE metrics for each site. Juniper Mist displays percentage that represents the success rate of the metric.

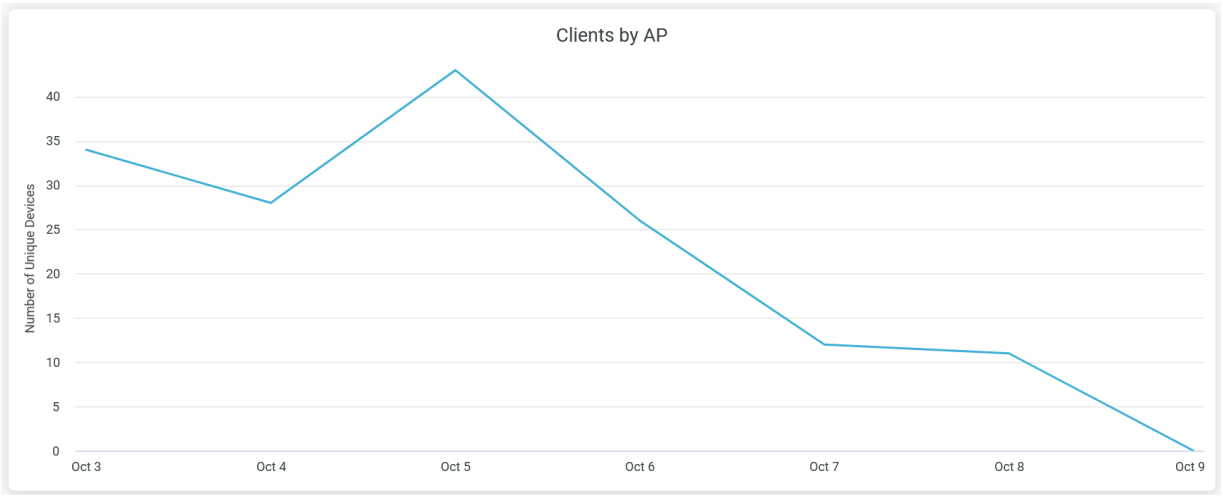
In the above sample, 100 percent of the devices in the Westford site and 90.7 percent of the devices in the Live-Demo site experience the expected level of network capacity.

According to the sample, 100 percent of the devices in the Westford site and 80.2 percent of the devices in the Live-Demo site experience the expected level of coverage.

Total Wired Traffic

The Clients by AP tile shows wired network traffic in the site for the selected period.

Figure 23: Total Wired Traffic

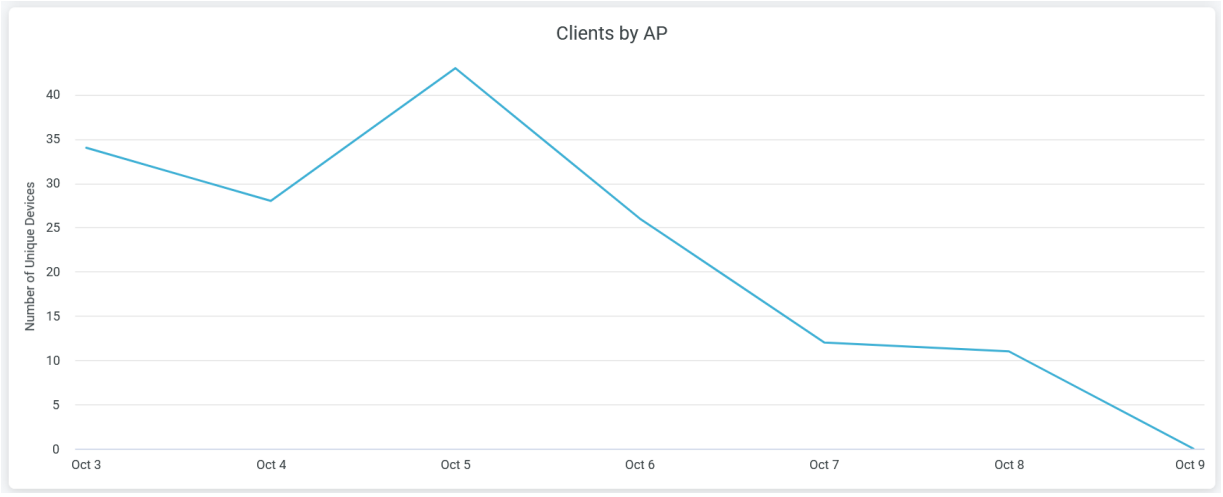


Hover over the chart to view the volume of traffic at a given time.

Total RF Traffic

The Total RF Traffic tile shows RF-based traffic in the site for the selected period. The details include usage by the 2.4-GHz, 5-GHz, and 6-GHz bands.

Figure 24: Total RF Traffic

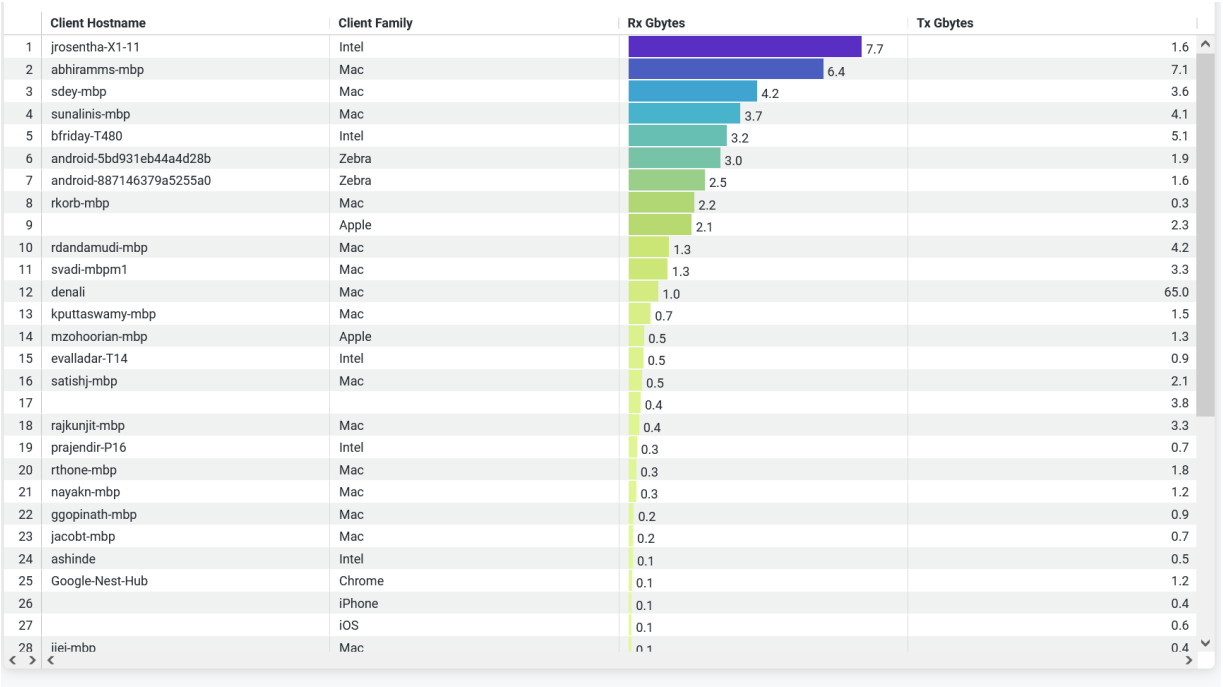


You can see three lines in the chart each representing 2.4-gigahertz (GHz), 5-GHz, and 6-GHz bands. Place the cursor on the chart to see the traffic volume for the selected band. You can hide one of these three graphs by clicking the name in the legend below the chart.

Busiest APs

The tile displays the most active APs in the network, ranked according to their traffic usage.

Figure 25: Client Stats



	Client Hostname	Client Family	Rx Gbytes	Tx Gbytes
1	jrosentha-X1-11	Intel	7.7	1.6
2	abhiramms-mbp	Mac	6.4	7.1
3	sdey-mbp	Mac	4.2	3.6
4	sunalinis-mbp	Mac	3.7	4.1
5	bfriday-T480	Intel	3.2	5.1
6	android-5bd931eb44a4d28b	Zebra	3.0	1.9
7	android-887146379a5255a0	Zebra	2.5	1.6
8	rkorb-mbp	Mac	2.2	0.3
9		Apple	2.1	2.3
10	rdandamudi-mbp	Mac	1.3	4.2
11	svadi-mbpm1	Mac	1.3	3.3
12	denali	Mac	1.0	65.0
13	kputtaswamy-mbp	Mac	0.7	1.5
14	mzohoorian-mbp	Apple	0.5	1.3
15	evalladar-T14	Intel	0.5	0.9
16	satishj-mbp	Mac	0.5	2.1
17			0.4	3.8
18	rajkunjit-mbp	Mac	0.4	3.3
19	prajendir-P16	Intel	0.3	0.7
20	rthone-mbp	Mac	0.3	1.8
21	nayakn-mbp	Mac	0.3	1.2
22	ggopinath-mbp	Mac	0.2	0.9
23	jacobt-mbp	Mac	0.2	0.7
24	ashinde	Intel	0.1	0.5
25	Google-Nest-Hub	Chrome	0.1	1.2
26		iPhone	0.1	0.4
27		iOS	0.1	0.6
28	jiei-mbp	Mac	0.1	0.4

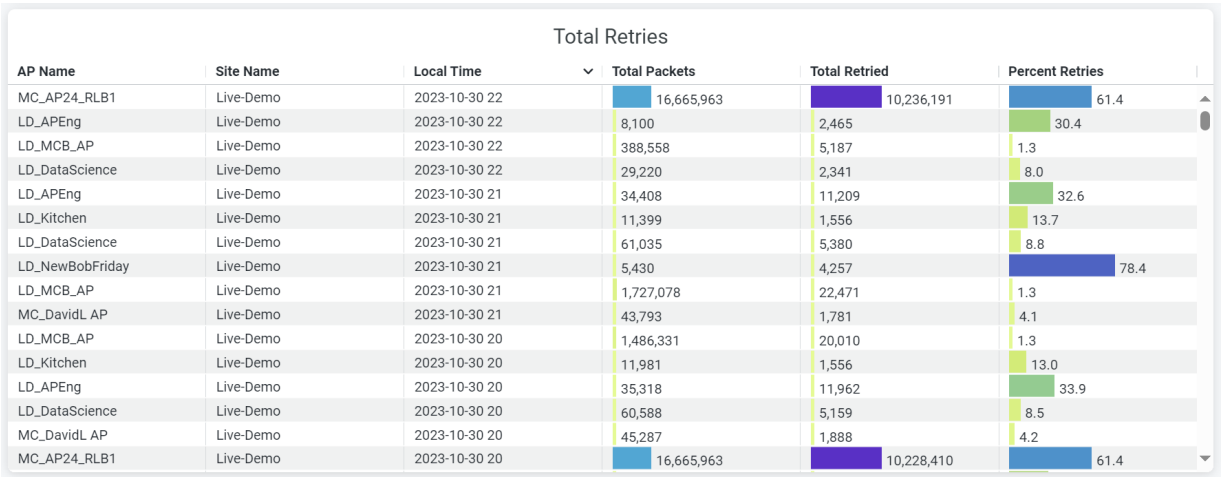
You can view on the tile:

- AP name—Name of the AP.
- Site Name—Name of the site that an AP is associated with.
- GBytes—Traffic volume on an AP.
- Tx Gbytes (Gbps)—Received traffic volume.
- Rx Gbytes (Gbps)—Transmitted traffic volume.

Total Retries

The tile displays the data transmission and reception retry attempts by a wireless device.

Figure 26: Total Retries



AP Name	Site Name	Local Time	Total Packets	Total Retried	Percent Retries
MC_AP24_RLB1	Live-Demo	2023-10-30 22	16,665,963	10,236,191	61.4
LD_APEng	Live-Demo	2023-10-30 22	8,100	2,465	30.4
LD_MCB_AP	Live-Demo	2023-10-30 22	388,558	5,187	1.3
LD_DataScience	Live-Demo	2023-10-30 22	29,220	2,341	8.0
LD_APEng	Live-Demo	2023-10-30 21	34,408	11,209	32.6
LD_Kitchen	Live-Demo	2023-10-30 21	11,399	1,556	13.7
LD_DataScience	Live-Demo	2023-10-30 21	61,035	5,380	8.8
LD_NewBobFriday	Live-Demo	2023-10-30 21	5,430	4,257	78.4
LD_MCB_AP	Live-Demo	2023-10-30 21	1,727,078	22,471	1.3
MC_DavidL AP	Live-Demo	2023-10-30 21	43,793	1,781	4.1
LD_MCB_AP	Live-Demo	2023-10-30 20	1,486,331	20,010	1.3
LD_Kitchen	Live-Demo	2023-10-30 20	11,981	1,556	13.0
LD_APEng	Live-Demo	2023-10-30 20	35,318	11,962	33.9
LD_DataScience	Live-Demo	2023-10-30 20	60,588	5,159	8.5
MC_DavidL AP	Live-Demo	2023-10-30 20	45,287	1,888	4.2
MC_AP24_RLB1	Live-Demo	2023-10-30 20	16,665,963	10,228,410	61.4

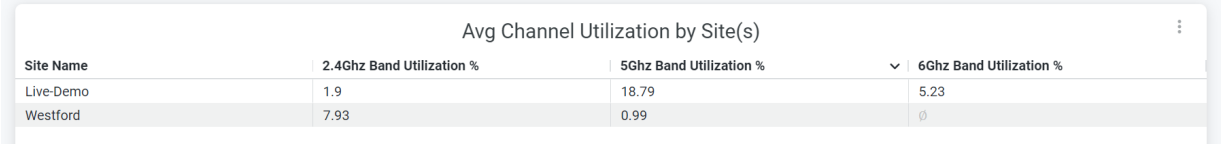
Wireless retry refers to the instances when data frames must be retransmitted between a client and an AP due to an error. s On the Total Retries tile, you can view:

- AP name—Name of the AP.
- Site Name—Name of the site with which an AP is associated.
- Local time—Timestamp of the data.
- Total Packets—Volume of traffic flow through an AP.
- Total Retried—Volume of retried-traffic flow through an AP.
- Percent Retried—Percentage of retried-traffic through an AP.

Average Channel Utilization by Site(s)

The tile displays the percentage of channel utilization trends in the 2.4-GHz, 5-GHz, and 6-GHz radio channels grouped by sites.

Figure 27: Average Channel Utilization by Site(s)



Site Name	2.4Ghz Band Utilization %	5Ghz Band Utilization %	6Ghz Band Utilization %
Live-Demo	1.9	18.79	5.23
Westford	7.93	0.99	∅

In the preceding sample, the Live-Demo site uses 0.17 percent of the 2.4-GHz channel, 23.47 percent of the 5-GHz channel, and 4.06 percent of 6-GHz channel.

Channel Utilization Breakup

The tile displays the percentage of channel utilization by APs and channel utilization breakup trends in the 2.4-GHz, 5-GHz, and 6-GHz radio bands.

Figure 28: Average Channel Utilization and Utilization Breakup

You can view:

- Top APs - 2.4Ghz, 5Ghz, and 6Ghz Avg Channel Utilization—List of top APs sorted by the percentage of channel utilization in each band.

- 2.4Ghz, 5Ghz, and 6Ghz Band Utilization Breakup—Band utilization trend by non-wireless client traffic, wireless client traffic, and background. Hover over the chart to view the exact percentage of channel utilization.

RRM Insights

The tile displays Radio Resource Management (RRM) events per site.

Figure 29: RRM Insights

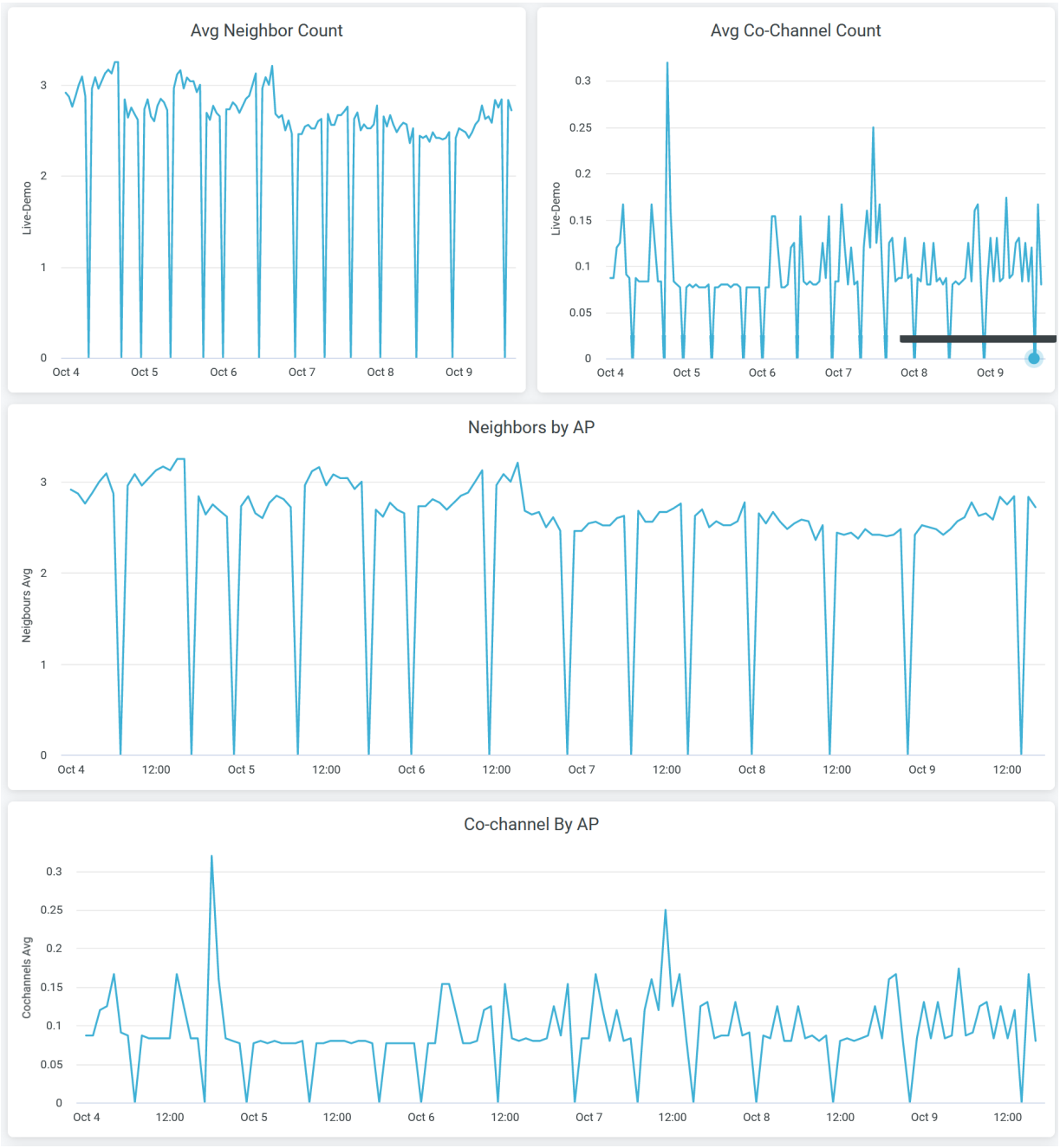
RRM continuously optimizes wireless coverage and capacity across an entire site, for example to maintain SLEs. Channel and power level changes on a single AP are triggered when an RRM event occurs. The reasons for triggering an RRM event include scheduled RRM, co-channel interference, radar detection, and many more.

- RRM Events per Site—Percentage of RRM event distribution per site.
- RRM Events Top APs—List of APs ranked by the number of RRM events.
- RRM Reasons—Percentage of each RRM event reasons. You can place the cursor on a wedge in the pie chart to see the exact percentage of each RRM-event reason. You can see the percentage of RRM-event reasons in the legend. To hide data for an RRM-event reason and see data for only the remaining reasons, click the reason in the legend.
- DFS Event Distribution by Channel—Radar-detected event count for each dynamic frequency selection (DFS) channel.
- RRM Event Reasons—Numbers of RRM event reasons per site.
- RRM Event Trend—RRM event trends classified by the reasons. Place your cursor on a point in a line graph to see the exact number of an RRM-event reason with the event time stamp. To hide information about a reason from the chart and see information only about the remaining reasons, click the reason name in the legend.

Co-Channel Neighbors

The tiles display average number of neighboring APs and co-channel APs.

Figure 30: Average Co-Channel Counts and Neighbors



You can view:

- Avg Neighbor Count—Average number of Juniper APs in the site that are hearing each other on the selected radio band.
- Avg Co-Channel Count—Average number of APs that are broadcasting the same channel in the site. It is the average for all Juniper AP in the site.

- Neighbors by AP—Average number of neighbor Juniper APs in the organization that are hearing each other on the selected the radio band.
- Co-channel By AP—Average number of APs that are broadcasting the same channel. It is the average for all Juniper AP in the organization.

Hover over the chart to view the number of average count of neighbors or co-channels with the time stamp.

Busiest Clients and Roaming Behavior

The tile displays the list of client devices with details. The tile orders the client devices based on the traffic volume.

Figure 31: Busiest Clients and Roaming Behavior

Client Hostname	Client OS	Client MAC	Total Gbytes	Tx Gbytes	Rx Gbytes	Connected to APs	Connected to Wlans	List of Unique Wlans
denali	Sierra	n/a	270.22	266.14	4.08	3	1	Live_demo_do_not...
bfriday-T480	Windows 10	n/a	41.77	25.53	16.25	5	1	Live_demo_only
sunalinis-mbp	Monterey	n/a	22.12	12.04	10.07	2	1	Live_demo_do_not...
sdey-mbp	Catalina	n/a	23.49	10.18	13.31	4	1	Live_demo_do_not...
abhiramms-mbp	Catalina	n/a	13.36	6.84	6.52	2	1	Live_demo_do_not...
Google-Nest-Hub	90.0.4430.225	n/a	5.27	4.79	0.48	2	1	Mist_IoT
rajkunjit-mbp	Ventura	n/a	3.68	3.32	0.35	4	1	Live_demo_only
	Apple OS	n/a	5.02	2.88	2.14	8	2	Live_demo_do_not...
rdandamudi-mbp	Catalina	n/a	3.21	2.81	0.40	2	1	Live_demo_only
	iOS	n/a	3.06	2.69	0.37	8	2	Live_demo_do_not...
svadi-mbpm1	Catalina	n/a	3.53	2.65	0.88	3	2	Live_demo_do_not...
satishj-mbp	Catalina	n/a	2.56	2.11	0.45	5	1	Live-Demo-NAC
rthone-mbp	Catalina	n/a	2.02	1.76	0.26	2	1	Live-Demo-NAC
android-5bd931eb...	Android 11	n/a	4.16	1.57	2.59	2	1	Live_demo_do_not...

- Client Hostname—Hostname of a client.
- Client OS—Operating system running on a client device.
- Client MAC—MAC address of a client device.
- AP Name—Name of the AP to which a client device is connected.
- RX Gbytes—Traffic volume that a client receives.
- TX Gbytes—Traffic volume that a client transmits.
- Connected to WLANs—Number of associated WLANs.
- List of Unique WLANs—Names of WLANs.

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Wireless Client Events

IN THIS SECTION

The Wireless Client Events dashboard provides a comprehensive view of all events that are related to or reported by individual client devices. For example, a client event occurs when a client's connection and authentication task succeeds or fails.

Features and Benefits

- Provides a unified view of the wireless client events using which you can easily identify a problem and perform root cause analysis.
- Organization wide client-failure analysis helps in easily identifying if an end-user connectivity issue is caused by a client configuration mistake, network infrastructure and service problems, or authentication policy configuration issues.

Before you Begin

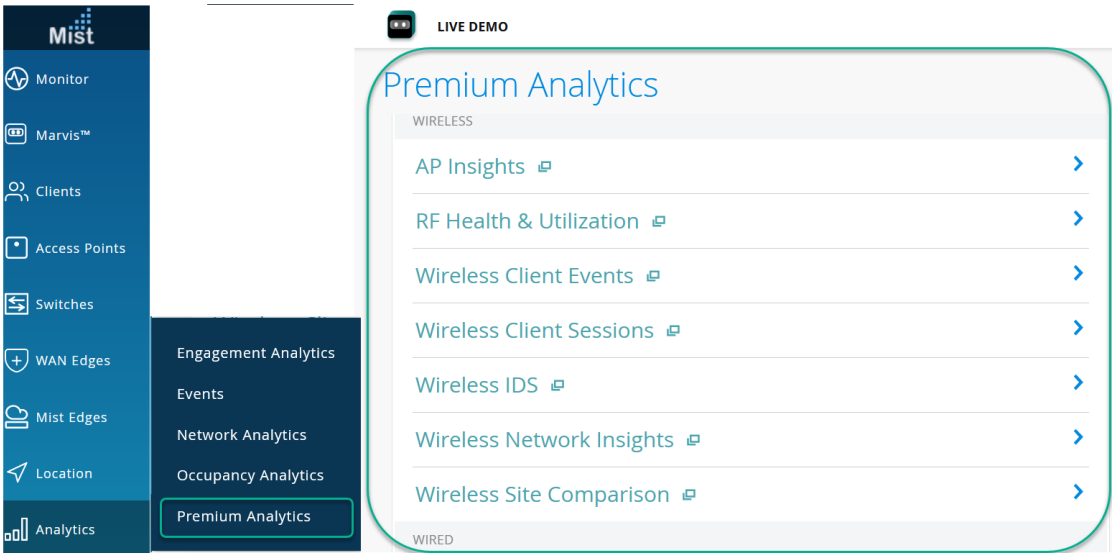
- Familiarize with the options available on your dashboard. See Figure 4 on page 17.
- See Juniper Mist Wireless Configuration Guide for wireless configuration details.
- You need a license for using the Juniper Mist Premium Analytics dashboard. See "Mist Premium Analytics License" on page 8.

Access Wireless Client Events Dashboard

To access the AP Insights dashboard:

1. In Juniper Mist portal, click **Analytics > Premium Analytics** .
2. In the Premium Analytics page, click **Wireless Client Events**.

Figure 32: Wireless Client Events



The **Wireless Client Events** page appears.

3. Use the filter options available at the top of the screen to view specific information.
   - Click **Date** and select one of the defined reporting periods. Alternatively, select a range of days from the calendar to customize the reporting period. By default, the dashboard shows data for the last 7 days.
   - Filter by **Site Name**, **AP's Floor Name**, **SSID**, **AP Name**, **AP MAC**, **Client Hostname**, **Event Type**, and **Client Manufacture**
   - From the dashboard actions on the top-right corner of the page, select **Reset filter** to reset the filters.

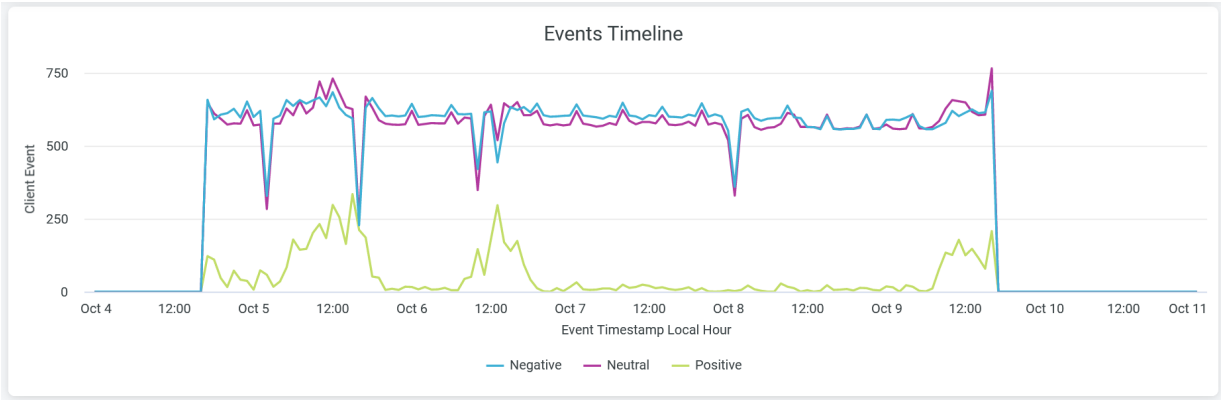
Wireless Client Events Tiles

IN THIS SECTION

Events Timeline

The **Events Timeline** tile shows wireless client events over a selected period of time.

Figure 33: Wireless Client Events Tiles



Juniper Mist categorizes the events as positive, negative, or neutral and displays the individual events as separate lines in the chart.

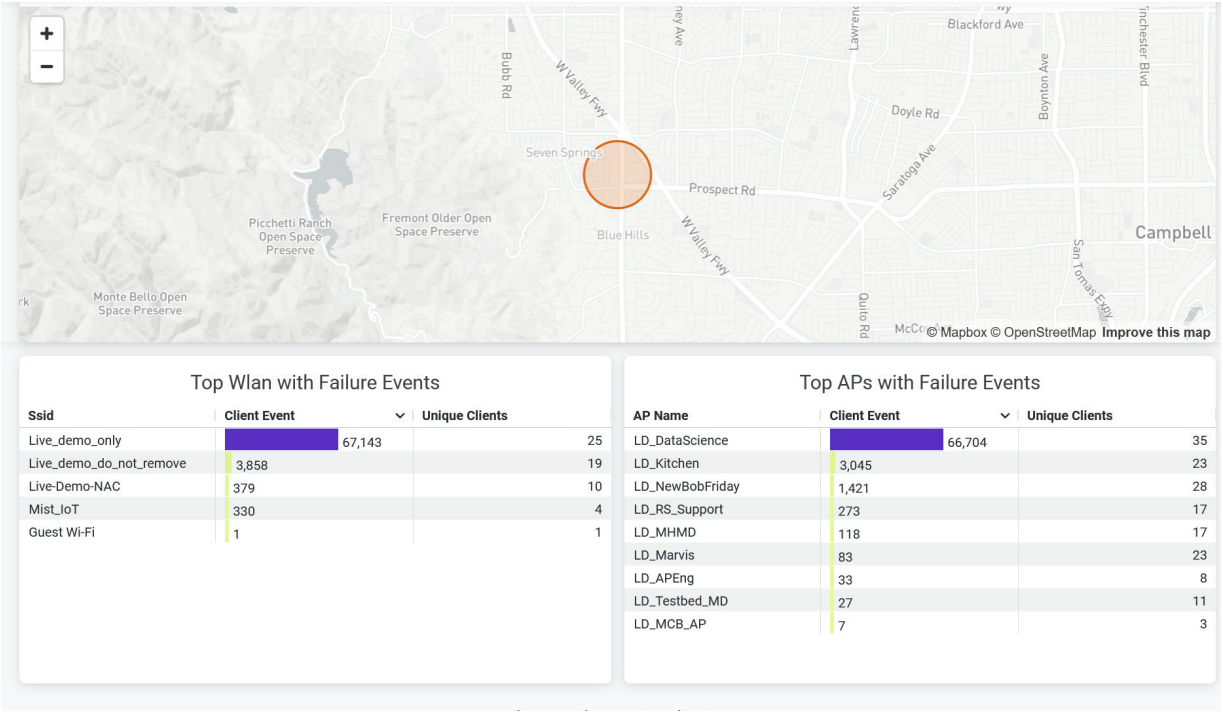
Place your cursor on a point in a line graph to see the exact number of events in the selected category.

To hide data for an event category from the chart and see only the remaining categories, click the category name in the legend below.

Failure Events Distribution Across Sites, SSID and APs

The tile shows network-wide failures across each site, SSID, or AP.

Figure 34: Failure Events Distribution Across Sites, SSID and APs



You can view the following details from sections:

- Sites with Failure Events—View the site with failure event in a map. Hover over the map to see the site name, number of clients, and count of client events. Double-click the map to zoom in—you'll see a detailed view of the map. Click the highlighted area of the map to open a new window. The window displays the list of client device names and client failure events in the site. Click **Download** to download the information.
- Top WLAN with Failure Events—View SSIDs ranked according to the number of failure client events. You can also see unique client events in the table.
- Top APs with Failure Events—View APs ranked according to the number of failure client events. You can also see unique client events in the table.

Client Failures Distribution

The tile shows client failure event distribution classified by the failure reasons.

Figure 35: Client Failures Distribution

You can see the following details in the tile:

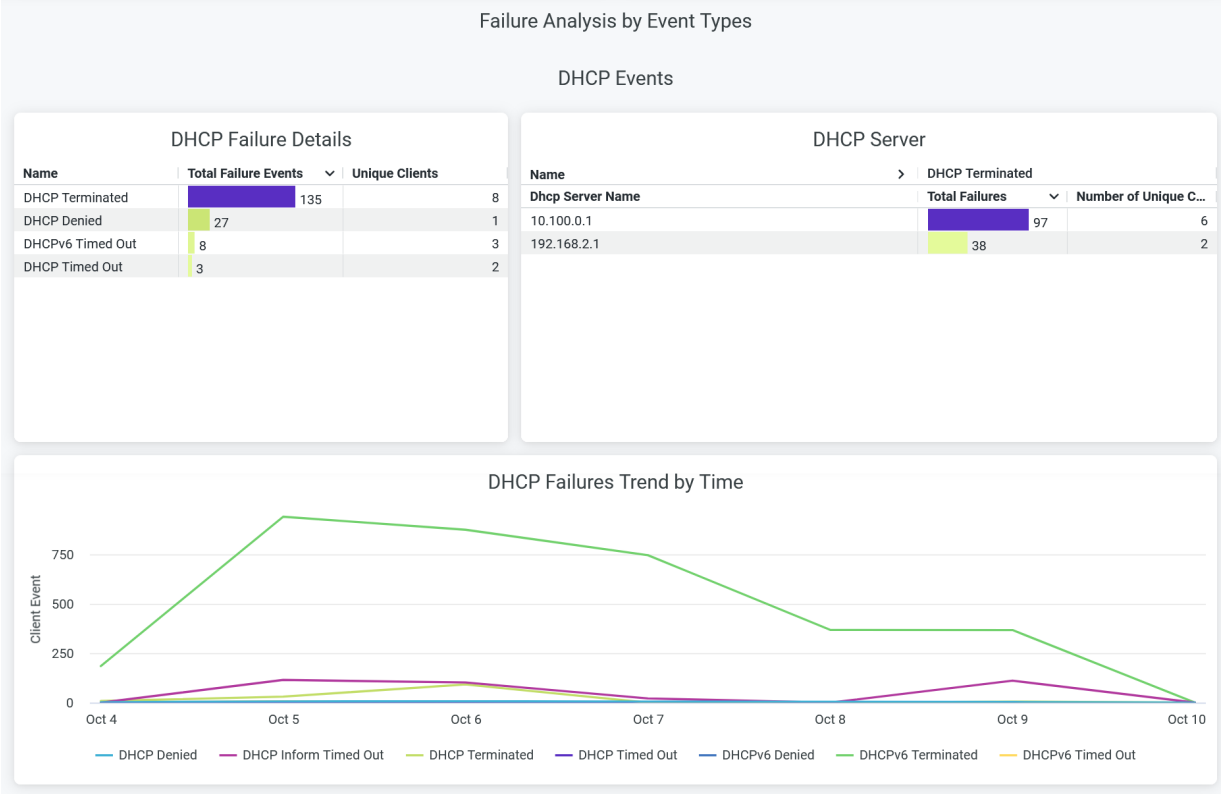
- Client Failures Summary—View reasons for client failure events in horizontal bar chart. Here, you can view the count of each failure reasons and number of unique clients with failure event.
- Top Clients with Failure Events—View the top 10 clients that have the highest number of failure events. The chart represents the proportion of failure events associated with each client.
- Failures by Client Family—View the total failure events per client devices types. The chart shows the count of event failures and number of unique clients for each type of devices. Click on the chart to open a new window to view client device names and failure events per device.
- Failures by Client OS—View the total failure events per client devices operating system. The chart shows the count of event failures and number of unique clients for each type of operating system. Click on the chart to open a new window to view client device names and failure events per operating system.

Failure Analysis by Event Types

DHCP Events

The tile shows number of pre-connection and post-connection failure events caused due to Dynamic Host Configuration Protocol (DHCP) server.

Figure 36: DHCP Events



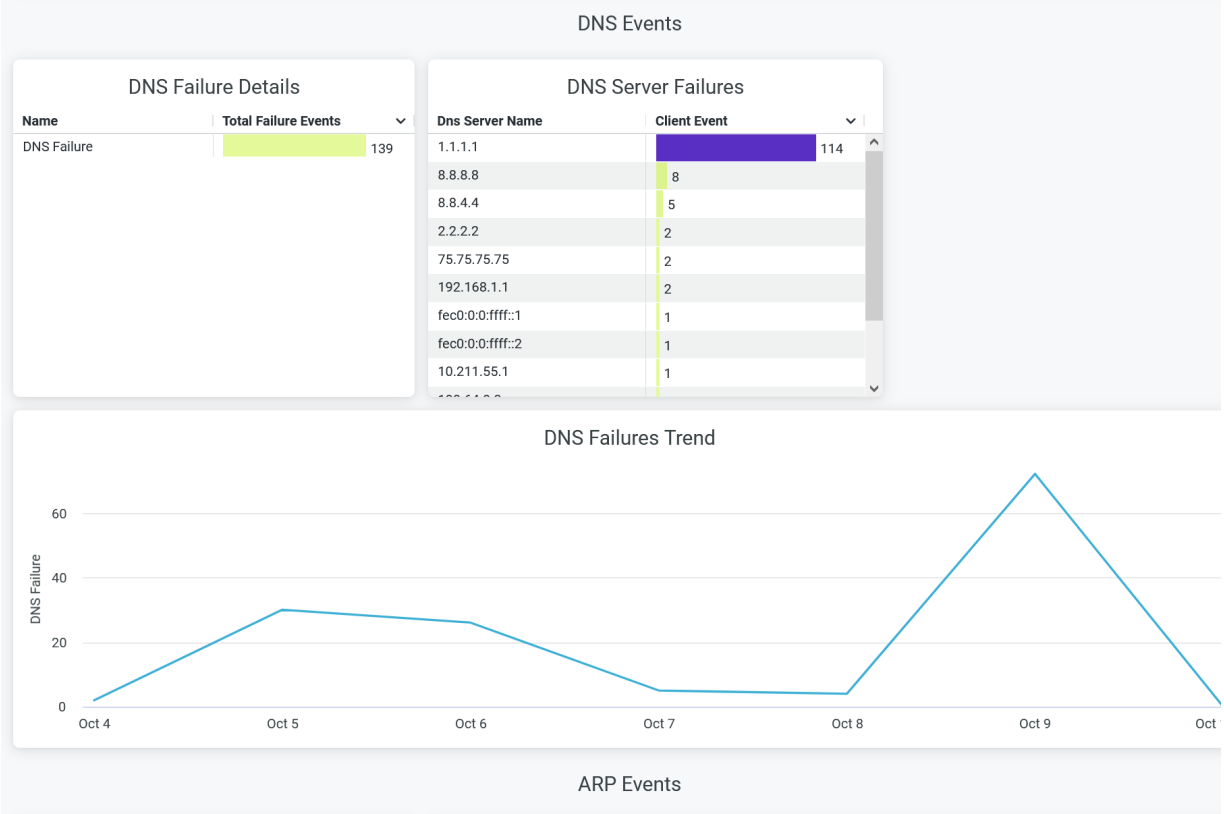
You can view the following details on the chart:

- DHCP Failure Details—The list of DHCP failure causes along with the count of corresponding failure incidents. The chart also displays the list of unique client devices associated with each failure cause.
- DHCP Server—The list of DHCP servers responsible for failure event along with the count of failure events. The chart also displays the list of unique client devices associated with each DHCP server.
- DHCP Failures Trend by Time—DHCP failure trends classified by the failure event reasons. Place your cursor on a point in a line graph to see the exact number of failure event in the selected cause. To hide information about a DHCP failure reason from the chart and see information only about the remaining reasons, click the reason in the legend.

DNS Events

The tile shows number of pre-connection failure events caused due to Domain Name System (DNS) server.

Figure 37: DNS Events



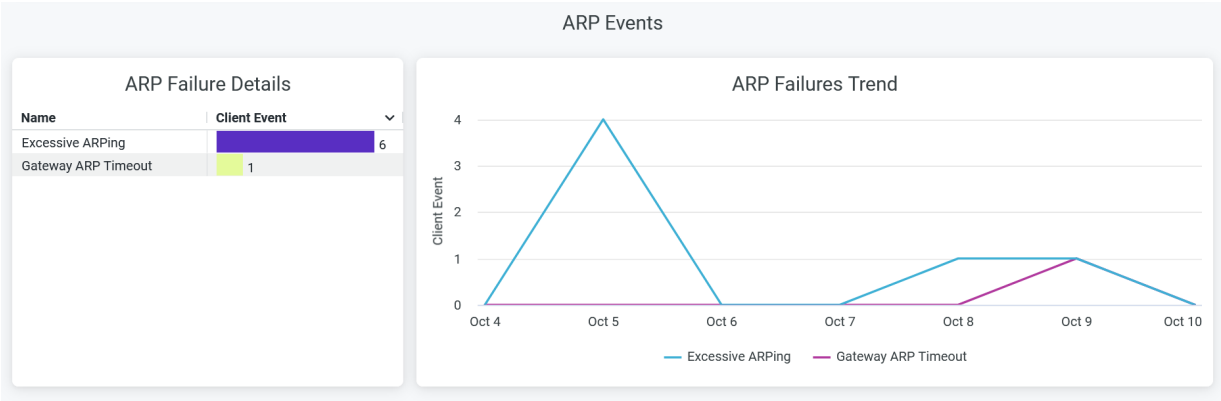
You can view the following details on the chart:

- DNS Failure Details—The count of DNS failure events. Click on the chart to open a new window to display the list of unique client devices along with the count of DNS failure events for each device.
- DNS Server Failure—The list of DNS servers responsible for failure event along with the count of failure events. Select a server on the chart and click to open a new window to display the list of unique client devices along with the count of DNS failure events for each device.
- DNS Failures Trend—DNS failure trends over a selected period of time. Place your cursor on a point in a line graph to see the exact number of failure events.

ARP Events

The tile shows Address Resolution Protocol (ARP) failure details.

Figure 38: ARP Events



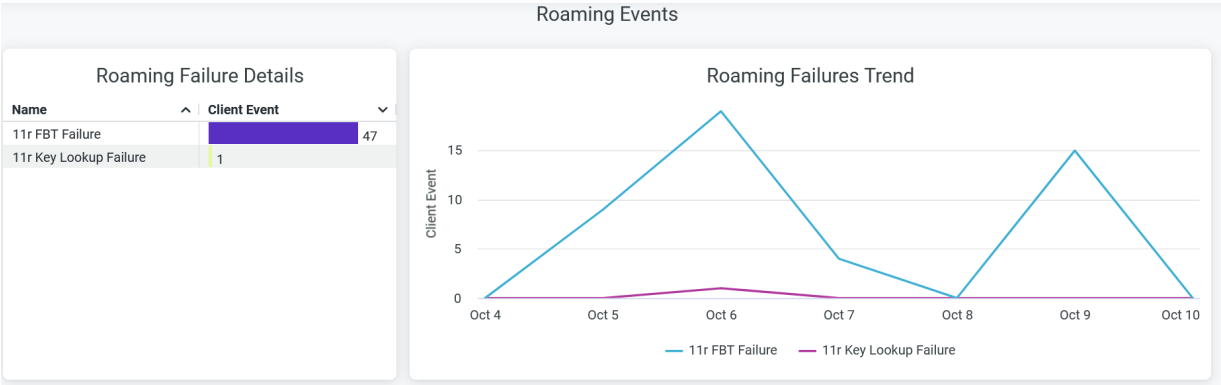
You can view the following details on the chart:

- ARP Failure Details—The list of ARP failure types along with the count of corresponding failure incidents. Click on the chart to open a new window to display the list of unique client devices along with the count of ARP failure events for each device.
- ARP Failures Trend—ARP failure trends classified by the types of failure. Place your cursor on a point in a line graph to see the exact number of failure event in the selected type. To hide information about a ARP failure type from the chart and see information only about the remaining types, click the type in the legend.

Roaming Events

The tile shows number of failure events caused while a client device roams between two access points

Figure 39: Roaming Events



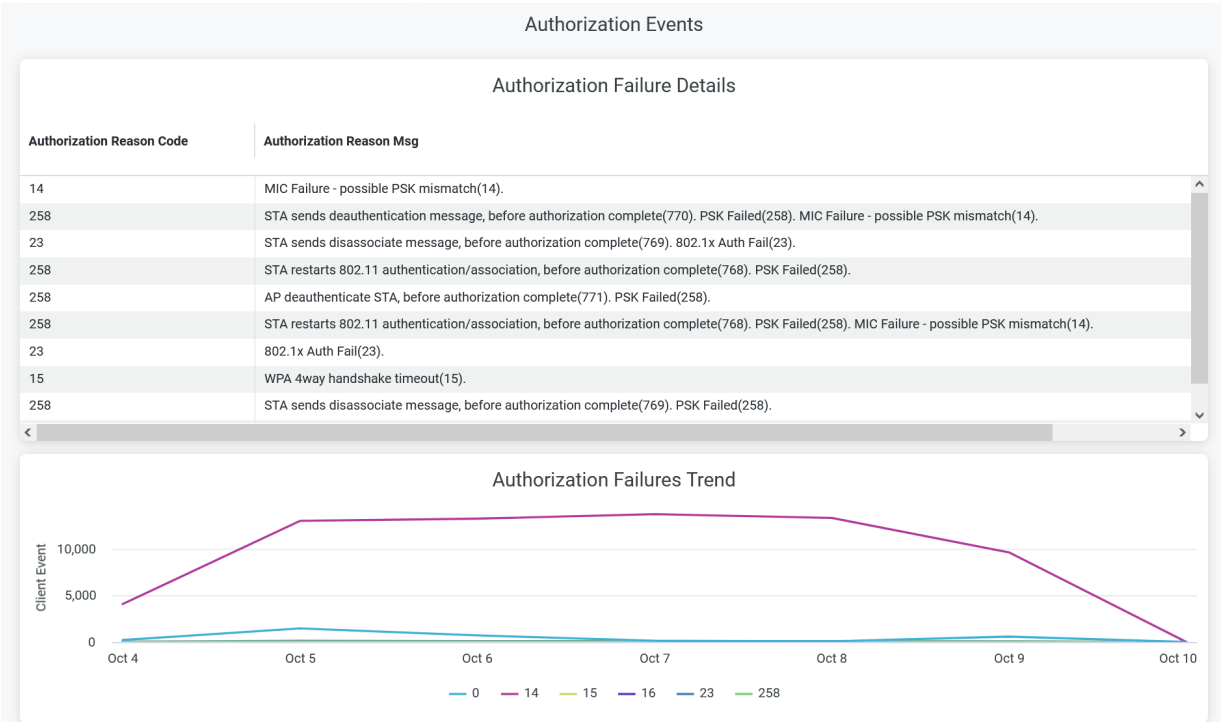
You can view the following details on the chart:

- Roaming Failure Details—The list of ARP failure types along with the count of corresponding failure incidents. Click on the chart to open a new window to display the list of unique client devices along with the count of ARP failure events for each device.
- Roaming Failures Trend—Roaming failure trends classified by the types of failure. Place your cursor on a point in a line graph to see the exact number of failure event in the selected type. To hide information about a roaming failure type from the chart and see information only about the remaining types, click the type in the legend.

Authorization Events

The tile shows number of failure events caused during authorization process.

Figure 40: Authorization Events



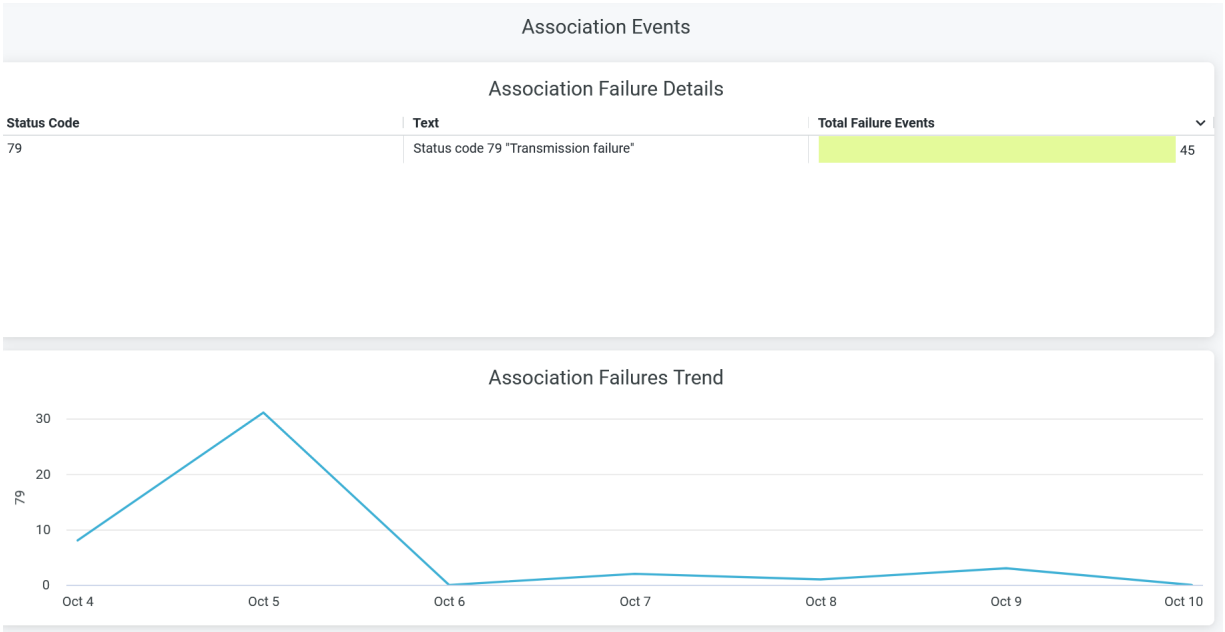
You can view the following details on the chart:

- Authorization Failure Details—The list of authorization failure reason code, authorization reason message with the count of corresponding failure incidents. Click on the chart to open a new window to display the list of unique client devices along with the count of failure events for each device.
- Authorization Failures Trend—Authorization failure trends classified by the failure reason code. Place your cursor on a point in a line graph to see the exact number of failure event in the selected code. To hide information about a failure code from the chart and see information only about the remaining codes, click the failure code in the legend.

Association Events

The tile shows number of failure events caused during association process.

Figure 41: Association Events



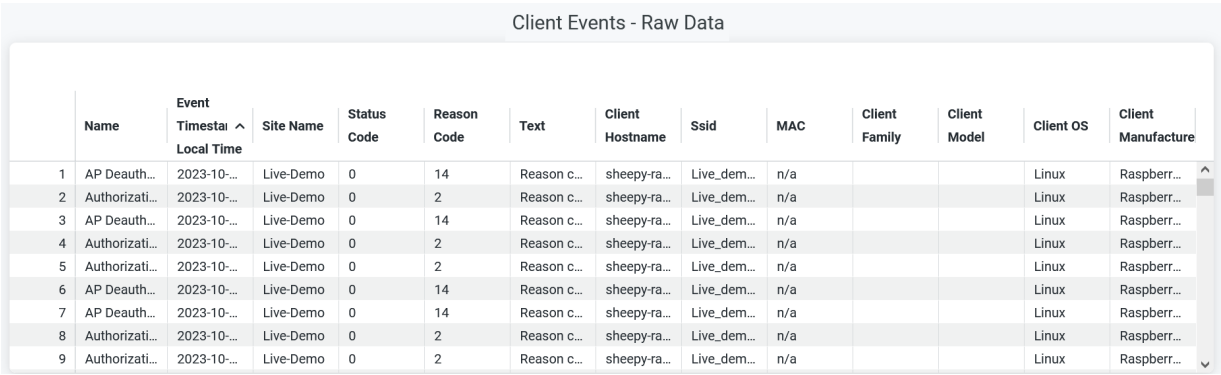
You can view the following details on the chart:

- Association Failure Details—The list of authorization status code, text message with the count of corresponding failure incidents. Click on the chart to open a new window to display the list of unique client devices along with the count of failure events for each device.
- Association Failures Trend—Association failure trends over a period of time. Place your cursor on a point in a line graph to see the exact number of failure event in the selected code. To hide information about a failure code from the chart and see information only about the remaining codes, click the failure code in the legend.

Client Events - Raw Data

The tile shows the summary of all failure events with failure reasons and code.

Figure 42: Client Events - Raw Data



	Name	Event Timestamp Local Time	Site Name	Status Code	Reason Code	Text	Client Hostname	Ssid	MAC	Client Family	Client Model	Client OS	Client Manufacture
1	AP Deauth...	2023-10-...	Live-Demo	0	14	Reason c...	sheepy-ra...	Live_dem...	n/a			Linux	Raspberr...
2	Authorizati...	2023-10-...	Live-Demo	0	2	Reason c...	sheepy-ra...	Live_dem...	n/a			Linux	Raspberr...
3	AP Deauth...	2023-10-...	Live-Demo	0	14	Reason c...	sheepy-ra...	Live_dem...	n/a			Linux	Raspberr...
4	Authorizati...	2023-10-...	Live-Demo	0	2	Reason c...	sheepy-ra...	Live_dem...	n/a			Linux	Raspberr...
5	Authorizati...	2023-10-...	Live-Demo	0	2	Reason c...	sheepy-ra...	Live_dem...	n/a			Linux	Raspberr...
6	AP Deauth...	2023-10-...	Live-Demo	0	14	Reason c...	sheepy-ra...	Live_dem...	n/a			Linux	Raspberr...
7	AP Deauth...	2023-10-...	Live-Demo	0	14	Reason c...	sheepy-ra...	Live_dem...	n/a			Linux	Raspberr...
8	Authorizati...	2023-10-...	Live-Demo	0	2	Reason c...	sheepy-ra...	Live_dem...	n/a			Linux	Raspberr...
9	Authorizati...	2023-10-...	Live-Demo	0	2	Reason c...	sheepy-ra...	Live_dem...	n/a			Linux	Raspberr...

You can view the following details:

- Name—Reason for failure event.
- Site Name—Name of the site where the failure occurred.
- Status code—Status code associated with failure event.
- Reason code—Reason code associated with failure event.
- Text—Message associated with failure event.
- Client Hostname—Hostname of a client.
- SSID—SSID to which a client device is connected.
- MAC—MAC address of a client device.
- Client Family—Type of a client device.
- Client model—Model of a client device.
- Client OS—Operating system running on a client device.
- Client manufacturer—Manufacturer of a client device.

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Wireless Client Session

IN THIS SECTION

On the Wireless Client Session dashboard, you can view information about wireless traffic and the related trends in the network. You can also see analytics about sites, service set identifiers (SSIDs), client connections, access points (APs), and guest connections of your network. You can use the information to monitor a specific site, wireless LAN (WLAN), client, access point, or SSID and identify issues in the wireless network of your organization.

Features

- Generates insights on organization-wide client session trends and session distribution views by site, WLAN, AP, client type, and operating system (OS) You can use these insights to spot the network areas that experience problems.
- Provides guest session details including registration data.
- Gives visibility on the devices and applications that use the network's bandwidth.

Before you Begin

- Refer to the Juniper Mist Wireless Configuration Guide for wireless configuration details.
- Refer to "Mist Premium Analytics License" on page 8 to know about license requirements for the Premium Analytics dashboard.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboard. See Figure 4 on page 17.

Access Wireless Client Session Dashboard

1. In the Juniper Mist cloud portal, click **Analytics > Premium Analytics.**.

2. In the Premium Analytics page, click **Wireless Client Sessions**.
   The **Wireless Client Sessions** page appears.
3. Use the filter options available at the top of the screen to view specific information.
   - Click **Report Period** and select one of the defined reporting periods. Alternatively, select a range of days from the calendar to customize the reporting period. By default, the dashboard shows data for the last 7 days.
   - Filter by site name, access point (AP) name, SSID, client username, client hostname, and the AP's floor names as required.
   - From the dashboard actions on the top-right corner of the page, select **Reset filter** to reset the filters.

Wireless Client Session Reports

IN THIS SECTION

The Wireless Client Sessions dashboard includes various tiles that provide graphical representations of analytics at a granular level. On the tiles, you can see the total number of clients over the selected time period and information about:

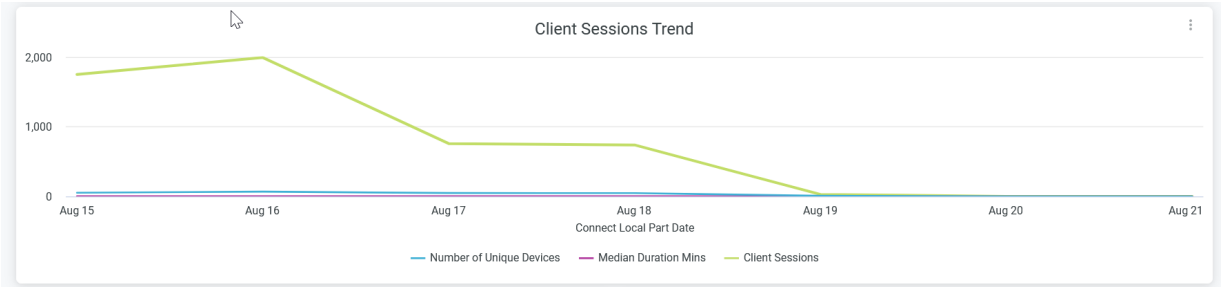
- Clients with the highest number of sessions
- APs that support the highest number of client sessions
- Devices grouped by client session counts

- WLANs
- Sites

Wireless Client Sessions Chart

The tile displays analytics about a wireless client connection in a graphical format for the selected period of time.

Figure 43: Wireless Client Sessions Trend

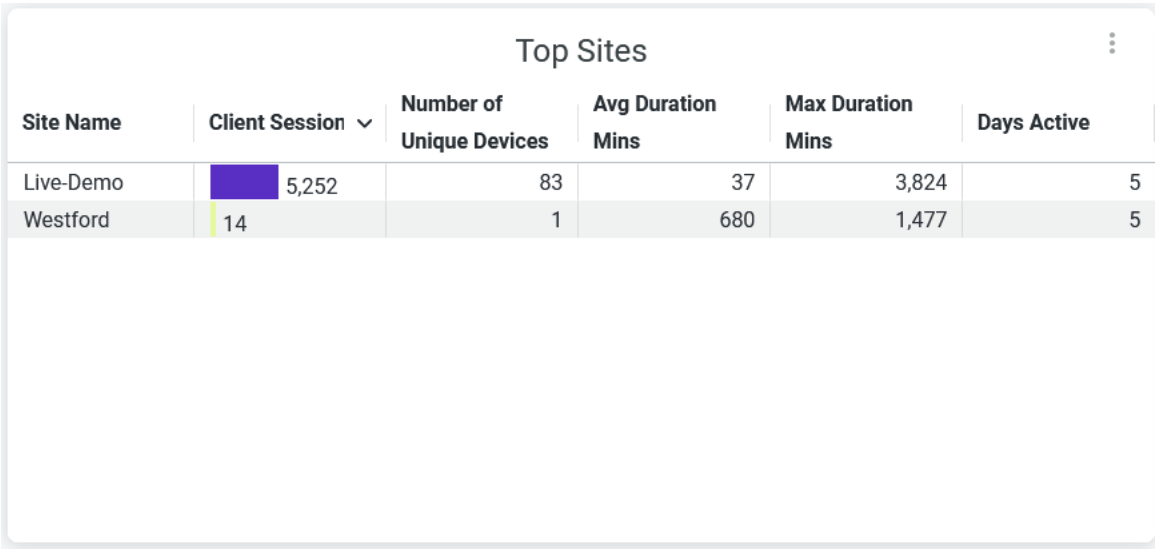


When you hover over the chart, you see a pop-up message with the actual values of the sessions at the given time. When you click the chart, you see the list of hostnames associated with the session. Use this option to instantly get the details of all the wireless clients connected in your organization.

Top Sites

The tile displays analytics of sites, arranged according to the number of client sessions.

Figure 44: Top Sites for Wireless Client Sessions



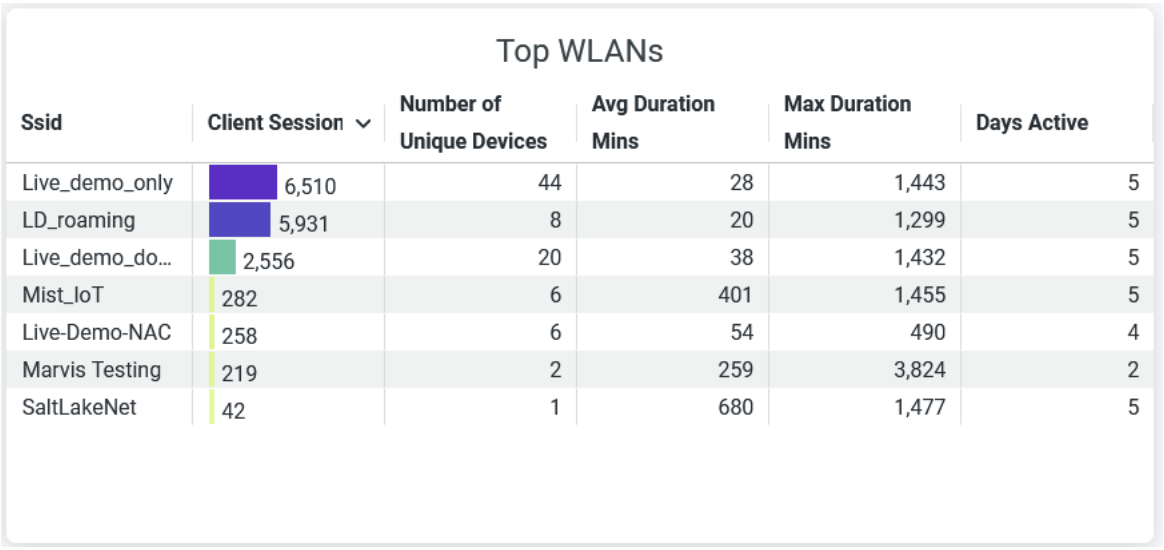
The Top Sites tile provides:

- Number of client sessions for a site.
- Number of unique client devices connected to a site.
- Average duration of client sessions for a site.
- Maximum duration of client sessions for a site.
- Number of days for which a site experiences active client sessions.

Top WLANs

The tile displays analytics of SSIDs, arranged according to the number of client sessions.

Figure 45: Top WLANs for Wireless Client Sessions



Top WLANs

Ssid	Client Session	Number of Unique Devices	Avg Duration Mins	Max Duration Mins	Days Active
Live_demo_only	6,510	44	28	1,443	5
LD_roaming	5,931	8	20	1,299	5
Live_demo_do...	2,556	20	38	1,432	5
Mist_IoT	282	6	401	1,455	5
Live-Demo-NAC	258	6	54	490	4
Marvis Testing	219	2	259	3,824	2
SaltLakeNet	42	1	680	1,477	5

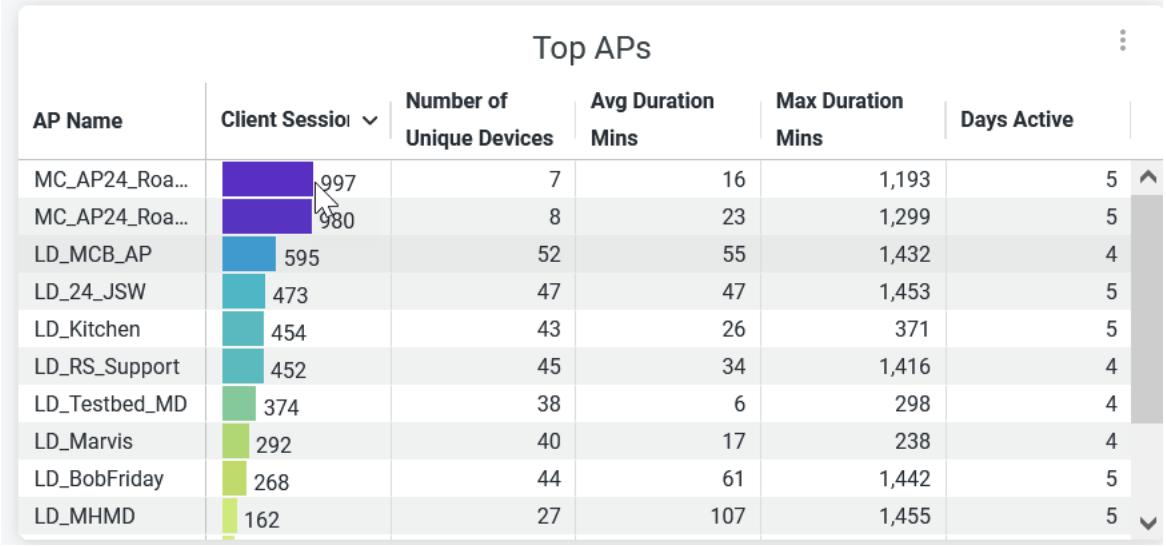
The Top WLANs tile provides:

- Number of client sessions for an SSID.
- Number of unique devices connected to an SSID.
- Average duration of client sessions for an SSID.
- Maximum duration of client sessions for an SSID.
- Number of days for which an SSID experiences active client sessions.

Top APs

The tile displays analytics for APs that you can sort based on the number of client sessions.

Figure 46: Wireless Client Sessions Top APs



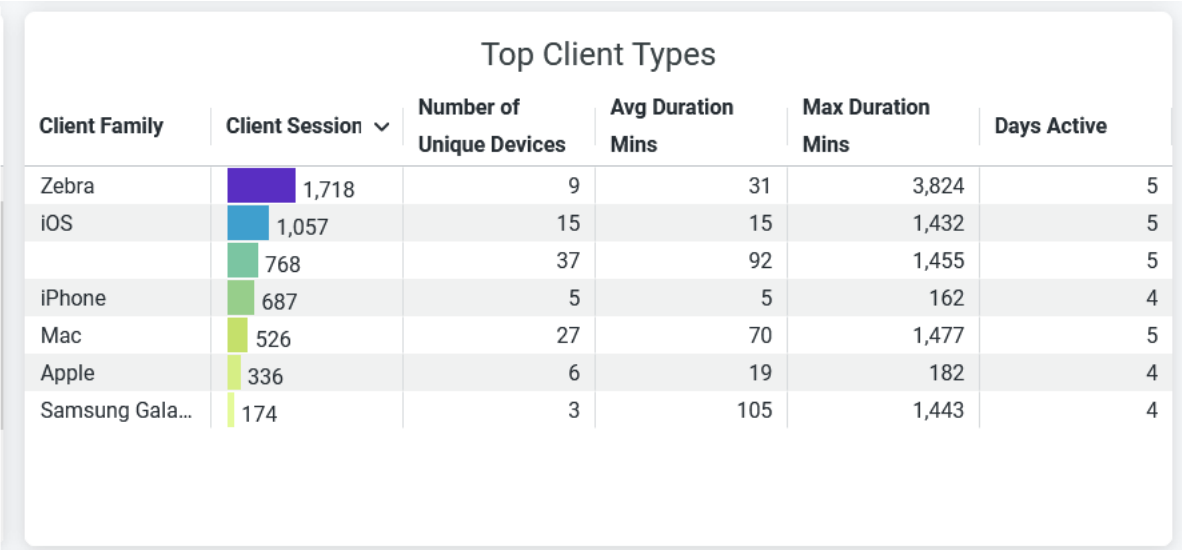
The Top APs tile provides :

- Number of client sessions for an AP.
- Number of unique devices connected to an AP.
- Average duration of client sessions for an AP.
- Maximum duration of client sessions for an AP.
- Number of days for which an AP experiences active client sessions.

Top Client Types

The tile displays analytics for client device types that you can sort based on the number of client sessions.

Figure 47: Wireless Client Sessions Top Client Types



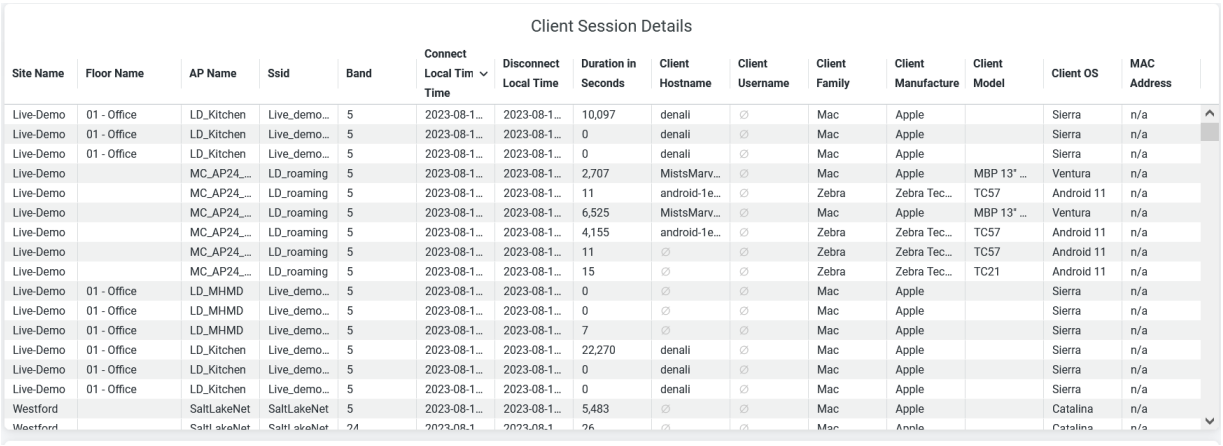
The Top Client Types tile provides:

- Number of client sessions for a client family
- Number of unique devices connected to a client family
- Average duration of client sessions for a client family
- Maximum duration of client sessions for a client family
- Number of days for which a client family experiences active client sessions

Client Session Details

The tile displays information about client sessions that run on a site. You can use this tile to quickly access client device information, such as location, connectivity, and device details.

Figure 48: Wireless Client Sessions Details



Client Session Details

Site Name	Floor Name	AP Name	Ssid	Band	Connect Local Time	Disconnect Local Time	Duration in Seconds	Client Hostname	Client Username	Client Family	Client Manufacture	Client Model	Client OS	MAC Address
Live-Demo	01 - Office	LD_Kitchen	Live_demo...	5	2023-08-1...	2023-08-1...	10,097	denali	∅	Mac	Apple		Sierra	n/a
Live-Demo	01 - Office	LD_Kitchen	Live_demo...	5	2023-08-1...	2023-08-1...	0	denali	∅	Mac	Apple		Sierra	n/a
Live-Demo	01 - Office	LD_Kitchen	Live_demo...	5	2023-08-1...	2023-08-1...	0	denali	∅	Mac	Apple		Sierra	n/a
Live-Demo		MC_AP24_...	LD_roaming	5	2023-08-1...	2023-08-1...	2,707	MistsMarv...	∅	Mac	Apple	MBP 13" ...	Ventura	n/a
Live-Demo		MC_AP24_...	LD_roaming	5	2023-08-1...	2023-08-1...	11	android-1e...	∅	Zebra	Zebra Tec...	TC57	Android 11	n/a
Live-Demo		MC_AP24_...	LD_roaming	5	2023-08-1...	2023-08-1...	6,525	MistsMarv...	∅	Mac	Apple	MBP 13" ...	Ventura	n/a
Live-Demo		MC_AP24_...	LD_roaming	5	2023-08-1...	2023-08-1...	4,155	android-1e...	∅	Zebra	Zebra Tec...	TC57	Android 11	n/a
Live-Demo		MC_AP24_...	LD_roaming	5	2023-08-1...	2023-08-1...	11	∅	∅	Zebra	Zebra Tec...	TC57	Android 11	n/a
Live-Demo		MC_AP24_...	LD_roaming	5	2023-08-1...	2023-08-1...	15	∅	∅	Zebra	Zebra Tec...	TC21	Android 11	n/a
Live-Demo	01 - Office	LD_MHMD	Live_demo...	5	2023-08-1...	2023-08-1...	0	∅	∅	Mac	Apple		Sierra	n/a
Live-Demo	01 - Office	LD_MHMD	Live_demo...	5	2023-08-1...	2023-08-1...	0	∅	∅	Mac	Apple		Sierra	n/a
Live-Demo	01 - Office	LD_MHMD	Live_demo...	5	2023-08-1...	2023-08-1...	7	∅	∅	Mac	Apple		Sierra	n/a
Live-Demo	01 - Office	LD_Kitchen	Live_demo...	5	2023-08-1...	2023-08-1...	22,270	denali	∅	Mac	Apple		Sierra	n/a
Live-Demo	01 - Office	LD_Kitchen	Live_demo...	5	2023-08-1...	2023-08-1...	0	denali	∅	Mac	Apple		Sierra	n/a
Live-Demo	01 - Office	LD_Kitchen	Live_demo...	5	2023-08-1...	2023-08-1...	0	denali	∅	Mac	Apple		Sierra	n/a
Westford		SaltLakeNet	SaltLakeNet	5	2023-08-1...	2023-08-1...	5,483	∅	∅	Mac	Apple		Catalina	n/a
Westford		SaltLakeNet	SaltLakeNet	24	2023-08-1	2023-08-1	26	∅	∅	Mac	Apple		Catalina	n/a

The Client Sessions Details tile provides:

- Site Name—Name of the site where a client device is located.
- Floor Name—Name of the floor where a client device is located.
- AP Name—Name of the AP to which a client device is connected.
- SSID—SSID to which a client device is connected.
- Band—Channel to which a client device is connected.
- Connect Local Time—Time of connection by a client device.
- Disconnect Local Time—Time of disconnection by a client device.
- Duration—Duration for which a client device was online.
- Client Username—Username of a client device.
- Client Hostname—Hostname of a client.
- Client Family—Type of a client device.
- Client manufacturer—Manufacturer of a client device.
- Client model—Model of a client device.
- Client OS—Operating system running on a client device.
- MAC Address—MAC address of a client device.

Guest Client Login Details

This tile displays information about guest wireless connections.. The details include site name, AP name, guest login event time, authorization time, authentication method used, connected SSID, and guest details such as name, e-mail address, and company.

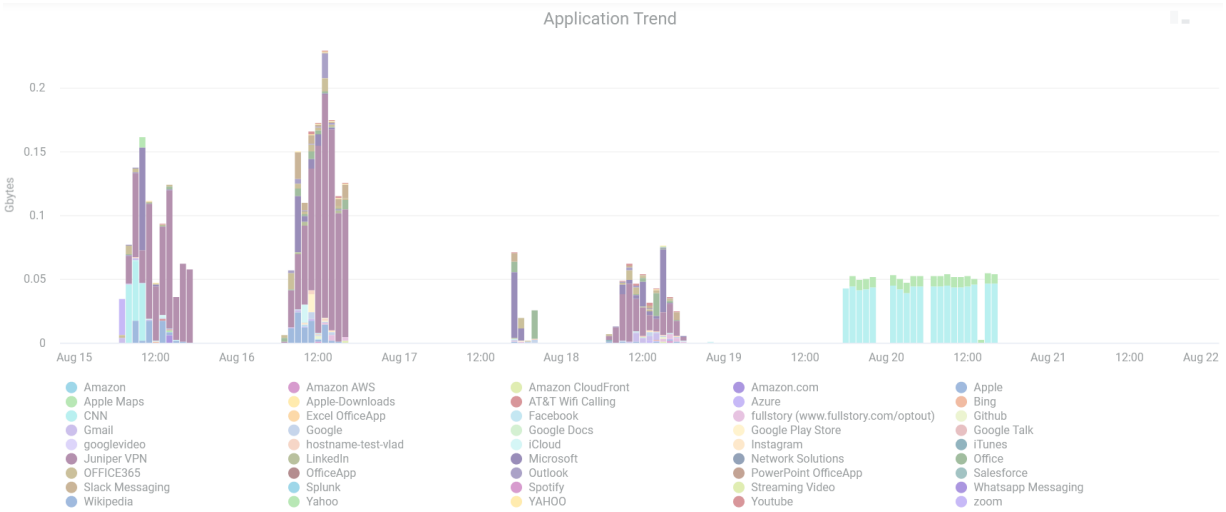
The **Guest Client Login Details** tile provides:

- Site Name—Network site to which a guest client is connected.
- Floor Name—Floor in a site to which a guest client is connected.
- Event Date/Time—Date and time when the guest client established connection.
- Authorized expiring—Time when authorization expired for a guest client.
- SSID—SSID to which a guest client is connected
- Auth Method—Method used to authorize a guest client.
- Company—Organization name of a guest client.
- Email—E-mail address of a guest client.
- Name—Name of a guest client.
- Mobile—Mobile number of a guest client.
- Sponsor email—E-mail address of the sponsor who provides access to a guest user.
- Access code e-mail—E-mail address to which Juniper Mist sends the access authorization code to a guest user.

Application Trend

This tile displays analytics about client traffic grouped by application categories.

Figure 49: Application Trends in Wireless Client Sessions



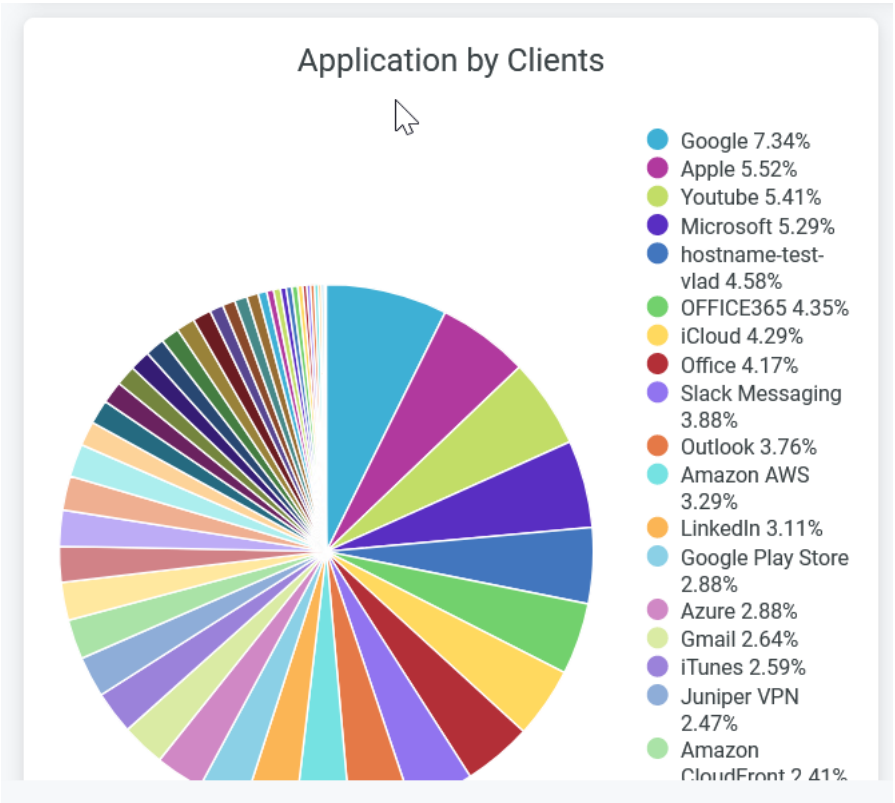
You can place the cursor on the chart to see the application category and the percentage of client traffic that the application receives.

Clicking on an application category in the chart, the system displays the client devices that is using the application and the usage (in gigabytes). When you click an application in the chart, you can see the client devices that use the application and the usage in gigabytes (GB). You can view this information as a graph or as a table. You can click **Download** to download the table or graph.

Application by Clients

This tile displays analytics about client traffic flow to each of the applications.

Figure 50: Application Usage by Wireless Clients



You can place the cursor on the chart to see the application and the percentage of traffic that the application receives.

When you click an application or an application category in the chart, you can see the client devices that use the application or the application category and the usage in gigabytes (GB). You can view this information as a graph or as a table. You can click **Download** to download the table or the graph.

The chart legend also displays the percentage of traffic that an application receives. To hide an application from the chart and see only the remaining categories, click the application name in the legend.

SEE ALSO

- Introduction to Juniper Mist Analytics | 2
- Mist Premium Analytics Dashboards | 10
- Premium Analytics—Frequently Asked Questions | 5
- Wireless Network Insights | 85
- Wireless Site Comparison | 99

Wireless IDS

IN THIS SECTION

Intrusion detection systems (IDS) is the process of monitoring the events occurring in your network and analyzing them for signs of possible incidents, violations, or imminent threats to your security policies. In this dashboard, you'll see the presence of following types of anomalous devices, which can cause security threats in the wireless environment:

- *Rouge APs* are any wireless access points installed on your network without authorization. Typically, this is an AP connected to the LAN via Ethernet cable connected, like a PC, to an access port. The intent of rogues can be malicious, such as to gain illicit access to the network, or benign, such as an employee setting up their own Wi-Fi hotspot to cover a perceived deadspot.
- *Rogue clients* are users connected to the rogue AP.
- Malicious *Neighbor APs* are not connected to your network, but they lurk in the vicinity and may have both the strongest signal and no authorization requirements. As a result, clients may connect to the neighbor AP, assuming it's yours and thus that it's secure.

Features and Benefits

- Provides report on presence of anomalous devices such as rogue or unauthorized neighbor APs or clients.
- Offers both a real-time and historical view of rogue and IDS events that helps in formulating your network security strategies.

Before you Begin

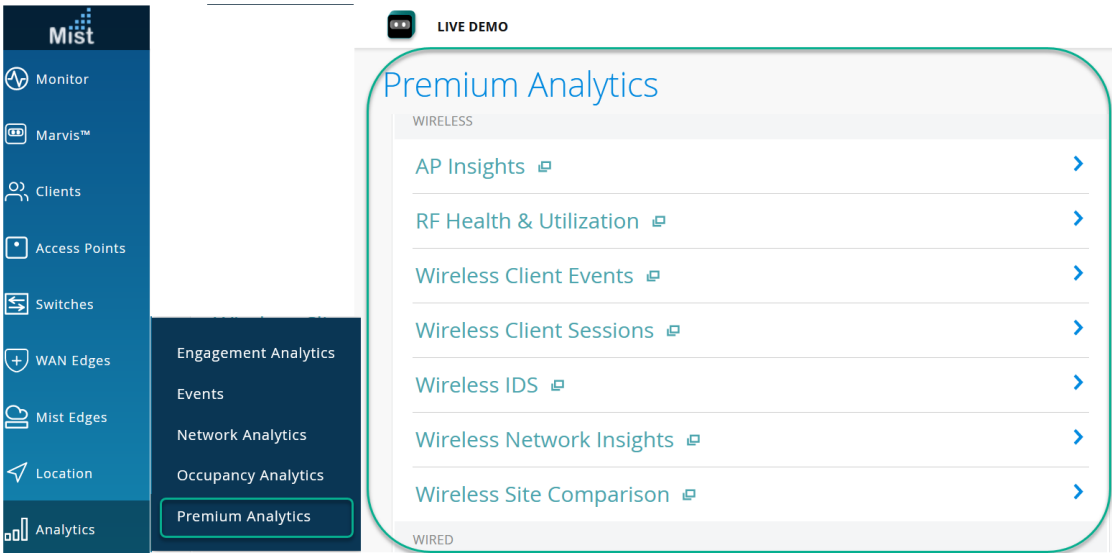
- Familiarize with the options available on your dashboard. See Figure 4 on page 17.
- See Juniper Mist Wireless Configuration Guide for wireless configuration details.
- You need a license for using the Juniper Mist Premium Analytics dashboard. See "Mist Premium Analytics License" on page 8.

Access Wireless IDS Dashboard

To access the AP Insights dashboard:

1. In Juniper Mist portal, click **Analytics > Premium Analytics** .
2. In the Premium Analytics page, click **Wireless IDS**.

Figure 51: AP Insights



The **Wireless IDS** page appears.

3. Use the filter options available at the top of the screen to view specific information.
   - Click **Report Period** and select one of the defined reporting periods. Alternatively, select a range of days from the calendar to customize the reporting period. By default, the dashboard shows data for the last 7 days.
   - Filter by **Site Name**, **SSID**, **BSSID**, **Average RSSI**, **RSSI Range**, and **Floor Names**.
   - From the dashboard actions on the top-right corner of the page, select **Reset filter** to reset the filters.

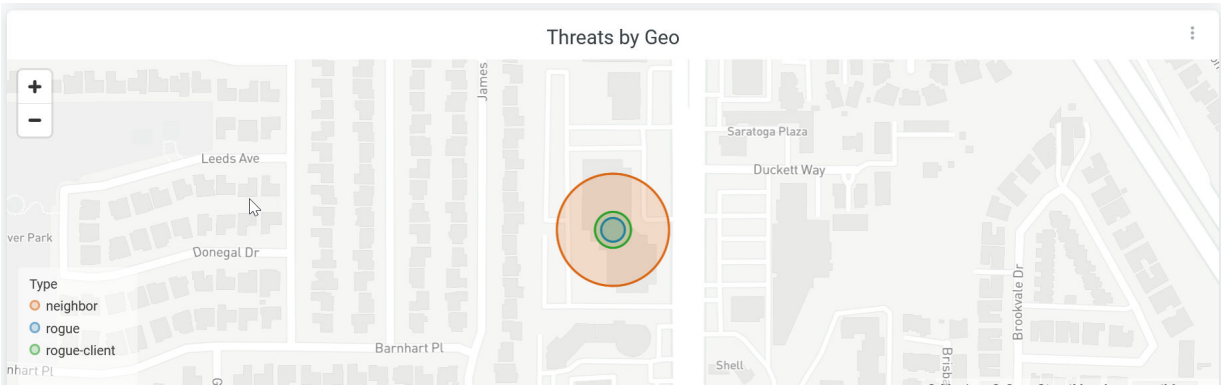
Wireless IDS Tiles

IN THIS SECTION

Threats by Geo

The **Threats by Geo** tile shows the volume of traffic usage by APs for the selected duration.

Figure 52: Threats by Geo

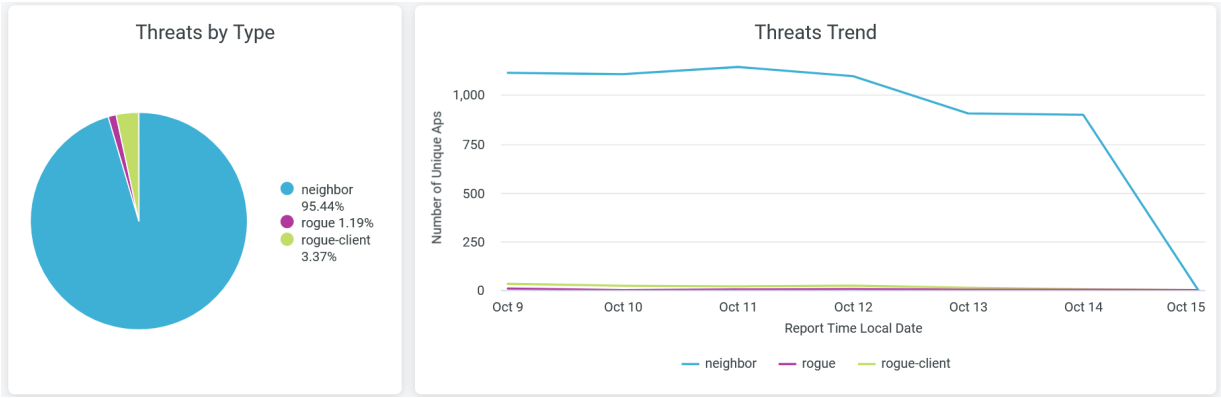


You can view the site that are identified with threats in a map. Hover over the map to see the site location, type of device (neighbor, rouge, or rouge client) and the count of devices. Double-click the map to zoom in—you'll see a detailed view of the map. Click the highlighted area of the map to open a new window. The window displays the list of device details. Click **Download** to download the information.

Threats by Type and Trend

The tile shows the distribution of anomalous or threat device types and connection trends for the selected duration.

Figure 53: Threats by Type and Trend



You can view the following details:

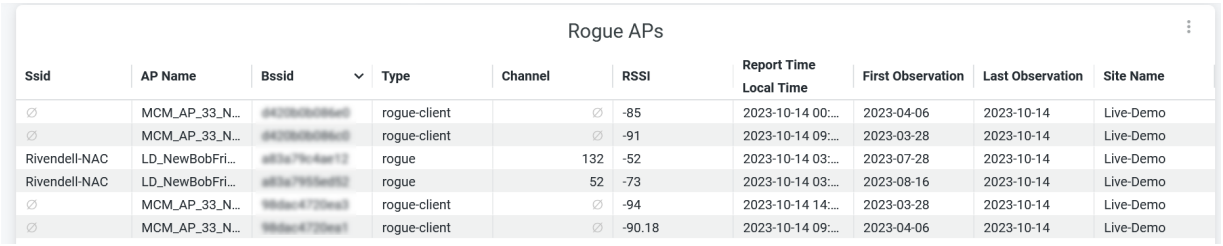
- Threats by Type—View the percentage of each anomalous or threat AP type. You can see the percentage of device type by using the legend next to the chart. To hide data for a threat type and see data for only the remaining ones, click the threat type in the legend below.
- Threats Trend—View the presence of total threat devices types over a period of time. Place your cursor on a line graph, which represents a threat type device, to see the exact number of unique devices belonging to that category. To hide data about a threat type from the chart and see data only about the remaining ones, click the threat type in the legend below.

Hover over the chart to view the number of anomalous or threat device at a given time.

Rogue APs

The tile shows the details of rouge APs present in the selected duration.

Figure 54: Rogue APs



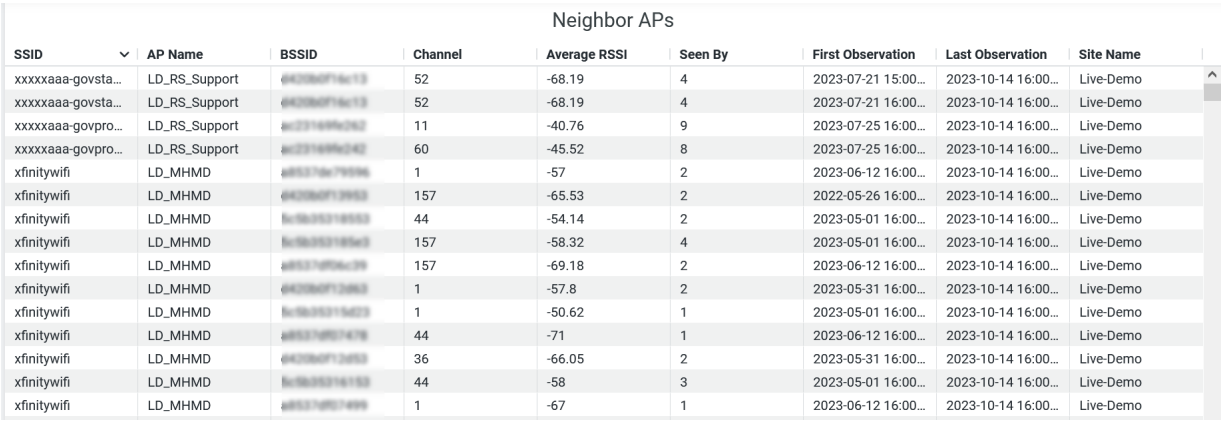
You can view the following details on the tile:

- SSID—SSID to which a rouge AP is connected.
- AP Name—Name of the AP.
- BSSID—Basic service set identification (BSSID)
- Type—Type of AP; rouge AP or rouge client.
- Channel—Channel number that rouge AP is connected to.
- RSSI—Received signal strength indicator (*RSSI*) of the rouge AP.
- Report Time—Time stamp of the report.
- First Observation—Time when the rouge AP is first detected.
- Last Observation—Time when the rouge AP is last seen.
- Site Name—Name of the site where a rouge AP is connected.

Neighbor APs

The tile shows the details of neighbor APs present in the selected duration.

Figure 55: Neighbor APs



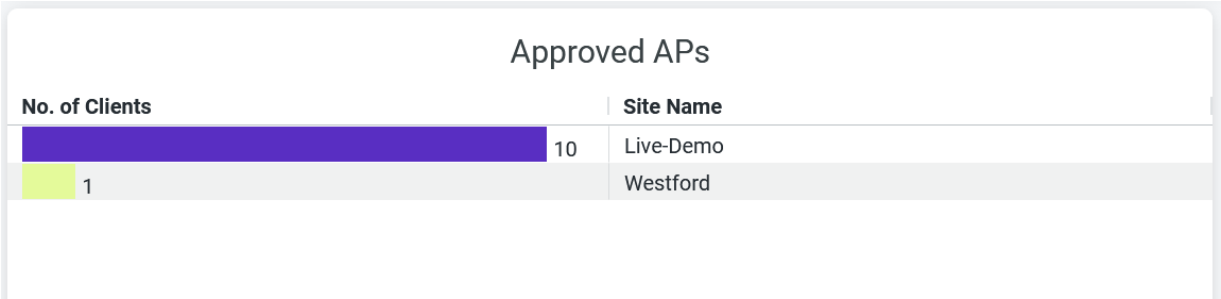
You can view the following details on the tile:

- SSID—SSID to which a neighbor AP is connected.
- AP Name—Name of the AP.
- BSSID—Basic service set identification (BSSID) of the AP.
- Channel—Channel number that neighbor AP is connected to.
- Average RSSI—Average received signal strength indicator (*RSSI*) of the rouge AP.
- Seen By—Number of times that AP was seen in the proximity of your network.
- First Observation—Time when the neighbor AP is first detected.
- Last Observation—Time when the neighbor AP is last seen.
- Site Name—Name of the site where a neighbor AP is connected.

Approved APs

The tile shows the details of approved APs present in the selected duration.

Figure 56: Approved APs

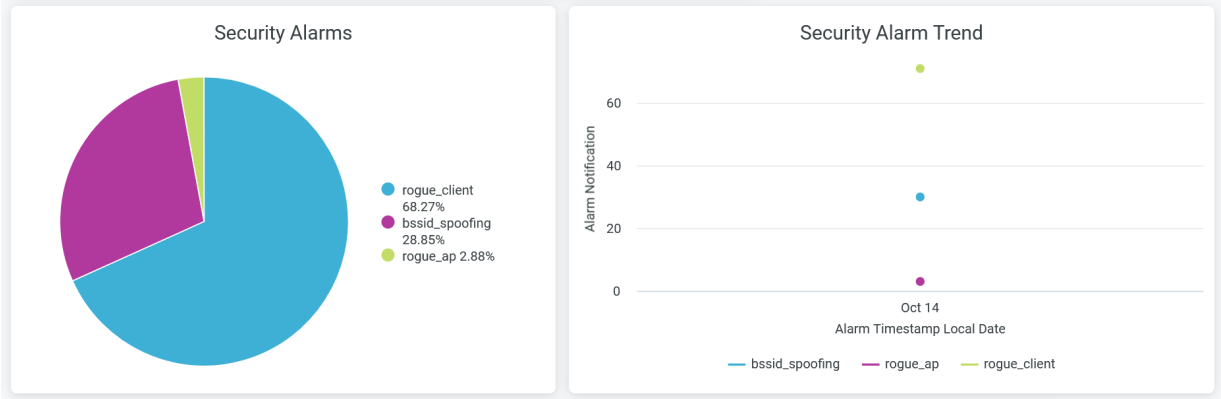


You can see the number of clients connected to the approved APs and the site where the APs are present. Click the chart to open a new window with additional details. Here you can see the details such as client device names, WLAN SSID, and AP Name.

Security Alarms and Trend

The tile shows distribution of security alarms and alarms trends for the events.

Figure 57: Security Alarms and Security Alarms Trend



You can view the following details:

- Security Alarms—View the percentage of alarm notification for the type of threat. You can see the percentage of notifications for threat types by using the legend next to the chart. To hide data for a threat type and see data for only the remaining ones, click the threat type in the legend below.
- Threats Trend—View the alarm notification trend over a period of time. Place your cursor on a line graph, which represents a threat type alarm, to see the exact number of alarms generated to that category. To hide data about a threat type notification from the chart and see data only about the remaining ones, click the threat type in the legend below.

Security Alarms Details

The tile shows the details of alarm notifications for the selected period.

Figure 58: Security Alarms Details

Security Alarm Details

Alarm Timestamp Local Time	Type	Ssids	Aps	Group Name	Severity	Site Name	Bssids
2023-10-14 05:2...	bssid_spoofing	Guest Wi-Fi	d420b0f1054b	security	warn	Live-Demo	[redacted]
2023-10-14 10:5...	bssid_spoofing	Live-Demo-NAC	003e7307e446	security	warn	Live-Demo	[redacted]
2023-10-14 10:2...	bssid_spoofing	Guest Wi-Fi	d420b0f1054b	security	warn	Live-Demo	[redacted]
2023-10-14 04:2...	bssid_spoofing	Guest Wi-Fi	d420b0f1054b	security	warn	Live-Demo	[redacted]
2023-10-14 14:2...	bssid_spoofing	Guest Wi-Fi	d420b0f1054b	security	warn	Live-Demo	[redacted]
2023-10-14 13:2...	bssid_spoofing	Guest Wi-Fi	d420b0f1054b	security	warn	Live-Demo	[redacted]
2023-10-14 12:2...	bssid_spoofing	Guest Wi-Fi	d420b0f1054b	security	warn	Live-Demo	[redacted]
2023-10-14 15:4...	bssid_spoofing	Live-Demo-NAC	a83a7930190f	security	warn	Live-Demo	[redacted]
2023-10-14 03:2...	bssid_spoofing	Guest Wi-Fi	d420b0f1054b	security	warn	Live-Demo	[redacted]
2023-10-14 00:1...	bssid_spoofing	Guest Wi-Fi	d420b0f1054b	security	warn	Live-Demo	[redacted]
2023-10-14 01:1...	bssid_spoofing	Guest Wi-Fi	d420b0f1054b	security	warn	Live-Demo	[redacted]
2023-10-14 13:0...	bssid_spoofing	Guest Wi-Fi	a83a79301a40	security	warn	Live-Demo	[redacted]
2023-10-14 00:4...	bssid_spoofing	Live-Demo-NAC	d420b0f1054b	security	warn	Live-Demo	[redacted]
2023-10-14 16:1...	bssid_spoofing	Live_demo_only	a83a793018fb	security	warn	Live-Demo	[redacted]
2023-10-14 15:2...	bssid_spoofing	Guest Wi-Fi	d420b0f1054b	security	warn	Live-Demo	[redacted]

You can view the following details on the tile:

- Alarm Timestamp—Local time when the report was generated.
- Type—Type of threat for which the alarm notification was generated.
- SSID—SSID to which a threat device is connected.
- APs—Name of the AP.
- Group Name—Type of alert.
- Severity—Event severity type (critical, informational, warning)
- BSSID—Basic service set identification (BSSID) of the AP.
- Site Name—Name of the site where a neighbor AP is connected.

SEE ALSO

Introduction to Juniper Mist Analytics | 2

Mist Premium Analytics Dashboards | 10

Premium Analytics—Frequently Asked Questions | 5

Wireless Network Insights

IN THIS SECTION

The Wireless Network Insights dashboard provides end-to-end visibility of your wireless network. You can view network performance, traffic throughput, application usage, and connected device details. You can see in-depth information including service-level expectation (SLE) trends, client distribution, band and application usage, and client device information. With the information, you can perform a comprehensive analysis of your wireless network to optimize the usage of your network resources.

Features and Benefits

- Generates insights about organization-wide client session trends and session distribution by site, wireless LAN (WLAN), access point (AP), client type, and operating system (OS). With these insights, you can spot the network areas that experience problems.
- Reports on network device health, performance, and status.
- Provides data on the amount and types of traffic passing through the network.
- Reports on the clients attached to the network along with client health and traffic information.
- Gives visibility to the devices and applications that use the network's bandwidth.

Before you Begin

- Familiarize with the options available on your dashboard. See Figure 4 on page 17.
- See Juniper Mist Wireless Configuration Guide for wireless configuration details.

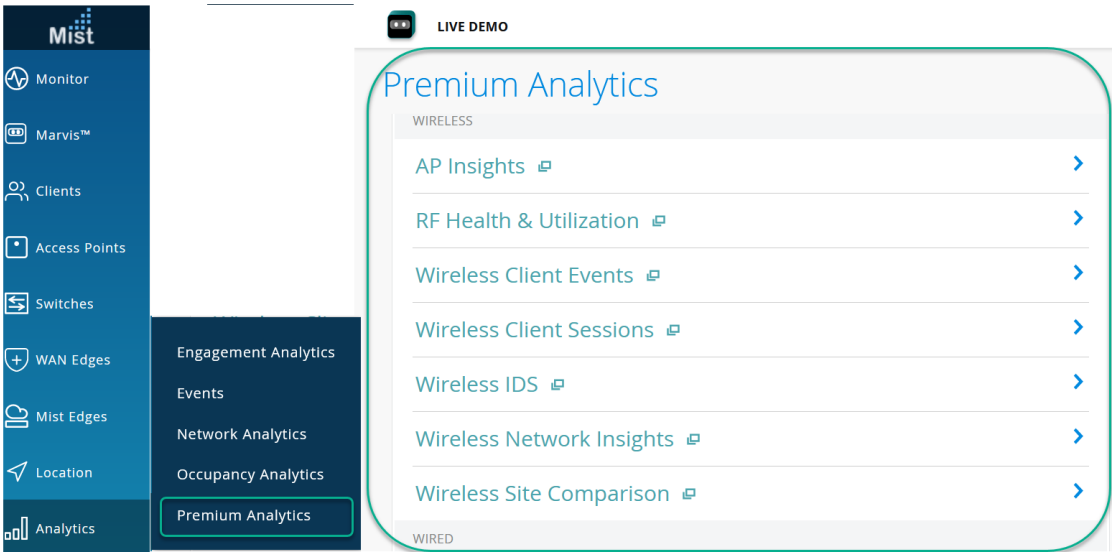
- You need a license for using the Juniper Mist Premium Analytics dashboard. See "Mist Premium Analytics License" on page 8.

Access Wireless Network Insights Dashboard

To access the Wireless Network Insights dashboard:

1. In Juniper Mist portal, click **Analytics > Premium Analytics** .
2. In the Premium Analytics page, click **Wireless Network Insights**.

Figure 59: Access Premium Analytics



The **Wireless Network Insights** page appears.

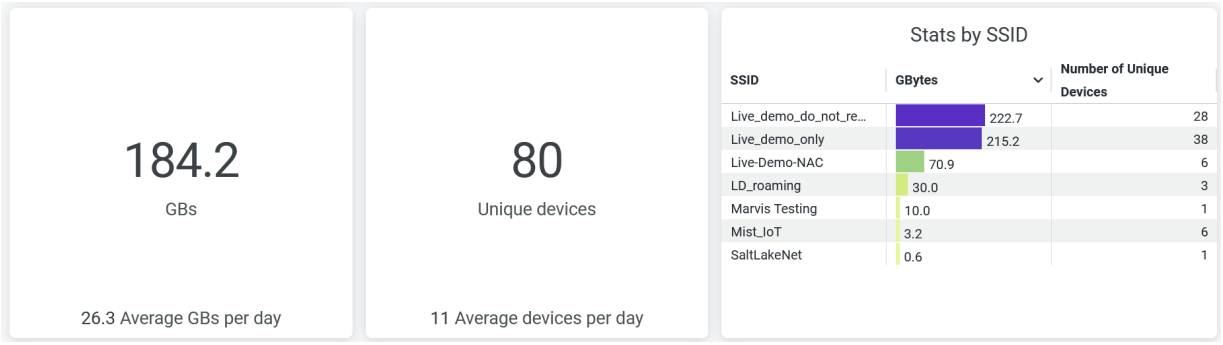
3. Use the filter options available at the top of the screen to view specific information.
   - Click **Report Period** and select one of the defined reporting periods. Alternatively, select a range of days from the calendar to customize the reporting period. By default, the dashboard shows data for the last 7 days.
   - Filter by **Site Name**, **SSID**, and **Floor Names**.
   - From the dashboard actions on the top-right corner of the page, select **Reset filter** to reset the filters.

Wireless Network Insights Tiles

IN THIS SECTION

The dashboard displays the volume of traffic flow, number connected devices, and client traffic through service set identifiers (SSIDs).

Figure 60: Wireless Network Insights Summary



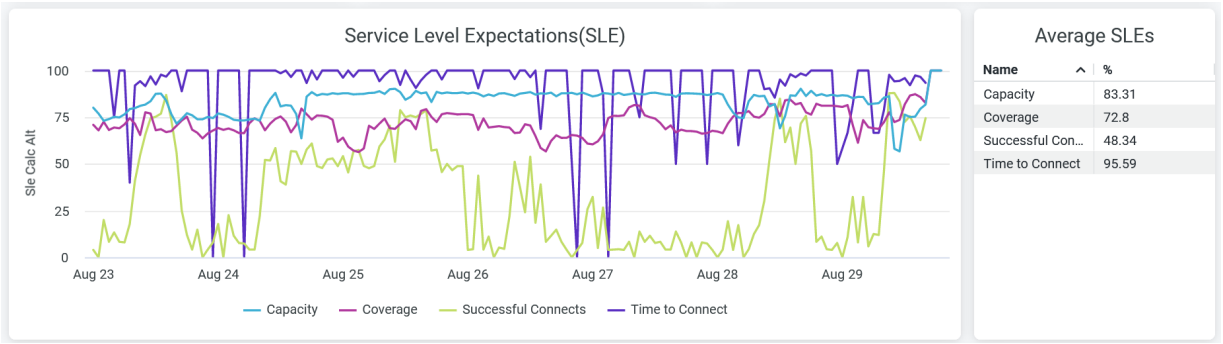
The Wireless Network Insights dashboard includes various tiles that provide graphical representations of analytics at a granular level. On the tiles, you can see the number of connected clients and information

about applications, sites, APs that support the highest number of client sessions, and other network performance metrics.

Service Level Expectations(SLE)

Figure 61 on page 88 shows the Service Level Expectations (SLE) tile.

Figure 61: Service Level Expectations (SLE)



The tile displays the performance of each of the following SLE metrics as a percentage that represents the success rate of the metric:

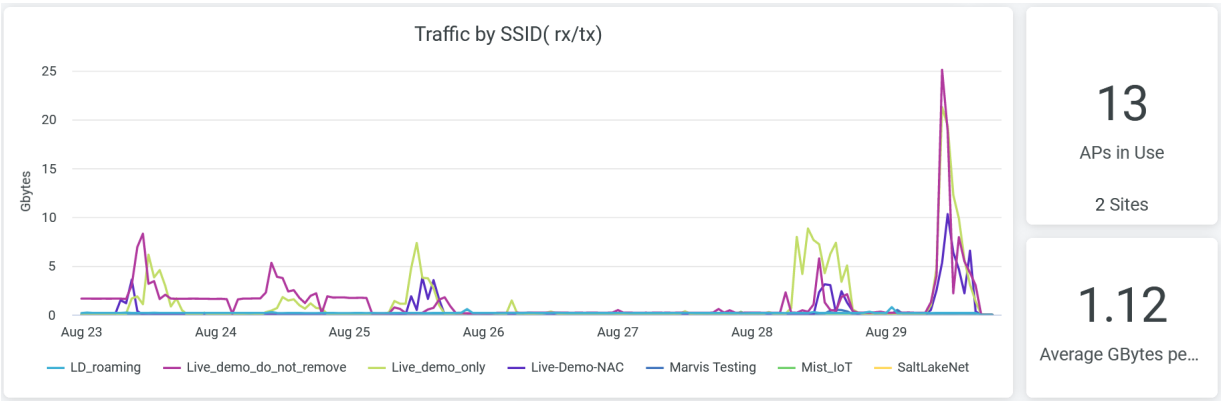
- Time to Connect—Percentage of successful connections established with the Internet within the specified threshold time.
- Successful Connects—Percentage of successful connections (initial, roaming, and ongoing).
- Coverage—Percentage of user minutes for which a client's received signal strength indicator (RSSI), as measured by the access point (AP), matches the SLE goal.
- Capacity—Percentage of user minutes for which a client experiences a good coverage. The capacity depends on factors such as interference, number of attached clients, and usage by attached clients.

Hover over the chart to see the actual values of the metric at a given time.

Traffic by SSID(rx/tx)

Figure 62 on page 89 shows the Traffic by SSID (rx/tx) tile.

Figure 62: Traffic by SSID(rx/tx)



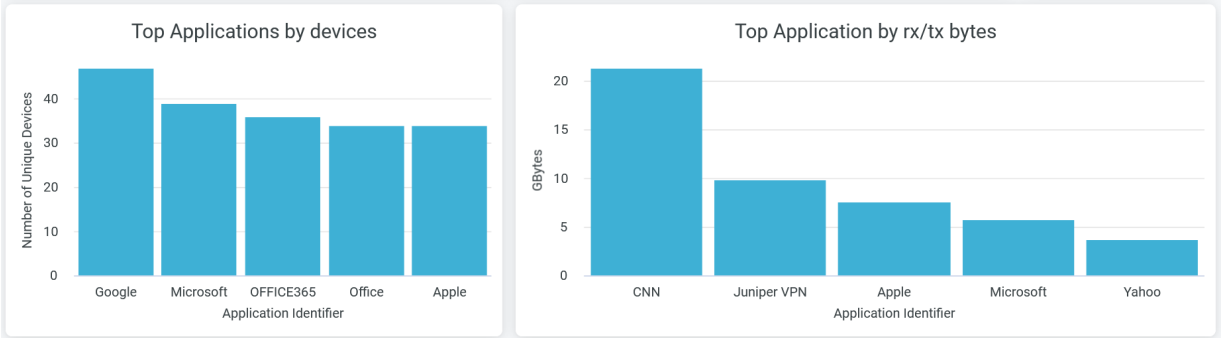
On the tile, you can see transmitted and received client traffic by each SSID over a period of time. To hide data for an SSID from the chart and see data for only the remaining SSIDs, click the SSID name in the legend.

On the tile, you can also see the total number of APs in use and the average traffic volume per hour. Hover over the chart to view the volume of traffic at a given time by a particular SSID.

Top Applications

Figure 63 on page 89 shows the **Top Applications by Devices** and **Top Applications by Tx/Rx Bytes** tiles.

Figure 63: Top Applications by Devices and Tx/Rx Bytes



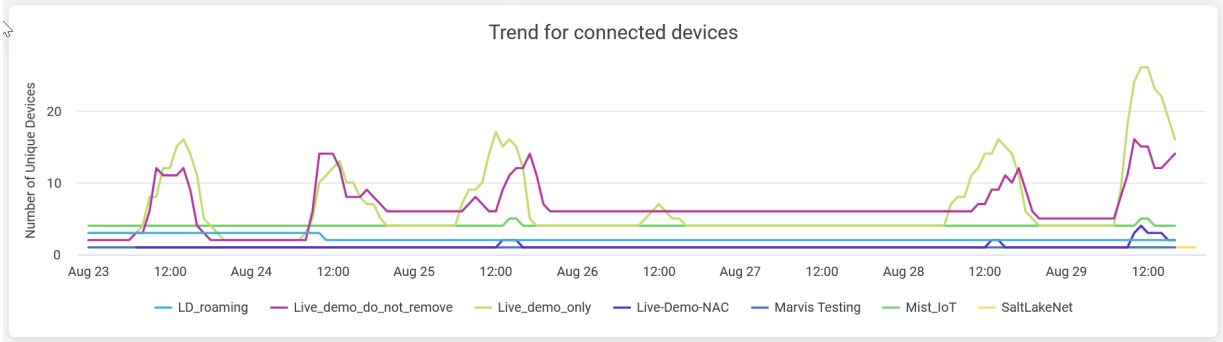
The Top Applications by devices tile provides the number of client devices connected to each of the applications. Place the cursor on a bar in the chart to see the exact number of client devices using a particular application. To hide data for an application and see data for only the remaining applications, click the application name in the legend below the chart.

The **Top Applications by Rx/Tx Bytes** tile provides information about the traffic that applications or websites receive and transmit. Hover over the chart to see the client traffic and data usage for the particular application or website.

Trend for Connected Devices

Figure 64 on page 90 shows the Trend for Connected Devices tile.

Figure 64: Trend for Connected Devices



The tile provides the trend that Juniper Mist sees over a period of time among the client devices that have connected to SSIDs.

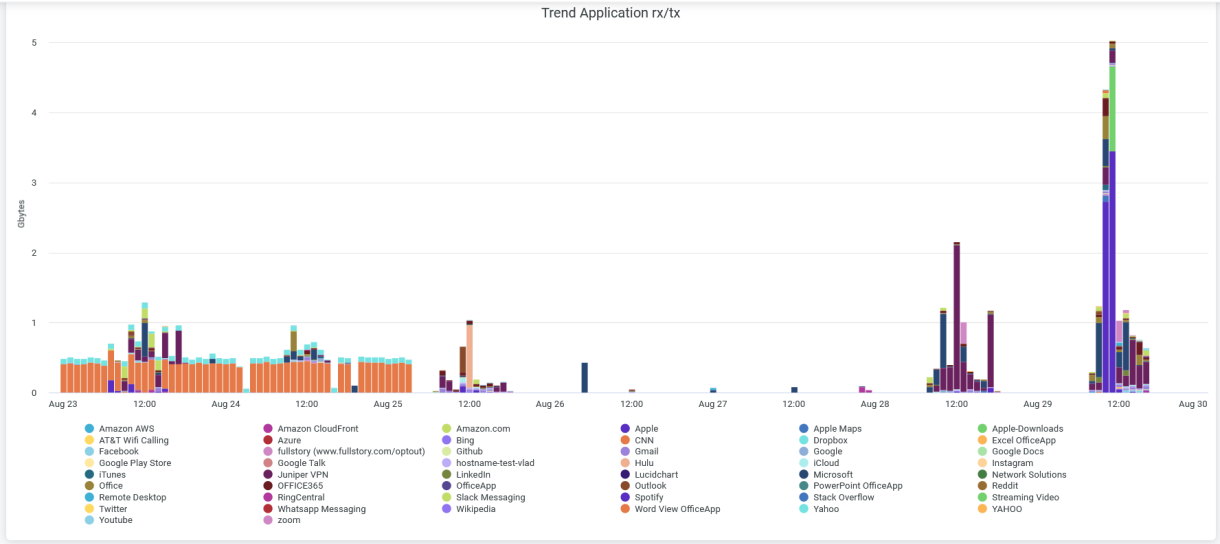
Place the cursor on the chart to see the number of client devices connected to a particular SSID at a given time.

To hide data for an SSID and see data for only the remaining SSIDs, click the SSID name in the legend below the chart.

Trend Application (Rx/Tx)

Figure 65 on page 91 shows the Trend Application (Rx/Tx) tile.

Figure 65: Trend Application (Rx/Tx)



The tile provides trends that Juniper Mist sees over a period of time in the traffic that the applications receive and transmit and the application usage patterns.

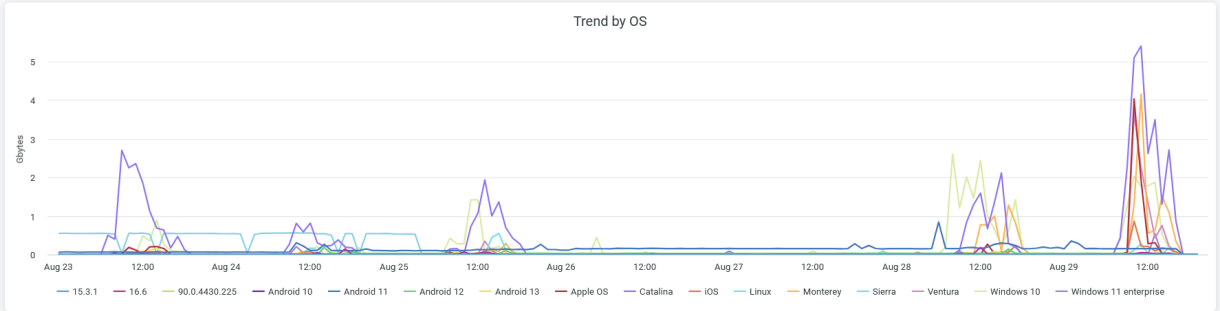
You can place the cursor on a bar in the chart to see the application name and the volume of client traffic that the application receives and transmits at a specific time.

When you click an application in the chart, the system displays the client device that uses the application and the application usage in gigabytes (GB) in a new window. You can download the table/graph using **Download** option.

Trend by OS

Figure 66 on page 91 shows the Trend by OS tile.

Figure 66: Trend by OS



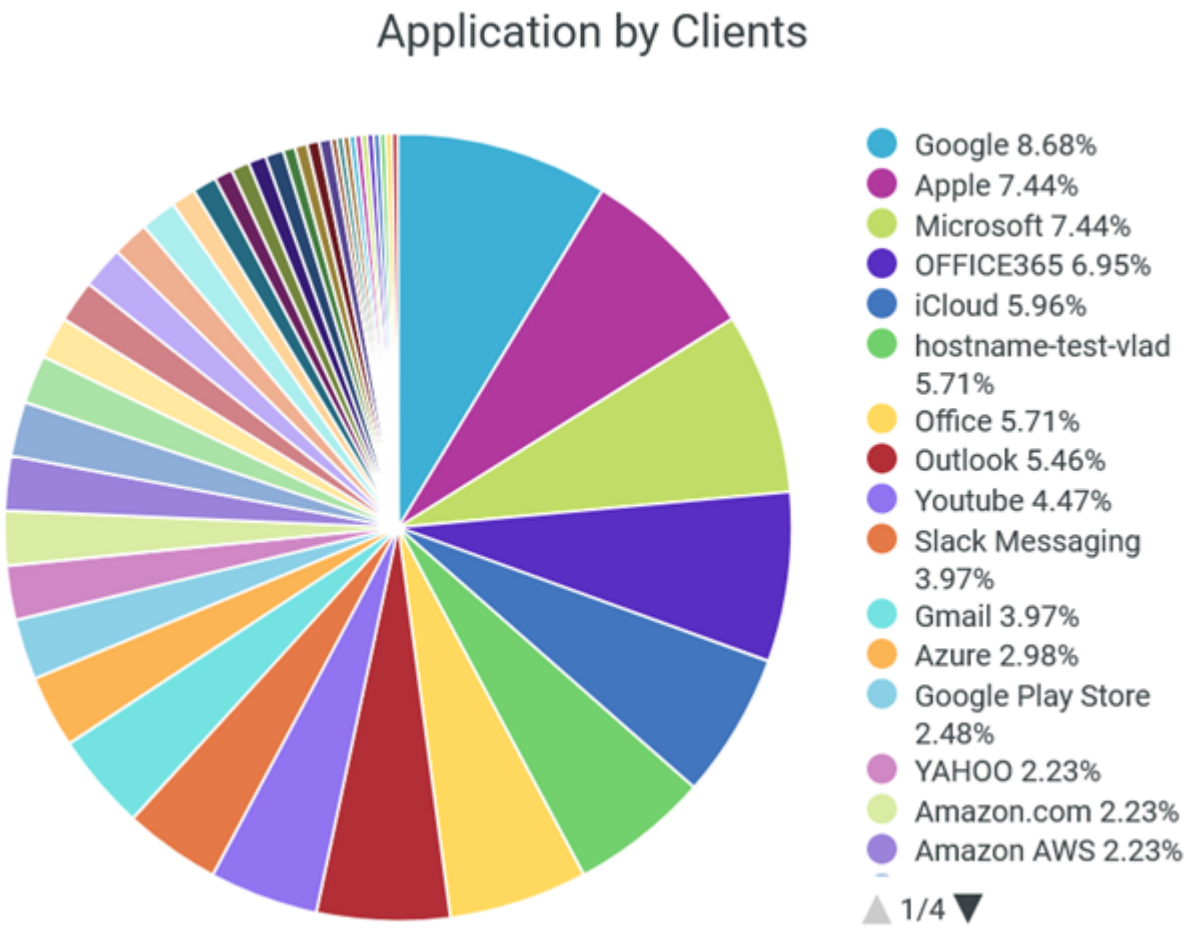
The tile displays the trend that Juniper Mist sees over a period of time among the connected client devices that run on various operating systems.

Place the cursor on a point in any line graph to see the number of devices that run on the same operating system. To hide data about an operating system from the chart and see data for only the remaining operating systems, click the operating system name in the legend.

Application by Clients

Figure 67 on page 92 shows the Application by Clients tile.

Figure 67: Application by Clients



The tile displays the usage percentage of each application by the client devices.

You can place the cursor on a wedge in the pie chart to see the number of client devices connected to an application.

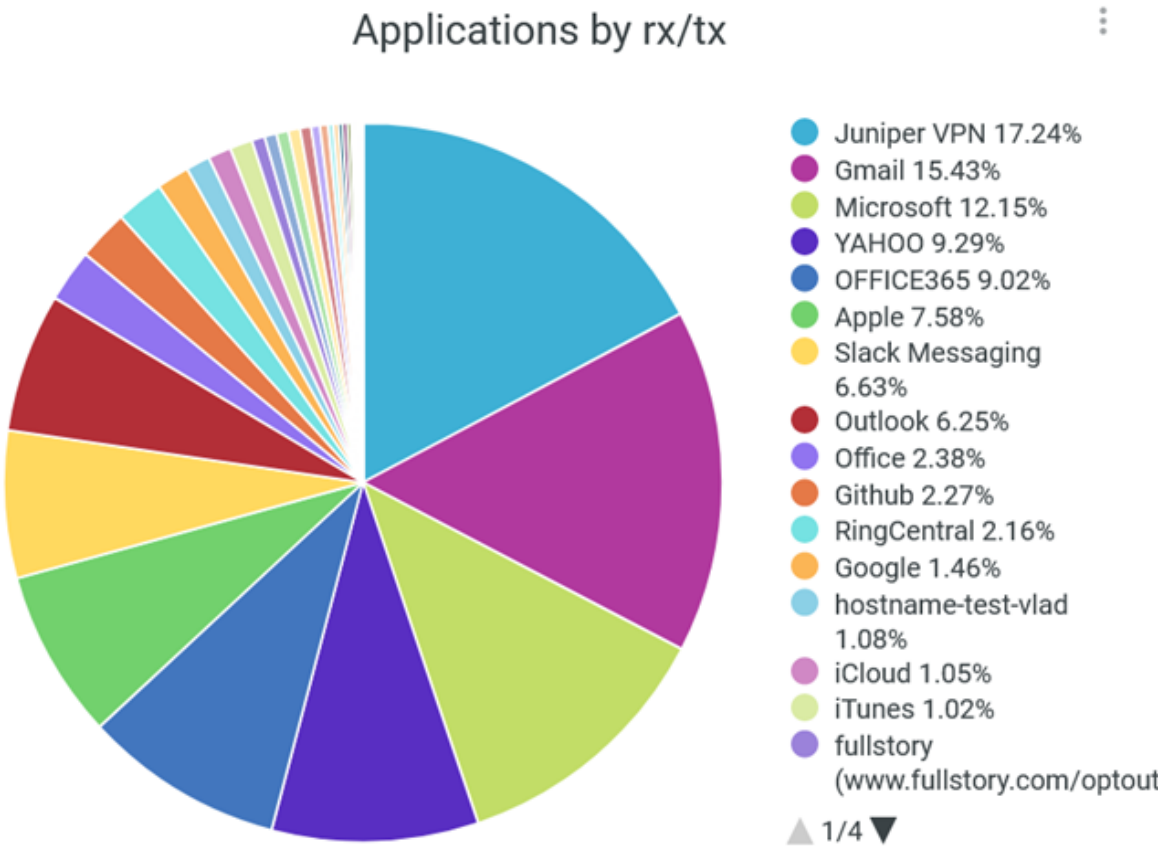
Click a wedge, which represents an application, in the pie chart to view the list of client devices that use the application and the application usage (in GB). You can view this information as a graph or as a table. You can click **Download** to download the table or the graph.

You can see the percentage of traffic to an application in the legend. You can see the percentage of traffic to an application by using the legend below the chart. To hide data for an application and see data for only the remaining applications, click the application name in the legend.

Application by Rx/Tx

Figure 68 on page 94 shows the Application by Rx/Tx tile.

Figure 68: Application by Rx/Tx



The tile displays the percentages of client traffic volume that each application or website receives and transmits.

Place the cursor on a wedge in the pie chart to see the volume of traffic that application or website receives and transmits.

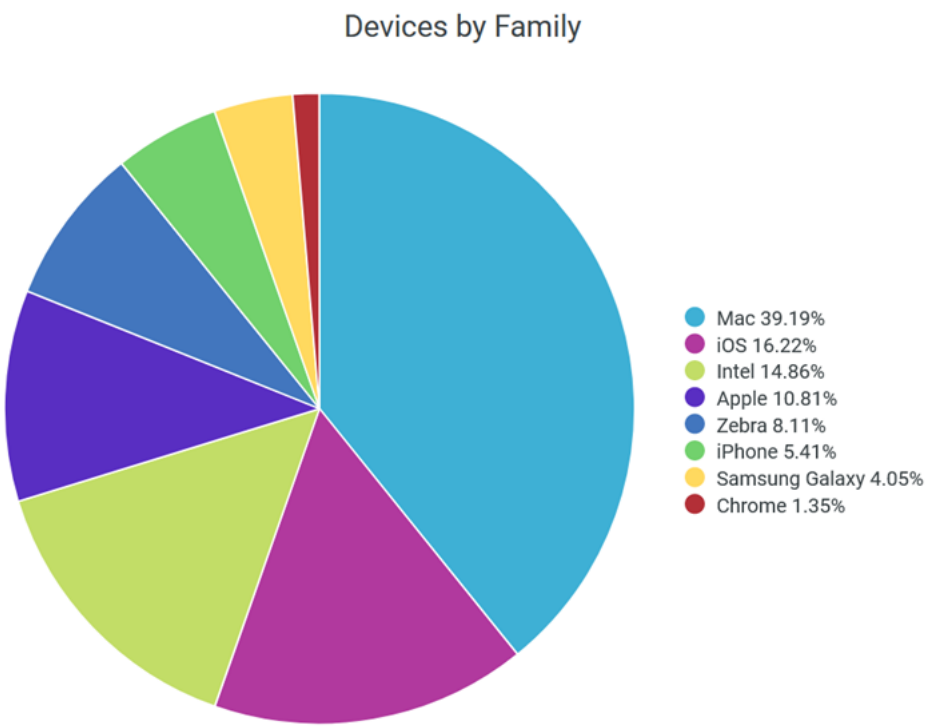
Click a wedge, which represents an application, in the pie chart to view in a new window the percentage of traffic volume that the application receives and transmit. You can view this information as a graph or as a table. You can click **Download** to download the table or the graph.

You can also see in the legend the percentage of traffic that an application receives and transmits. To hide data about an application or a website from the chart and see data for only the remaining websites and applications, click the application or website name in the legend.

Devices by Family

Figure 69 on page 95 shows the Devices by Family chart.

Figure 69: Devices by Family



The tile shows the client devices in the network classified by the operating systems.

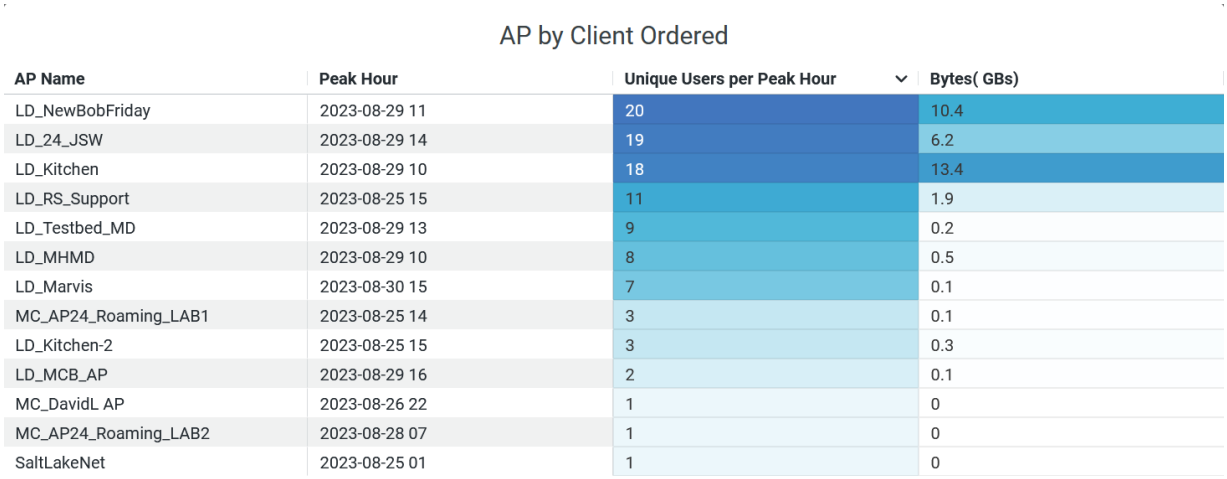
Place the cursor on a wedge, which represents an operating system, of the pie the chart to view additional information about the devices that use that operating system.

You can also see in the legend next to the chart the percentage of devices using each operating system. To hide information about an OS from the chart and see information only for the remaining operating systems, click the operating system name in the legend.

Top APs

Figure 70 on page 96 shows the AP by Client Ordered chart.

Figure 70: AP by Client Ordered



AP Name	Peak Hour	Unique Users per Peak Hour	Bytes(GBs)
LD_NewBobFriday	2023-08-29 11	20	10.4
LD_24_JSW	2023-08-29 14	19	6.2
LD_Kitchen	2023-08-29 10	18	13.4
LD_RS_Support	2023-08-25 15	11	1.9
LD_Testbed_MD	2023-08-29 13	9	0.2
LD_MHMD	2023-08-29 10	8	0.5
LD_Marvis	2023-08-30 15	7	0.1
MC_AP24_Roaming_LAB1	2023-08-25 14	3	0.1
LD_Kitchen-2	2023-08-25 15	3	0.3
LD_MCB_AP	2023-08-29 16	2	0.1
MC_DavidL AP	2023-08-26 22	1	0
MC_AP24_Roaming_LAB2	2023-08-28 07	1	0
SaltLakeNet	2023-08-25 01	1	0

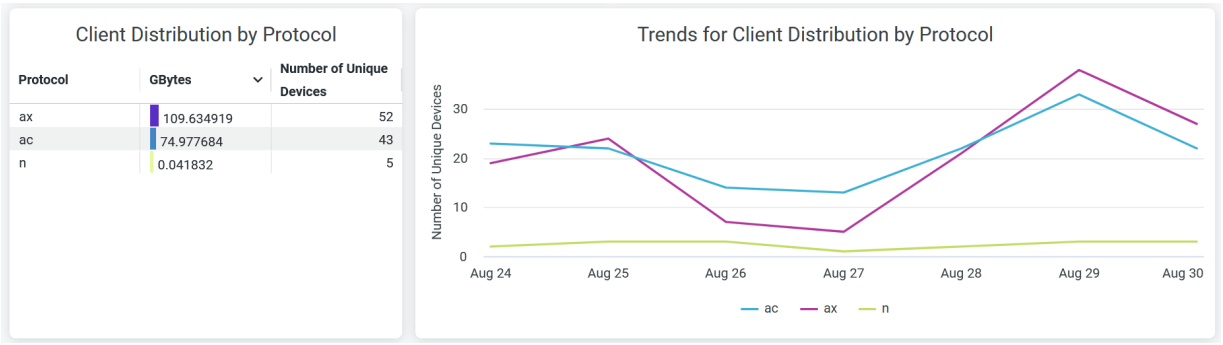
The tile shows the number of client devices connected to each AP. The tile displays:

- AP Name—Name of the AP.
- Peak Hour—Time stamp when an access point handles its peak traffic volume.
- Unique Users per Peak Hour—Number of client devices connected during a peak AP hour.
- Bytes (Gbps)—Volume of traffic during a peak AP hour.

Client Distribution by Protocol

Figure 71 on page 97 shows the Client Distribution by Protocol tile.

Figure 71: Client Distribution by Protocol



The tile displays information about client session distribution by the 802.11 protocols.

The Client Distribution by Protocol section of the tile shows the distribution of client devices and data usage by the 802.11 protocols.

The details include:

- Protocol Name—Names of the 802.11 protocols.
- GBytes—Traffic volume coming from the connected devices classified by the 802.11 protocols.
- Unique clients—Number of unique devices operating on separate 802.11 standards.

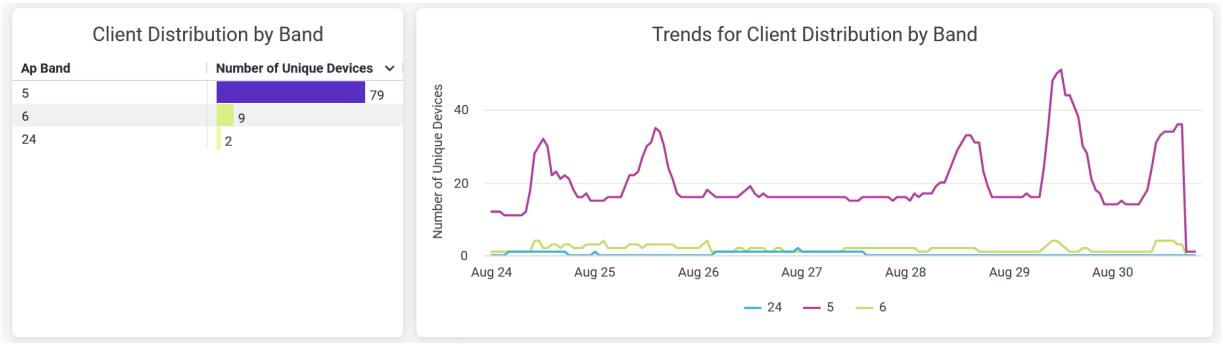
The Trends for Client Distribution by Protocol section shows client connection trends classified by the 802.11 protocols.

Place your cursor on a point in a line graph to see the exact number of unique client devices in the selected protocol. To hide information about a protocol from the chart and see information only about the remaining protocols, click the protocol name in the legend.

Client Distribution by Bands

Figure 72 on page 98 shows the Client Distribution by Bands tile.

Figure 72: Client Distribution by Bands



The Client Distribution by Band tile displays the following information that shows the distribution of client sessions by radio bands:

- AP Band—Radio band type- 2.4 GHz, 5 GHz, 6 GHz
- Number of Unique Devices—Number of unique devices operating in a specific radio band.

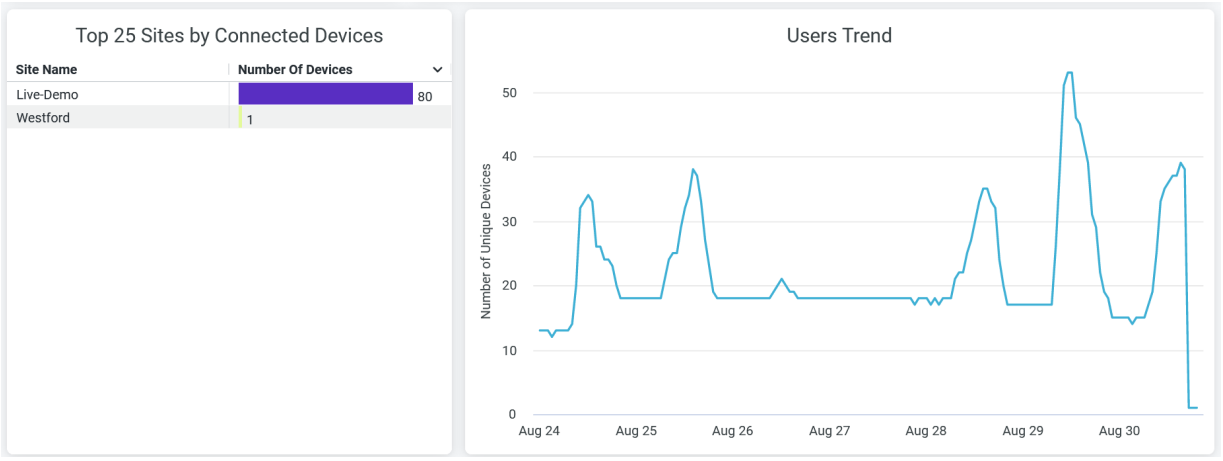
The Trends for Client Distribution by Band tile shows client connection trends classified by radio bands.

Place your cursor on a line graph, which represents a radio band, to see the exact number of unique client devices on that band. To hide data about a band from the chart and see data only about the remaining bands, click the band name in the legend.

Top 25 Sites by Connected Devices

Figure 73 on page 98 shows the Top 25 Sites by Connected Devices tile.

Figure 73: Top 25 Sites by Connected Devices



The Top 25 Sites by Connected Devices tile displays the top 25 sites sorted by the number of client connections. You can see the name of each site and the number of unique client devices connected to each site.

The User Trend tile displays client connection trends over 7 days.

Place your cursor on the chart to get the exact number of unique client device connections at a specific time.

SEE ALSO

- Introduction to Juniper Mist Analytics | 2
- Mist Premium Analytics Dashboards | 10
- Premium Analytics—Frequently Asked Questions | 5
- Wireless Client Session | 66
- Wireless Site Comparison | 99

Wireless Site Comparison

IN THIS SECTION

On the Wireless Site Comparison dashboard, you can see service-level expectation (SLE) metrics and traffic performance of different sites in separate graphs. You can compare and monitor sites in terms of SLE, connections, bandwidth usage, performance, and application usage. You can use the information to proactively troubleshoot connectivity and performance issues in the wireless network of your organization.

Features and Benefits

- Track the performance of your network, systems, and applications, and identify the sites that are providing unsatisfactory user experience.

- Monitor wireless network traffic, identify peak wireless data usage, and detect health and utilization patterns. With these capabilities, you get a comprehensive view of your organization's network and thereby efficiently manage your network.
- Get visibility on devices and applications using network's bandwidth.
- Track wireless traffic activity, and in turn identify and troubleshoot network incidents faster or even prevent these incidents from happening.

Before you Begin

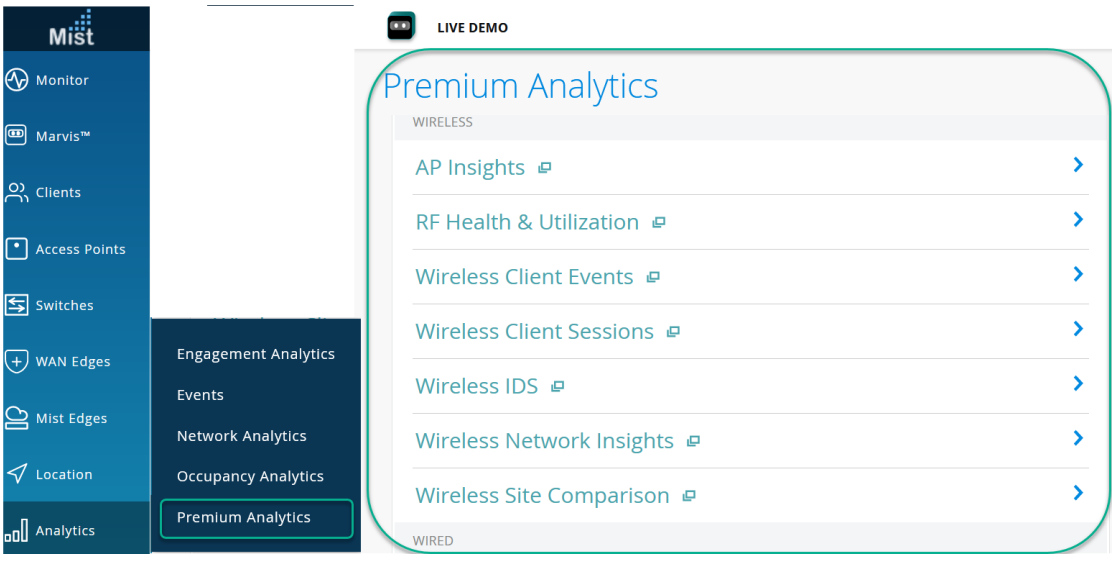
- Familiarize with the options available on your dashboard. See Figure 4 on page 17.
- Refer to Juniper Mist Wireless Configuration Guide for wireless configuration details.
- You need a license for using the Juniper Mist Premium Analytics dashboard. See "Mist Premium Analytics License" on page 8.

Access Wireless Site Comparison Dashboard

To access the Wireless Site Comparison dashboard:

1. In the left menu of the Juniper Mist portal, click **Analytics > Premium Analytics**.

Figure 74: Access Premium Analytics



2. On the Premium Analytics page, click **Wireless Site Comparison** to open the dashboard.

3. At the top of the dashboard, use the filter options to select a time period and sites for comparison.
   - Click **Report Period** and select the time range. By default, the dashboard shows data for the last 7 days.
   - From the **Site(s)** boxes, select sites or site groups. You can select up to three sites or site groups.
   - From the dashboard actions on the top-right corner of the page, select **Reset filter** to reset the filters.

Wireless Site Comparison Tiles

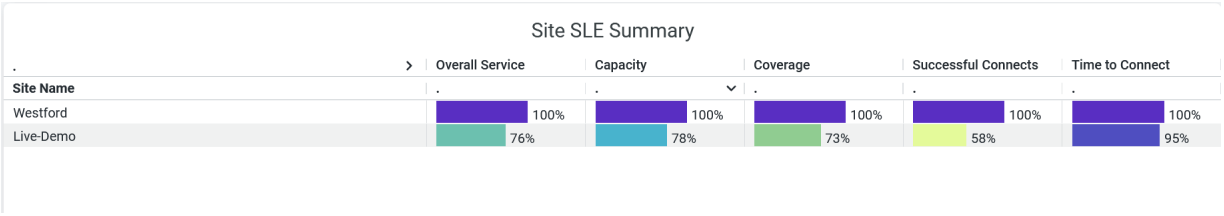
IN THIS SECTION

The Wireless Site Comparison dashboard includes various tiles that provide analytics data in graphical formats. With these tiles, you can compare and contrast different types of metrics to determine site performance or the percentage of SLE that your network achieves.

Site SLE Summary

Figure 75 on page 101 shows the site SLE summary tile.

Figure 75: Site SLE Summary



The Site SLE Summary tile displays the percentage of time that the SLE metrics meet the specified SLE goal within a specific time range. The Juniper Mist portal displays each SLE metric as a percentage that represents the success rate of the metric.

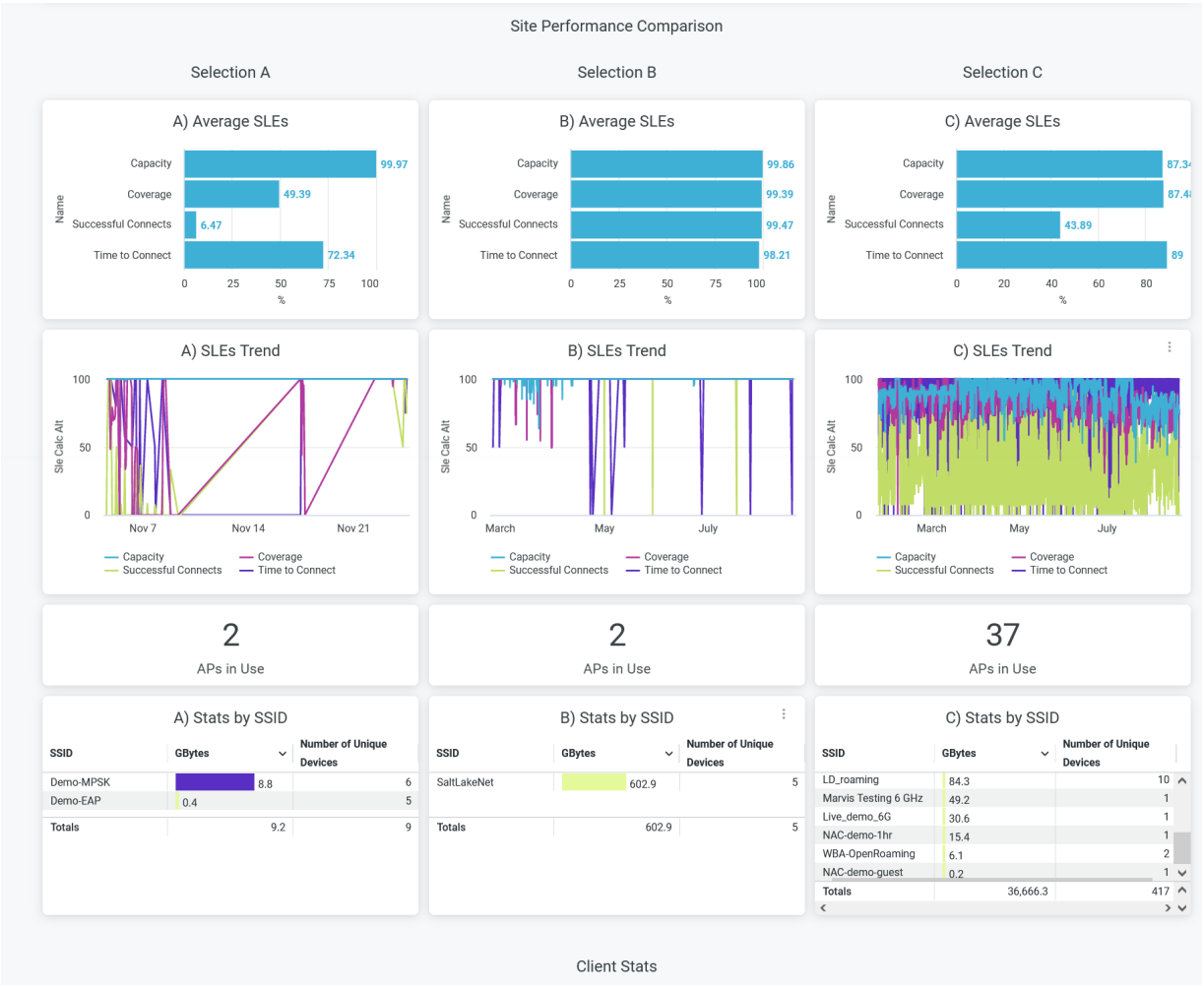
Juniper Mist provides the following SLE metrics:

- Overall Service—Identifies the number of connections that experience the specified SLE goals. In Figure 2, we see that 100 percent of the connections in the Westford site and 76 percent of the connections in Live-Demo meet the specified SLE goals.
- Time to Connect—Identifies the number of connections that connect to the Internet within the specified time threshold. In the above sample, 100 percent of the connections in the Westford site and 95 percent of the connections in the Live-Demo site connect to the Internet within the specified time.
- Successful Connects—Shows the percentage of successful connections (initial, roaming, and ongoing). In the above sample, 100 percent of the connections in the Westford site and 58 percent of the connections in the Live-Demo site are able to connect successfully.
- Coverage—Identifies the number of user minutes that a client's received signal strength indicator (RSSI), as measured by the access point, are within the configured threshold. In the above sample, 100 percent of the client devices in the Westford site and 73 percent of the client devices in the Live-Demo site experience the expected level of network coverage.
- Capacity—Tracks the user minutes that a client experiences low capacity because of interference, number of attached clients, and usage by the attached clients. In the above sample, 100 percent of the clients in the Westford site and 76 percent of the clients in the Live-Demo site experience the expected level of coverage.

Site Performance Comparison

Figure 76 on page 103 shows the site performance comparison tile.

Figure 76: Site Performance Comparison



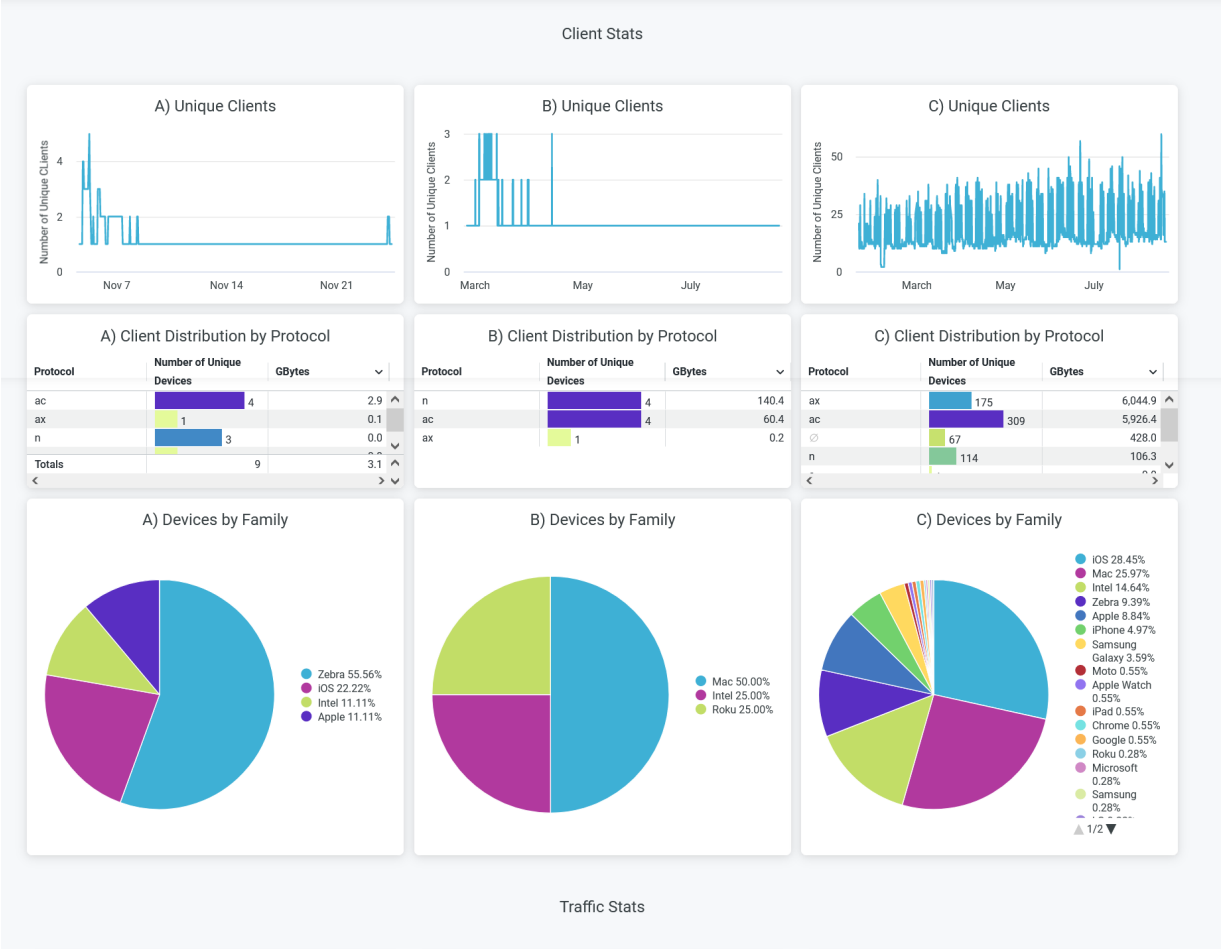
The Site Performance Comparison tile compares and displays site performance measures in terms of the following parameters:

- Average SLE—Compares performance of sites in terms of SLE parameters such as capacity, coverage, time to connect, and successful connects details. This tile displays a bar graph in which you see the success percentage of each SLE parameter.
- SLEs Trend—Displays a graphical representation of the SLE trends for the selected sites for capacity, coverage, time to connect, and successful connects.
- APs in Use—Displays the number of access points (APs) currently in use for each site.
- Stats by SSID—Displays data usage and the number of unique devices connected to each site. Click the service set identifiers (SSIDs) to get the details of the connected devices and data consumption.

Client Stats

Figure 77 on page 104 shows the client stats analytics data.

Figure 77: Client Stats Analytics



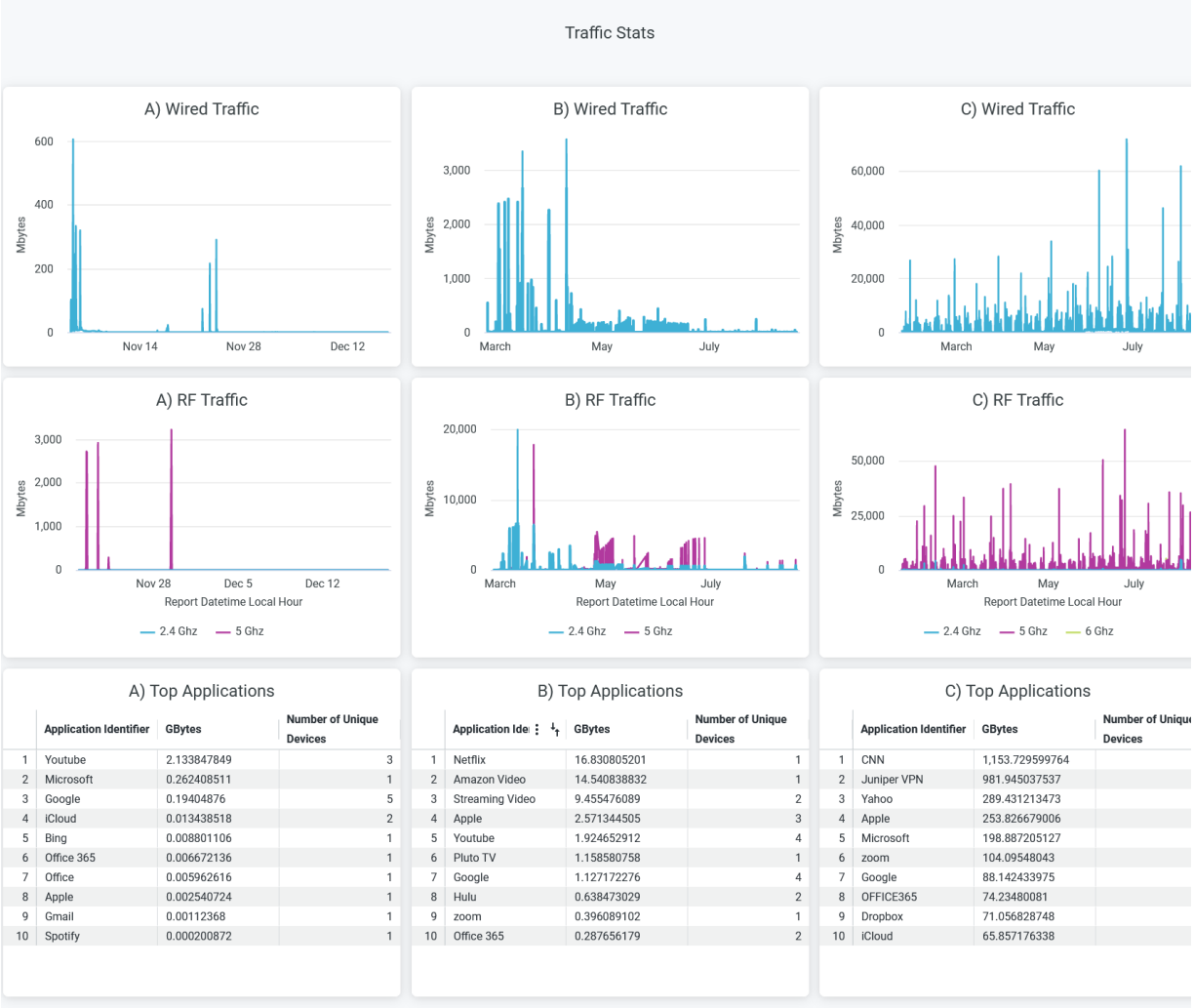
The Client Stats dashboard shows client connection trends and client distribution grouped by device type, operating system (OS), and 802.11 protocols. The details include:

- Unique clients—Number of unique client devices connected over a specified time period. Hover over the chart to see the number of devices and their reporting time.
- Client Distribution by Protocol—Clients grouped by the IEEE 802.11 standards.
- Devices by Family—Type of connected devices grouped by client operating systems.

Traffic Stats

Figure 78 on page 105 shows traffic statistics data.

Figure 78: Traffic Stats Analytics



A) Top Applications

	Application Identifier	GBytes	Number of Unique Devices
1	Youtube	2.133847849	3
2	Microsoft	0.262408511	1
3	Google	0.19404876	5
4	iCloud	0.013438518	2
5	Bing	0.008801106	1
6	Office 365	0.006672136	1
7	Office	0.005962616	1
8	Apple	0.002540724	1
9	Gmail	0.00112368	1
10	Spotify	0.000200872	1

B) Top Applications

	Application Ide	GBytes	Number of Unique Devices
1	Netflix	16.830805201	1
2	Amazon Video	14.540838832	1
3	Streaming Video	9.455476089	2
4	Apple	2.571344505	3
5	Youtube	1.924652912	4
6	Pluto TV	1.158580758	1
7	Google	1.127172276	4
8	Hulu	0.638473029	2
9	zoom	0.396089102	1
10	Office 365	0.287656179	2

C) Top Applications

	Application Identifier	GBytes	Number of Unique Devices
1	CNN	1,153.729599764	
2	Juniper VPN	981.945037537	
3	Yahoo	289.431213473	
4	Apple	253.826679006	
5	Microsoft	198.887205127	
6	zoom	104.09548043	
7	Google	88.142433975	
8	OFFICE365	74.23480081	
9	Dropbox	71.056828748	
10	iCloud	65.857176338	

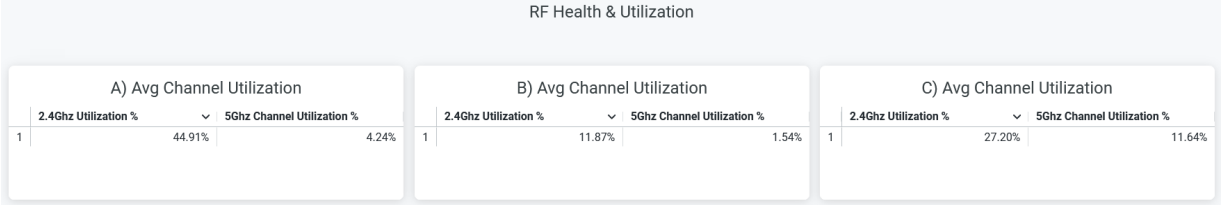
The **Traffic Stats** tile provides trend reports for applications, traffic, and clients. The tile provides reports on:

- Wired traffic—Wired network traffic in the site for the selected period.
- RF traffic—RF-based traffic in the site for the selected period. The details include usage by 2.4-GHz, 5-GHz, and 6-GHz bands.
- Applications—Bandwidth utilization of each application in a site and the number of unique devices using those applications.

RF Health and Utilization

Figure 79 on page 106 shows RF health and utilization analytics data.

Figure 79: RF Health and Utilization



On this tile, you can see the average channel utilization trends in the 2.4-GHz and 5-GHz radio channels grouped by sites. In the sample shown above, site A uses 44.9 percent of the 2.4-GHz channel and 4.24 percent of the 5-GHz channel.

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3
CHAPTER

Premium Analytics - Wired Dashboard

Executive Summary—Wired

IN THIS SECTION

The Executive Summary -Wired dashboard provides a summary of your wired network. You can view the number of connected switches, traffic throughput, and service-level expectation (SLE) trends. With the information, you can perform a comprehensive analysis of your network to optimize the usage of your network resources.

Features and Benefits

- Provides insights on organization-wide wired traffic trends and usage of switches and ports. With these insights, you can spot the areas of the network that experience problems.
- Provides reports on service-level expectation (SLE) metrics at the site and organization levels. With SLE metric details, you can gain comprehensive insights into the experiences of clients using your network.
- Track network health, performance, and status.
- Monitors the amount and types of traffic passing through the network

Before You Begin

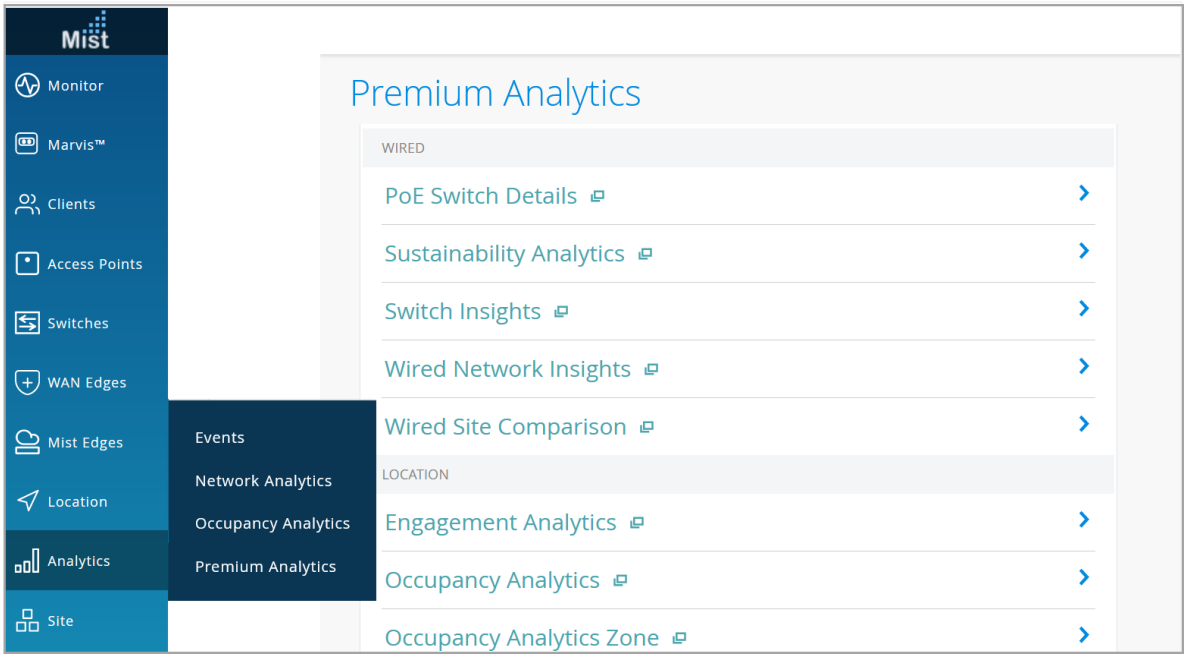
- See Juniper Mist Wired Configuration Guide for the wired configuration details.
- See "Mist Premium Analytics License" on page 8 to know about license requirements for the Juniper Mist Premium Analytics dashboard.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboard. See Figure 4 on page 17.

Access Executive Summary - Wired Dashboard

To access the Executive Summary - Wired dashboard:

1. In the Juniper Mist portal, click **Analytics > Premium Analytics**.
2. On the Premium Analytics page, click **Executive Summary - Wired**.

Figure 80: Access Executive Summary - Wired



The Executive Summary - Wired dashboard appears.

3. Use the following filter options, which are available at the top of the dashboard, to view specific information:
   - Click **Report Period** and select one of the defined reporting periods. Alternatively, select a range of days from the calendar to customize the reporting period. By default, the dashboard shows data for the last 7 days.
   - Filter by **Site Group** and **Site Name**.
   - From the dashboard actions on the top-right corner of the page, select **Reset filter** to reset the filters.

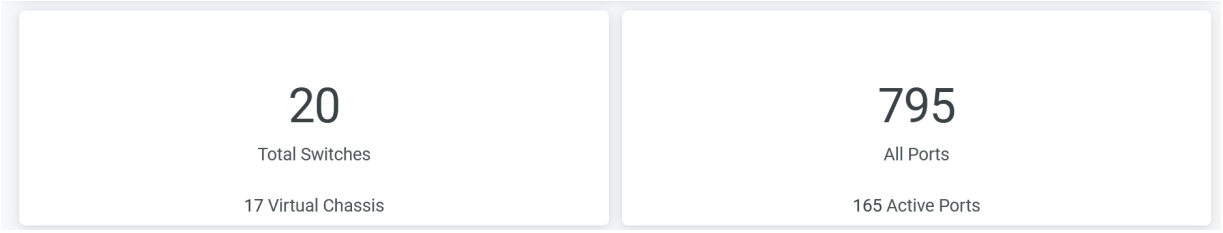
Executive Summary - Wired Tiles

IN THIS SECTION

The Executive Summary - Wired dashboard includes various tiles that provide graphical representations of analytics at a granular level.

At the top of the dashboard, you can get a summary of your wired network.

Figure 81: Executive Summary - Wired

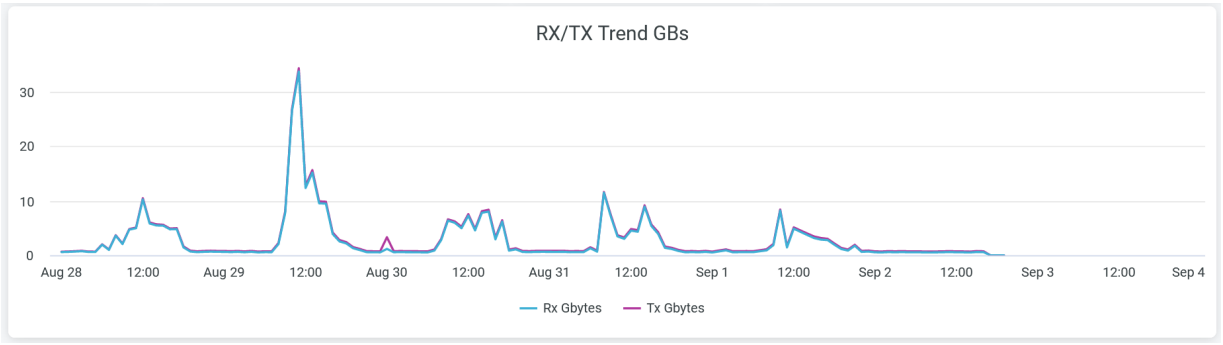


The dashboard displays the number of switches including virtual switches in the site, total number of available ports, and the number of active ports.

Wired Network Throughput Trend

The tile displays the client traffic volume that your wired network receives and transmits over 7 days.

Figure 82: Wired Network Throughput Trend



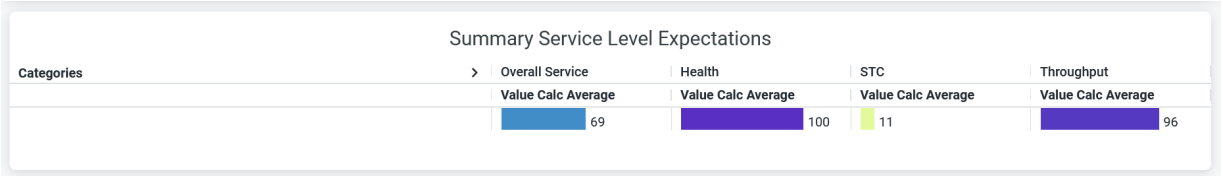
Two lines in the graph represent received traffic (Rx Gbytes) and transmitted traffic (Tx Gbytes). Place the cursor on the line to see the volume of traffic at the given time.

To hide either transmitted or received traffic from the chart and see only the remaining traffic type, click the relevant unit of measure in the legend.

Summary Service Level Expectations (SLEs)

The SLE Switch tile displays the SLE summary over a period of time in the network.

Figure 83: Summary Service Level Expectations



The SLE Switch Summary tile displays the success rate of each of the SLE metrics as a percentage:

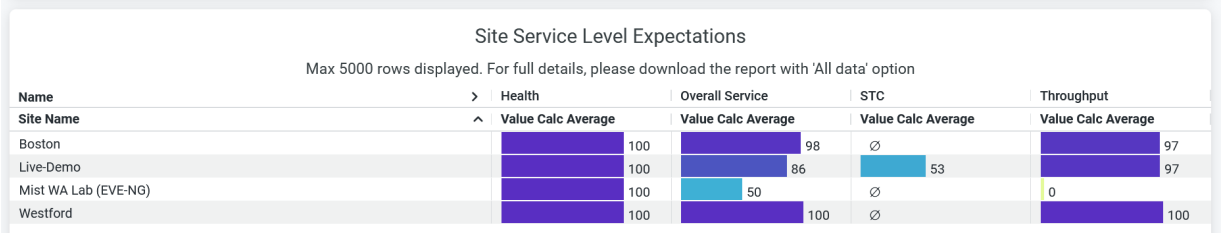
- Overall Service—The number of connections that experience the specified SLE goals.
- **Health**—Percentage of user minutes during which the health status of the switches meets the SLE goal.
- **STC**—Percentage of successful connections.
- **Throughput**—Percentage of time the wired network users can pass traffic without any disruptions.

According to the sample that the tile displays, 100 percent of the connections meet the specified health level and 11 percent of the connections are successful. Additionally, the sample shows that 96 percent of the sessions successfully receive the specified throughput. Accordingly, the tile displays the overall service score as 69 percent.

Site Service Level Expectations

The tile displays SLE details for all sites in the wired network.

Figure 84: Site Service Level Expectations



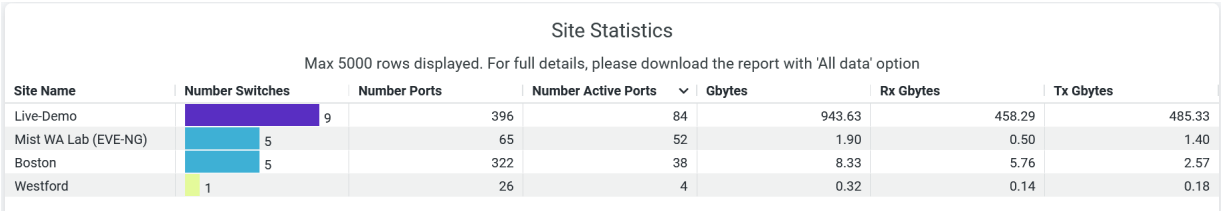
The Site Service Level Expectations tile displays the list of sites ranked according to the SLE metrics. The tile shows the success rate of each of the SLE metrics as a percentage. You can see:

- Health—Percentage of user minutes during which the health status of the switches meets the SLE goal.
- Overall Service—Number of connections that experience the specified SLE goals.
- STC—Percentage of successful connections.
- Throughput—Percentage of time the wired network users can pass traffic without any disruptions.

Site Statistics

The Site Statistics tile displays the sites sorted by the number of switches and traffic volume.

Figure 85: Site Statistics



The site displays the list of sites ranked according to the number of active switches. You can view the following details for each site:

- Site Name—Name of the site.
- Number of switches—Number of switches in the site.

- Number of ports—Total number of available ports.
- Number of active ports—Number of active ports.
- Traffic usage—Total volume of traffic in the site.
- Rx Gbytes—Traffic volume that a switch receives.
- Tx Gbytes—Traffic volume that a switch transmits.

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PoE Switch Details

IN THIS SECTION

On the PoE Switch Details dashboard, you can view the switch-specific insights for Power over Ethernet (PoE) ports, power draw, and consumption trends.

Features and Benefits

- Monitors PoE consumption against allocated PoE budgets to determine which ports are drawing more power than anticipated.
- Generates analytics about PoE usage at switch-level to help you efficiently plan usage of your switches.

Before You Begin

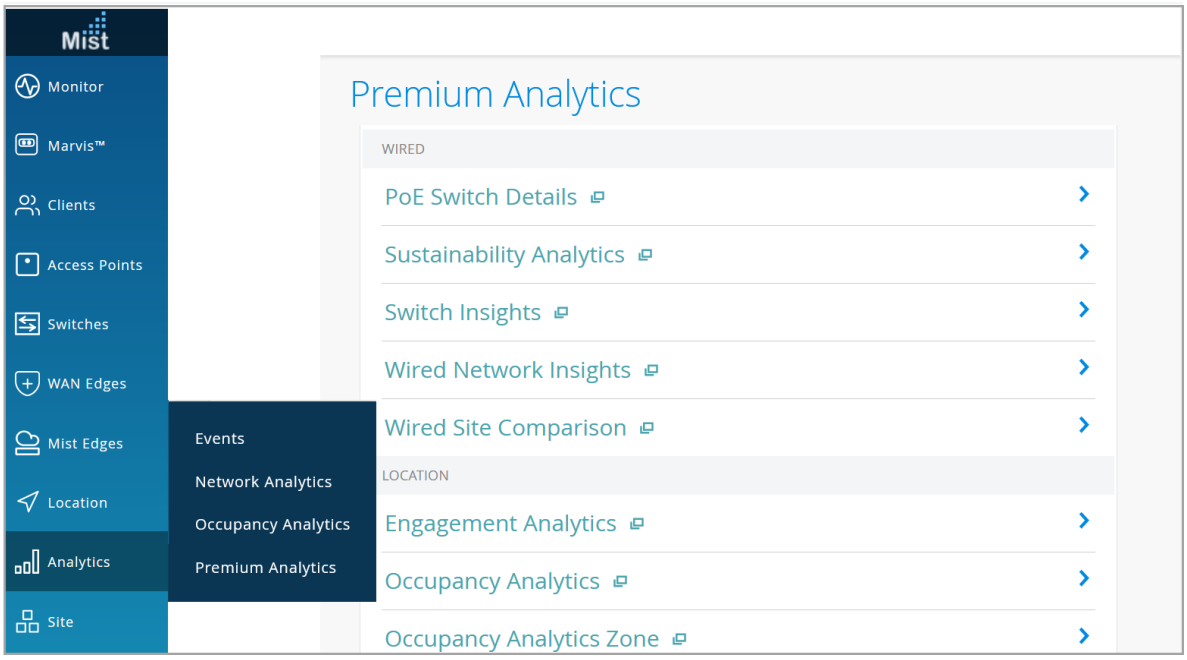
- See Juniper Mist Wired Configuration Guide for the wired configuration details.
- See "Mist Premium Analytics License" on page 8 to know about the license requirements for the Juniper Mist Premium Analytics dashboard.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboard. See Figure 4 on page 17.

Access PoE Switch Details Dashboard

To access the **PoE Switch Details** dashboard:

1. In the Juniper Mist portal, click **Analytics > Premium Analytics**.

Figure 86: Access PoE Switch Details



2. On the Premium Analytics page, click **PoE Switch Details** to open the dashboard.

   By default, the dashboard displays data from all the sites, floors, and switches.

3. Use the filter options available at the top of the dashboard to view information for specific sites, floors, and switches:

   - Click **Report Period** and select a time range. By default, the dashboard shows data for the last 7 days.

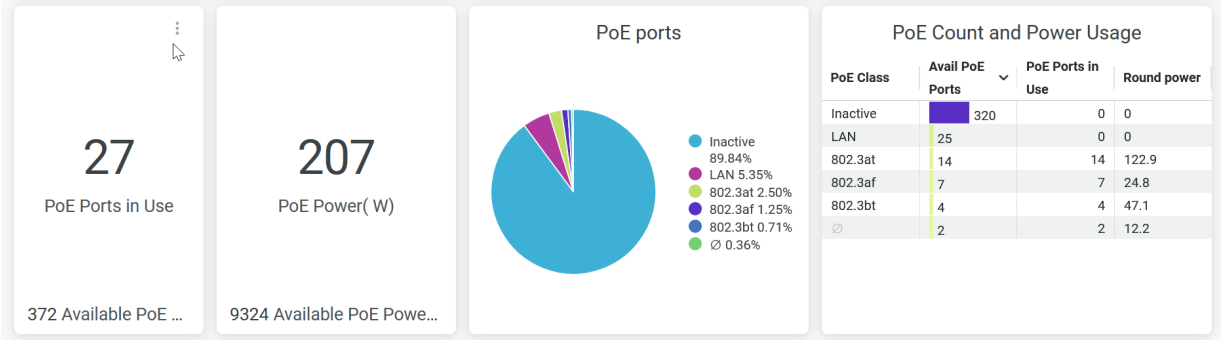
- Filter by **Site Name**, **PoE Port** and **Switch Name** to see information for specific sites, floors, and switches.
- Select **Reset filter** from the dashboard actions on the top-right corner of the page to reset the filters.

PoE Switch Details Tiles

IN THIS SECTION

The PoE Switch Details dashboard includes various tiles that provide graphical representations of data. You can use the dashboard to easily understand the PoE utilization details per switch.

Figure 87: PoE Switch Details Summary



The Figure 87 on page 115 tile displays:

- Number of PoE-enabled ports in use.
- PoE capacity that the active PoE ports are using.
- Percentage of PoE ports classified by the activity status and PoE class.
- PoE statistics in each PoE class. The details include:
  - PoE Class—PoE standards class and inactive PoE ports.

- Available PoE Ports—Number of active PoE ports in each PoE class and inactive PoE ports.
- Round power—PoE power utilization by all the ports in each PoE class.

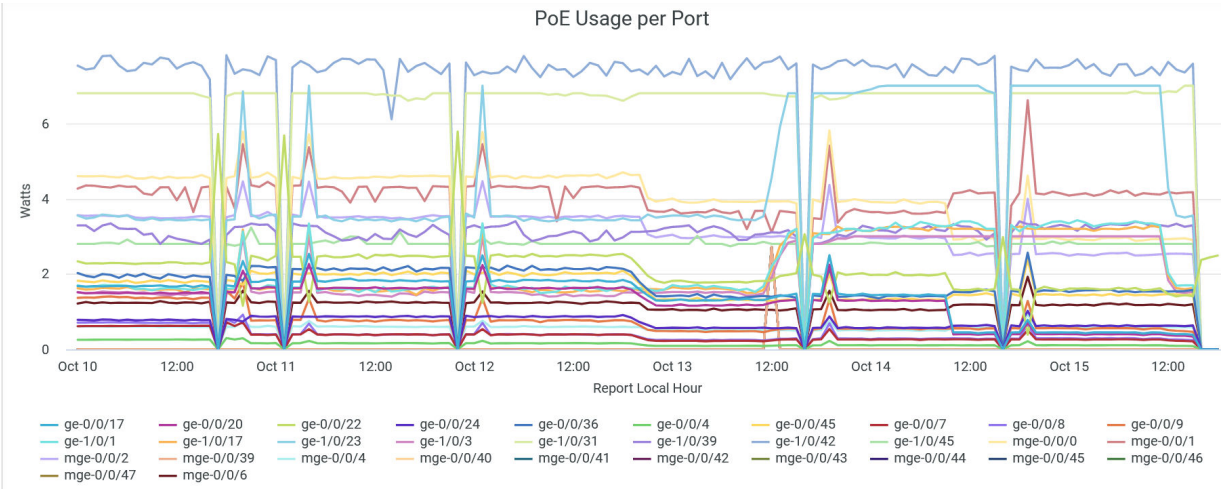
According to Figure 87 on page 115:

- 27 PoE ports are in use, out of a total of 372 PoE ports.
- 207 watt of PoE power consumed out of available 9324-watt capacity.
- 89.84 percent of the total available PoE ports are inactive.
- 320 PoE ports are inactive and 27 active PoE ports are consuming approximately 207 watt of PoE power.

PoE Usage Per Port

The tile displays the PoE usage per port for a selected period of time.

Figure 88: PoE Usage Per Port



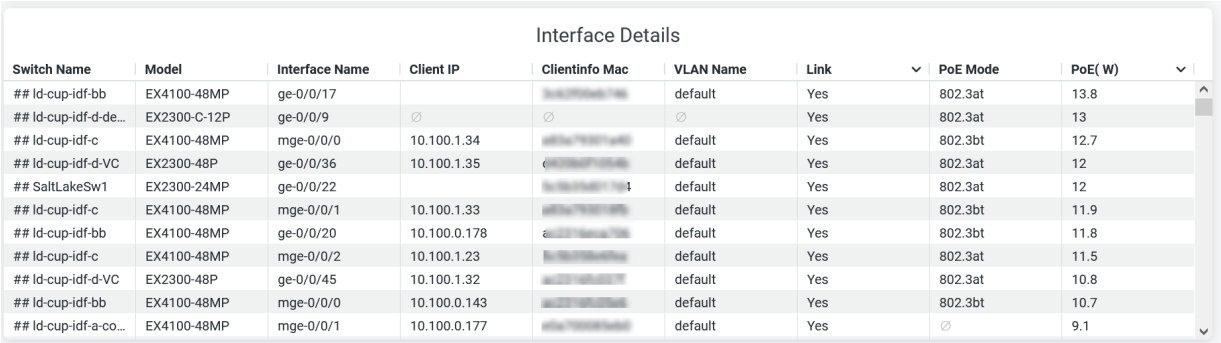
You can view the total PoE power consumption by different interfaces in the wired network. Lines in the graph represent interfaces. You can place the cursor on a line to see the PoE power consumption by a particular interface.

To hide data for an interface and see data for only the remaining interfaces, click the interface name in the legend.

Interface Details

The tile displays the details of the switches with PoE ports and PoE utilization on a switch.

Figure 89: Interface Details



You can see the following details on the tile:

- Switch Name—Name of the switch.
- Model—Model of the switch.
- Interface Name—PoE interface configured on the switch.
- Client IP—IP address of the client device.
- Client Info MAC—MAC address of the client device.
- VLAN Name—Name of the associated VLAN.
- Link—Interface mode (trunk or access).
- PoE Mode—PoE standards class.
- PoE (W)—Power consumption by the PoE port.

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Sustainability Analytics

IN THIS SECTION

On the Sustainability Analytics dashboard, you can view insights about the power-over-ethernet (PoE) consumption of the wired switches. With these insights, you can understand the energy consumption of the wired network.

You can also use PoE analytics details to plan initiatives that support sustainability and improve the overall resource efficiency. You can anticipate changes and future demands, so that you can plan for optimized usage of your switches and ports.

This dashboard provides:

- PoE usage insights at different levels—organization, site, floor, switch, and port
- Total number of PoE switches out of the currently deployed switches.
- PoE budget and consumption.
- Powered Device (PD) count by 802.af, 802.3at, and 802.3bt standards, and LAN.

Features and Benefits

- Monitors PoE consumption against allocated PoE budgets to determine which ports are drawing more power than anticipated.
- Identifies the switches and the clients that are experiencing PoE problems.
- Generates analytics about PoE usage at the site, floor, and switch level to help you efficiently plan your resources.

Before You Begin

- Refer to the Juniper Mist Wired Configuration Guide for the wired configuration details.

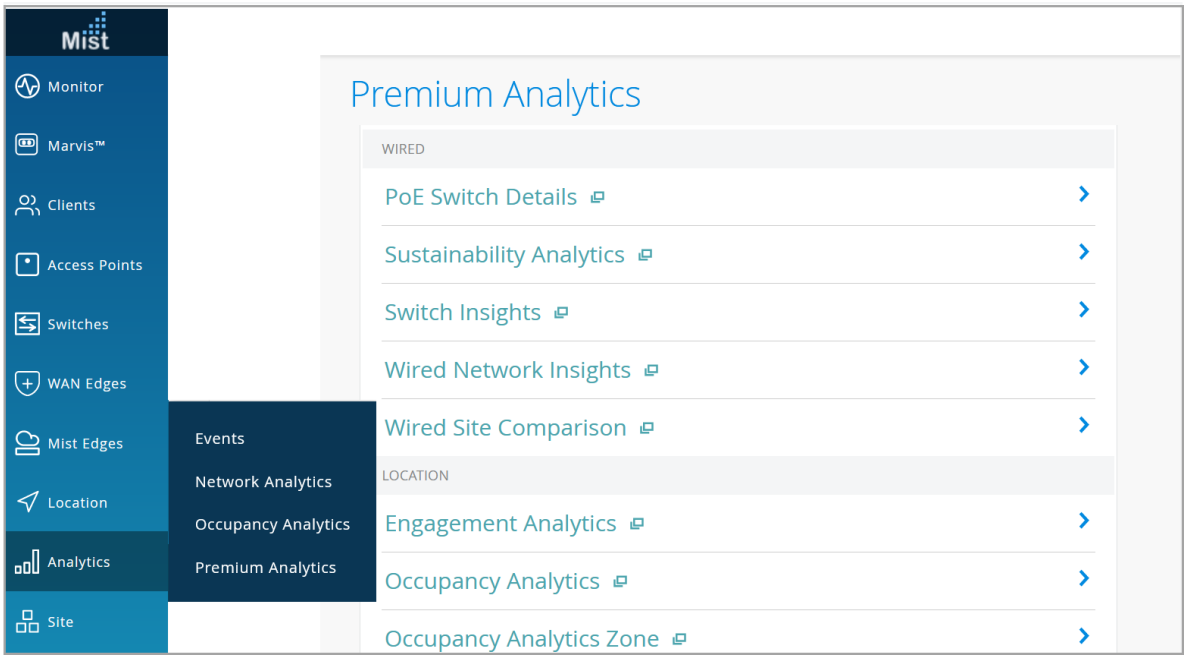
- See "Mist Premium Analytics License" on page 8 to know about license requirements for the Juniper Mist Premium Analytics dashboard.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboard. See Figure 4 on page 17.

Access Sustainability Analytics Dashboard

To access the **Sustainability Analytics** dashboard:

1. In the Juniper Mist portal, click **Analytics > Premium Analytics** .

Figure 90: Access Sustainability Analytics



2. On the Premium Analytics page, click **Sustainability Analytics** to open the dashboard.

   By default, the dashboard displays data from all the sites, floors, and switches.
3. Use the filter options available at the top of the screen to view information for specific sites, floors, and switches:
   - Click **Report Period** and select a time range. By default, the dashboard shows data for the last 14 days.
   - Filter by **Site Name**, **Floor Name** and **Switch Name** to see information for specific sites, floors, and switches.

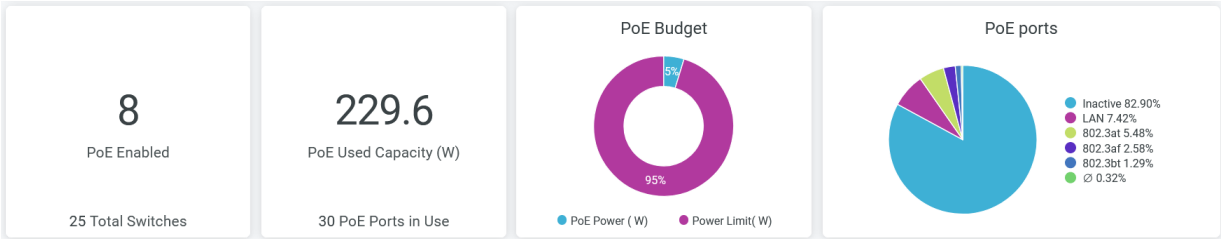
- Select **Reset filter** from the dashboard actions on the top-right corner of the page to reset the filters.

Sustainability Analytics Tiles

IN THIS SECTION

The Sustainability Analytics dashboard includes various tiles that provide graphical representations of data. You can use the dashboard to easily understand the PoE utilization details.

Figure 91: PoE Utilization Summary



The Figure 91 on page 120 tile displays:

- Number of switches with PoE-enabled ports.
- PoE capacity that the active PoE ports use.
- Percentage of the power budget that the PoE ports use. A PoE power budget is the total amount of power output available to the PoE ports of the switch.
- Percentage of active PoE ports in each site.

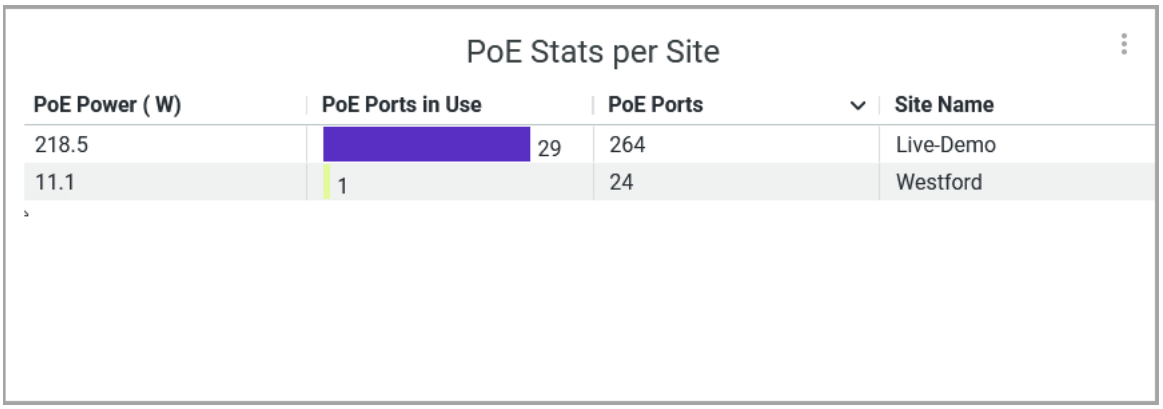
According to Figure 91 on page 120:

- The organization has eight PoE-enabled switches, out of a total of 25 switches.
- Thirty PoE-enabled ports use 229.6-W PoE capacity.
- PoE ports use 5 percent of the allocated PoE budget and 95 percent of the available PoE capacity is unused.
- 82.90 percent of the total available PoE ports are inactive.

PoE Stats per Site

Figure 92 on page 121 shows the PoE statistics for each site.

Figure 92: PoE Stats per Site



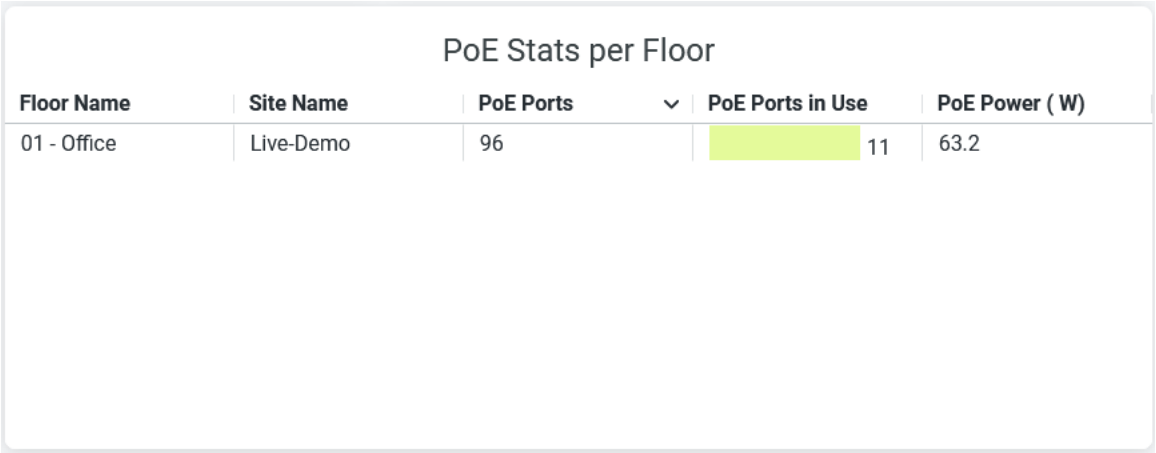
The tile displays the following details:

- PoE Power (W)—Total PoE power consumption by all the PoE-enabled ports in each site.
- PoE Ports in Use—Number of active PoE ports in each site.
- PoE Ports—Total number of PoE ports available in each site.
- Site Name—Name of the site.

PoE Stats per Floor

Figure 93 on page 122 shows the PoE statistics per floor.

Figure 93: PoE Stats per Floor



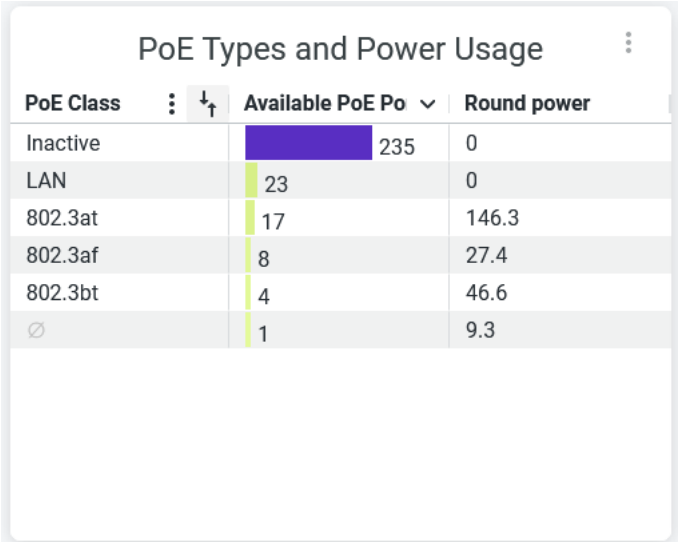
The tile displays the following details:

- Floor Name—Name of the floor in the site.
- Site Name—Name of the site.
- PoE Ports—Total PoE ports available in the floor.
- PoE Ports in Use—Number of active PoE ports in the floor.
- PoE Power (W)—Total PoE consumption by all the ports in the floor.

PoE Types and Power Usage

Figure 94 on page 123 shows PoE types and power usage data.

Figure 94: PoE Types and Power Usage



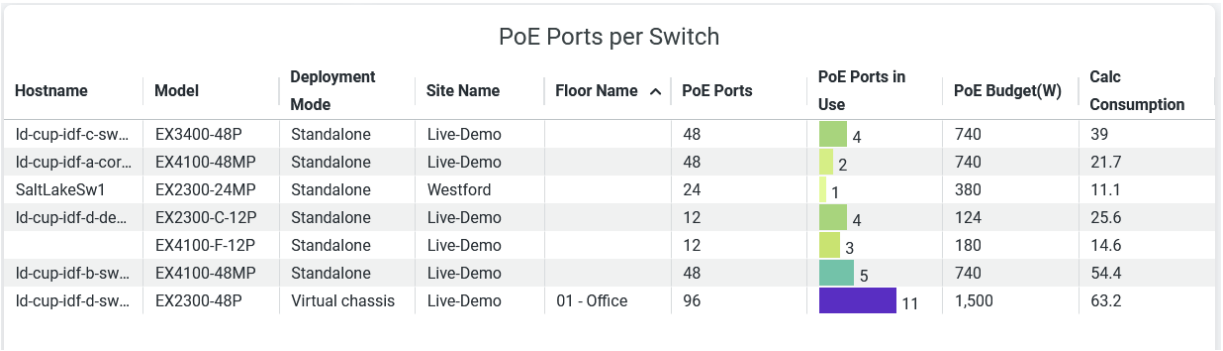
The tile displays the following details:

- PoE Class—PoE standards class and inactive PoE ports.
- Available PoE Ports—Number of active PoE ports in each PoE class and inactive PoE ports.
- Round power—PoE power utilization by all the ports in each PoE class.

PoE Ports per Switch

Figure 95 on page 123 displays the PoE capacity utilization details on a switch. You can also see the power consumption by client devices connected to the PoE ports.

Figure 95: PoE Ports per Switch



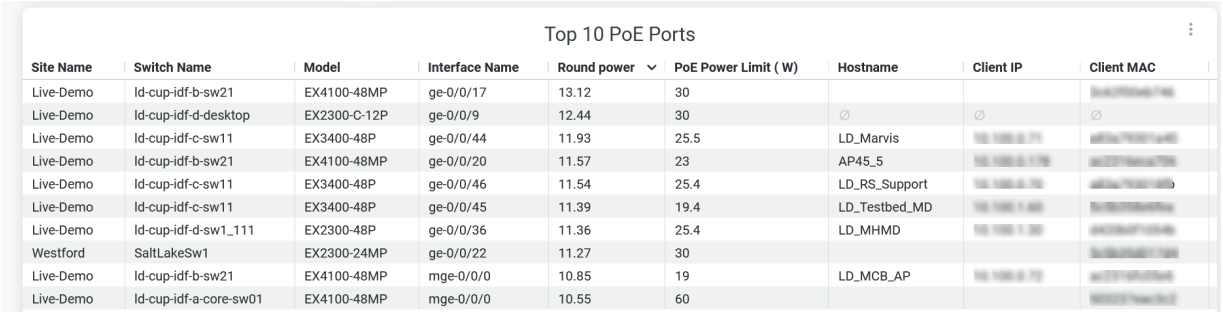
You can map the PoE capacity utilization and client device power consumption metrics to each port by using the following details on the tile:

- Hostname—Hostname of the switch.
- Model—Model of the switch.
- **Deployment Mode**—Deployment type of the switch
  - Standalone
  - Virtual Chassis
- **Site Name**—Site where the switch is located.
- **Floor Name**—Floor where the switch is located.
- **PoE Ports**—Number of PoE-enabled ports available on the switch.
- **PoE Ports in Use**—Number of PoE-enabled ports currently active on the switch.
- **PoE Budget (W)**—Power allocated for all the PoE ports in a switch.
- **Calc Consumption**—Actual power consumption by active PoE ports in a switch.

Top 10 PoE Ports

The Figure 96 on page 124 tile displays the top PoE ports based on the amount of allocated power that each PoE port uses. You can also see the power consumption of the client devices connected to the PoE ports.

Figure 96: Top 10 PoE Ports



Site Name	Switch Name	Model	Interface Name	Round power	PoE Power Limit (W)	Hostname	Client IP	Client MAC
Live-Demo	ld-cup-idf-b-sw21	EX4100-48MP	ge-0/0/17	13.12	30			
Live-Demo	ld-cup-idf-d-desktop	EX2300-C-12P	ge-0/0/9	12.44	30	∅	∅	∅
Live-Demo	ld-cup-idf-c-sw11	EX3400-48P	ge-0/0/44	11.93	25.5	LD_Marvis		
Live-Demo	ld-cup-idf-b-sw21	EX4100-48MP	ge-0/0/20	11.57	23	AP45_5		
Live-Demo	ld-cup-idf-c-sw11	EX3400-48P	ge-0/0/46	11.54	25.4	LD_RS_Support		
Live-Demo	ld-cup-idf-c-sw11	EX3400-48P	ge-0/0/45	11.39	19.4	LD_Testbed_MD		
Live-Demo	ld-cup-idf-d-sw1_111	EX2300-48P	ge-0/0/36	11.36	25.4	LD_MHMD		
Westford	SaltLakeSw1	EX2300-24MP	ge-0/0/22	11.27	30			
Live-Demo	ld-cup-idf-b-sw21	EX4100-48MP	mge-0/0/0	10.85	19	LD_MCB_AP		
Live-Demo	ld-cup-idf-a-core-sw01	EX4100-48MP	mge-0/0/0	10.55	60			

You can map the power consumption metrics to each PoE port by using the following details on the tile:

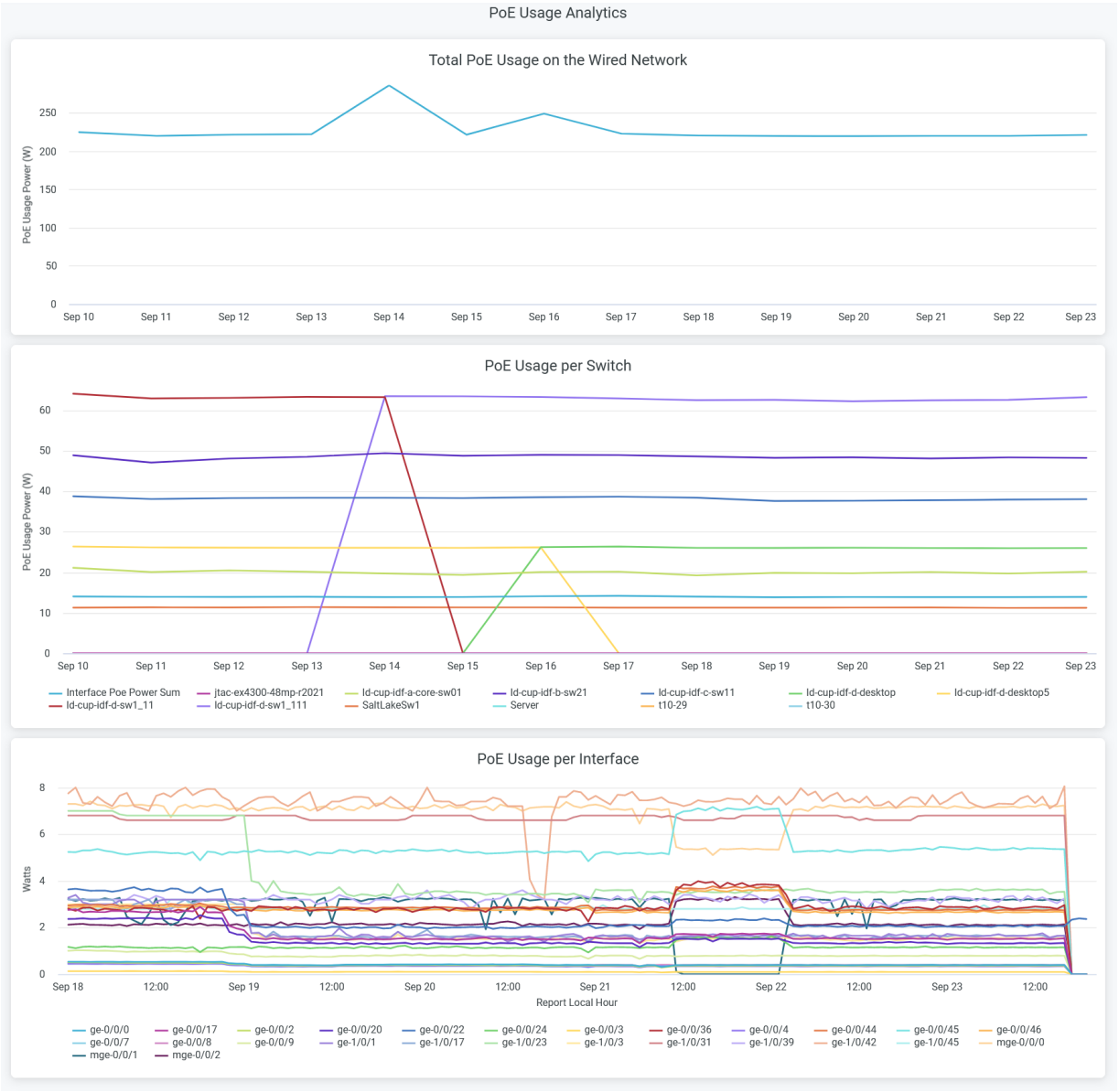
- Site Name—Name of the site where the switch is located.
- Switch Name—Name of the switch.
- Model—Model of the switch.

- Interface name—PoE interface configured on the switch.
- Round Power (W)—Power consumption by the PoE port.
- PoE Power Limit (W)—Power allocated for the PoE port.
- Hostname—Hostname of the switch.
- Client IP—IP address of the client device.
- Client MAC—MAC address of the client device.
- Interface Admin Status—The status that shows whether the interface is administratively up.
- Full Duplex—The capability of the interface to operate in full-duplex mode.
- Interface Mbps—Configured speed on the interface.
- Interface Mode—Interface mode (trunk or access).
- MTU—MTU value configured on the interface.

PoE Usage Analytics

The Figure 97 on page 126 section includes the tiles displaying the total PoE usage in the wired network, PoE usage per switch, and PoE usage per interface.

Figure 97: PoE Usage Analytics Tiles



- **Total PoE Usage on the Wired Network**—Displays total PoE power consumption by the wired network over a period of 14 days. Hover over the chart to view the PoE power consumption at a given day.
- **PoE Usage per Switch**—Displays total PoE power consumption by different switches in the wired network. Lines in the graph represent switches. You can place the cursor on the line to see PoE power consumption by a particular switch. To hide data for a switch and see data for only the remaining switches, click the switch name in the legend.
- **PoE Usage per Interface**—Displays total PoE power consumption by different interfaces in the wired network. Lines in the graph represent interfaces. You can place the cursor on the line to see PoE

power consumption by a particular interface. To hide data for a interface and see data for only the remaining interfaces, click the interface name in the legend.

SEE ALSO

- Introduction to Juniper Mist Analytics | 2
- Mist Premium Analytics Dashboards | 10
- Premium Analytics—Frequently Asked Questions | 5
- Wired Site Comparison | 141
- Wired Network Insights | 133

Switch Insights

IN THIS SECTION

The Switch Insights dashboard provides end-to-end switch visibility and analytics of your wired network. The report provides in-depth information including interface utilization, VLAN traffic trends, and switch and port usage. You can easily see the status of each port and the interfaces that are currently connected to the switch.

Features and Benefits

- Provides insights on organization-wide usage of switches and ports at a granular level. With these insights, you can spot the areas of the network that experience problems.
- Monitors the amount and types of traffic passing through the ports and interfaces of switches
- Provides details about the client devices connected to the switches and ports in your network

Before You Begin

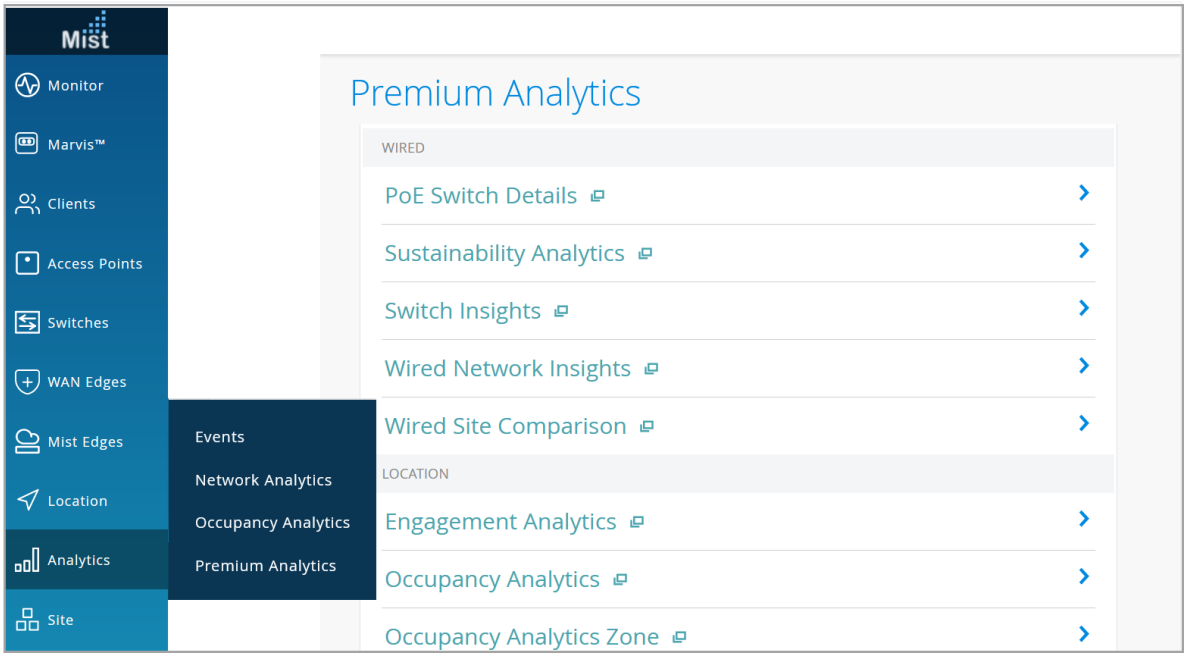
- See the Juniper Mist Wired Configuration Guide for the wired configuration details.
- See "Mist Premium Analytics License" on page 8 to know about license requirements for the Juniper Mist Premium Analytics dashboard.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboard. See Figure 4 on page 17.

Access Switch Insights Dashboard

To access the Switch Insights dashboard:

1. From the left menu on the Juniper Mist portal, select **Analytics > Premium Analytics**.
2. On the Premium Analytics page, click **Switch Insights**.

Figure 98: Access Premium Analytics



The Switch Insights dashboard appears.

3. Use the following filter options, which are available at the top of the dashboard, to view specific information:

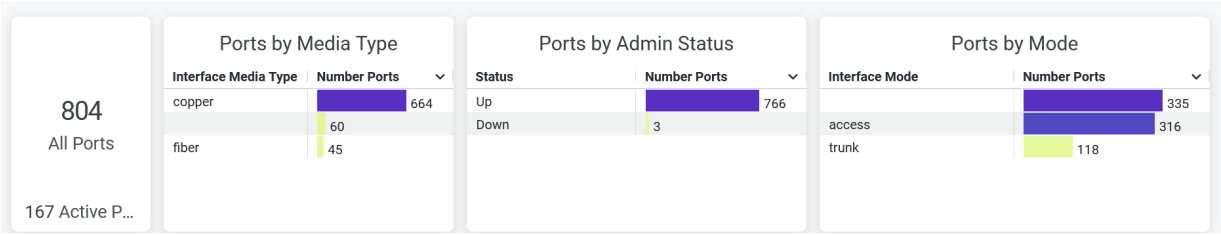
- Click **Report Period** and select one of the defined reporting periods. Alternatively, select a range of days from the calendar to customize the reporting period. By default, the dashboard shows data for the last 7 days.
- Filter by **Site Name**, **Host Name**, **Interface Name**, **Port Type**, **VLAN Name**, and **Active Ports Only**.
- From the dashboard actions on the top-right corner of the dashboard, select **Reset filter** to reset the filters.

Switch Insights Tiles

IN THIS SECTION

At the top of the dashboard, you can get insights of switches in your site. The dashboard displays the number of ports, media types, port status, and ports operating mode.

Figure 99: Switch Insights - Ports Details



The tile displays the following details:

- Total count of ports and the count of ports in use
- Count of ports classified by media type (copper or fiber)

  Click the chart to open a new window with additional details such as the list of switches, interface names, and other statistics.

.

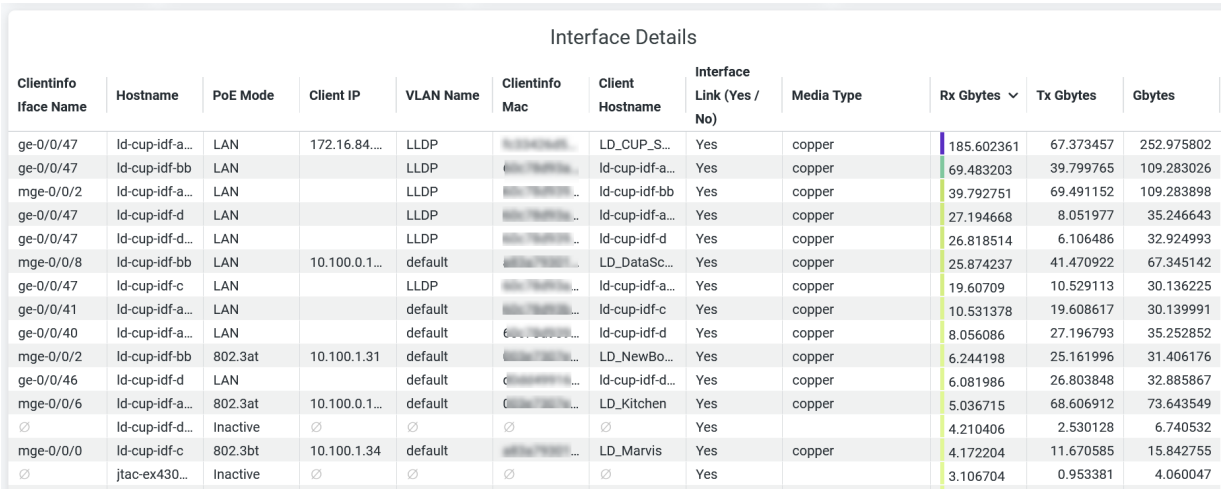
- Number of ports that are up and down
- Number of ports classified by interface mode (access or trunk)

  Click the chart to open a new window with additional details such as list of switches, interface names, and other statistics.

Interface Details

The tile displays the details of the switches with traffic utilization details.

Figure 100: Interface Details



Clientinfo Iface Name	Hostname	PoE Mode	Client IP	VLAN Name	Clientinfo Mac	Client Hostname	Interface Link (Yes / No)	Media Type	Rx Gbytes	Tx Gbytes	Gbytes
ge-0/0/47	ld-cup-idf-a...	LAN	172.16.84....	LLDP	[redacted]	LD_CUP_S...	Yes	copper	185.602361	67.373457	252.975802
ge-0/0/47	ld-cup-idf-bb	LAN		LLDP	[redacted]	ld-cup-idf-a...	Yes	copper	69.483203	39.799765	109.283026
mge-0/0/2	ld-cup-idf-a...	LAN		LLDP	[redacted]	ld-cup-idf-bb	Yes	copper	39.792751	69.491152	109.283898
ge-0/0/47	ld-cup-idf-d	LAN		LLDP	[redacted]	ld-cup-idf-a...	Yes	copper	27.194668	8.051977	35.246643
ge-0/0/47	ld-cup-idf-d...	LAN		LLDP	[redacted]	ld-cup-idf-d	Yes	copper	26.818514	6.106486	32.924993
mge-0/0/8	ld-cup-idf-bb	LAN	10.100.0.1...	default	[redacted]	LD_DataSc...	Yes	copper	25.874237	41.470922	67.345142
ge-0/0/47	ld-cup-idf-c	LAN		LLDP	[redacted]	ld-cup-idf-a...	Yes	copper	19.60709	10.529113	30.136225
ge-0/0/41	ld-cup-idf-a...	LAN		default	[redacted]	ld-cup-idf-c	Yes	copper	10.531378	19.608617	30.139991
ge-0/0/40	ld-cup-idf-a...	LAN		default	[redacted]	ld-cup-idf-d	Yes	copper	8.056086	27.196793	35.252852
mge-0/0/2	ld-cup-idf-bb	802.3at	10.100.1.31	default	[redacted]	LD_NewBo...	Yes	copper	6.244198	25.161996	31.406176
ge-0/0/46	ld-cup-idf-d	LAN		default	[redacted]	ld-cup-idf-d...	Yes	copper	6.081986	26.803848	32.885867
mge-0/0/6	ld-cup-idf-a...	802.3at	10.100.0.1...	default	[redacted]	LD_Kitchen	Yes	copper	5.036715	68.606912	73.643549
∅	ld-cup-idf-d...	Inactive	∅	∅	∅	∅	Yes		4.210406	2.530128	6.740532
mge-0/0/0	ld-cup-idf-c	802.3bt	10.100.1.34	default	[redacted]	LD_Marvis	Yes	copper	4.172204	11.670585	15.842755
∅	jtac-ex430...	Inactive	∅	∅	∅	∅	Yes		3.106704	0.953381	4.060047

You can see:

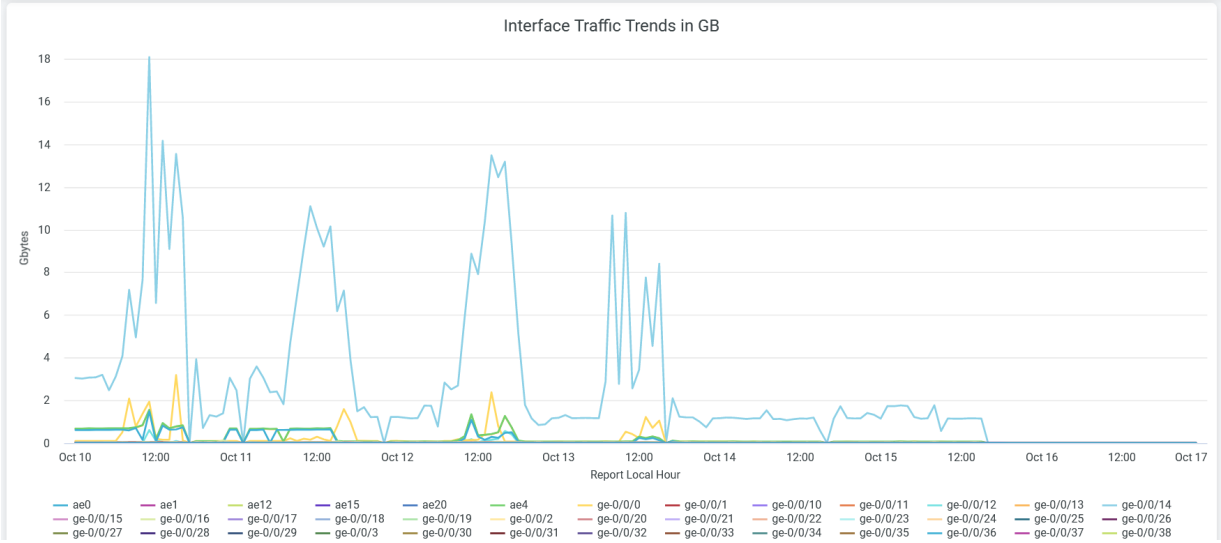
- Interface Name —Interface configured on the switch.
- Hostname—Hostname of the switch.
- PoE Mode—Hostname of the switch.
- Client IP—IP address of the client device.
- VLAN Name—Name of the associated VLAN.
- Client Info MAC—MAC address of the client device.
- Client Hostname—Hostname of a client.
- Interface Link—Link status of an interface.

- Media Type—Interface media type (copper or fiber).
- Traffic usage—Total volume of traffic usage by an interface.
- Rx Gbytes—Traffic volume that an interface receives.
- Tx Gbytes—Traffic volume that an interface transmits.

Interface Traffic Trends in GB

The tile shows the interface traffic trends over a period of time.

Figure 101: Interface Traffic Trends



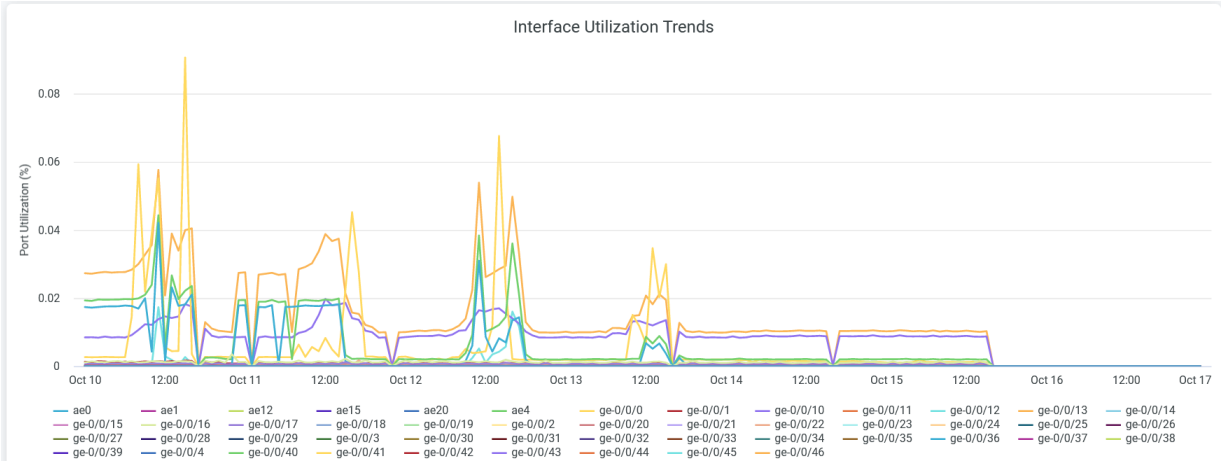
Place the cursor on a line graph, which represents an interface, to see the actual volume of traffic through that interface.

The legend below the chart shows all the interfaces. To hide the traffic details of an interface from the chart and see only the details of the remaining interfaces, click the interface in the legend below.

Interface Utilization Trends

The tile shows the percentage of interfaces utilized over a period of time.

Figure 102: Interface Traffic Trends



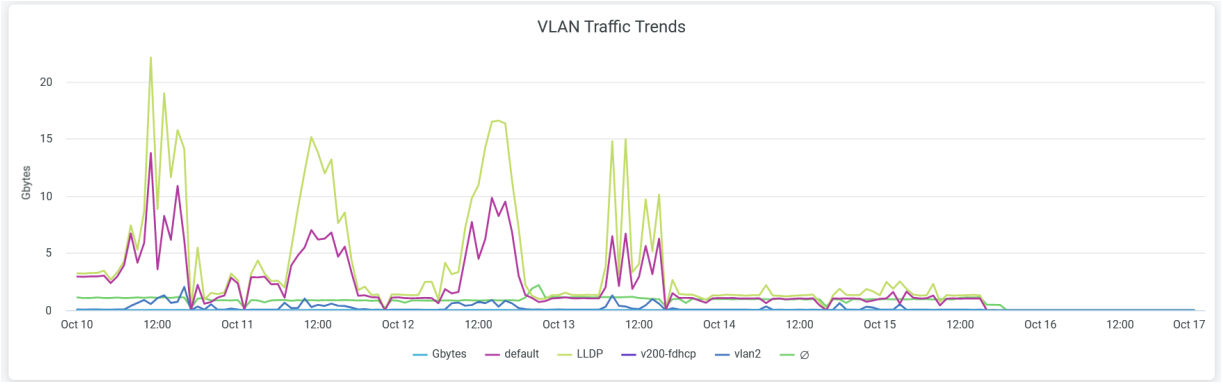
Place the cursor on a line graph, which represents an interface, to see the actual utilization percentage of that interface.

The legend below the chart shows all the interfaces. To hide the traffic details of an interface from the chart and see only the details of the remaining interfaces, click the interface in the legend below.

VLAN Traffic Trends

The tile shows the volume of VLAN traffic trend over a period of time.

Figure 103: VLAN Traffic Trends



Place the cursor on a line graph, which represents a VLAN network, to see the actual traffic utilization for that network.

The legend below the chart shows all the VLAN networks. To hide the traffic details of a VLAN network from the chart and see only details of the remaining ones, click the VLAN network in the legend below.

SEE ALSO

Introduction to Juniper Mist Analytics | 2
Mist Premium Analytics Dashboards | 10
Premium Analytics—Frequently Asked Questions | 5
Sustainability Analytics | 118
Wired Site Comparison | 141

Wired Network Insights

IN THIS SECTION

The Wired Network Insights dashboard provides end-to-end visibility of your wired network. You can view network performance metrics, traffic throughput, and connected switch details. The report provides in-depth information including service-level expectation (SLE) trends, traffic trends, and switch and port usage. With this information, you can perform comprehensive network analysis to optimize the usage of your wired network resources.

Features and Benefits

- Provides insights on organization-wide wired traffic trends and usage of switches and ports. With these insights, you can spot the areas of the network that experience problems.
- Track network health, performance, and status.
- Monitors the amount and types of traffic passing through the network.
- Provides details about the client devices that are connected to the switches and ports in your network.

Before You Begin

- See the Juniper Mist Wired Configuration Guide for the wired configuration details.

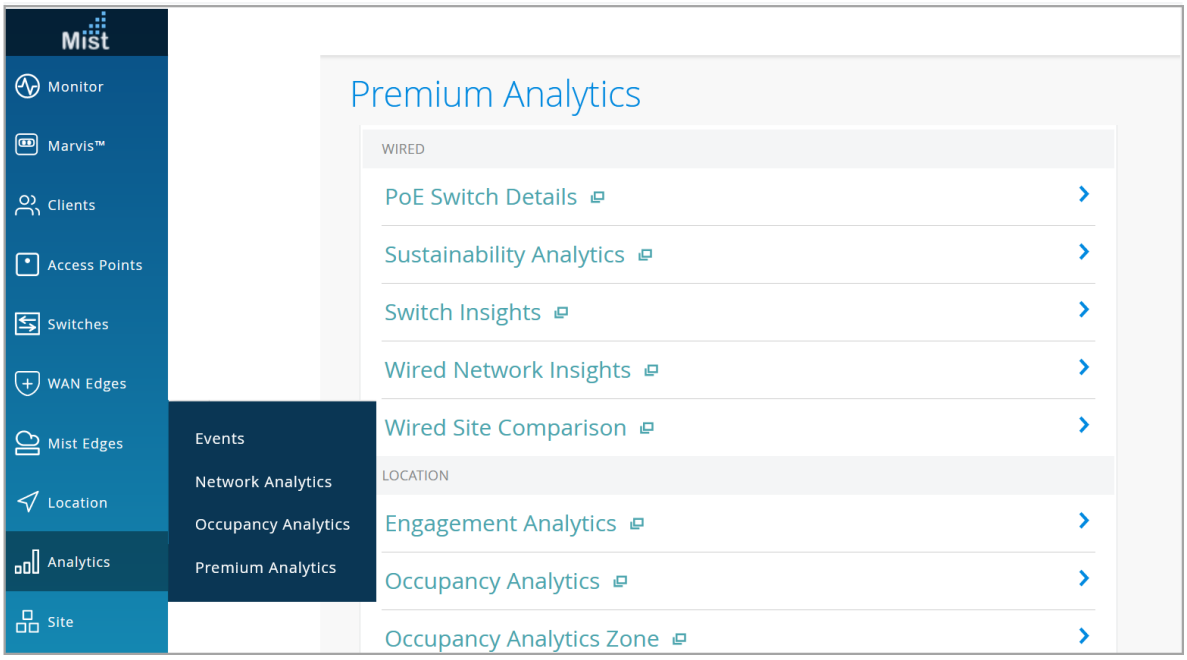
- See "Mist Premium Analytics License" on page 8 to know about license requirements for the Juniper Mist Premium Analytics dashboard.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboard. See Figure 4 on page 17.

Access Wired Network Insights Dashboard

To access the Wired Network Insights dashboard:

1. In the Juniper Mist portal, click **Analytics > Premium Analytics**.
2. On the Premium Analytics page, click **Wired Network Insights**.

Figure 104: Access Premium Analytics



The **Wired Network Insights** page appears.

3. Use the following filter options, which are available at the top of the page, to view specific information:
   - Click **Report Period** and select one of the defined reporting periods. Alternatively, select a range of days from the calendar to customize the reporting period. By default, the dashboard shows data for the last 7 days.
   - Filter by **Site Name** and **Switch Name**.

- From the dashboard actions on the top-right corner of the page, select **Reset filter** to reset the filters.

Wired Network Insights Tiles

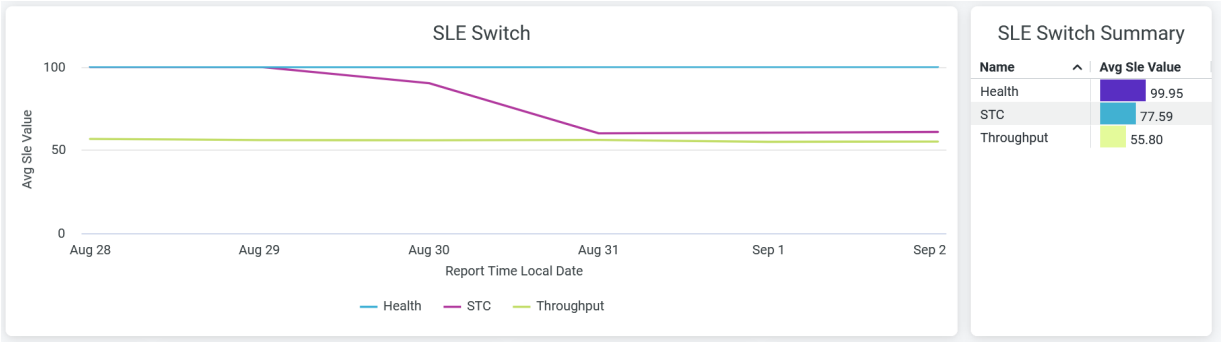
IN THIS SECTION

The Wireless Network Insights dashboard includes various tiles that provide graphical representations of analytics at a granular level. You can see the number of connected clients, traffic volume, information about the switches and ports that support the highest traffic volume, and other metrics.

Service Level Expectations(SLE)

Figure 105 on page 135 shows the Service Level Expectations(SLE) tile.

Figure 105: Service Level Expectations(SLE)



The SLE Switch tile displays SLE trends over a period of time in the network. The chart displays the performance of the following SLE metrics as a percentage that represents the success rate of the metric:

- **Health**—Percentage of user minutes during which the health status of the switches meets the SLE goal.
- **STC**—Percentage of successful connections.
- **Throughput**—Percentage of time the wired users can pass traffic without any disruptions.

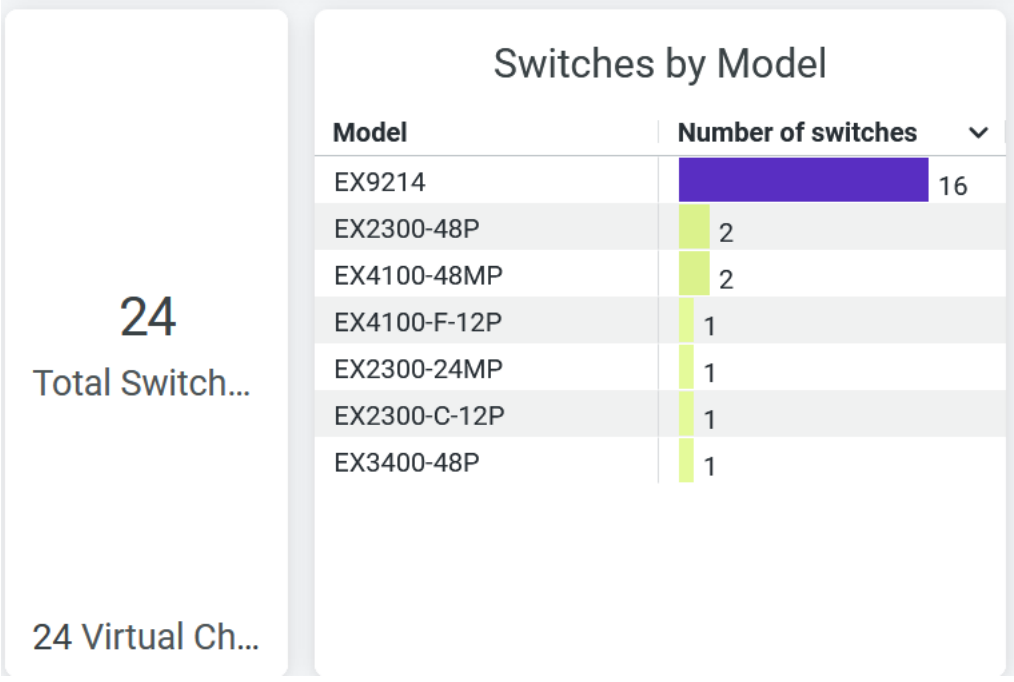
Hover over the chart to see the actual values of the metric at the given time.

The SLE Switch Summary tile displays the success rate of the SLE metrics as a percentage. According to the sample that the tile displays, 99.95 percent of the connections meet the specified health level and 77.59 percent of the connections are successful. Additionally, the sample shows that 55.80 percent of the sessions successfully receive the specified throughput. Therefore, the remaining 54.20 percent of the wired sessions face problems.

Switches by Model

Figure 106 on page 136 shows the **Switches by Model** chart.

Figure 106: Switches by Model

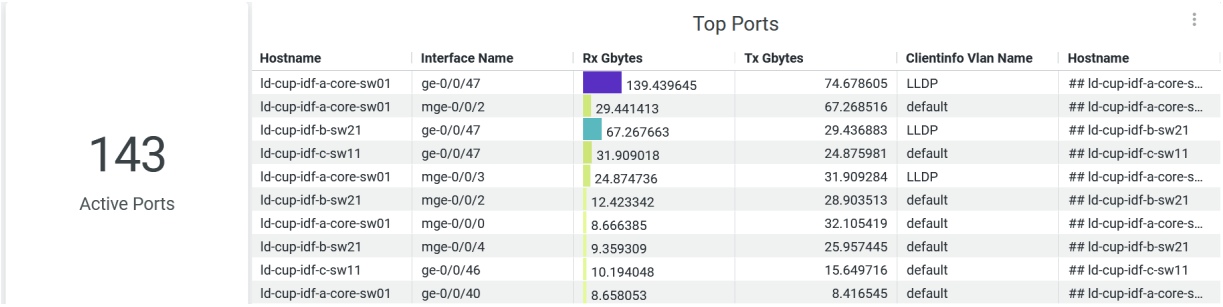


This tile displays the switch models in the order of their count and the total number of switches in the wired network of your organization.

Top Ports

Figure 107 on page 137 shows the **Top Ports** tile.

Figure 107: Top Ports



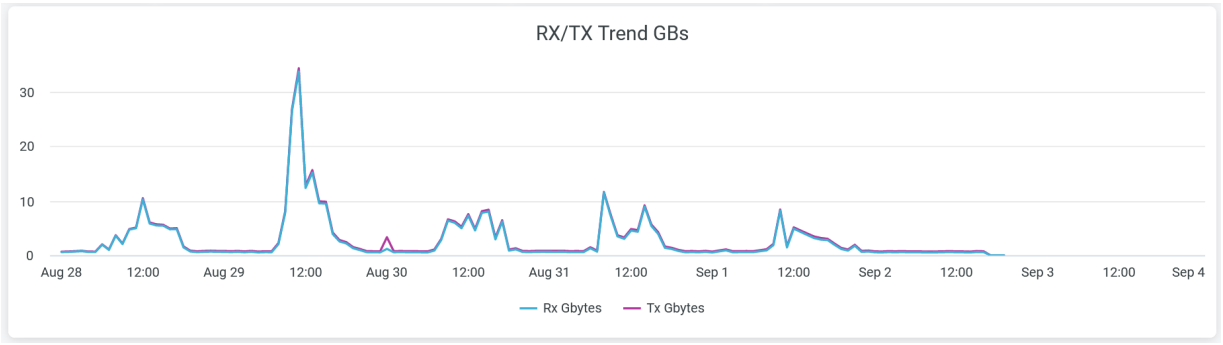
The tile displays the number of active ports and the list of active interfaces on the switches. The tile displays a list of interfaces ordered based on the traffic volume on each interface. The tile displays:

- Hostname—Hostname for a switch.
- Interface Name—Interface on a switch.
- RX Gbytes—Traffic volume that an interface receives.
- TX Gbytes—Traffic volume that an interface transmits.
- Client Info Vlan Name—Dynamic port profile.
- Hostname—Hostname for a switch.

RX/TX Trend GBs

Figure 108 on page 138 shows the **RX/TX Trend GBs** tile.

Figure 108: RX/TX Trend GBs



The tile displays client traffic volume that your wired network receives and transmits over 7 days.

To hide either transmitted or received traffic from the chart and see only the remaining traffic type, click the relevant unit of measure in the legend.

Place the cursor on the chart to see the volume of traffic at the given time.

Switches Summary Report

Figure 109 on page 138 shows the Switches Summary Report tile.

Figure 109: Switches Summary Report

Switches Summary Report

Hostname	Site Name	Firmware Version	Model	VC member count	Number Used Ports	Number Poe Ports	Gbytes
## ld-cup-idf-a-...	Live-Demo	22.3R1.12	EX4100-48MP	51	10	48	431.133032
## ld-cup-idf-b-...	Live-Demo	22.3R1.12	EX4100-48MP	51	0	48	201.474392
## ld-cup-idf-c-...	Live-Demo	20.3R1-S1.1	EX3400-48P	50	5	48	105.909251
## ld-cup-idf-d-...	Live-Demo	20.2R2-S2.6	EX2300-48P	202	0	96	39.201074
##	Live-Demo	22.4R2-S1.6	EX4100-F-12P	17	5	12	7.386841
## IPCLOS-DIST1	Live-Demo	23.1R1.8	EX9214	13	10	0	1.259441
## IPCLOS-DIST2	Live-Demo	23.1R1.8	EX9214	13	10	0	1.258789
## IPCLOS-ACC2	Live-Demo	23.1R1.8	EX9214	13	10	0	1.222161
## IPCLOS-ACC1	Live-Demo	23.1R1.8	EX9214	13	10	0	1.220982
## ERB-DIST2	Mist WA Lab (E...	23.1R1.8	EX9214	13	10	0	0.796621
## EVPN-MH-C...	Mist WA Lab (E...	23.1R1.8	EX9214	13	10	0	0.791858

The tile displays the following details about the switches in your network:

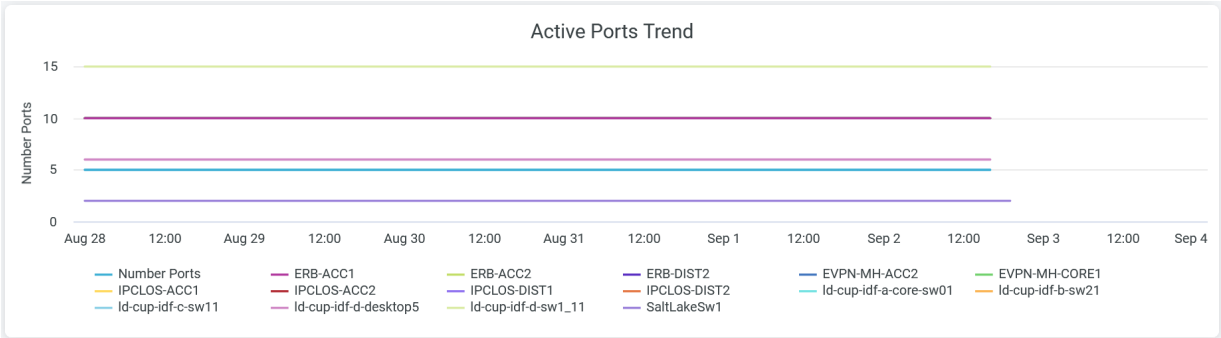
- Hostname—Hostname for a switch.
- Site Name—Name of the site that a switch is associated with.
- Firmware Version—Firmware version of a switch

- Model—Model of a switch.
- VC member count—Count of virtual chassis configured on a switch.
- Number Used Ports—Number of ports on a switch.
- Number PoE Ports—Number of Power over Ethernet (PoE) ports on a switch.
- Gbytes—Traffic volume on an interface.

Active Ports Trend

Figure 110 on page 139 shows the Active Ports Trend tile.

Figure 110: Active Ports Trend



Place the cursor on a line graph, which represents a switch, to see the actual number of ports active on that switch.

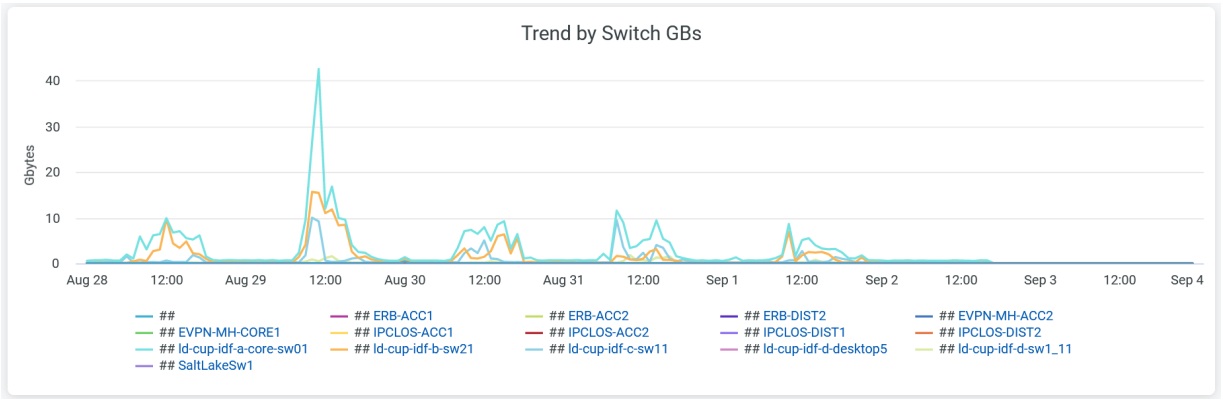
Click the chart to see a pop-up menu with the option to open the chart in a new window with additional details. You can generate the chart by the hostname or the interface names of the selected switch.

The legend below the chart shows hostname of switches. To hide port details of a switch from the chart and see only details of the remaining ports from other switches, click the name of the switch in the legend below.

Trend by Switch GBs

Figure 111 on page 140 shows the Trend by Switch GBs tile.

Figure 111: Trend by Switch GBs



The tile shows the traffic trend on a switch over a period of time.

Place the cursor on a line graph, which represents a switch, to see the actual number of ports active on that switch.

Click the chart to see a pop-up menu with the option to open the report in a new window with additional details. Select the option to open the report in a new window. You can view the details as a chart or as a table and also download the report. You can sort the details by:

- Show All—Traffic statistics on all the interfaces on the switch.
- By Report Local Time—Traffic statistics on the switches at frequent intervals.
- By ID—Traffic statistics for the interface ID.
- By Client Info Host Name—Traffic statistics grouped by the hostnames of client devices.
- By Hostname—Traffic statistics for the switch hostname.
- By LLDP neighbor Local Parent Iface Name—Traffic statistics by LLDP port settings.
- By Interface Name—Traffic statistics for the switch interfaces.
- By Client Info Iface Name—Traffic statistics for the client interfaces.
- By Client Info VLAN Name—Traffic statistics grouped by VLANs.

To hide the details of a switch from the chart and see only the details of the remaining switches, click the name of the switch in the legend below the chart.

SEE ALSO

Introduction to Juniper Mist Analytics | 2

Wired Site Comparison

IN THIS SECTION

On the Wired Site Comparison dashboard, you can see service-level expectation (SLE) metrics and traffic performance of different sites in separate graphs. You can compare and monitor sites in terms of SLE metrics, performance, interface usage, bandwidth, and Power over Ethernet (PoE). You can use the information to proactively troubleshoot connectivity and performance issues in the wireless network of your organization.

Features and Benefits

- Tracks the performance of systems, applications, and the network and identifies the sites in which the network performance is below the expected standard.
- Monitors wired network traffic, identifies bandwidth usage, and tracks the busiest switches and interfaces to provide a comprehensive view of your organization's network for efficient management.
- Provides visibility of devices and applications that use the network's bandwidth.
- Tracks traffic activity that you can use to identity and troubleshoot network incidents faster or even prevent these incidents from happening.

Before You Begin

- See the Juniper Mist Wired Configuration Guide for the wired configuration details.

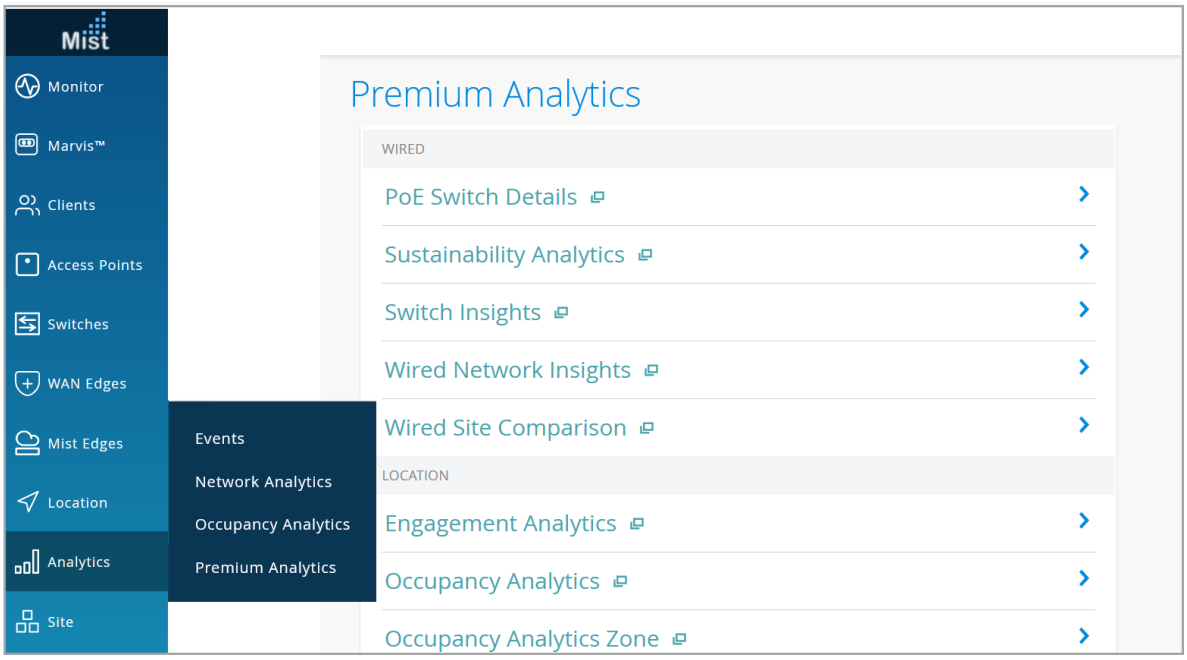
- See "Mist Premium Analytics License" on page 8 to know about license requirements for the Juniper Mist Premium Analytics dashboard.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboard. See Figure 4 on page 17.

Access Wired Site Comparison Dashboard

To access the Wired Site Comparison dashboard:

1. In the Juniper Mist portal, click **Analytics > Premium Analytics** .

Figure 112: Access Wired Site Comparison Analytics



2. On the Premium Analytics page, click **Wired Site Comparison** to open the dashboard.
3. Select the sites that you want to compare and the time period for which you want to collect data. To perform these actions, use the following filter options at the top of the page:
   - Click **Report Period** and select the time range. By default, the dashboard shows data for the last 7 days.
   - Select **VLAN** and select the sites and the switches linked to each site to see specific information. For example: You can select up to three sites and all the switches linked to each of the sites.

- Select **Reset filter** from the dashboard actions menu on the top-right corner of the page to reset the filters.

Wired Site Comparison Tiles

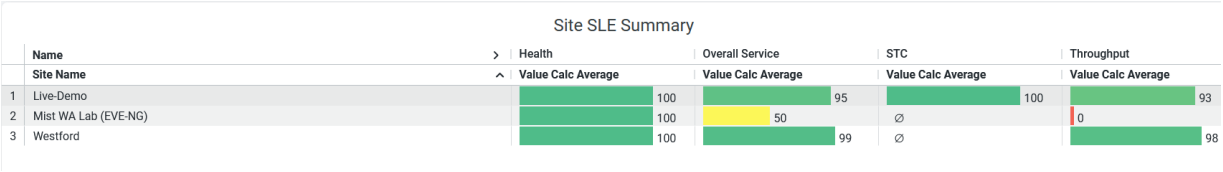
IN THIS SECTION

The Wired Site Comparison dashboard includes various tiles that provide analytics in graphical formats. With these tiles, you can compare and contrast different types of metrics and determine site performance.

Site SLE Summary

Figure 113 on page 143 shows the site SLE summary tile.

Figure 113: Site SLE Summary



The Site SLE Summary tile displays the percentage of time that the SLE metrics met the specified goal within a specific time range. The Juniper Mist portal displays each SLE metric as a percentage that represents the success rate of the metric. The tile displays:

- Health—Shows the switch health SLE success rate. With this information, you can identify bad user minutes resulting from various conditions.
- Overall Service—Identifies the number of connections that experience the specified SLEs. In the above sample, 99 percent of the connections in the Westford site and 95 percent of the connections

in the Live-Demo site meet the specified SLE goal. In the Mist WA Lab site, only 50 percent of the connections meet the specified SLE goal.

- STC—Shows the percentage of successful connections. In the above sample, 100 percent of the connections in the Live-Demo site are successful.
- Throughput—Identifies the percentage of time that the wired users pass traffic without any disruptions. In the above sample, 93 percent of the connections in the Live-Demo site achieve the specified throughput successfully. The graph shows 0 percent SLE success rate for the Mist WA Lab site, indicating that all the wired sessions face issues in this site.

Site Performance Comparison

Figure 114 on page 145 shows the site performance comparison tile.

Figure 114: Site Performance Comparison

The Site Performance Comparison tile compares and displays site performance measures in terms of the following parameters:

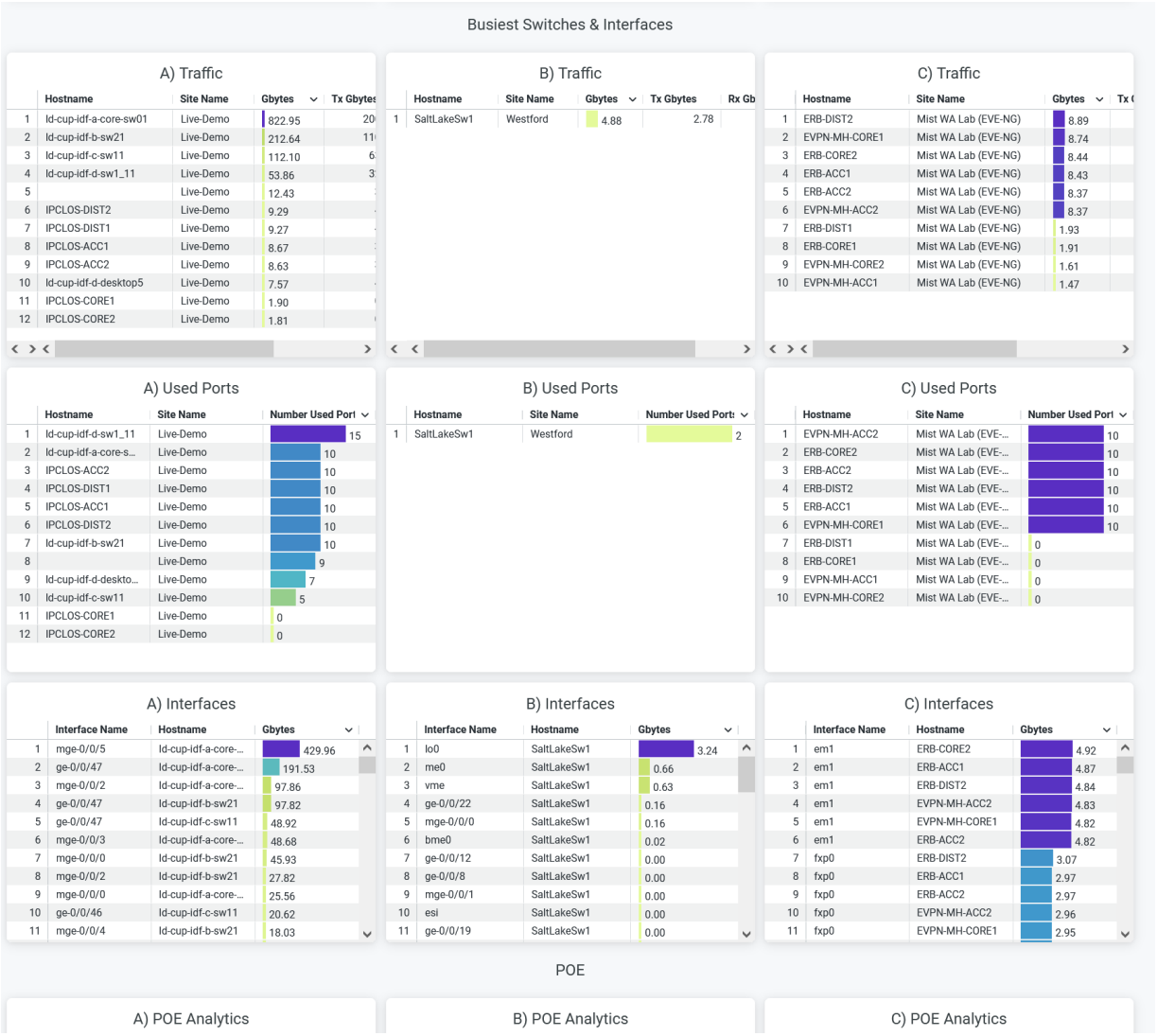
- SLE Summary—Compares the performance of sites in terms of SLE parameters such as health, successful connects, and throughput details. In this tile, you see the success rate or success percentage of each SLE parameter in a bar graph.
- SLEs trends—Displays a graphical representation of trends related to the health and throughput SLE metrics for the selected sites.
- Ports in Use—Displays the number of active ports out of the total number of ports for each site. In the above sample, site A has 147 active ports out of a total of 362 ports.

- Ports Mode and Status—Displays the interface mode for the active ports. For site A, out of 147 active ports, 144 ports operate in trunk mode and 3 ports operate in access mode.
- Wired Traffic Trends—Displays analytics for wired traffic in each site for the selected period of time.

Busiest Switches and Interfaces

Figure 115 on page 146 shows the busiest switches and interfaces in the wired network.

Figure 115: Busiest Switches and Interfaces



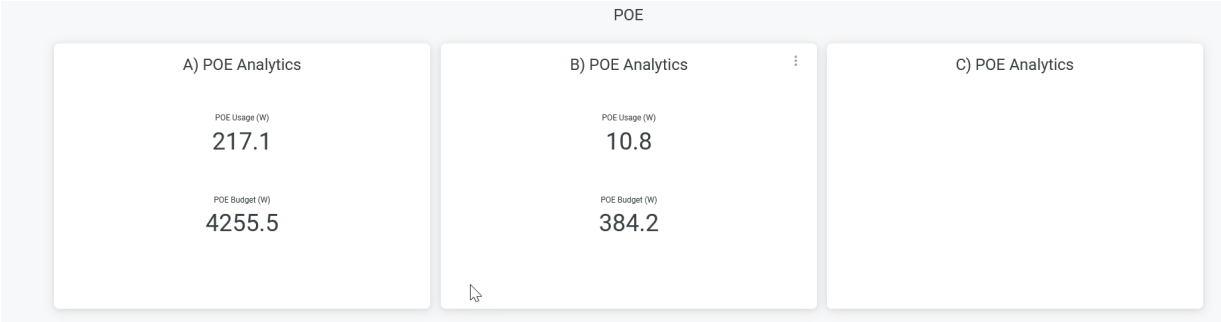
The **Busiest Switches and Interfaces** tile compares the usage of the ports and the interfaces that you've provisioned in the wired networks of the selected sites.

- Traffic—Displays the aggregate client traffic that Juniper Mist detects on the switches of the selected sites. The tile orders the switches by maximum usage. You can see the hostname of each switch next to the site name. The Tx column shows the volume of traffic that a switch transmits, and the Rx column shows the volume of traffic that a switch receives.
- Used Ports—Displays the number of ports that the switches use. The tile orders the switches by the maximum number of used ports.
- Interfaces—Displays the active interfaces on the switches. The tile orders the interfaces based on the traffic volume.

POE Analytics

Figure 116 on page 147 shows the **PoE Analytics** tile.

Figure 116: PoE Analytics



The tile displays the Power over Ethernet (PoE) usage details and the PoE budget details of the selected sites. By knowing the PoE budget and usage details, you can effectively manage the power distribution among the devices and plan network expansion or addition of new devices.

SEE ALSO

Introduction to Juniper Mist Analytics | 2

Mist Premium Analytics Dashboards | 10

Premium Analytics—Frequently Asked Questions | 5

Sustainability Analytics | 118

Wired Network Insights | 133

4

CHAPTER

Premium Analytics - Location Dashboard

Engagement Analytics

IN THIS SECTION

On the Engagement Analytics dashboard, you can view web analytics that provides information about visitors and visitor engagement. You can get real-time data on user footprint within the network and thereby analyze user behavior and improve engagement.

By analyzing wireless devices, BLE tags, and BLE application-enabled devices, Mist Premium Analytics generates insights about user visits, dwell time, and movement patterns across retail and enterprise floors and sites.

Engagement Analytics dashboard is designed specifically for retail environments. The insights help retailers to drive more interactions with associates and customers, and plan cross-selling and omnichannel marketing and sales initiatives.

Features

- Provides comprehensive insights into visitor behavior, including visitor journeys and trends
- Displays zone occupancy in the form of heatmaps
- Identifies and displays new and repeat visitors
- Provides visitor and employee engagement time and engagement trends in terms of dwell time

Before You Begin

- See the Juniper Mist Location Services Guide for information about how to set up your sites and floor plans for location services.
- Refer to Set the Engagement Dwell Limits and Schedule for a Site to learn how to enable engagement analytics options for a site.
- Refer to "Mist Premium Analytics License" on page 8 to know about license requirements for Juniper Mist™ Premium Analytics.

- Become familiar with the options available on the Juniper Mist Premium Analytics dashboards. See Figure 4 on page 17.

Access Engagement Analytics Dashboard

1. From the left menu on the Juniper Mist portal, select **Analytics > Premium Analytics.**.
2. On the Premium Analytics page, click **Engagement Analytics**.
   The **Engagement Analytics** dashboard appears.
3. Use the filter options at the top of the dashboard to view specific information.
   - Click **Date Range** and set the period for which you want to generate analytics. By default, the dashboard shows data for the last 7 days.
   - Filter by site name and month.
   - Filter by client type. Juniper Mist categorizes the clients into types depending on the dwell time shown in Table 9 on page 150.

     Table 9: Client Types

Client Type	Dwell Time
Passerby	Less than 10 minutes
Visitor	10 minutes through 2 hours
Loyalty Visitor	Visited location in the last 30 days
Employee	2 hours through 8 hours
Asset	More than 8 hours

   - Filter by a device source—named asset, software development kit (SDK), or wireless clients.
   - From the dashboard actions on the top-right corner of the dashboard, select **Reset filter** to reset the filters.

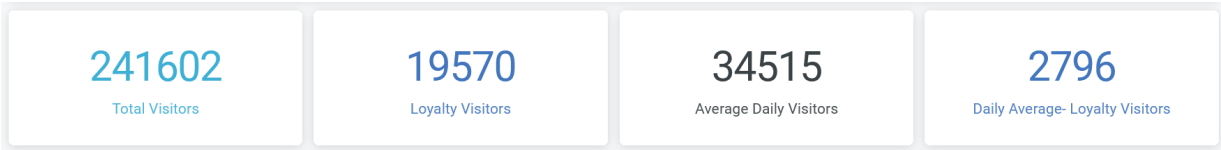
Engagement Analytics Reports

IN THIS SECTION

The Engagement Analytics dashboard includes various tiles that provide graphical representations of analytics at a granular level.

On the top of the dashboard, you can view a summary of the visitor data as shown in Figure 117 on page 151.

Figure 117: Engagement Analytics Summary

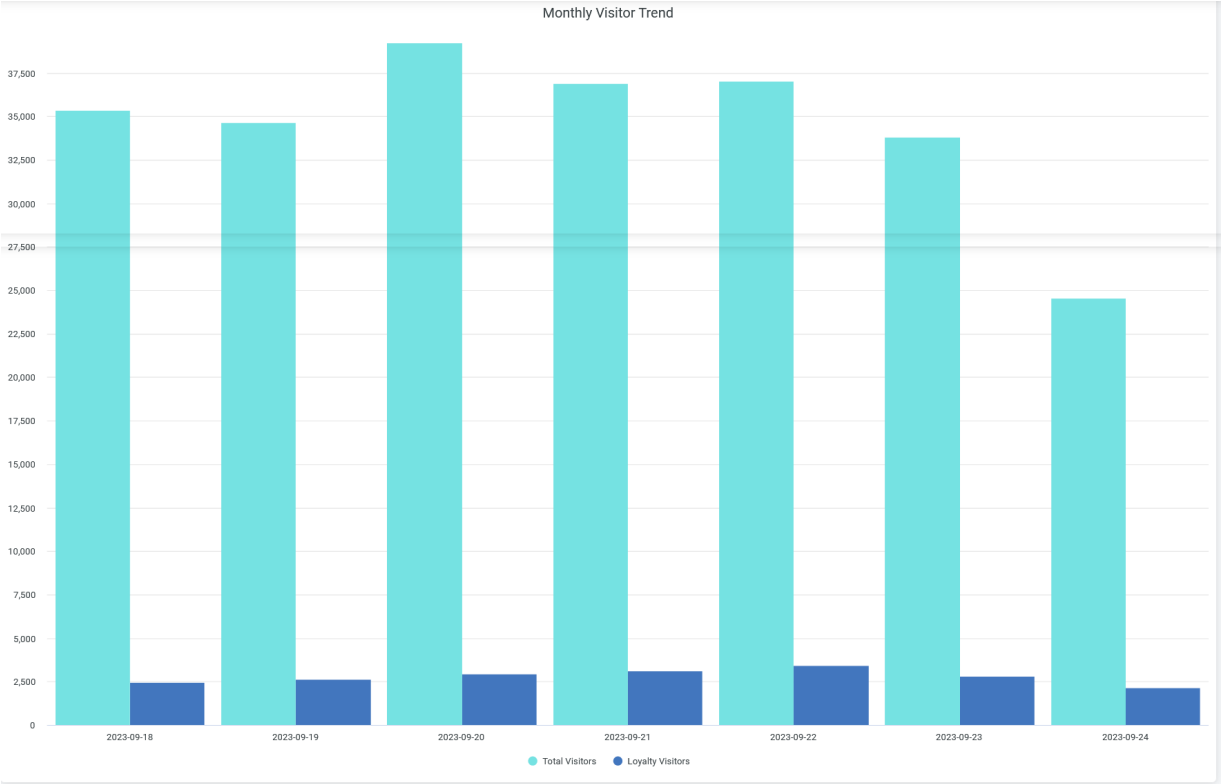


The dashboard displays the total number of visitors, number of loyalty visitors, and the average count of visitors and loyalty visitors per day.

Monthly Visitor Trend

The tile displays the number of visitors in a bar chart for the selected time period. You can select days and a month by using the filter options on the top of the tile.

Figure 118: Wireless Client Sessions Trend

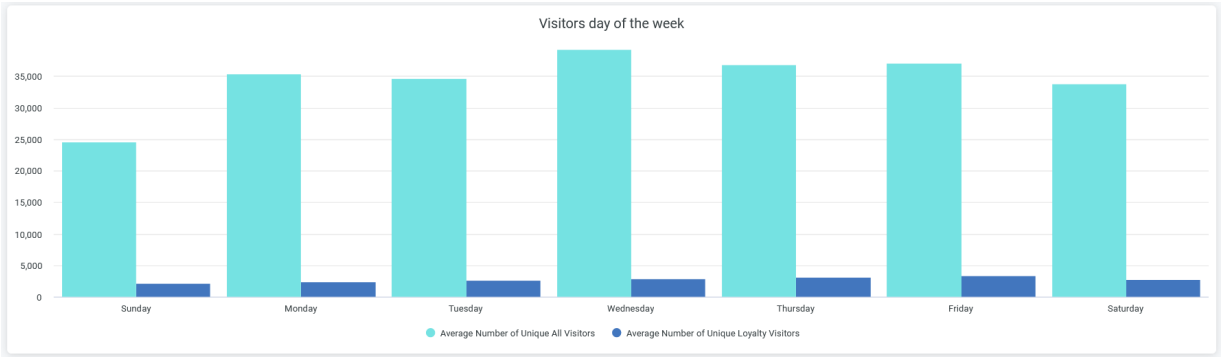


When you hover over a bar, you see a pop-up message with the actual number of visitors at the given time.

Visitors Day of the Week

You can view the average number of daily visitors during a specific week.

Figure 119: Average Visitors in a Week Day

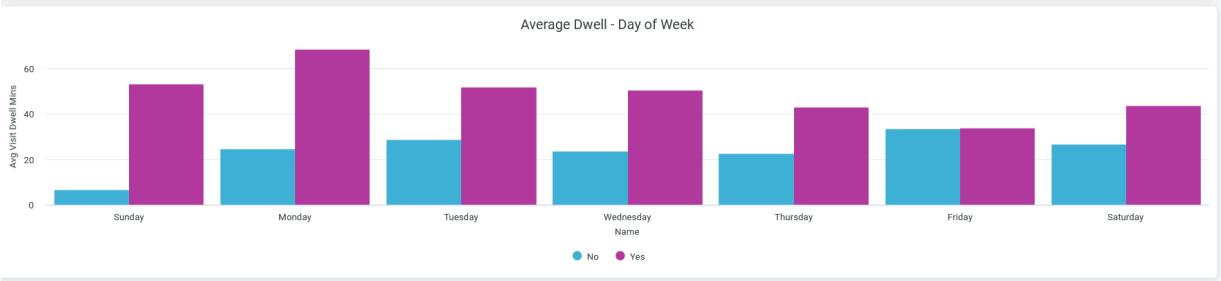


When you hover over a bar, you see a pop-up message with the actual number of visitors at the given time.

Average Dwell - Day of Week

You can view the average time that the visitors spend on each day of a specific week.

Figure 120: Average Dwell - Day of Week

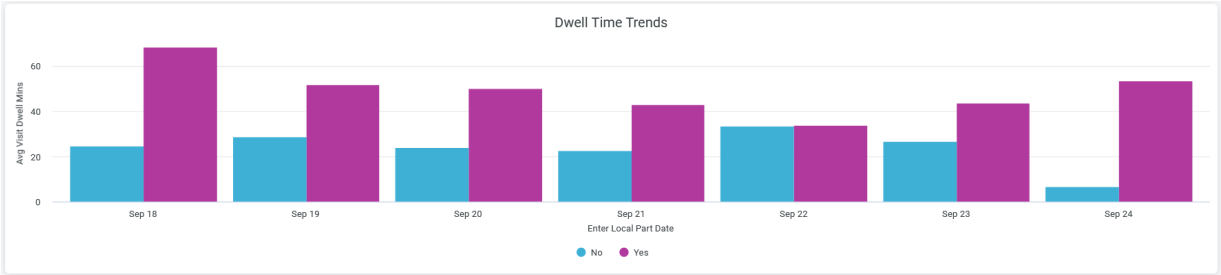


When you hover over a bar, you see a pop-up message with the actual average dwell time at the given time.

Average Dwell

You can view the average time that the visitors spend on each day in a selected time period.

Figure 121: Average Dwell

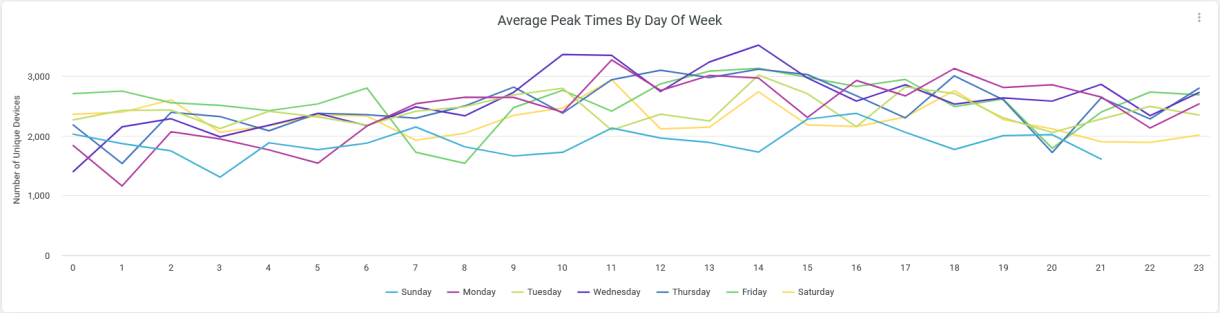


When you hover over a chart, you see a pop-up message with the actual average dwell- time at the given time.

Average Peak Times By Day Of Week

You can view the number of unique devices connected at each hour in a day over a selected time period.

Figure 122: Average Peak Times By Day Of Week



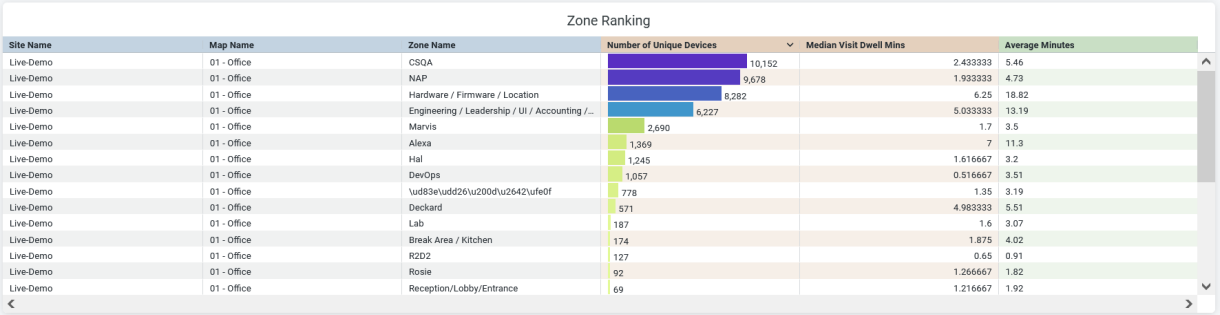
Click a line, which represents a day in the graph, to view the number of connections at a particular hour of the day. You can find out the busiest hour for a specific day from the graph.

To hide data for a day and see data for only the remaining days, click the day in the legend.

Zone Ranking

You can view the list of zones in a site arranged according to the count of unique connected devices.

Figure 123: Zone Ranking



Site Name	Map Name	Zone Name	Number of Unique Devices	Median Visit Dwell Mins	Average Minutes
Live-Demo	01 - Office	CSQA	10,152	2.433333	5.46
Live-Demo	01 - Office	NAP	9,678	1.933333	4.73
Live-Demo	01 - Office	Hardware / Firmware / Location	8,282	6.25	18.82
Live-Demo	01 - Office	Engineering / Leadership / UI / Accounting /...	6,227	5.033333	13.19
Live-Demo	01 - Office	Marvis	2,690	1.7	3.5
Live-Demo	01 - Office	Alexa	1,369	7	11.3
Live-Demo	01 - Office	Hal	1,245	1.616667	3.2
Live-Demo	01 - Office	DevOps	1,057	0.516667	3.51
Live-Demo	01 - Office	\ud83e\udd26\u200d\u2642\ufe0f	778	1.35	3.19
Live-Demo	01 - Office	Deckard	571	4.983333	5.51
Live-Demo	01 - Office	Lab	187	1.6	3.07
Live-Demo	01 - Office	Break Area / Kitchen	174	1.875	4.02
Live-Demo	01 - Office	R2D2	127	0.65	0.91
Live-Demo	01 - Office	Rosie	92	1.266667	1.82
Live-Demo	01 - Office	Reception/Lobby/Entrance	69	1.216667	1.92

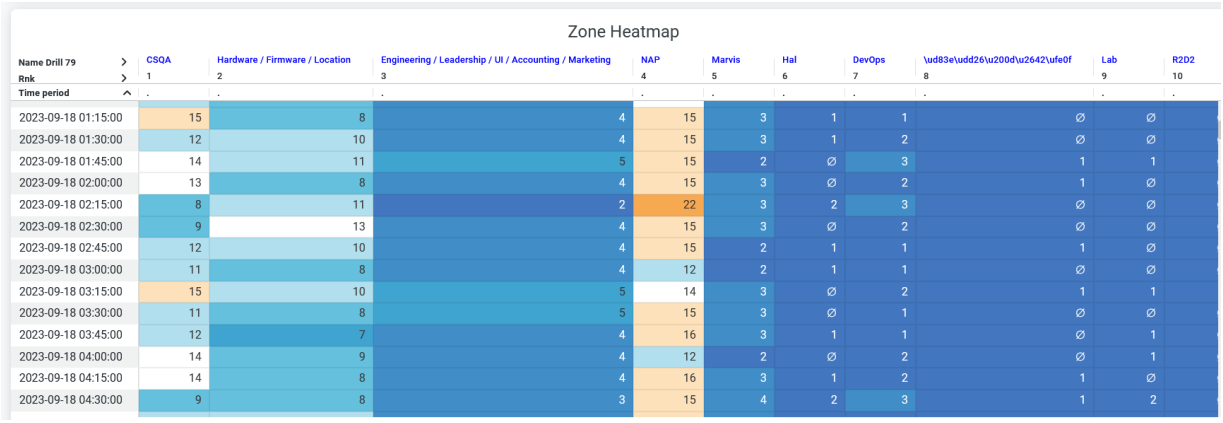
You see the following details about the zones:

- Site Name—Name of the site where a zone is located.
- Map Name—Name of the floor plan within which the zone is located.
- Zone Name—Name of the zone.
- Number of Unique Devices—Number of devices connected to the zone.
- Median Visit Dwell Minutes—Median duration that visitors spend in the zone.
- Average Minutes—Average duration that visitors spend in the zone.

Zone Heatmap

You can view a heatmap that shows the number of unique devices connected in each zone for a regular interval.

Figure 124: Zone Heatmap

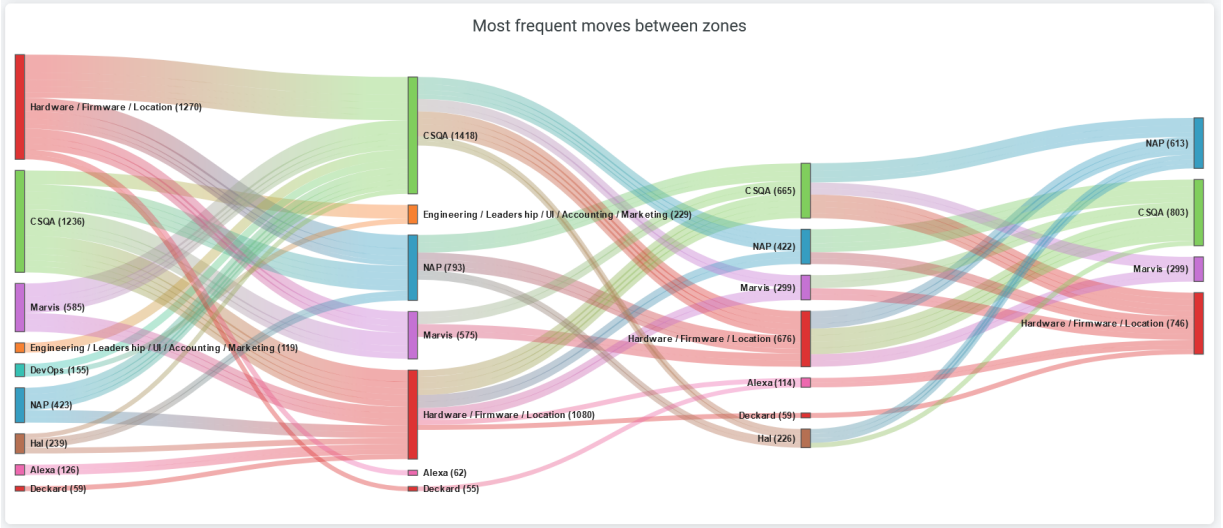


Name Drill 79 / Rnk / Time period	CSQA 1	Hardware / Firmware / Location 2	Engineering / Leadership / UI / Accounting / Marketing 3	NAP 4	Marvis 5	Hal 6	DevOps 7	\ud83e\udd26\u200d\u2642\ufe0f 8	Lab 9	R2D2 10
2023-09-18 01:15:00	15	8	4	15	3	1	1	∅	∅	
2023-09-18 01:30:00	12	10	4	15	3	1	2	∅	∅	
2023-09-18 01:45:00	14	11	5	15	2	∅	3	1	1	
2023-09-18 02:00:00	13	8	4	15	3	∅	2	1	∅	
2023-09-18 02:15:00	8	11	2	22	3	2	3	∅	∅	
2023-09-18 02:30:00	9	13	4	15	3	∅	2	∅	∅	
2023-09-18 02:45:00	12	10	4	15	2	1	1	1	∅	
2023-09-18 03:00:00	11	8	4	12	2	1	1	∅	∅	
2023-09-18 03:15:00	15	10	5	14	3	∅	2	1	1	
2023-09-18 03:30:00	11	8	5	15	3	∅	1	∅	∅	
2023-09-18 03:45:00	12	7	4	16	3	1	1	∅	1	
2023-09-18 04:00:00	14	9	4	12	2	∅	2	∅	1	
2023-09-18 04:15:00	14	8	4	16	3	1	2	1	∅	
2023-09-18 04:30:00	9	8	3	15	4	2	3	1	2	

Most Frequent Moves Between Zones

You can view the movement of visitors or devices between the zones. With this information, you can determine the places with the highest and lowest flows of visitors and take steps to optimize logistics.

Figure 125: Zone Heatmap



The colored bars represent zones and the lines connecting the bars represent visitor's movements.

Click any colored bar to get the details of movement from that zone to the other zone.

Click any line on the chart to get the path from the source zone to the destination zone.

Download the report as an HTML file or an Excel spreadsheet to see the details in a table.

SEE ALSO

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Occupancy Analytics

IN THIS SECTION

On the Occupancy Analytics dashboard, you can view the visitors and visitor engagement details of your site. You can use the Occupancy Analytics dashboard to identify the overcrowded areas in your sites and leverage this information to manage site occupancy with capacity limits for different zones in your site.

Features

- • Provides comprehensive insights into visitor behavior, including visitor journeys and trends. You can use the insights to analyze user behavior and improve customer engagement and optimize workspace.

- Long-term historical time series analysis of network, application, and visitor behavior can enhance business decision-making. You can understand peak usage times, identify common issues, or spot opportunities for improvement.

Before You Begin

- Refer to the Juniper Mist Location Services Guide for information about how to set up your sites and floor plans for location services.
- Refer to Set the Engagement Dwell Limits and Schedule for a Site to learn how to enable the engagement analytics options for a site.
- Refer to "Mist Premium Analytics License" on page 8 to know about license requirements for Juniper Mist™ Premium Analytics.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboards. See Figure 4 on page 17.

Occupancy Analytics Dashboard

1. From the left menu on the Juniper Mist portal, select **Analytics > Premium Analytics.**.
2. On the Premium Analytics page, click **Occupancy Analytics**.
   The Occupancy Analytics dashboard appears.
3. Use the filter options at the top of the dashboard to view specific information.
   - Click **Date Range** and set the period for which you want to generate analytics. By default, the dashboard shows data for the last 7 days.
   - Filter by site name and service set identifier (SSID).
   - Filter by a location source—named asset, software development kit (SDK), or wireless clients.
   - From the dashboard actions on the top-right corner of the dashboard, select **Reset filter** to reset the filters.

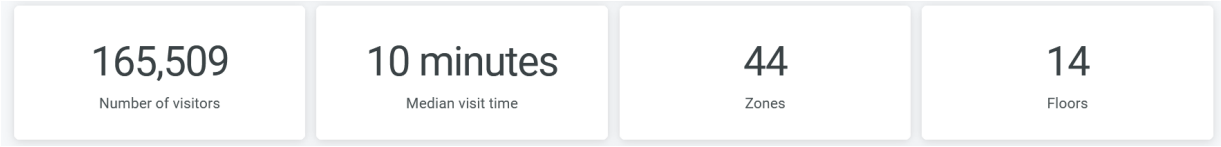
Occupancy Analytics Reports

IN THIS SECTION

The Occupancy Analytics dashboard includes various tiles that provide graphical representations of analytics at a granular level.

On the top of the dashboard, you can view a summary of the visitor data.

Figure 126: Occupancy Analytics Summary

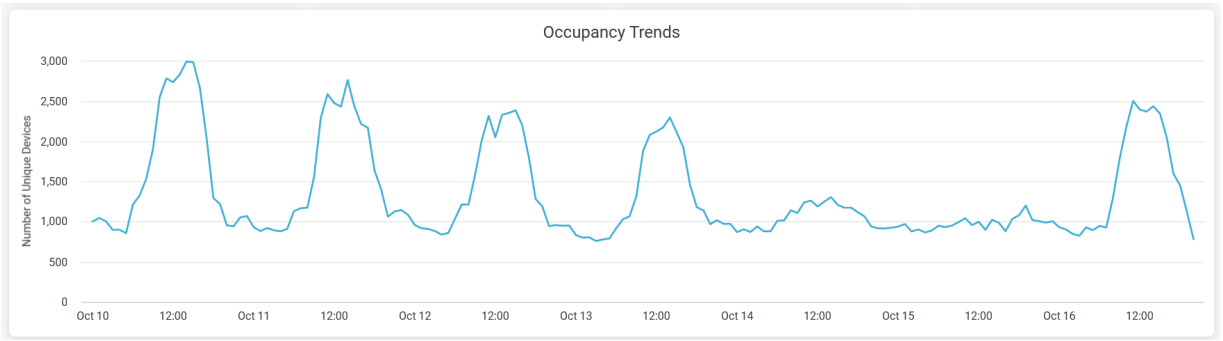


The dashboard displays the total number of visitors, number of visitor minutes, and number of zones and floors.

Occupancy Trend

The tile displays the number of unique devices trend for the selected time period. You can select days and a month by using the filter options on the top of the tile.

Figure 127: Occupancy Trend



When you hover over the chart, you see a pop-up message with the actual number of unique devices at the given time.

Zone Heatmap

You can view a heatmap that shows the number of unique devices connected in each zone for every 15 minutes.

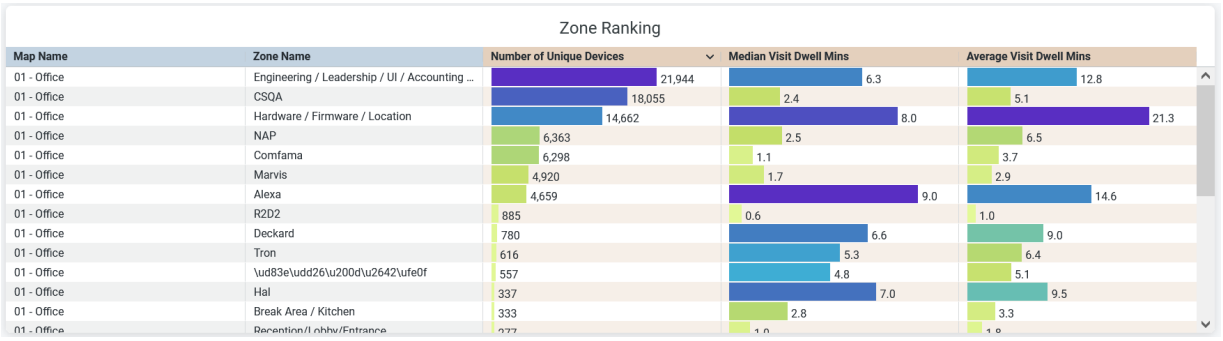
Figure 128: Zone Heatmap

Time period	CSQA 1	Engineering / Leadership / UI / Accounting / Marketing 2	Comfama 3	Marvis 4	Hardware / Firmware / Location 5	NAP 6	Reception/Lobby/Entrance 7	R2D2 8	Terminator 9	Rosie 10	\ud8 11
2023-10-10 00:15:00	5	5	2	1	3	2	∅	∅	∅	∅	
2023-10-10 00:30:00	3	5	3	4	4	6	∅	∅	∅	∅	
2023-10-10 00:45:00	3	5	3	1	5	5	∅	∅	∅	∅	
2023-10-10 01:00:00	4	5	3	2	5	5	∅	∅	∅	∅	
2023-10-10 01:15:00	3	6	5	3	5	4	∅	∅	∅	1	
2023-10-10 01:30:00	4	5	3	2	5	5	∅	∅	∅	∅	
2023-10-10 01:45:00	5	5	4	2	6	6	∅	∅	∅	∅	
2023-10-10 02:00:00	6	6	3	2	8	6	∅	∅	∅	∅	
2023-10-10 02:15:00	5	6	4	2	6	6	∅	∅	∅	∅	
2023-10-10 02:30:00	5	5	4	2	8	5	∅	∅	∅	∅	
2023-10-10 02:45:00	5	7	3	2	7	4	∅	∅	∅	∅	
2023-10-10 03:00:00	4	5	3	2	7	5	∅	∅	∅	∅	
2023-10-10 03:15:00	5	5	3	3	8	4	∅	∅	∅	∅	
2023-10-10 03:30:00	3	6	3	2	7	6	∅	∅	∅	∅	
2023-10-10 03:45:00	6	5	3	3	6	5	∅	∅	∅	∅	

Zone Ranking

You can view the list of zones in a site arranged according to the count of unique connected devices.

Figure 129: Zone Ranking

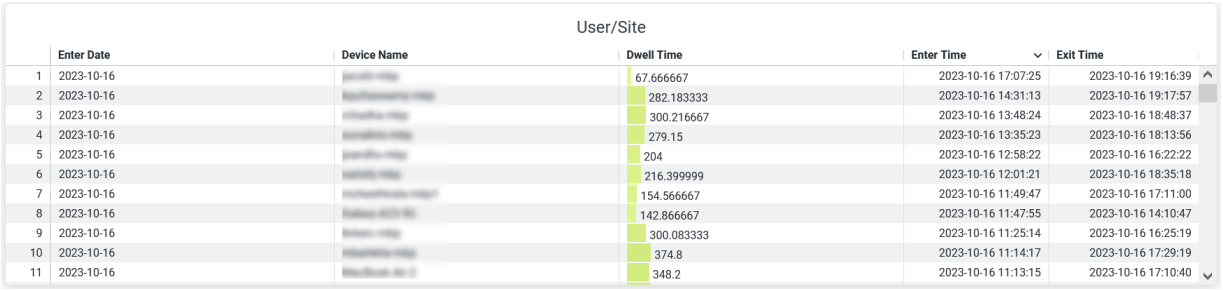


- Map Name—Name of the floor plan within which the zone is located.
- Zone Name—Name of the zone.
- Number of Unique Devices—Number of devices connected to the zone.
- Median Visit Dwell Minutes—Median duration that visitors spend in the zone.
- Average Minutes—Average duration that visitors spend in the zone.

User/Site

You can view the list of devices in a site arranged according to the time spent by visitors.

Figure 130: User/Site



- Enter Date—Time of report generation.
- Enter Time—Time of a visitor's entry into the site.
- Exit Time—Time of a visitor's exit from the site.
- Device Name—Name of a client device.
- Dwell Time—Duration of a visitor's time in the site.

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Occupancy Analytics - Users

IN THIS SECTION

The Occupancy Analytics Users dashboard offers a more precise understanding of occupancy by counting unique users rather than unique wireless devices. This dashboard is applicable in enterprise and educational environments where a single SSID, such as "Enterprise (802.1X)" or "eduroam," is deployed across the entire network. Since employees and students or staff members often connect multiple wireless devices to a single SSID with unique user names, this method eliminates duplicate counting and guarantees that each user is counted only once.

By analyzing wireless devices, BLE tags, and BLE application-enabled devices, Mist Premium Analytics generates insights about user visits, dwell time, and movement patterns across retail and enterprise floors and sites.

Occupancy analytics dashboard is designed specifically for enterprise and workspace environments. For the facility or workspace managers in an enterprises, these insights can help understand the space occupancy and workspace utilization of the various zones and floors. Using long-term occupancy data, you can gain insights into how spaces are utilized, identifying peak usage times and underutilized areas. This enables more efficient allocation of resources, such as heating, cooling, and lighting, reducing operational costs and enhancing sustainability efforts.

Features

- The dashboard provides comprehensive insights into visitor behavior, including zone occupancy trends, and utilization of SSIDs. You can use the insights to analyze user behavior, improve customer engagement, and optimize workspace utilization.

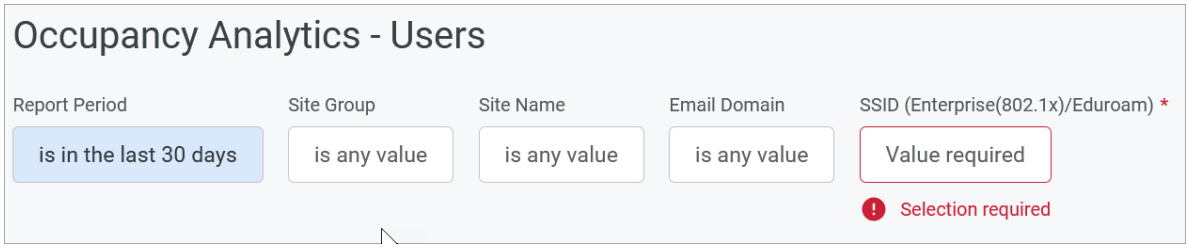
Before You Begin

- See Juniper Mist Location Services Guide for information about how to set up your sites and floor plans for location services.
- See Set the Engagement Dwell Limits and Schedule for a Site to learn how to enable engagement analytics options for a site.
- Refer to "Mist Premium Analytics License" on page 8 to know about license requirements for Juniper Mist™ Premium Analytics.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboards. See Figure 4 on page 17.

Access Occupancy Analytics Zone Dashboard

1. From the left menu on the Juniper Mist portal, select **Analytics > Premium Analytics.**.
2. On the Premium Analytics page, click **Occupancy Analytics - Users**.
   The Occupancy Analytics - Users dashboard appears.
3. Use the filter options at the top of the dashboard to view specific information.

Figure 131: Filter Options for Occupancy Analytics - Users Dashboard



- Click **Report Period** and set the period for which you want to generate analytics. By default, the dashboard shows data for the last 7 days.
- Filter by **Site Group**, **Site Name**, **Zone Name**, **E-mail Domain**, and **SSID (Enterprise(802.1x)/ Eduroam) (mandatory)**.

You must select an SSID with Enterprise (802.1x) security, or a eduroam SSID in case of higher education deployments.

- Select **Reset filter** from the dashboard actions on the top-right corner of the dashboard to reset the filters.

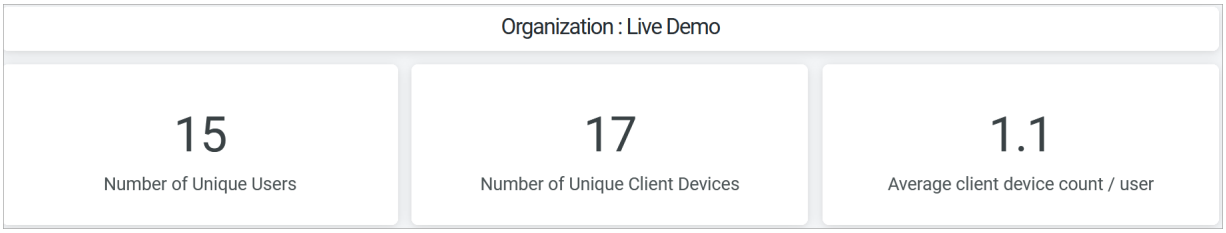
Occupancy Analytics Users Dashboard Tiles

IN THIS SECTION

The Occupancy Analytics Users dashboard includes various tiles that provide graphical representations of analytics at a granular level.

On the top of the dashboard, you can view a summary of the data that the tiles display.

Figure 132: Occupancy Analytics Summary

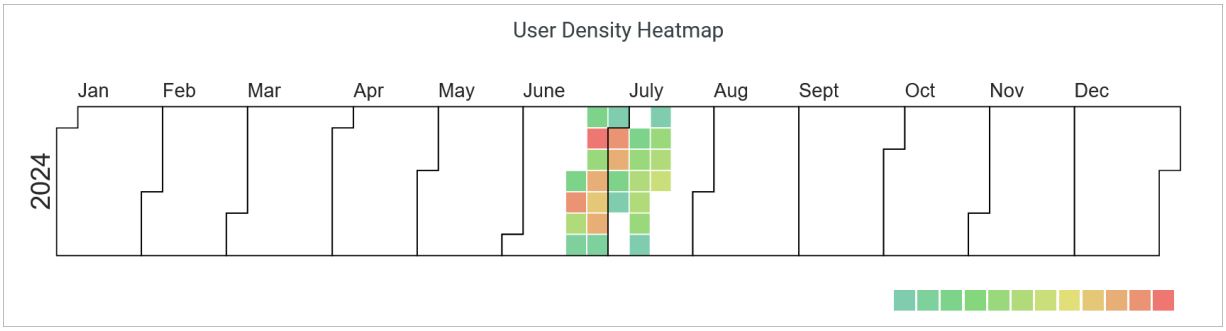


The dashboard displays the total number of unique visitors, number of unique client devices, and the average client devices per users.

User Density Heatmap

The tile displays the trend in the number of unique client devices that connect to the selected SSID for the specified period.

Figure 133: User Density Heatmap



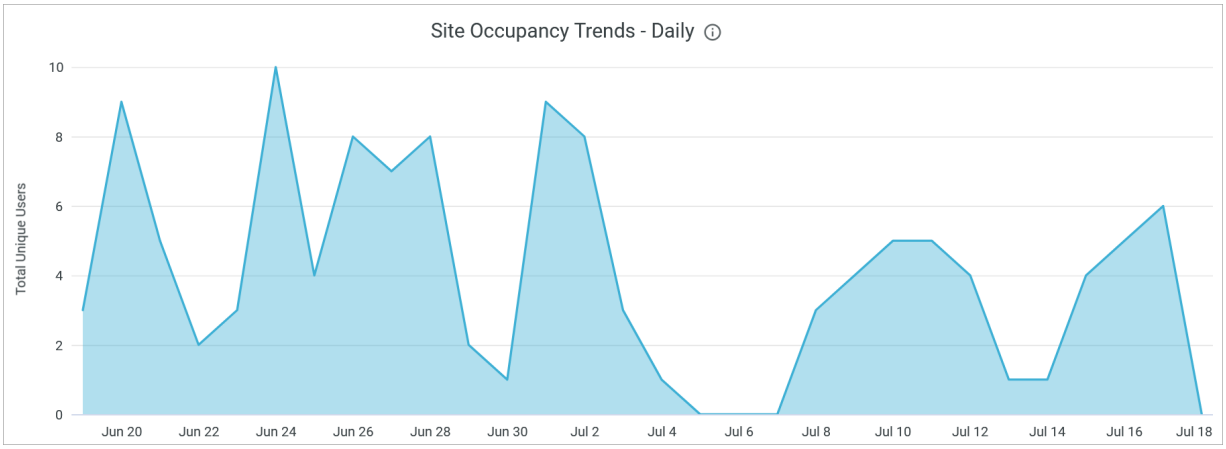
When you hover over the chart, a pop-up message displays the actual number of unique devices connected to the SSID on an exact date.

Use the legend on the bottom of the heatmap to get the number of clients represented by the color in the heatmap.

Site Occupancy Trends - Daily

The tile displays the number of unique users trend over a selected time period.

Figure 134: Site Occupancy Trends

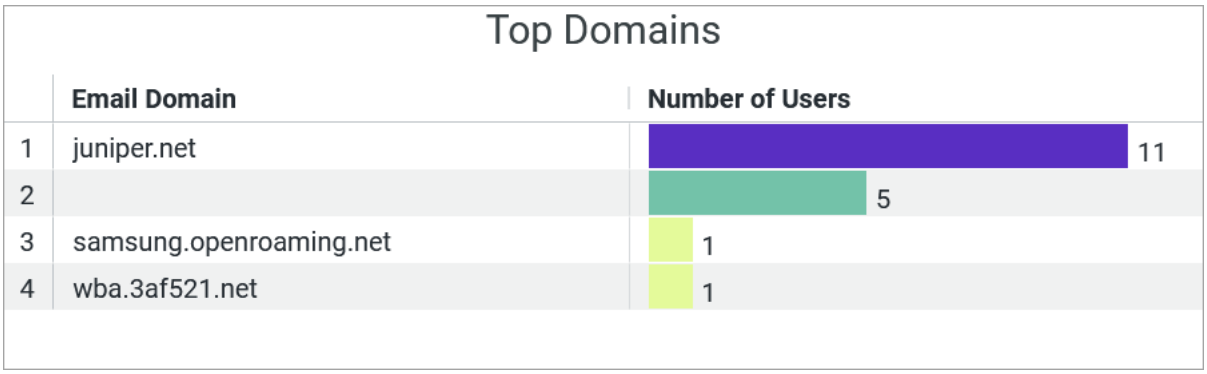


Hover over any portion of this chart to display the numbers of unique users associate with the SSID on that exact date.

Top Domains

The tile shows the count of users associated with a specific email domain.

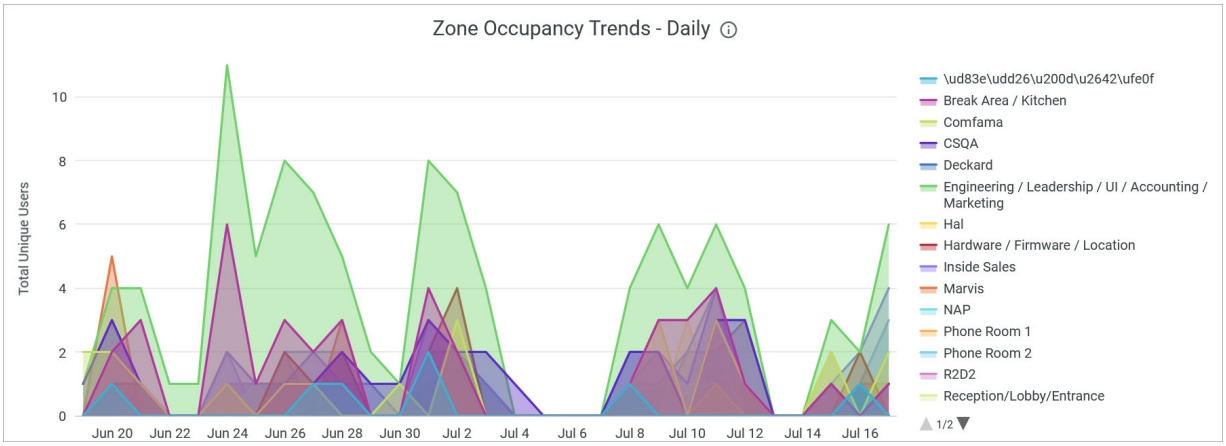
Figure 135: Top Domains



Zone Occupancy Trends - Daily

The Zone Occupancy Trends graph displays the number of unique users connected in different zones for a selected time period.

Figure 136: Zone Occupancy Trends



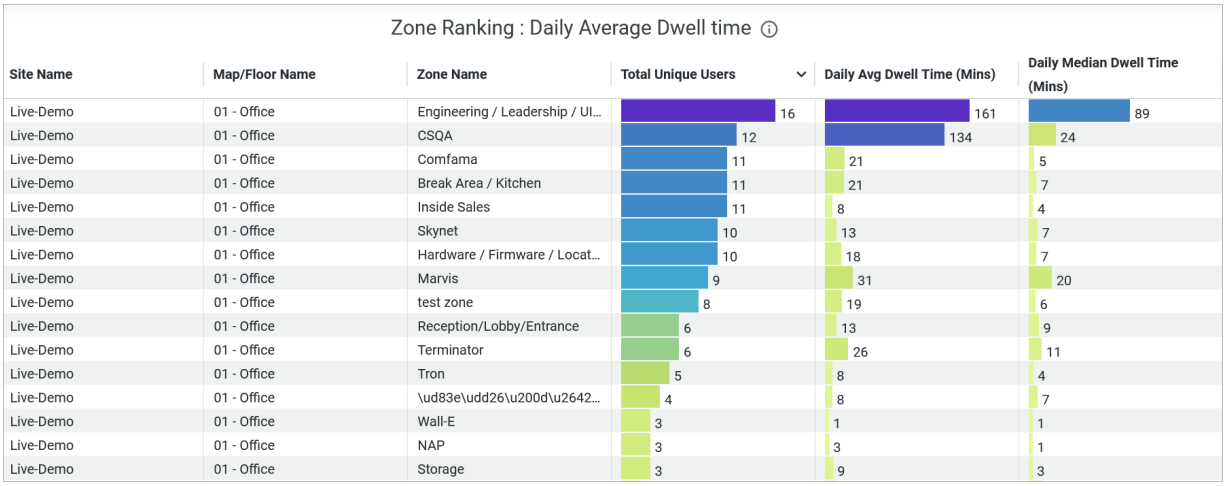
When you hover over the chart, a pop-up message displays the actual number of unique users connected to the zone on an exact date.

To hide a zone from the chart and show only the remaining zones, click the zone name in the legend next to the chart.

Zone Ranking

You can view the list of zones in a site arranged according to the daily average dwell time by connected devices.

Figure 137: Zone Ranking



You see the following details about the zones:

- Site Name—Name of the site where a zone is located.
- Map Name—Name of the floor plan within which the zone is located.
- Zone Name—Name of the zone.
- Device Name—Name of the client or user device connected to zone.
- Daily Average Dwell Time (Min)—Average duration that users spend in the zone.
- Daily Median Dwell Time (Min)—Median duration that users spend in the zone.

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Occupancy Analytics Zone

IN THIS SECTION

On the Occupancy Analytics Zone dashboard, you can view zone-specific occupancy insights on visitor trends and dwell time. You can use these insights to identify the overcrowded areas in your sites and manage site occupancy by placing capacity limits on different zones in a site.

Features

- The dashboard provides comprehensive insights into visitor behavior, including visitor journeys and trends. You can use the insights to analyze user behavior, improve customer engagement, and optimize workspace utilization.

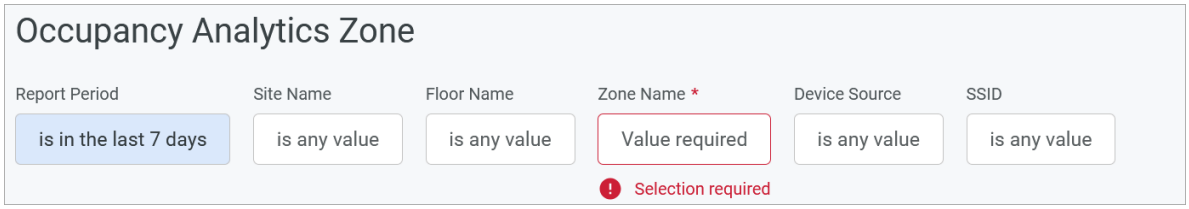
Before You Begin

- Refer to the Juniper Mist Location Services Guide for information about how to set up your sites and floor plans for location services.
- Refer to Set the Engagement Dwell Limits and Schedule for a Site to learn how to enable engagement analytics options for a site.
- Refer to "Mist Premium Analytics License" on page 8 to know about license requirements for Juniper Mist™ Premium Analytics.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboards. See Figure 4 on page 17.

Access Occupancy Analytics Zone Dashboard

1. From the left menu on the Juniper Mist portal, select **Analytics > Premium Analytics.**.
2. On the Premium Analytics page, click **Occupancy Analytics Zone**.
   The Occupancy Analytics Zone dashboard appears.
3. Use the filter options at the top of the dashboard to view specific information.

Figure 138: Filter Options for Occupancy Analytics - Zones Dashboard



- Click **Report Period** and set the period for which you want to generate analytics. By default, the dashboard shows data for the last 7 days.
- Filter by **Site Name**, **Floor Name**, **Zone Name** (Mandatory), **Device Source**, and **SSID ID**.

  For Device Source, you can select BLE tags, connected Wi-Fi, mobile application, passive BLE, or unconnected Wi-Fi.
- Select **Reset filter** from the dashboard actions on the top-right corner of the dashboard to reset the filters.

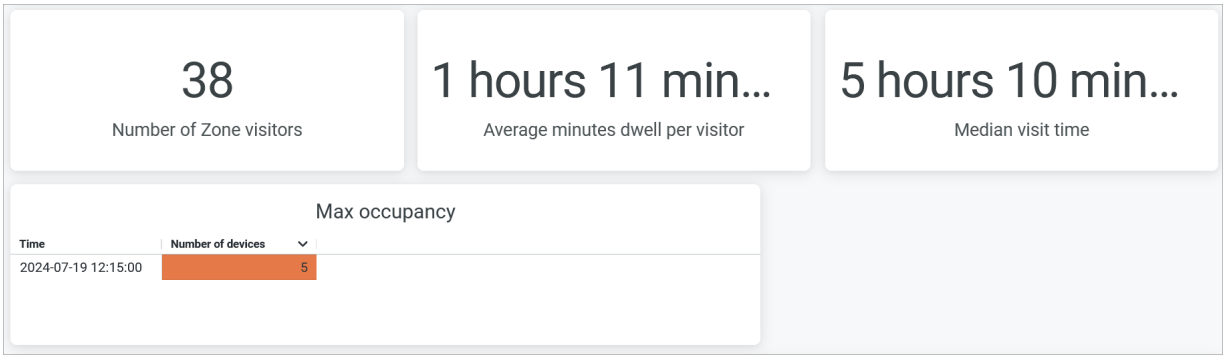
Occupancy Analytics Zone Dashboard Tiles

IN THIS SECTION

The Occupancy Analytics Zone dashboard includes various tiles that provide graphical representations of analytics at a granular level.

On the top of the dashboard, you can view a summary of the data that the tiles display.

Figure 139: Occupancy Analytics Summary

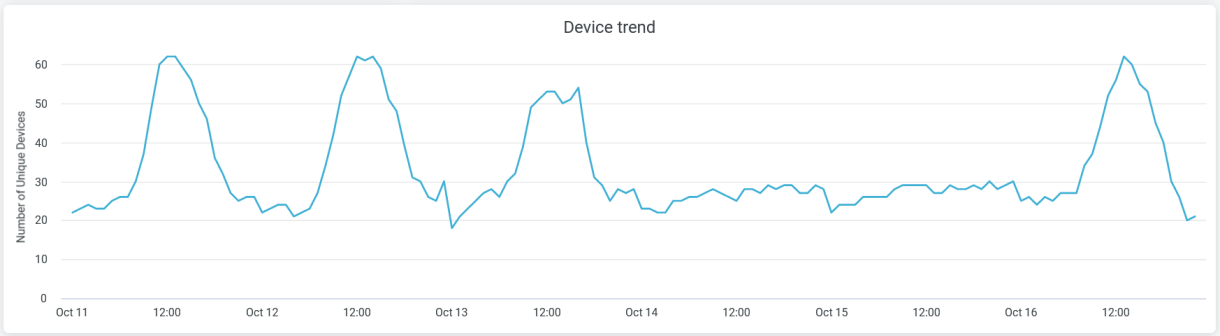


The dashboard displays the total number of zone visitors, the average number of minutes that each visitor spends, maximum occupancy and the time when the site experienced this occupancy, and additionally, you can see the median duration that visitors spend in the site.

Device Trend

The tile displays the trend in the number of unique devices that connect to the selected site for the specified period. You can select either a range of days or a month by using the filter options on the top of the tile.

Figure 140: Device Trend

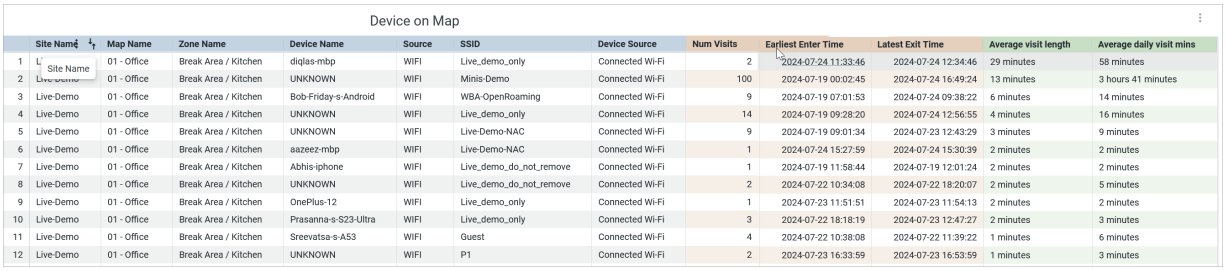


When you hover over the chart, you see a pop-up message with the actual number of unique devices connected to a site at a given time.

Device on Map

On this tile, you can view the list of zone names and client device details for the selected duration.

Figure 141: Device on Map



You can view:

- Site Name—Name of the site with which the zone is associated.
- Map Name—Name of the floor plan within which the zone is located.
- Zone Name—Name of the zone.
- Device Name—Name of the client or user device.
- Source—Location source, which can be named asset, mobile application, or wireless clients.
- Num Visits—Number of visits by a user to the zone.
- Earliest Enter Time—Time of a visitor's entry into the zone.
- Latest Exit Time—Time of a visitor's exit from the zone.
- Average Visit Length—Duration of visit in the zone.
- Average Daily Visit Minutes—Average time the visitor spent in the zone in a day.

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Proximity Tracing and Occupancy Compliance

IN THIS SECTION

The Proximity Tracing and Occupancy Compliance analytics report complements other analytics reports such as Occupancy Analytics and Occupancy Analytics Zone and help you understand visitors' movements, interactions, and dwell time. You can track wireless client devices as they come into contact with, either directly or through connections to neighboring APs, as well as perform location tracing.

Features

- - Provides comprehensive insights on visitor count, user journey, and proximity tracing. You can use the insights to analyze user behavior and improve customer engagement and optimize workspace utilization.
  - Provides proximity tracing and compliance reports. With these reports, you can analyze whether your network follows the prescribed capacity utilization restrictions.

Before You Begin

- See Juniper Mist Location Services Guide for information about how to set up your sites and floor plans for location services.
- See Set Up Occupancy Analytics for a Site for information about zone occupancy settings.
- See Set the Engagement Dwell Limits and Schedule for a Site to learn how to enable engagement analytics options for a site.
- See "Mist Premium Analytics License" on page 8 to know about license requirements for Juniper Mist™ Premium Analytics.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboards. See Figure 4 on page 17.

Access Proximity Tracing and Occupancy Compliance

1. From the left menu on the Juniper Mist portal, select **Analytics > Premium Analytics.**.
2. On the Premium Analytics page, click **Proximity Tracing and Occupancy Compliance**.
   The **Proximity Tracing and Occupancy Compliance** dashboard appears.
3. Use the filter options at the top of the dashboard to view specific information.
   - Click **Date Range** and set the period for which you want to generate analytics. By default, the dashboard shows data for the last 7 days.
   - You can also use the following filtering options:
     - Site Name—Select the required site in the field.
     - Encounter Min Length—Select the required duration. Available options are 1 minute, 2 minutes, 5 minutes, 10 minutes, and 15 minutes.
     - Device Source—Select the device source. You can select named asset, software development kit (SDK) clients, or wireless clients.
     - Device Name—Select the required device. You start typing in the text box. As you type, the drop-down list shows only the devices that match your string.
     - Exclude Passive Devices—Click the **Exclude Passive Devices** check box.
   - From the dashboard actions on the top-right corner of the dashboard, select **Reset filter** to reset the filters.

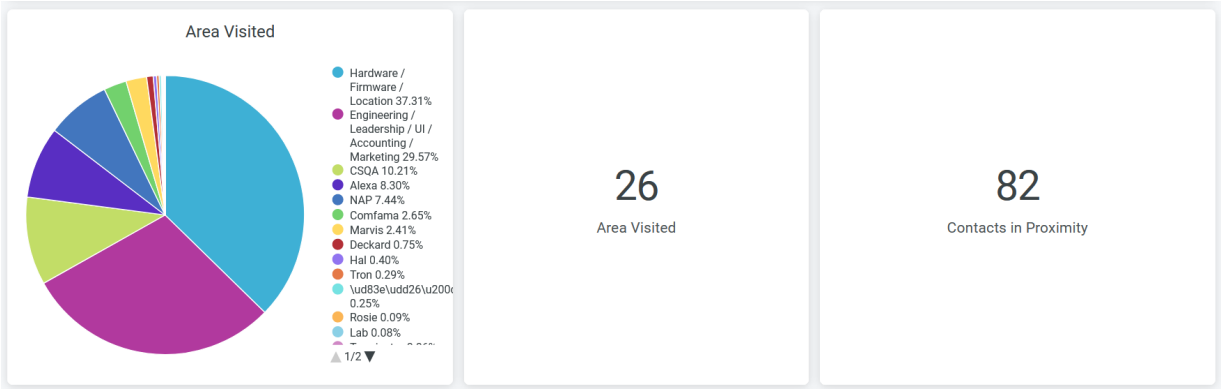
Proximity Tracing and Occupancy Compliance Tiles

IN THIS SECTION

The Proximity Tracing and Occupancy Compliance dashboard includes various tiles that provide graphical representations of analytics at a granular level.

On the top of the dashboard, you can view a summary of the reports such as areas visited and contacts in proximity.

Figure 142: Proximity Tracing and Occupancy Compliance Summary



In a pie chart you can view the distribution of dwell time in different zones.

Place the cursor on a wedge, which represents a zone in the site, of the pie chart to view the time spent (in minutes) by visitors in that zone.

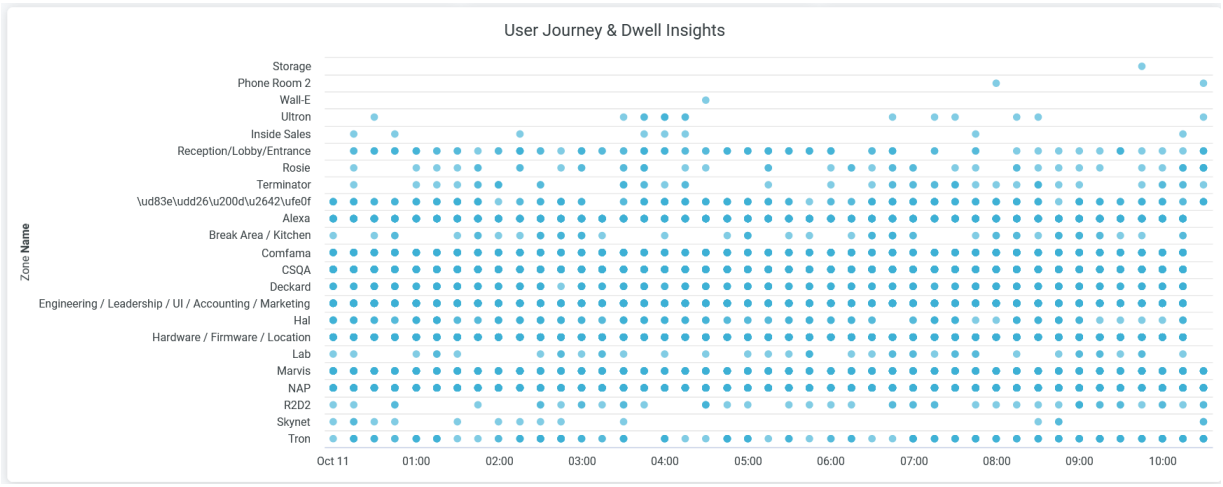
Additionally, you can see in the legend next to the chart the percentage of visitors' minutes in each zone. To hide information about a zone from the chart and see information only for the remaining zones, click the zone name in the legend.

You can see the count of areas that have visitors and the number of visitors in proximity.

User Journey and Dwell Insights

The tile displays the occupancy status of each zone on an hourly basis.

Figure 143: User Journey and Dwell Insights



When you hover over the chart, you see a pop-up message with the occupancy status of a particular zone with time stamps.

Proximity Tracing

You can view the list of devices that are in close contact with the APs, that is the devices within the proximity zones of the APs.

Figure 144: Proximity Tracing

Proximity Tracing

Device Name	Average encounter	Encounters	Total duration of encounters
Google-Nest-Hub	34	522	12 days 5 hours 15 minutes
auth-test-laptop-10	34	522	12 days 5 hours 15 minutes
Google-Nest-Hub	60	285	11 days 22 hours 33 minutes
Freezer 6	60	285	11 days 22 hours 33 minutes
tis7E	34	486	11 days 13 hours 2 minutes
Google-Nest-Hub	34	486	11 days 13 hours 2 minutes
tis62	27	602	11 days 4 hours 51 minutes
auth-test-laptop-10	27	602	11 days 4 hours 51 minutes
Freezer 6	29	549	10 days 21 hours 26 minutes
auth-test-laptop-10	29	549	10 days 21 hours 26 minutes
tis62	57	276	10 days 21 hours 7 minutes

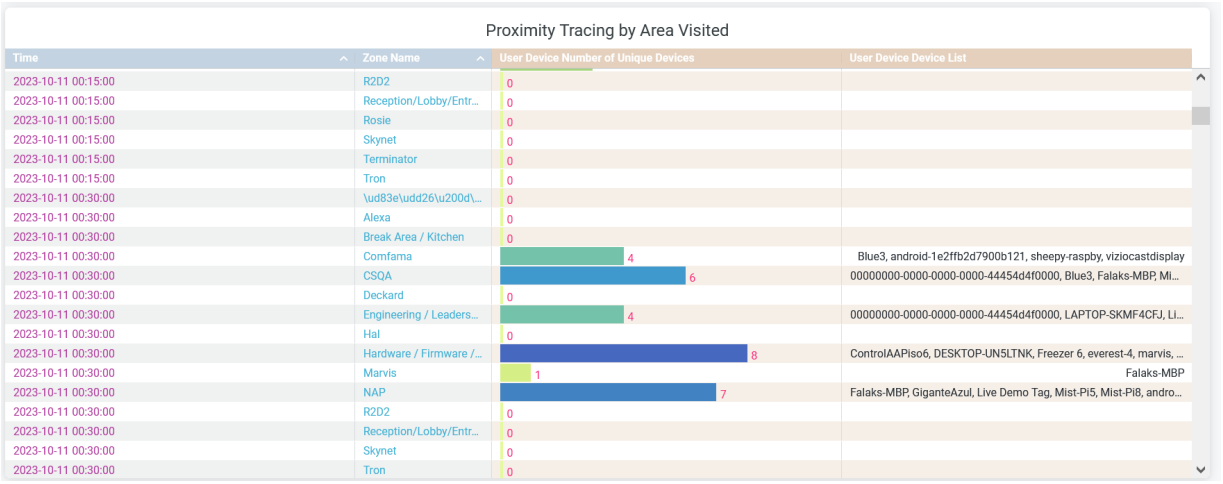
You can view:

- Device Name—Name of the client or user device.
- Average Encounter—Average number of times the device is within the proximity zone.
- Encounter—Number of times the device is within the proximity zone.
- Duration of Encounter—Total duration of the device's presence in the proximity zone.

Proximity Tracing by Area Visited

You can view the list of zones with details of devices that are in the proximity zones.

Figure 145: Proximity Tracing by Area Visited



You can view:

- Time—Time of report generation.
- Zone Name—Name of the proximity zone.
- Number of Unique Devices—Number of unique devices present in the proximity zone.
- User Device or Device List—Name of the devices present in the proximity zone.

Compliance Based on Capacity Utilization by Area

You can view the details of zones along with the percentage that represents the ratio of occupancy to capacity.

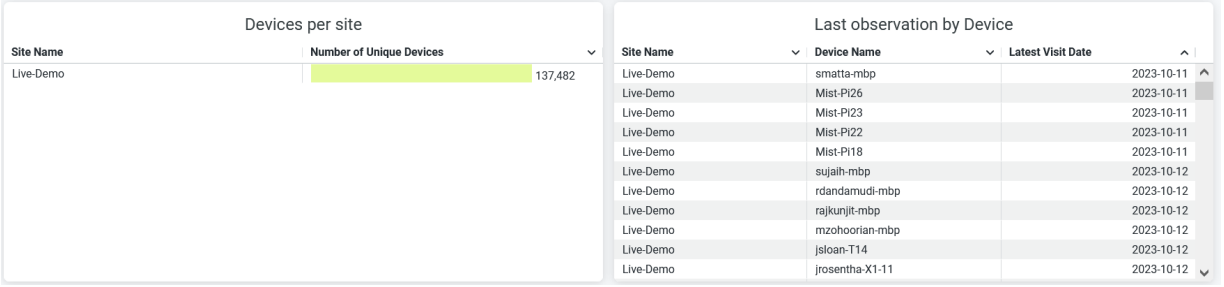
Figure 146: Compliance Based on Capacity Utilization by Area

In the tile, you can see that zones with low occupancy (below 50 percent of capacity) are in green. Zones with medium occupancy (50–100 percent of capacity) are in yellow and zones with excess occupancy (over 100 percent of capacity) are in red. Additionally, you can see the percentage of occupancy.

Device Per Site and Last Observation by Device

The tile shows the total number of client or user devices present in your site. Additionally, it provides a list of devices on the site, each with its most recent visit date.

Figure 147: Device Per Site and Last Observation by Device



You can view:

- Time—Time of the report generation.
- Zone Name—Name of the proximity zone.
- Number of Unique Devices—Number of unique devices present in the proximity zone.
- User Device or Device List—Name of the devices present in the proximity zone.

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5

CHAPTER

Premium Analytics - WAN Dashboard

WAN Insights for Session Smart Routers

IN THIS SECTION

Juniper WAN Assurance is a cloud service that brings automated operations and service levels to the enterprise access layer at the WAN edge. This cloud service also provides WAN insights for Juniper® Session Smart™ Router. You can view comprehensive insights about WAN link service-level expectation (SLE) metrics, performance and utilization of links, and application metrics. You can continuously analyze performance and the SLE success rate and avoid any possible experience degradation or outages.

Features and Benefits

- Provides visibility into user experiences with WAN by generating WAN SLEs metrics.
- Generates insights on WAN visibility for link and application quality of experience (QoE).
- Provides traffic metrics for WAN edge devices, interfaces, or zones.
- Generates details about the devices and applications that use the network's bandwidth.

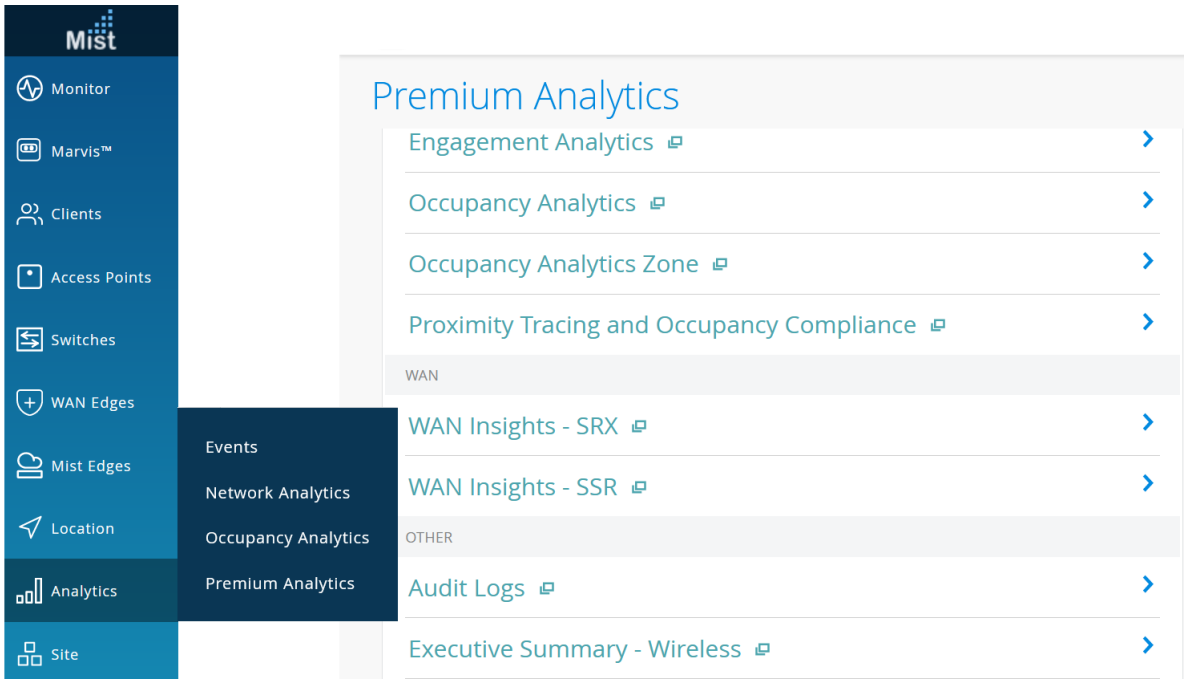
Before You Begin

- Refer to the Juniper Mist WAN Configuration Guide for the WAN configuration details.
- Understand about WAN Service Level Experience (SLE).
- See "Mist Premium Analytics License" on page 8 to know about license requirements for the Juniper Mist Premium Analytics dashboard.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboard. See Figure 4 on page 17.

Access WAN Insights-SSR Dashboard

1. In Juniper Mist portal, click **Analytics > Premium Analytics** .
2. On the Premium Analytics page, click **WAN Insights - SSR**.

Figure 148: WAN Insights- SSR



The WAN Insights - SSR page appears.

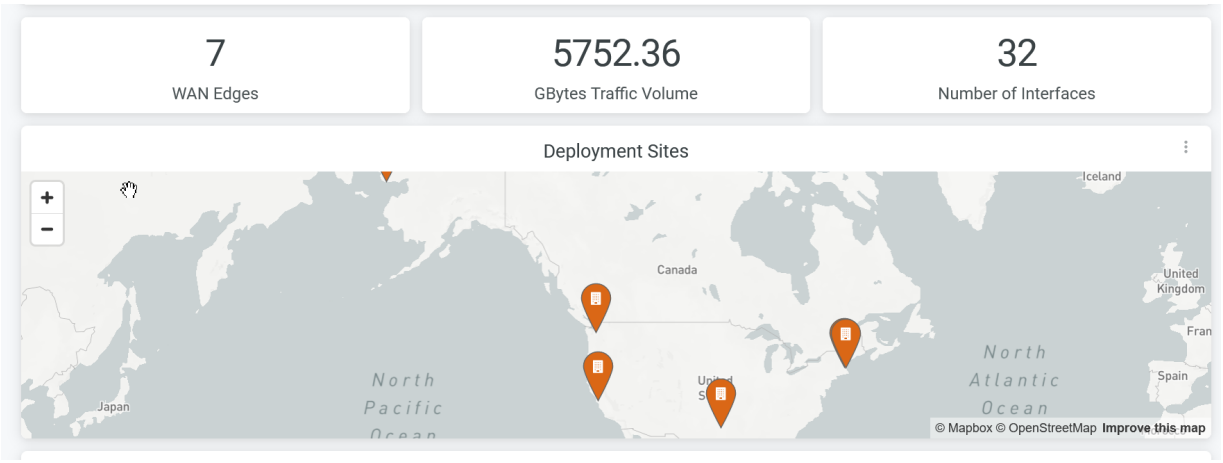
3. Use the filter options available at the top of the page to view specific information.
   - Click **Report Period** and select a time range. By default, the dashboard shows data for the last 7 days.
   - Filter by **Site**, **WAN Edge**, **Interface Name**, and **Interface Type**.
   - From the dashboard actions on the top-right corner of the page, select **Reset filter** to reset the filters.

WAN Insights - SSR Tiles

IN THIS SECTION

The WAN Insights - SSR dashboard includes various tiles to provide the WAN performance data in graphical formats. You can use the dashboard to get an overview of the deployed WAN edge devices.

Figure 149: WAN Insights High-Level Summary



The Figure 149 on page 181 tile displays:

The dashboard displays the summary of WAN deployment and traffic performance as shown in Figure 149 on page 181.

- Deployed WAN Edge devices
- Traffic volume
- Number of Interfaces

- Deployment Sites

According to Figure 149 on page 181, the WAN configuration includes 7 WAN edge devices across different sites as shown in the map. A total of 32 interfaces are active and traffic traveling through the network is 5752.36 GB.

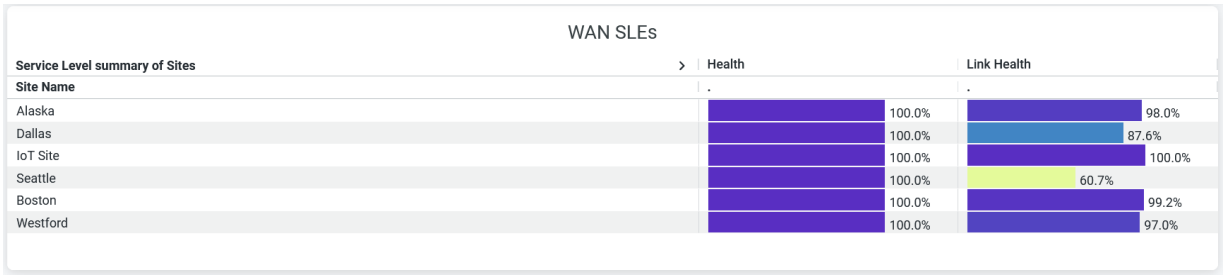
Hover over the map to see the site location. Double-click the map to zoom in—you'll see a detailed view of the map similar to the screenshot in Figure 150 on page 182.

Figure 150: Site Location Details

WAN SLE

Figure 151 on page 182 shows WAN service-level expectation (SLEs).

Figure 151: Service-Level Summary



WAN SLE metrics indicate the performance of devices that serve the WAN functions in your network. WAN SLE metrics provide insights about the ability of a device to pass traffic. Therefore, these metrics are important to understand the experience of clients connected to a device.

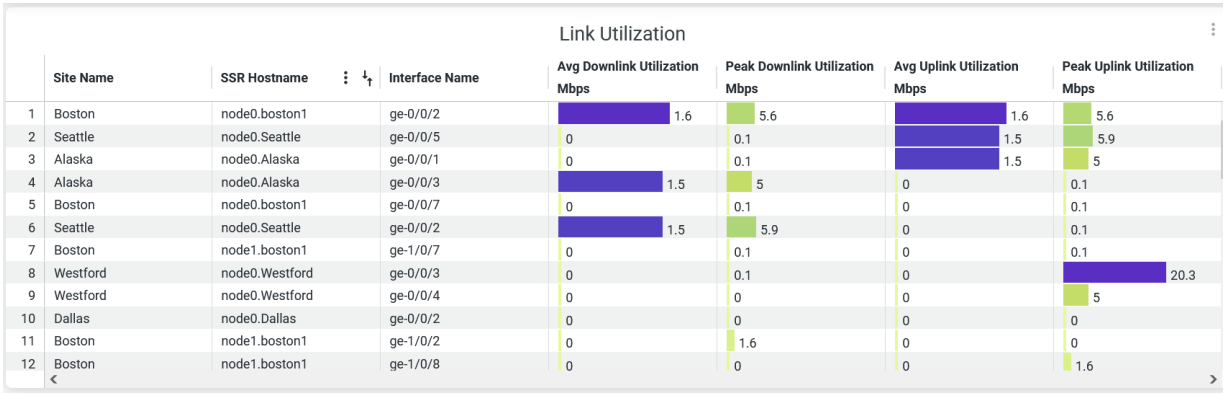
The Juniper Mist portal displays each SLE metric as a percentage that represents the success rate of the metric.

- Health—Indicates the health or performance of the WAN edge device as a percentage. In the above sample, a value of 100 percent for every site indicates that all the WAN edge devices perform at an optimal level.
- WAN Link Health—Indicates about link health. In the above sample, only 60.7 percent of links are healthy in the Seattle site and the remaining 39.3 percent of the links experience some issues.

Link Utilization

Figure 152 on page 183 shows the Link Utilization tile.

Figure 152: Link Utilization Details



The Link Utilization tile displays the following parameters that represent the data transfer volume on the network interfaces:

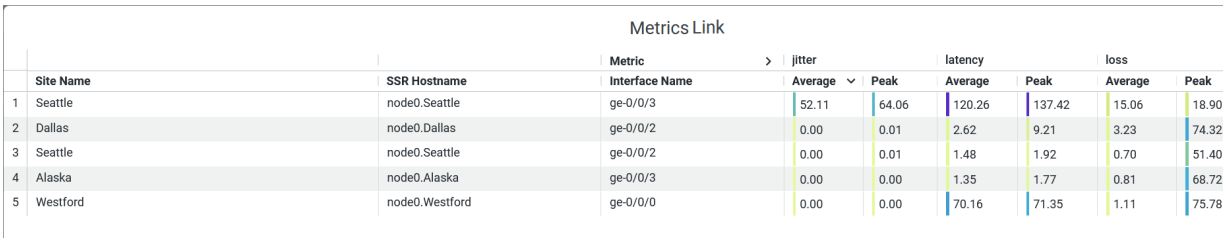
- Site Name—Name of the site where a WAN edge device is located.
- SSR Hostname—Hostname of a WAN edge device.
- Interface Name—Interface that a device uses for a WAN connection.
- Average Downlink Utilization (Mbps)—Incoming traffic volume on an interface.
- Peak Downlink Utilization (Mbps)—Peak incoming traffic volume on an interface.
- Average Uplink Utilization (Mbps)—Outgoing traffic volume on an interface.

- Peak Uplink Utilization (Mbps)—Peak outgoing traffic volume on an interface.

Link Metrics

Figure 153 on page 184 shows the Link Metrics tile.

Figure 153: Link Metrics



Metrics Link

			Metric	jitter		latency		loss	
	Site Name	SSR Hostname	Interface Name	Average	Peak	Average	Peak	Average	Peak
1	Seattle	node0.Seattle	ge-0/0/3	52.11	64.06	120.26	137.42	15.06	18.90
2	Dallas	node0.Dallas	ge-0/0/2	0.00	0.01	2.62	9.21	3.23	74.32
3	Seattle	node0.Seattle	ge-0/0/2	0.00	0.01	1.48	1.92	0.70	51.40
4	Alaska	node0.Alaska	ge-0/0/3	0.00	0.00	1.35	1.77	0.81	68.72
5	Westford	node0.Westford	ge-0/0/0	0.00	0.00	70.16	71.35	1.11	75.78

The Link Metrics tile displays the SLE metrics that represent jitter, latency, and packet loss for a WAN link on the network interfaces. The dashboard displays the following details:

- Site Name—Name of the site where a WAN edge device is located.
- SSR Hostname—Hostname of a WAN edge device.
- Interface Name—Interface that the device uses for the WAN connection
- Jitter—Average and peak values of jitter in microseconds. Jitter is the inconsistency of data packet arrival intervals. Jitter is calculated using the variation (standard deviation) of round-trip time (RTT) within a period of 5 through 10 minutes for a particular WAN link.
- Latency—Average and peak values of latency in microseconds. Latency is indicates a delay in data transmission. Latency is calculated using the average RTT for traffic over a period of time.
- Loss—Percentage of packets lost over a given period of time.

Link Metrics Trend

Figure 154 on page 185 shows the **Link Metrics Trend** tile.

Figure 154: Link Metrics Trend

The Link Metrics Trend tile displays the SLE metrics that represent jitter, latency, and packet loss for a WAN link on the network interfaces over a period of time. You can filter by a WAN edge device or an interface name to get details specific details. You can place the cursor anywhere on the chart to see jitter, latency, and packet loss data at a particular time and date.

You can compare the performance of interfaces by viewing the analytics tile. The tile provides charts for overall latency, jitter, and packet loss, and interface-wise latency, jitter, and packet loss.

Traffic Insights

Figure 155 on page 186 shows the **Traffic Insights** tile.

Figure 155: Traffic Insights for Rx/Tx, Gateway, and Interface

The Traffic Insights tile displays traffic flows over WAN edge devices and interfaces.

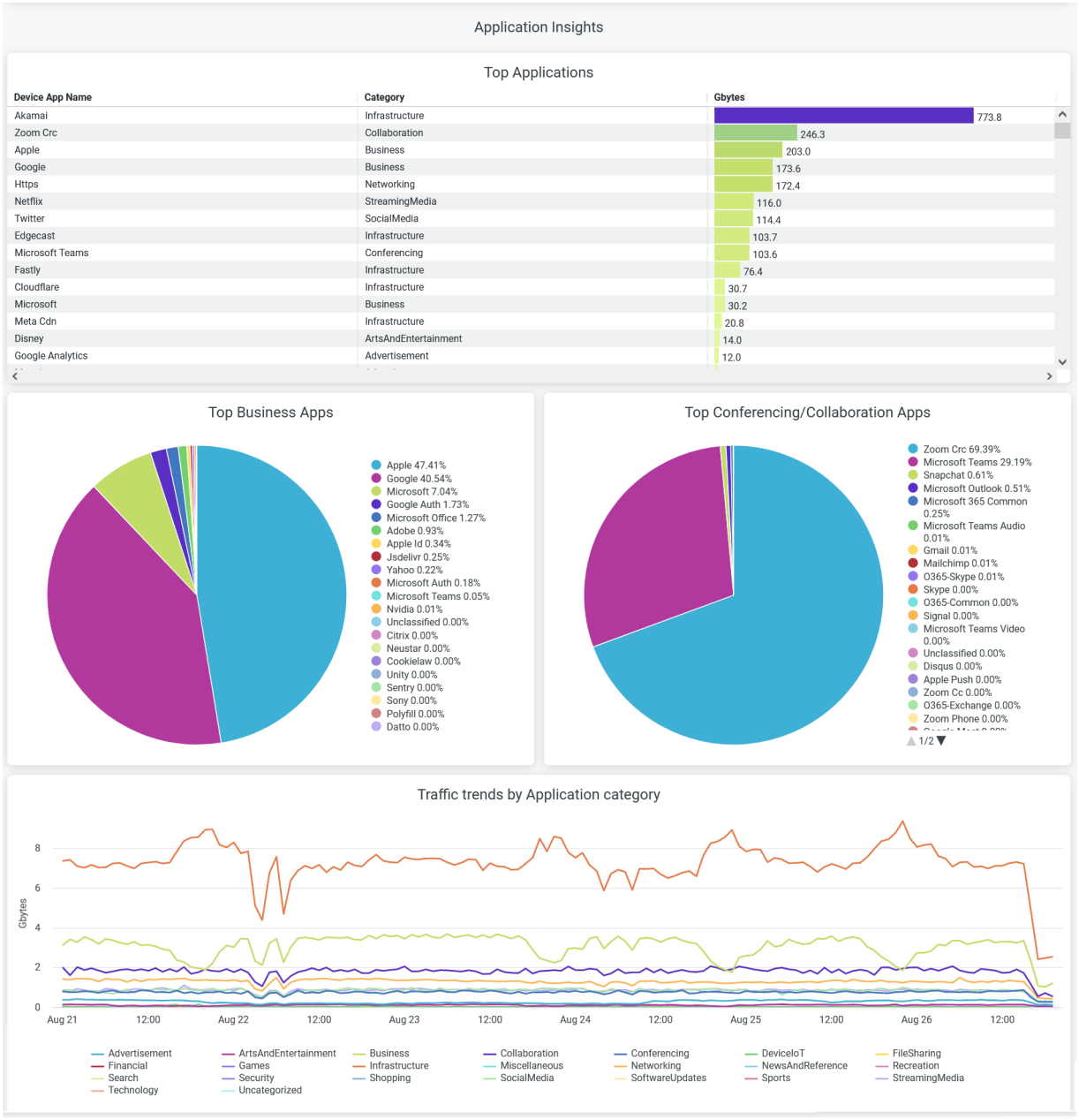
- The **Rx/Tx** chart displays transmitted and received data packets over a period of time.

- The **Traffic by Gateway** chart displays the volume of traffic that traverses through each WAN edge device over a period of time.
- The **Traffic by Interface** chart displays the volume of traffic that traverses through each interface of a WAN edge device over a period of time.

Applications Insights

Figure 156 on page 188 shows the **Applications Insights** tile.

Figure 156: Applications Insights



The Application Insights tile displays information about bandwidth consumed by a particular application or application category. You can spot the top applications in terms of various metrics by viewing these charts:

- The **Top Applications** chart displays the bandwidth usage by all the applications in a site.
- The **Top Business Applications** chart displays the bandwidth usage by all the applications belonging to a category of business.

- The **Top Conferencing and Collaborating Apps** chart displays the bandwidth usage by all the applications belonging to a category of collaboration.
- The **Traffic Trends by Application category** chart displays the bandwidth usage by all the application categories.

SEE ALSO

Introduction to Juniper Mist Analytics | 2

Mist Premium Analytics Dashboards | 10

Premium Analytics—Frequently Asked Questions | 5

Mist Premium Analytics License | 8

WAN Insights for SRX Series Firewalls | 189

WAN Insights for SRX Series Firewalls

IN THIS SECTION

Juniper Mist™ WAN Assurance is a cloud service that brings automated operations and service levels to the enterprise access layer at the WAN edge. This cloud service also provides WAN insights for Juniper Networks® SRX Series Firewalls. You can view comprehensive insights about WAN link service-level expectation (SLE) metrics, performance and utilization of links, and application metrics. You can continuously analyze performance and the SLE success rate and avoid any possible experience degradation or outages.

Features and Benefits

- Provides operational visibility into user experiences with WAN SLEs
- Generates insights on WAN visibility for link and application quality of experience (QoE)
- Provides traffic metrics for WAN edge devices, interfaces, or WAN zones.

- Generates details about the devices and applications that use the network's bandwidth

Before You Begin

- Refer to the Juniper Mist WAN Configuration Guide for the WAN configuration details.
- Understand about WAN Service Level Experience (SLE).
- See "Mist Premium Analytics License" on page 8 to know about license requirements for the Juniper Mist Premium Analytics dashboard.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboard. See Figure 4 on page 17.

Access WAN Insights-SRX Dashboard

1. In the Juniper Mist portal, click **Analytics > Premium Analytics** .
2. On the Premium Analytics page, click **WAN Insights - SRX**.

Figure 157: WAN Insights- SRX

The WAN Insights - SRX page appears.

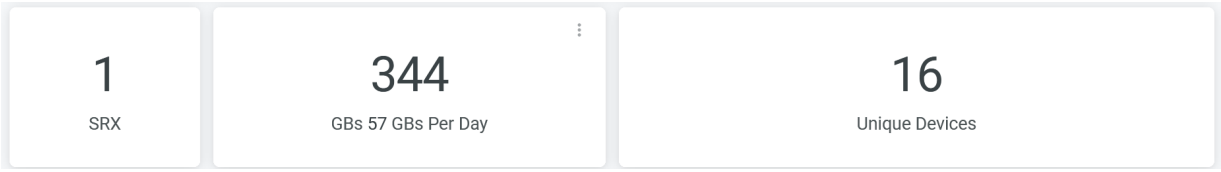
3. Use the filter options available at the top of the page to view specific information.
   - Click **Report Period** and select a time range. By default, the dashboard shows data for the last 7 days.
   - Filter by **Site Name**, **Zone Name**, **Chassis MAC**, and **Port Type**.
   - From the dashboard actions on the top-right corner of the page, select **Reset filter** to reset the filters.

WAN Insights - SRX Tiles

IN THIS SECTION

The WAN Insights - SRX dashboard includes various tiles that provide WAN performance data in graphical formats. You can use the dashboard to get an overview of the deployed WAN edge devices.

Figure 158: WAN Insights High-Level Summary



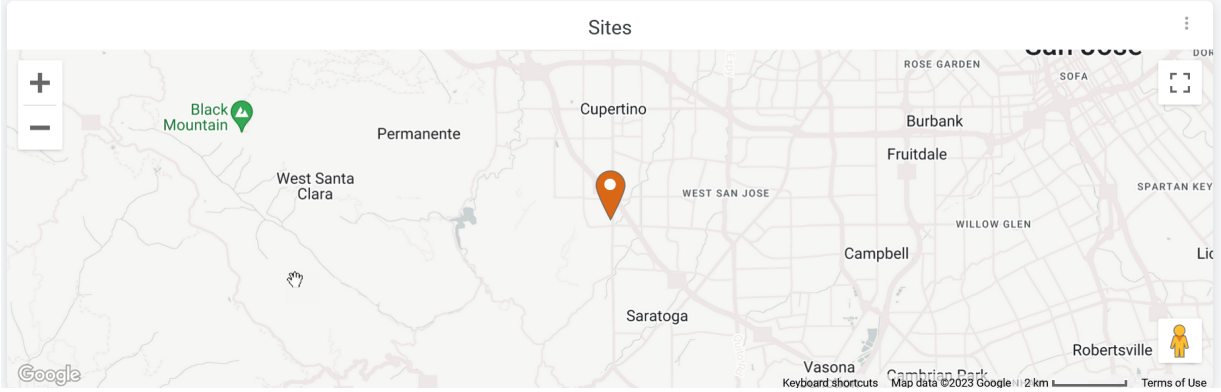
The tile displays a summary of the deployed WAN edge devices and traffic performance.

According to Figure 158 on page 191, the WAN configuration includes one SRX Series Firewall deployed as a WAN edge device in the MAP. A total of 16 interfaces are active and traffic traversing the network is 344 GB. Hover over the SRX section or the Unique Devices section of the tile to see the interface statistics.

Sites

Figure 159 on page 192 shows location of WAN edge device site.

Figure 159: Site Location Details

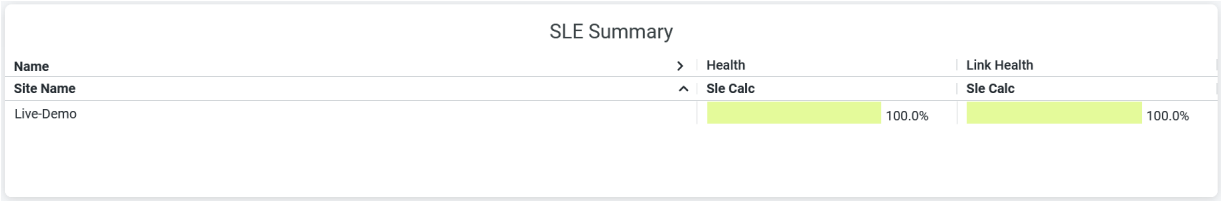


You can place the cursor on the map to display the site location. Double-click the map to zoom in—you'll see a detailed view similar to Figure 159 on page 192.

SLE Summary

Figure 160 on page 192 shows WAN service-level expectation (SLEs) details.

Figure 160: WAN SLE Summary



WAN SLE metrics indicate the performance of devices that serve the WAN functions in your network. WAN SLE metrics provide insights about the ability of a device to pass traffic. Therefore, these metrics are important to understand the experience of clients connected to a device.

The Juniper Mist portal displays each SLE metric as a percentage that represents the success rate of the metric.

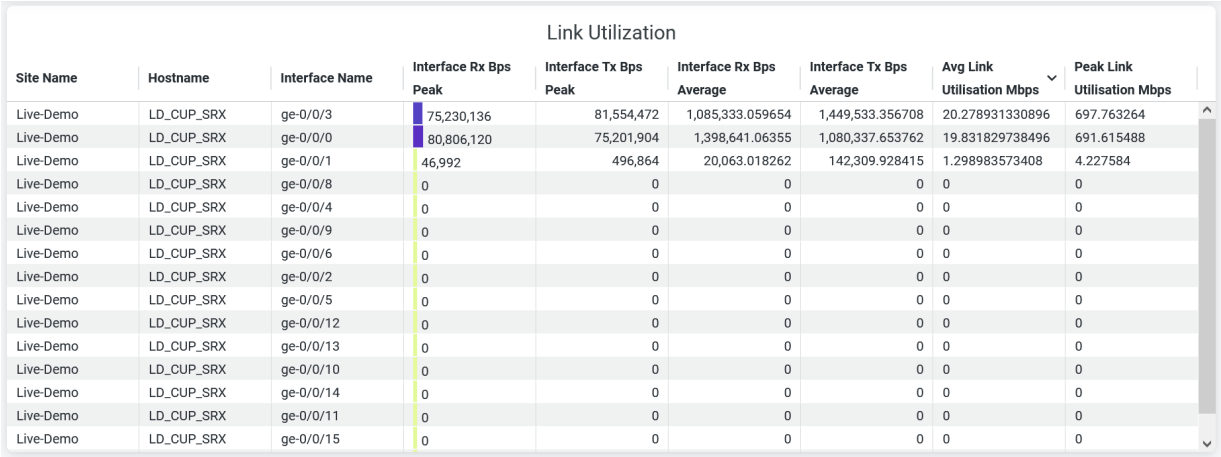
You can view:

- Health—Indicates the health or performance of the WAN edge device as a percentage. In the above sample, a value of 100 percent for the Live-Demo site indicates that the WAN edge device performs at an optimal level.
- Link Health—Indicates the link health. In the above sample, a link health value of 100 percent for the Live-Demo site indicates that the WAN link performance meets the specified SLE.

Link Utilization

Figure 161 on page 193 shows the **Link Utilization** tile.

Figure 161: Link Utilization



Link Utilization

Site Name	Hostname	Interface Name	Interface Rx Bps Peak	Interface Tx Bps Peak	Interface Rx Bps Average	Interface Tx Bps Average	Avg Link Utilisation Mbps	Peak Link Utilisation Mbps
Live-Demo	LD_CUP_SRX	ge-0/0/3	75,230,136	81,554,472	1,085,333.059654	1,449,533.356708	20.278931330896	697.763264
Live-Demo	LD_CUP_SRX	ge-0/0/0	80,806,120	75,201,904	1,398,641.06355	1,080,337.653762	19.831829738496	691.615488
Live-Demo	LD_CUP_SRX	ge-0/0/1	46,992	496,864	20,063.018262	142,309.928415	1.298983573408	4.227584
Live-Demo	LD_CUP_SRX	ge-0/0/8	0	0	0	0	0	0
Live-Demo	LD_CUP_SRX	ge-0/0/4	0	0	0	0	0	0
Live-Demo	LD_CUP_SRX	ge-0/0/9	0	0	0	0	0	0
Live-Demo	LD_CUP_SRX	ge-0/0/6	0	0	0	0	0	0
Live-Demo	LD_CUP_SRX	ge-0/0/2	0	0	0	0	0	0
Live-Demo	LD_CUP_SRX	ge-0/0/5	0	0	0	0	0	0
Live-Demo	LD_CUP_SRX	ge-0/0/12	0	0	0	0	0	0
Live-Demo	LD_CUP_SRX	ge-0/0/13	0	0	0	0	0	0
Live-Demo	LD_CUP_SRX	ge-0/0/10	0	0	0	0	0	0
Live-Demo	LD_CUP_SRX	ge-0/0/14	0	0	0	0	0	0
Live-Demo	LD_CUP_SRX	ge-0/0/11	0	0	0	0	0	0
Live-Demo	LD_CUP_SRX	ge-0/0/15	0	0	0	0	0	0

The Link Utilization tile displays the following parameters that indicate the data transfer volume on the network interfaces:

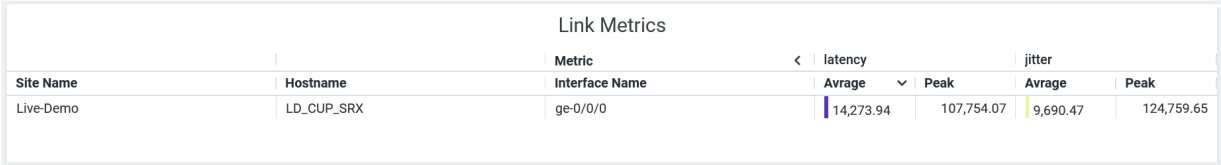
- Site Name—Name of the site where a WAN edge device is located.
- Hostname—Hostname of a WAN edge device.
- Interface Name—Interface that a device uses for a WAN connection. Or Interface that a network uses for a WAN connection.
- Interface Rx Bps Peak—Peak traffic volume that an interface receives.
- Interface Tx Bps Peak—Peak traffic volume that an interface transmits.

- Interface Rx Bps Average—Average traffic volume that an interface receives.
- Interface Tx Bps Average—Average traffic volume that an interface transmits.
- Average Link Utilization (Mbps)—Average traffic volume on an interface.
- Peak Link Utlization (Mbps)—Peak traffic volume on an interface.

Link Metrics

Figure 162 on page 194 shows the **Link Metrics** tile.

Figure 162: Link Metrics



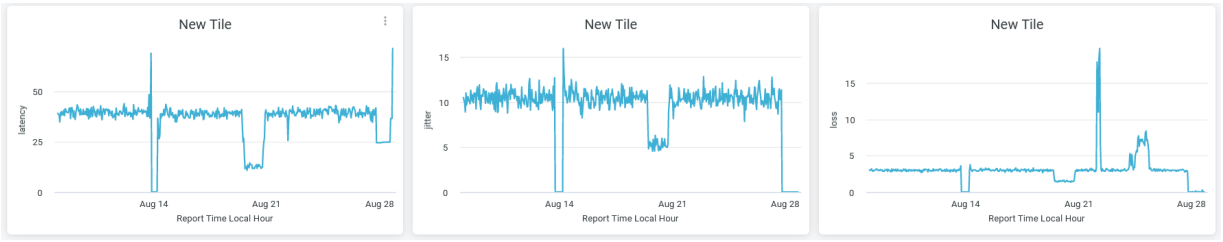
The Link Metrics tile displays the SLE metrics for jitter and latency that the WAN link experiences on the network interfaces. The dashboard displays the following details:

- Site Name—Name of the site where a WAN edge device is located.
- Hostname—Hostname of a WAN edge device.
- Interface Name—Interface that the device uses for the WAN connection. Or Interface that a network uses for a WAN connection.
- Jitter—Average and peak values of jitter in microseconds. Jitter is the inconsistency of data packet arrival intervals. Jitter is calculated using the variation (standard deviation) of round-trip time (RTT) within a period of 5 through 10 minutes for a particular WAN link.
- Latency—Average and peak values of latency in microseconds. Latency indicates a delay in data transmission. Latency is calculated using the average RTT for traffic over a period of time.

Link Metrics Trend

Figure 163 on page 195 shows the **Link Metrics Trend** tile.

Figure 163: Link Metrics Trend



The tile displays overall jitter, latency, and packet loss over a period of time. You can hover over the chart to see jitter, latency, and packet loss data at a particular time and date.

You can identify the jitter, latency, and packet loss trends from these graphs.

Traffic Insights

Figure 164 on page 196 shows different graphs available on Traffic Insights tile.

Figure 164: Traffic Insights

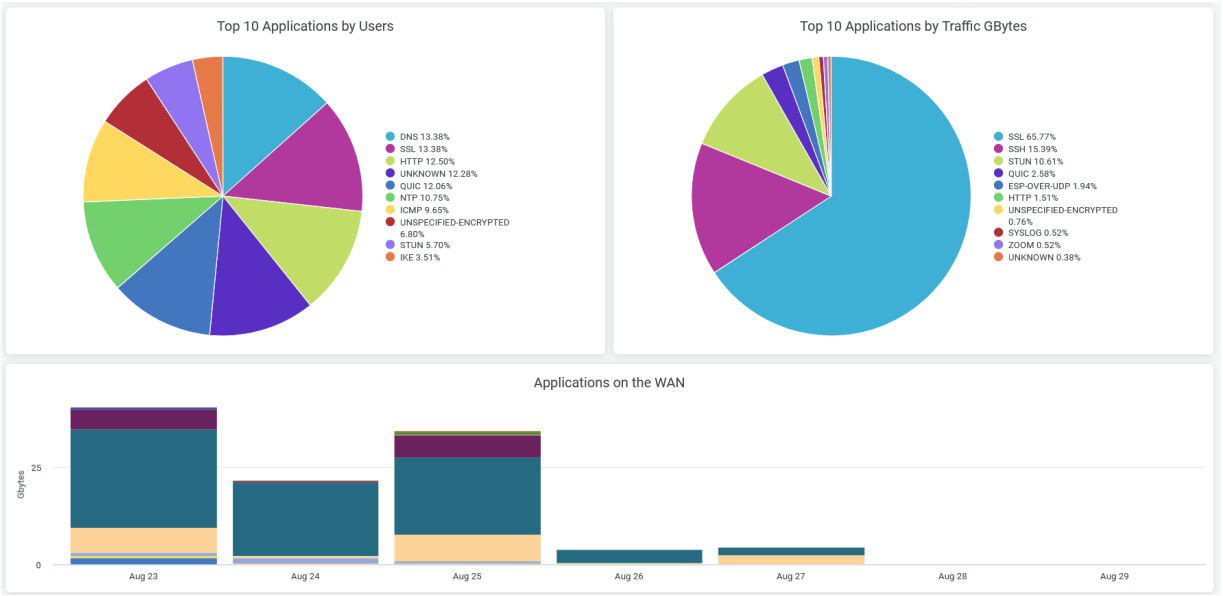
- The WAN Traffic graph displays the volume of WAN traffic flow over a period of time.
- The Traffic by Zone graph displays traffic flows through different zones in WAN edge devices for a specific period of time.

  To hide a zone from the chart and show only the remaining zones, click the zone name in the legend below the chart.
- The Traffic GBs Daily graph displays the volume of traffic that a WAN edge device manages over a period of time.
- The Average GBytes per Day tile displays the volume of average traffic flow per day.

Applications Insights

Figure 165 on page 197 shows the **Applications Insights** tile.

Figure 165: Applications Insights



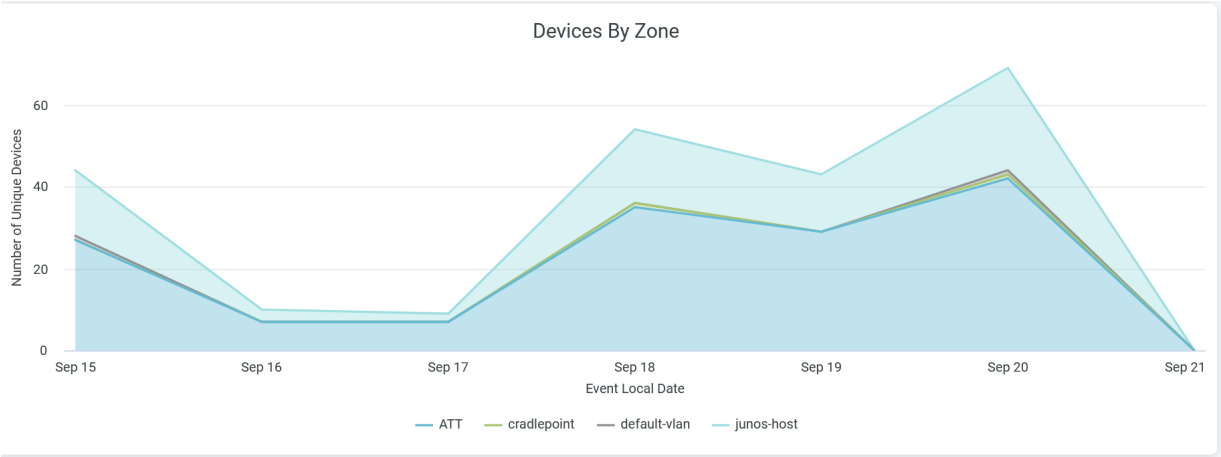
The Application Insights tile displays information about bandwidth consumed by a particular application or application category. You can spot the top applications in terms of various metrics by viewing these charts:

- The **Top 10 Applications By Users** chart displays bandwidth usage by the top 10 protocol types.
- The **Top Business Applications by Traffic GBytes** chart displays bandwidth usage by top 10 applications.
- The **Applications on the WAN** chart displays bandwidth usage by all the application categories.

Devices By Zone

The Devices by Zone graph displays the number of unique devices connected in different zones in WAN edge devices for the past 7 days as shown in Figure 166 on page 198.

Figure 166: Devices By Zone



To hide a zone from the chart and show only the remaining zones, click the zone name in the legend below the chart.

SEE ALSO

- Introduction to Juniper Mist Analytics | 2
- Mist Premium Analytics Dashboards | 10
- Premium Analytics—Frequently Asked Questions | 5
- Mist Premium Analytics License | 8
- WAN Insights for Session Smart Routers | 179

Security Assurance Dashboard

IN THIS SECTION

With a Juniper Mist™ Premium Analytics subscription, you can use the Security Assurance Dashboard to gain crucial security insights for Juniper Session Smart™ Routers and SRX Series Firewalls deployed at the WAN Edge. These insights are derived from the URL Filtering and Intrusion Detection and Prevention System (IDS/IPS) events that are generated by Session Smart™ Routers and SRX Series Firewalls.

Features and Benefits

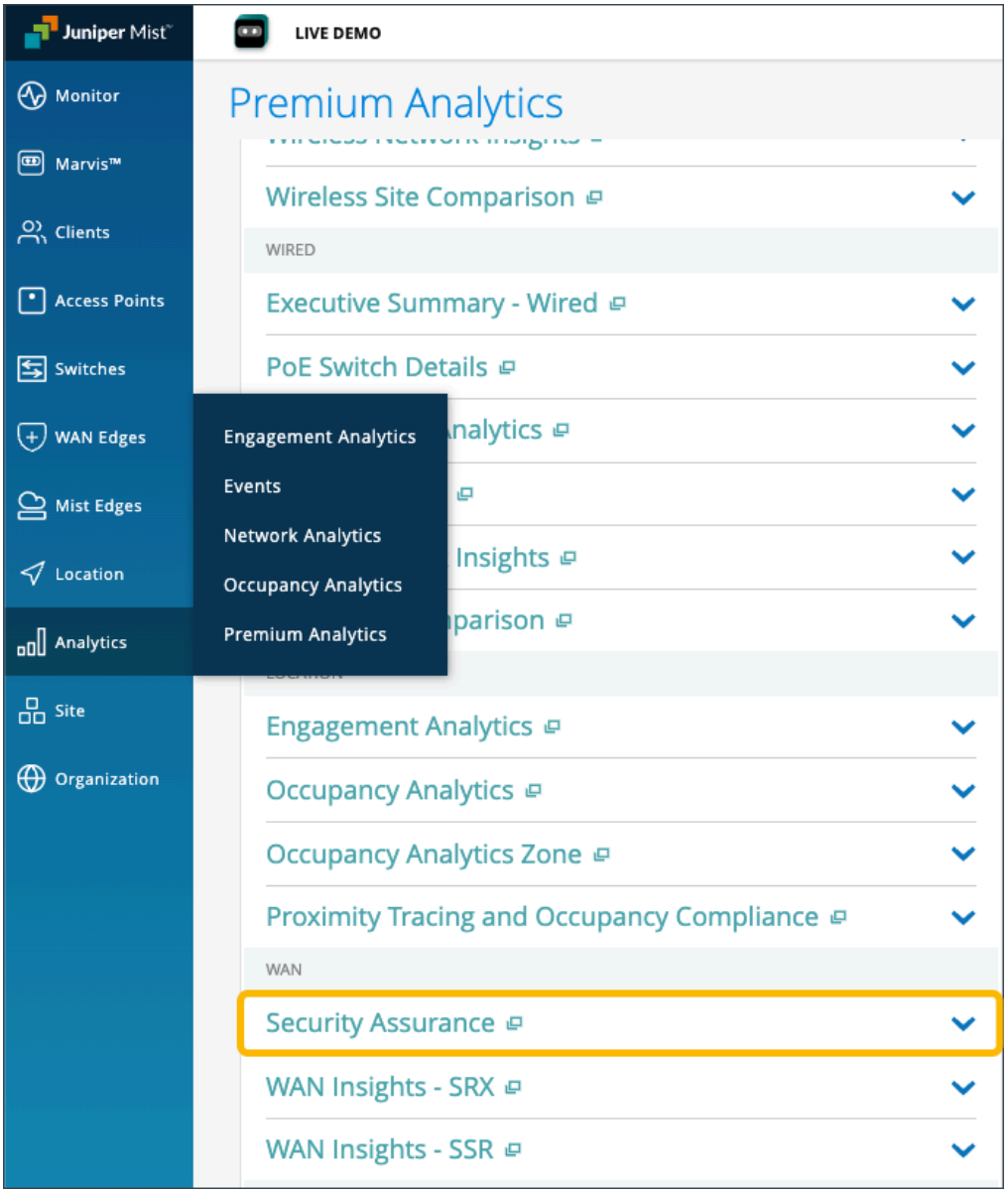
- Provides insight into IDP and URL Event Trends.
- Provides top IDP threats with source and Destination IPs.
- Provides top URL Blocked events with Source and Destination IPs.
- Generates details about the devices and applications that use the network's bandwidth.

Before You Begin

- Refer to the Juniper Mist WAN Configuration Guide for the WAN configuration details.
- See "Mist Premium Analytics License" on page 8 to know about license requirements for the Juniper Mist Premium Analytics dashboard.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboard. See Figure 4 on page 17.

Access Security Assurance Dashboard

You can access the Security Assurance Dashboard by navigating to the Juniper Mist portal, then click **Analytics > Premium Analytics > Security Assurance.**



You can use the filter options available at the top of the page to view specific information.

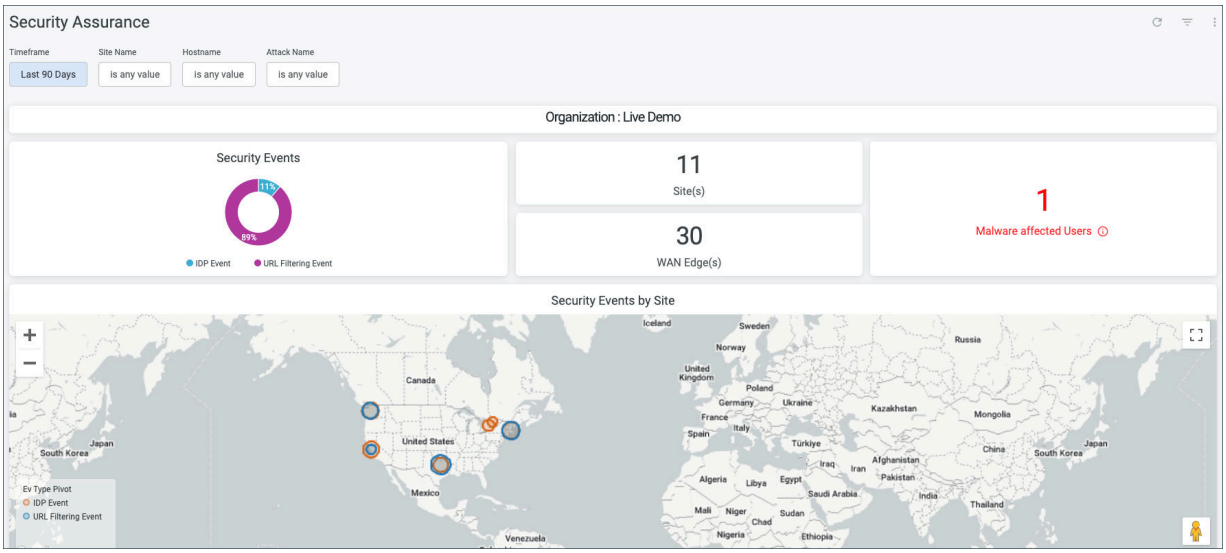
- Click **Timeframe** and select a time range.
- Filter by **Site Name**, **Hostname**, and **Attack Name**.

Security Assurance - Tiles

The Security Assurance dashboard includes various tiles to provide an overview of security insights by displaying the percentage of Security Events by type, number of deployment sites, number of deployed WAN Edge devices, number of Malware affected Users, and Security Events by Site.

You can also use the filter options available at the top of the page to view specific information.

- Click **Timeframe** and select a time range.
- Filter by **Site Name**, **Hostname**, and **Attack Name**.



Hover over a location on the Security Events by Site map to see more detailed security information about the site. You can use the plus and minus sign buttons in the top left corner of the map, or double-click the map to zoom in, which will give you a more detailed view of the map.

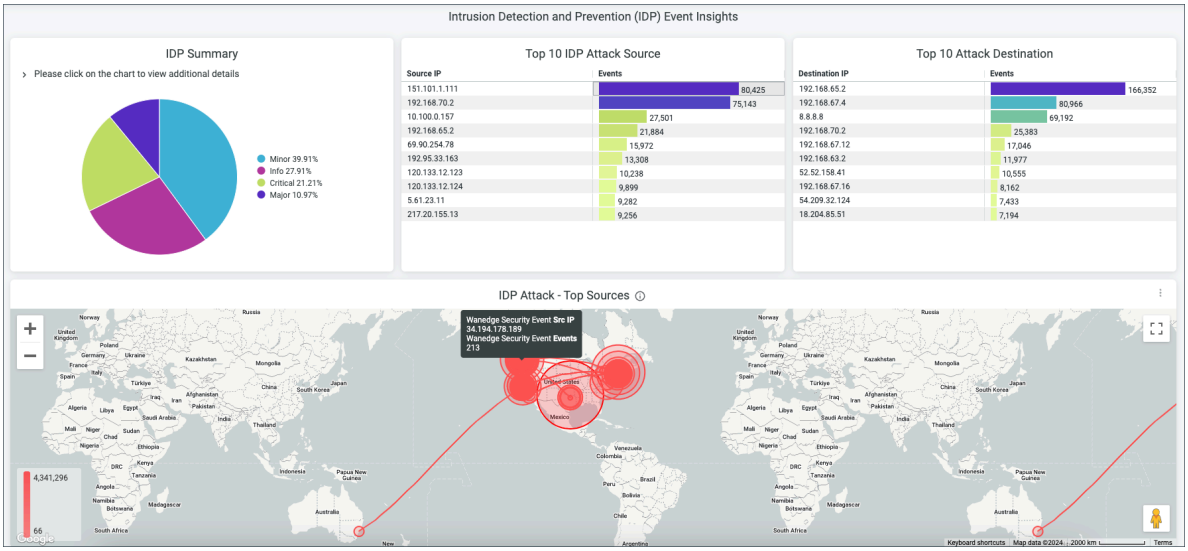
Intrusion Detection and Prevention (IDP) Event Insights

Intrusion detection monitors events in your network and analyzes them for indications of potential incidents or threats to your security policies. Intrusion prevention is the process of performing intrusion detection and then stopping any detected incidents. For more information, see the following:

- Intrusion Detection and Prevention Overview
- IDP-Based Threat Detection for SRX Series Firewalls
- IDP-Based Threat Detection on Session Smart Routers

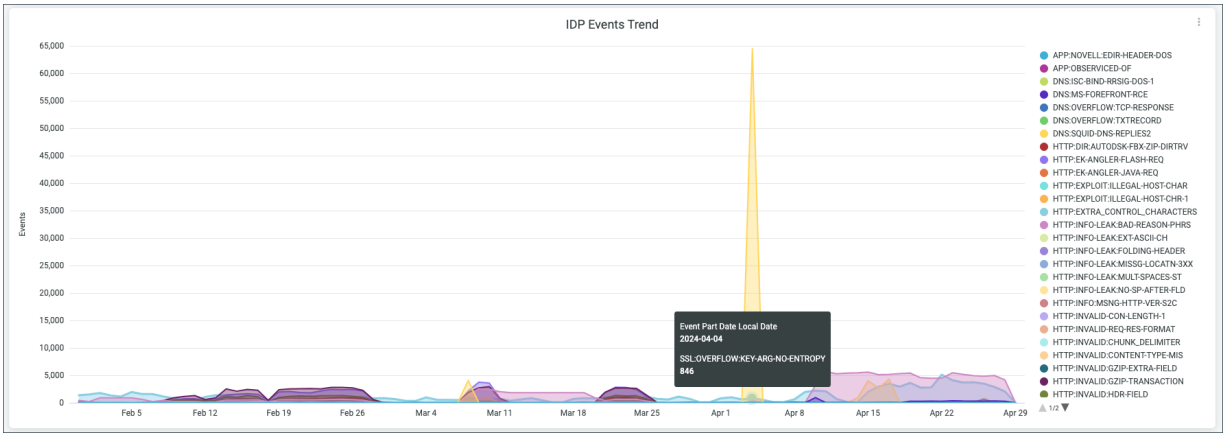
The Intrusion Detection and Prevention (IDP) Event Insights section displays the following information:

- **IDP Summary** — A pie chart that displays the percentage of IDP event types. You can click on the chart to see the number of events contributing to the percentage.
- **Top 10 IDP Attack Source** — This displays the top 10 attack sources (shows the source IP address of the IDP attacks) as well as the number of IDP events caused by the source.
- **Top 10 Attack Destination** — This displays the top 10 attack destinations (shows the destination IP address of the attacks) as well as the number of IDP events for a given destination.
- **IDP Attack Top Sources** — The map displays the locations of the top sources of IDP attacks. Hover over a location on the map to see more detailed security information about the attack such as the source IP address and number of events.



IDP Events Trend

The IDP Events Trend tile displays a graph for the IDP events that have occurred over a period of time. You can hover over the graph to get more details about the event that occurred at a particular time and date. On the right hand side of the chart, you can see the attack name. The color next to the attack name is also represented on the graph.

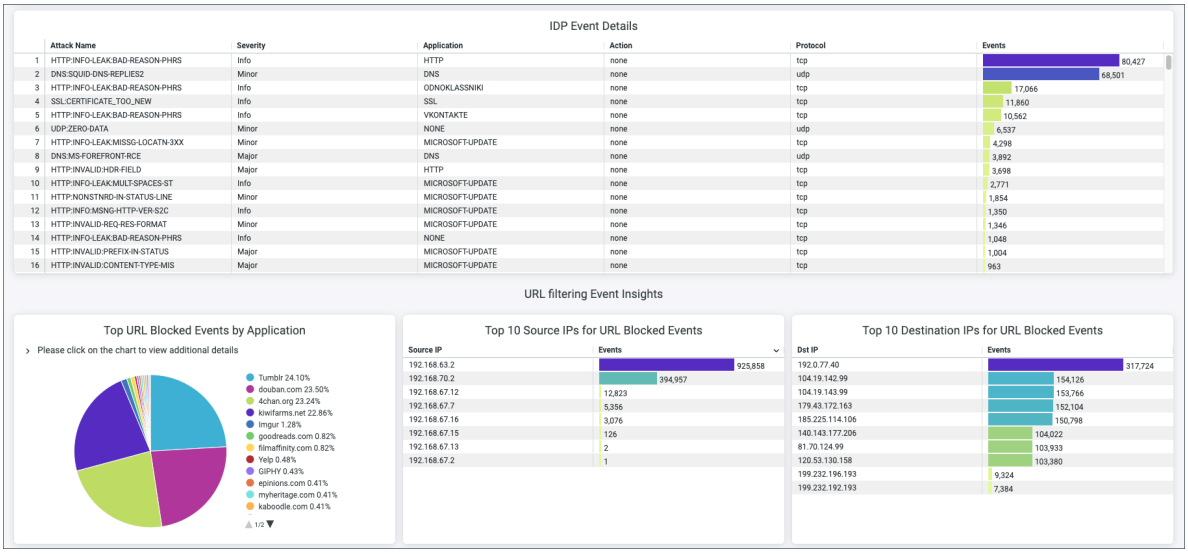


IDP Event Details and URL filtering Event Insights

The **IDP Event Details** tile displays detailed information about an attack such as the Attack Name, Severity, Application name, Action, transport layer protocol, and number of events.

The **URL filtering Event Insights** section displays the following information:

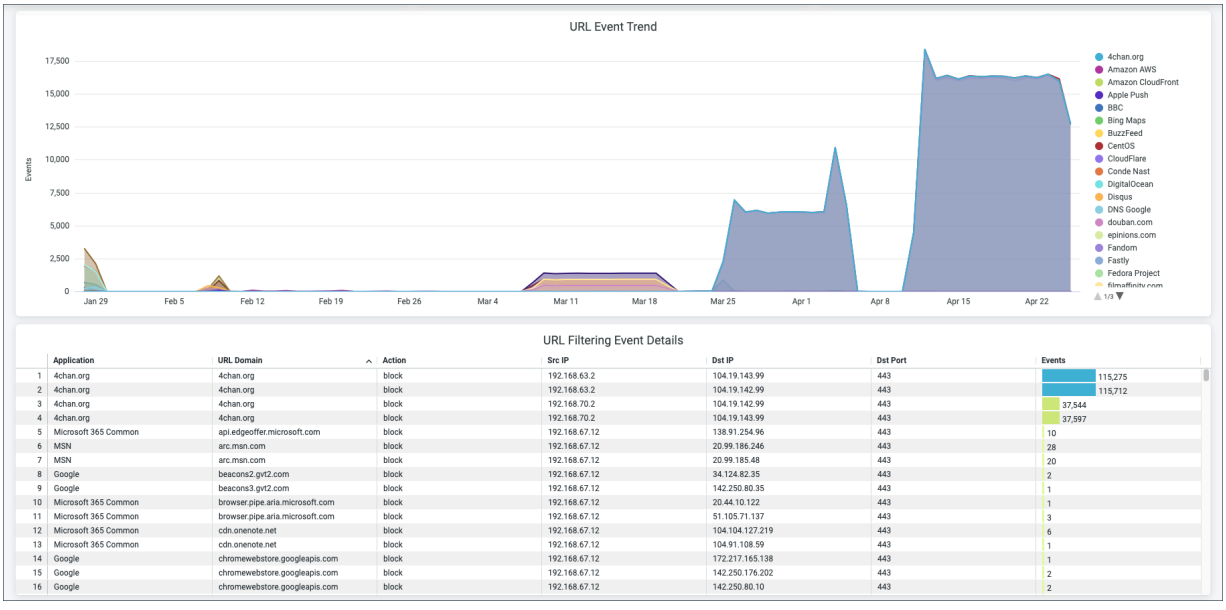
- **Top URL Blocked Events by Application** — A pie chart that displays which applications are accounting for the largest percentage of URL blocked events. You can click on the chart to see more details such as the name of the application responsible and the number of events. You can also look to the right of the chart to see the application names and what percentage of URL Blocked Events they account for.
- **Top 10 Source IPs for URL Blocked Events** — This displays the top 10 source IP addresses for URL Blocked Events as well as the number of URL Blocked Events for each source.
- **Top 10 Destination IPs for URL Blocked Events** — This displays the top 10 destination IP addresses for URL Blocked Events and also shows the number of IDP events for each destination.



URL Event Trend and URL Filtering Event Details

The **URL Event Trend** tile displays how many URL events that have occurred over a period of time. You can hover over the graph to get more details about the event that occurred at a particular date. On the right hand side of the chart, you can see the application name. The color next to the application name is also represented on the graph.

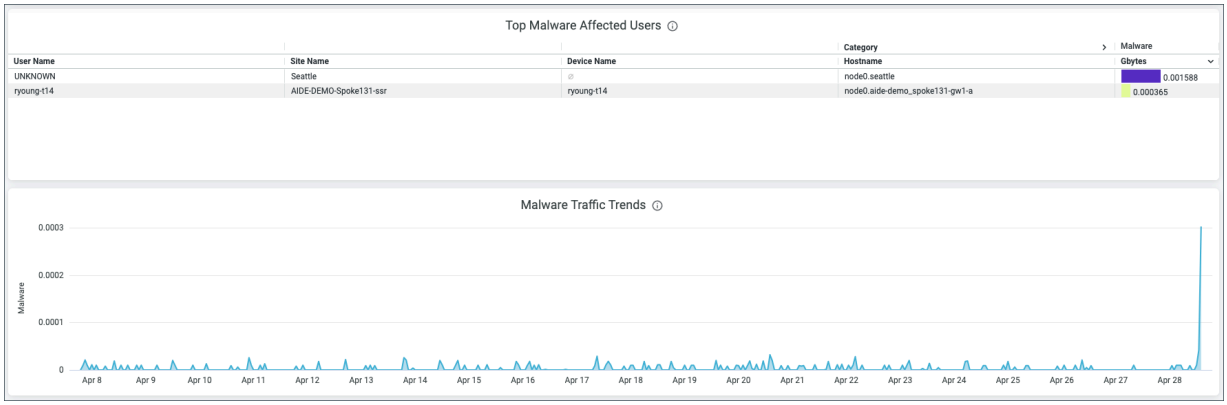
The **URL Filtering Event Details** tile displays detailed information about a URL Filtering Event such as the Application name, URL Domain, Action, Source IP, Destination IP, Destination Port, and number of events.



Top Malware Affected Users and Malware Traffic Trends

The **Top Malware Affected Users** tile displays the User Name, Site Name, Device Name, Category/ Hostname, and the amount of data consumed by the malware.

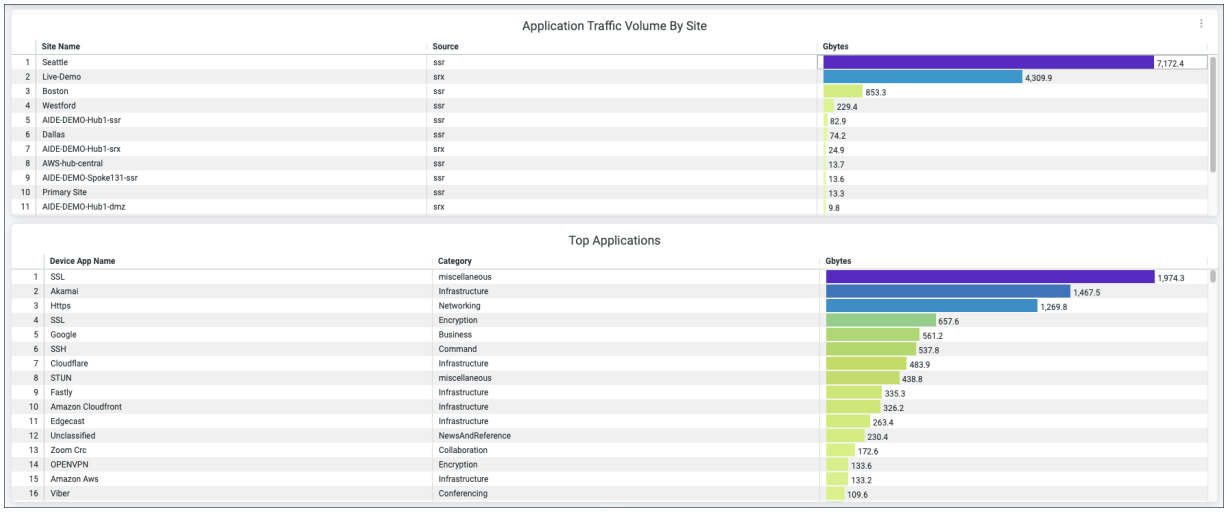
The **Malware Traffic Trends** tile displays a graph of malware traffic trends over time. You can hover over the graph to get more details about the malware traffic that occurred at a particular time and date.



Application Traffic Volume By Site and Top Applications

The **Application Traffic Volume By Site** tile displays information pertaining to application traffic volume such as Site Name, Source (Session Smart Router or SRX), and Gbytes (gigabytes) to represent the volume of the traffic.

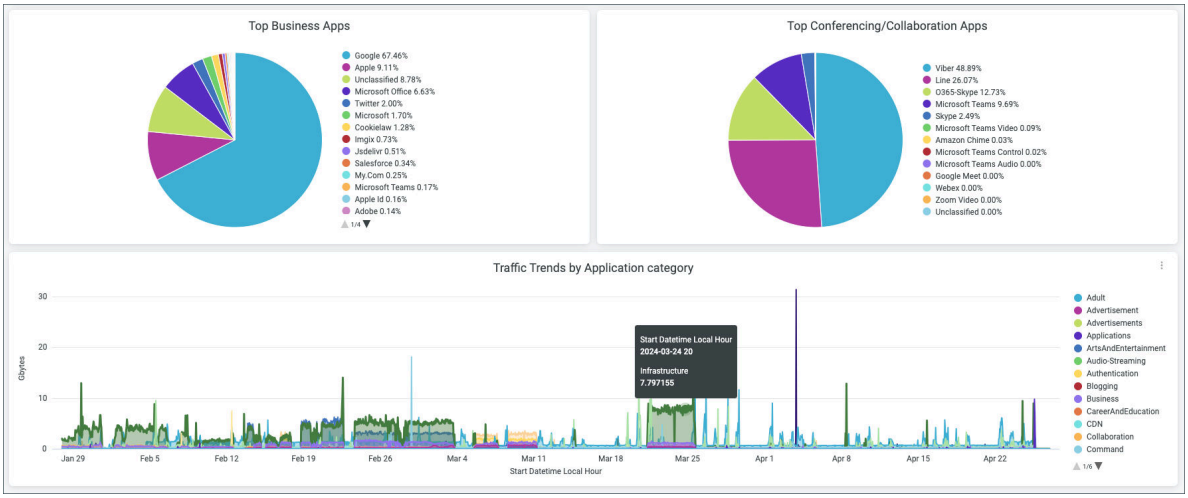
The **Top Applications** tile displays the bandwidth usage by all the applications in a site.



Top Business Apps, Top Conferencing/Collaboration Apps, and Traffic Trends by Application Category

The following tile display application insight information about bandwidth consumed by a particular application or application category. You can spot the top applications in terms of various metrics by viewing these charts:

- The **Top Business Apps** — This chart displays the bandwidth usage by all the applications belonging to a category of business.
- The **Top Conferencing/Collaboration Apps** — Displays a chart for the bandwidth usage by all the applications belonging to a category of collaboration.
- The **Traffic Trends by Application category** — This chart displays the bandwidth usage by all the application categories. Hover over the chart to get more detailed information.



RELATED DOCUMENTATION

Intrusion Detection and Prevention Overview

No Link Title

No Link Title

6
CHAPTER

Premium Analytics - Others (Access Assurance, Audit Logs and Inventory)

Access Assurance Insights

IN THIS SECTION

Juniper Mist Access Assurance is an advanced, cloud-based network access control (NAC) service that secures your wireless and wired network by providing identity-based network access to devices and users. With Juniper Mist Premium Analytics Access Assurance, you gain access to detailed insights regarding clients, authentication statistics, trends, and failure events.

Features

- Captures all NAC events, including connection and authentication successes and failures, NAC event types allowing easy problem identification and root cause analysis.

Before You Begin

- See Juniper Mist Access Assurance Guide for the Access Assurance service details.
- See "Mist Premium Analytics License" on page 8 to know about license requirements for the Juniper Mist Premium Analytics dashboard.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboard. See Figure 4 on page 17.

Access Assurance Dashboard

1. In Juniper Mist portal, click **Analytics > Premium Analytics** .
2. On the Premium Analytics page, click **Others > Access Assurance Insights**.
   The **Access Assurance Insights** page appears.
3. Use the filter options available at the top of the page to view specific information.
   - Click **Report Period** and select a time range. By default, the dashboard shows data for the last 7 days.

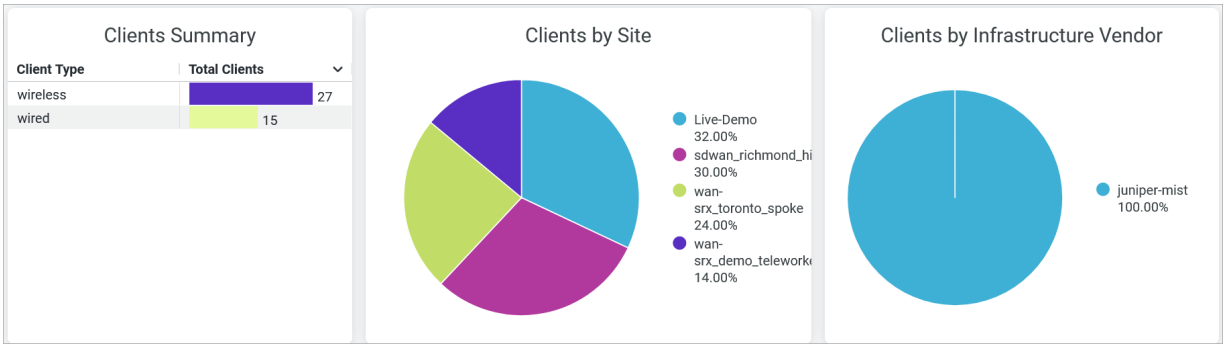
- Filter by **Site Group**, **Site Name**, **Client Type**, **User Name**, **Client MAC**, **AP Name**, **Switch Name**, **SSID**, and **Event Type**. The Event Type filter is applicable only for Event List widget.
- From the dashboard actions on the top-right corner of the page, select **Reset filter** to reset the filters.

Access Assurance Analytics Tiles

IN THIS SECTION

This tile displays analytics about the authenticated clients details. You can use the dashboard to get an overview of the clients types, clients connected to each site, and infrastructure vendor.

Figure 167: Access Assurance -Clients Summary



The dashboard provides the following details:

- Client Summary—Displays total count of wired and wireless clients in the organization.
- Client By Site—Displays percentage of clients by each site. In this chart, you can

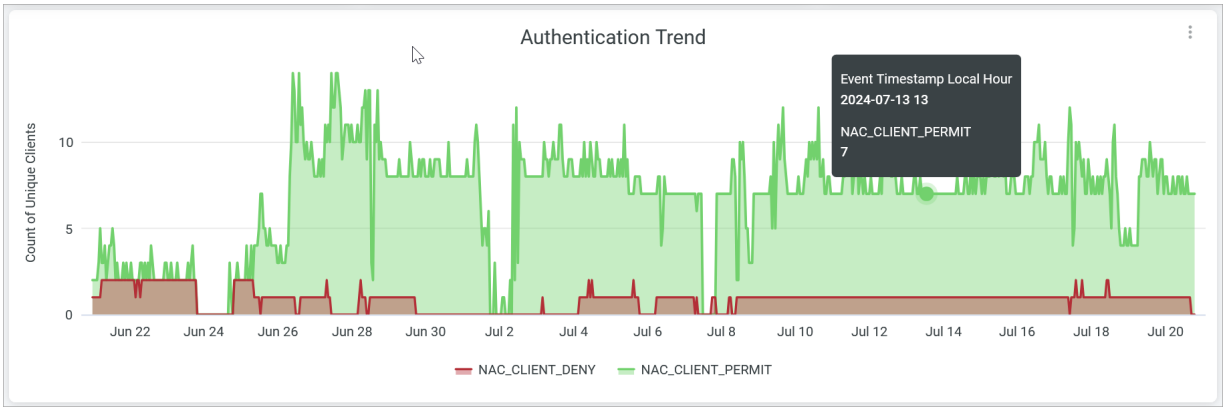
- Click a site in the chart, you'll see the client details such as client MAC address, User Name, and NAC event associated with the client.
- Click **Download** to download the table or the graph.
- View the percentage of clients by site in the chart legend. To hide a site from the chart and see only the remaining categories, click the site name in the legend.
- Hover over the chart to see the number of unique clients in each site.

- Clients by Infrastructure Vendor—Displays the percentage of clients by Juniper infrastructure or The third-party infrastructure.

Authentication Trend

This tile displays analytics about the authentication trends over a period of time.

Figure 168: Service-Level Summary

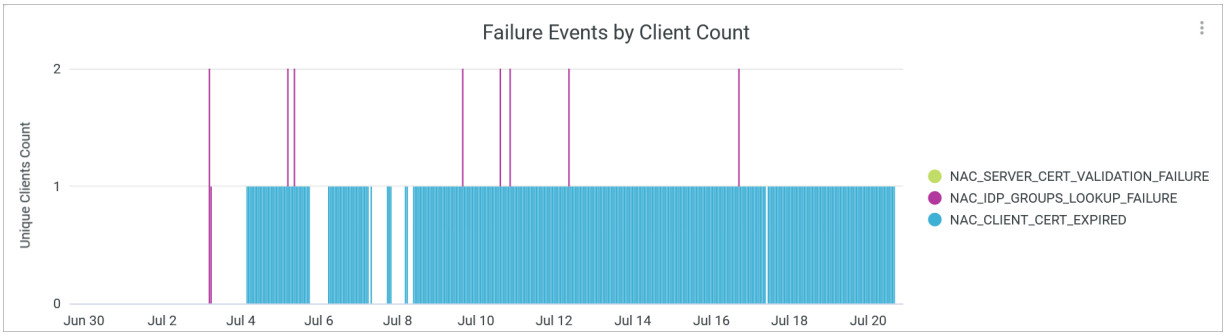


Hover over the chart to see the number of clients permitted or denied at a given time. To hide the particular category from the chart and see only the remaining categories, click the category name in the legend below the chart.

Failure Events by Client Count

Events page displays a log of a specific site's events for the selected tie period.

Figure 169: Failure Events by Client Count



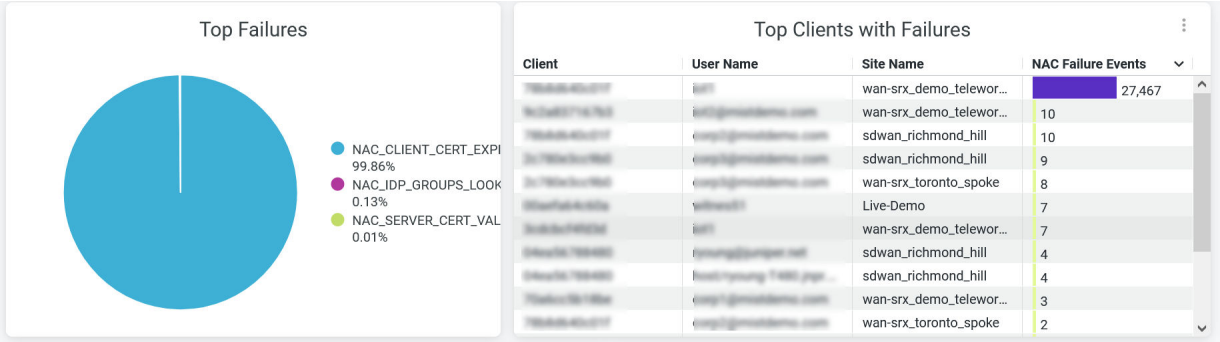
The tile displays the number of clients that are failed to authenticate due to reasons such as certificate validation, group lookup failure, client certification expiry.

Hover over the chart to see the number of clients failed to authenticate at a given time. To hide the particular category from the chart and see only the remaining categories, click the category name in the legend below the chart.

Top Failures

The tiles display top failure types and top clients with number of failure events.

Figure 170: Top Failures and Top Clients with Failures



Top Failure

The tile displays the percentage distribution of NAC failure categories such as certificate validation fail, group lookup failure, client certification expiry.

Hover over the chart to see the number of clients failed to authenticate at a given time at each category. To hide the particular category from the chart and see only the remaining categories, click the category name in the legend below the chart.

Top Clients with Failure

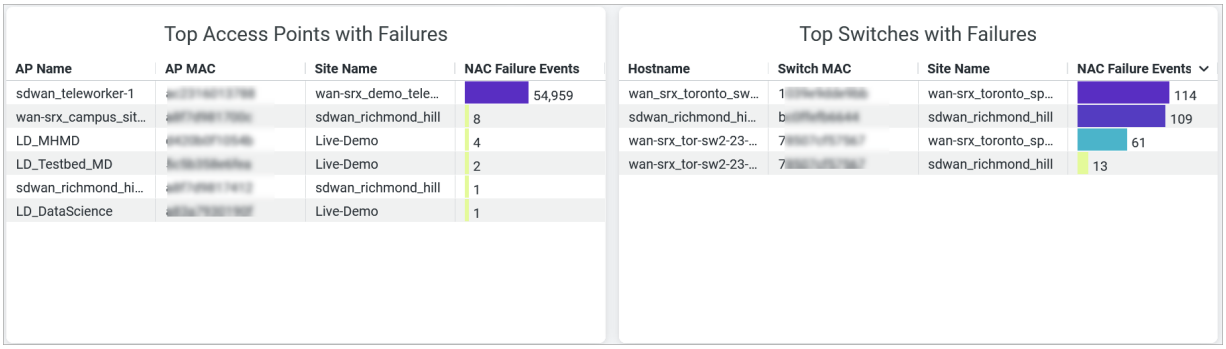
The tile displays the details of the clients with number of NAC failure events. You can see the following details in the table:

- **Client**—MAC address of the client.
- **User Name**—User name of the client.
- **Site**—Name of the site from where the client is attempted authentication.
- **NAC Failure Events**—Total count of NAC failure events associated with the client. Click on the count, you'll see a new page with details such as client MAC address, user name, and NAC event type, and counts of each event types.

Top Access Points Failures and Top Switches Failures

The tiles display top access points and switches with NAC failure events.

Figure 171: Top Access Points and Switches Failures



Top Access Points with Failures

The tile displays the details of top APs that have failure events. You can see the following details:

- **AP MAC**—MAC address of the AP.
- **AP Name**—Name of the AP.
- **Site**—Name of the site where the AP is connected.
- **NAC Failure Events**—Total count of NAC failure events associated with the AP. Click on the count value to display details such as client MAC address, user name, and NAC event type, and counts of each event types in a new page.

Top Access Points with Failures

The tile displays the details of top switches that have failure events. You can see the following details:

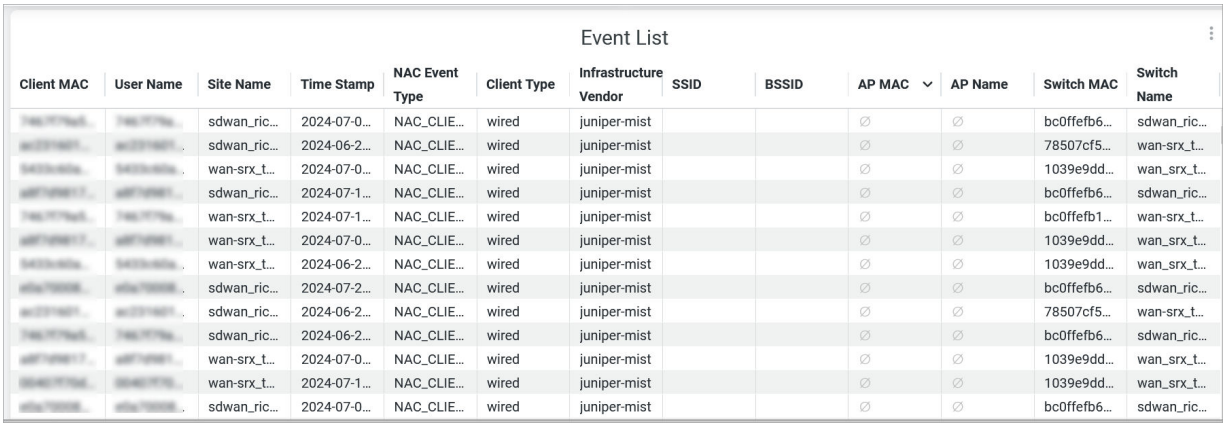
- **Switch MAC**—MAC address of the switch.
- **Host Name**—Name of the switch.
- **Site**—Name of the site where the switch is connected.
- **NAC Failure Events**—Total count of NAC failure events associated with the switch. Click the count value to display details such as client MAC address, username, and NAC event type, and counts of each event types in a new page.

Event List

The Events List tile provides a high level view of the NAC events that occurred over a specific time period within your organization.

You can use the **Event Type** filter available at the top of the dashboard to display the details.

Figure 172: Event List



You can view the following details:

- **Client MAC**—MAC address of a client device.
- **User Name**—User name associated with the client device.
- **Site Name**—Name of the site where the client device is connected.
- **Time stamp**—Date and time when the NAC event occurred.
- **NAC Event Type**—Type of NAC event.

- **Client Type**—Type of client: wired or wireless.
- **Infrastructure Vendor**—Infra vendor whether Juniper infrastructure or The third-party infrastructure.
- **SSID**—SSID to which a client device is connected.
- **BSSID**—BSSID to which a client device is connected.
- **AP MAC**—MAC address of the AP.
- **AP Name**—Name of the AP.
- **Switch MAC**—MAC address of the switch.
- **Host Name**—Name of the switch.

SEE ALSO

Introduction to Juniper Mist Analytics | 2

Mist Premium Analytics Dashboards | 10

Premium Analytics—Frequently Asked Questions | 5

Mist Premium Analytics License | 8

No Link Title

Audit Logs

IN THIS SECTION

Audit logs are a record of all administrative activities in an organization that can trigger changes in the network. These actions include changes to the network model, device configurations, and system settings. On the Audit Logs dashboard, you can view information for different types of activities and events such as creation or deletion of WLANs, updating an AP, or adding policies.

Features

- • You can trace configuration changes on your network by leveraging long-term storage of audit logs.
  - With audit logs, you can monitor user activity, investigate security breaches, and ensure compliance with regulatory requirements.
  - On the Audit Logs dashboard, you can filter data as needed and view granular-level details of each event.

Before You Begin

- Refer to "Mist Premium Analytics License" on page 8 to know about license requirements for Juniper Mist™ Premium Analytics.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboards. See Figure 4 on page 17.

Access Audit Log Analytics

1. From the left menu on the Juniper Mist portal, select **Analytics > Premium Analytics.**.
2. On the Premium Analytics page, click **Audit Logs**.
   The Audit Logs dashboard appears.
3. Use the filter options at the top of the dashboard to view specific information.
   - Click **Report Date** and set the period for which you want to generate analytics. By default, the dashboard shows data for the last 7 days.
   - Use the Admin E-mail and Admin Name filters to find the records for specific administrators. From the drop-down list, select the user that you want to include.
   - In the Message Template fields, enter a task title to find records for a particular task, such as adding a WLAN or updating the device profile. As you type, the dashboard reloads to show only the messages that contain the specified characters.
   - From the Message Template Exclude drop-down list, select the events that you want to exclude from the results.
   - From the dashboard actions on the top-right corner of the dashboard, select **Reset filter** to reset the filters.

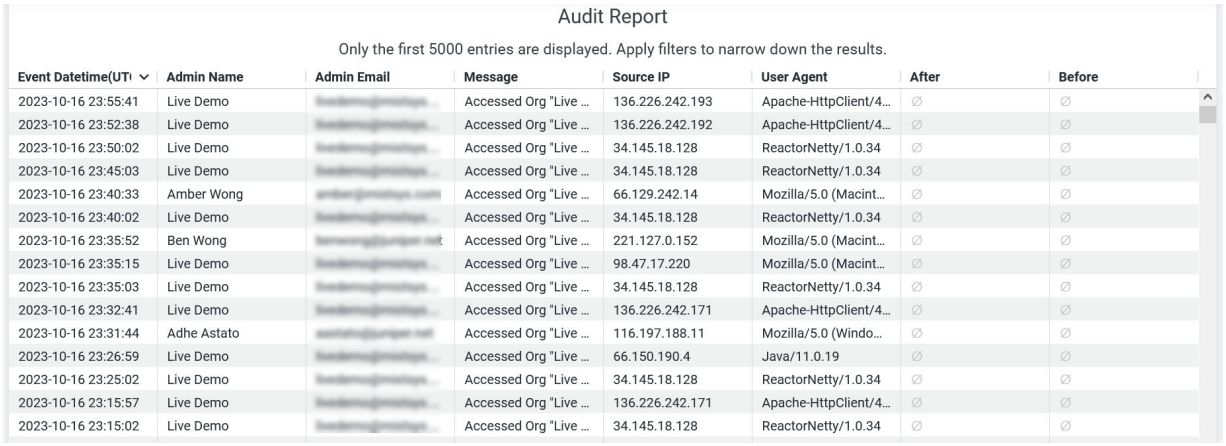
Audit Log Dashboard

IN THIS SECTION

The Audit Log dashboard includes various tiles that provide graphical representations of analytics at a granular level.

On the top of the dashboard, you can view a detailed audit report for the selected time period.

Figure 173: Audit Report



Event Datetime(UT	Admin Name	Admin Email	Message	Source IP	User Agent	After	Before
2023-10-16 23:55:41	Live Demo	[redacted]	Accessed Org "Live ...	136.226.242.193	Apache-HttpClient/4...	∅	∅
2023-10-16 23:52:38	Live Demo	[redacted]	Accessed Org "Live ...	136.226.242.192	Apache-HttpClient/4...	∅	∅
2023-10-16 23:50:02	Live Demo	[redacted]	Accessed Org "Live ...	34.145.18.128	ReactorNetty/1.0.34	∅	∅
2023-10-16 23:45:03	Live Demo	[redacted]	Accessed Org "Live ...	34.145.18.128	ReactorNetty/1.0.34	∅	∅
2023-10-16 23:40:33	Amber Wong	[redacted]	Accessed Org "Live ...	66.129.242.14	Mozilla/5.0 (Macint...	∅	∅
2023-10-16 23:40:02	Live Demo	[redacted]	Accessed Org "Live ...	34.145.18.128	ReactorNetty/1.0.34	∅	∅
2023-10-16 23:35:52	Ben Wong	[redacted]	Accessed Org "Live ...	221.127.0.152	Mozilla/5.0 (Macint...	∅	∅
2023-10-16 23:35:15	Live Demo	[redacted]	Accessed Org "Live ...	98.47.17.220	Mozilla/5.0 (Macint...	∅	∅
2023-10-16 23:35:03	Live Demo	[redacted]	Accessed Org "Live ...	34.145.18.128	ReactorNetty/1.0.34	∅	∅
2023-10-16 23:32:41	Live Demo	[redacted]	Accessed Org "Live ...	136.226.242.171	Apache-HttpClient/4...	∅	∅
2023-10-16 23:31:44	Adhe Astato	[redacted]	Accessed Org "Live ...	116.197.188.11	Mozilla/5.0 (Windo...	∅	∅
2023-10-16 23:26:59	Live Demo	[redacted]	Accessed Org "Live ...	66.150.190.4	Java/11.0.19	∅	∅
2023-10-16 23:25:02	Live Demo	[redacted]	Accessed Org "Live ...	34.145.18.128	ReactorNetty/1.0.34	∅	∅
2023-10-16 23:15:57	Live Demo	[redacted]	Accessed Org "Live ...	136.226.242.171	Apache-HttpClient/4...	∅	∅
2023-10-16 23:15:02	Live Demo	[redacted]	Accessed Org "Live ...	34.145.18.128	ReactorNetty/1.0.34	∅	∅

You can view the chart displaying the following details:

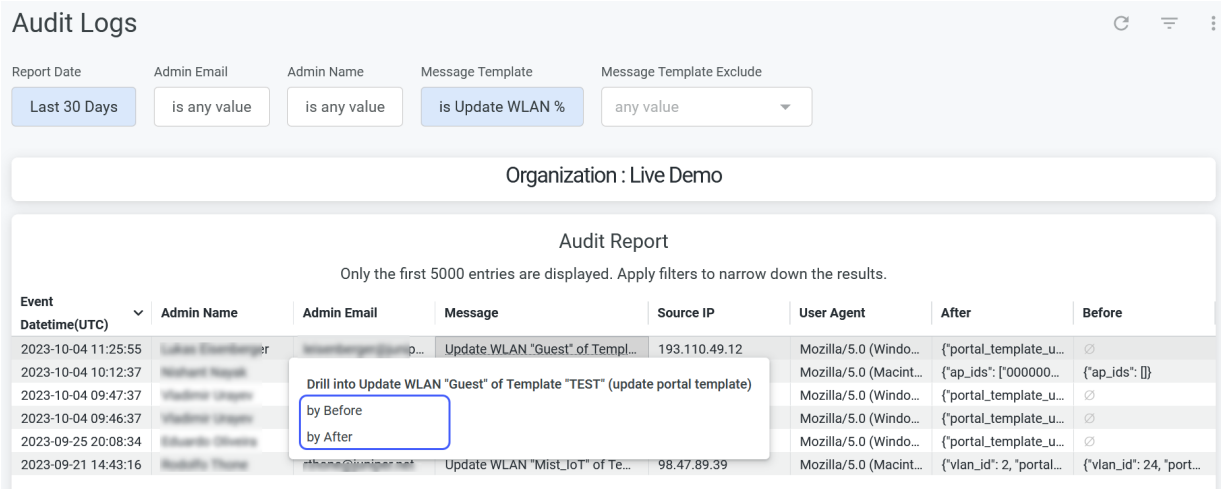
- Event Date and Time—Timestamp of the event's occurrence.
- Admin Name—Username of the administrator whose audit logs you want to view.
- Admin Email—E-mail address of the user whose audit logs you want to view.
- Message—Description of a task.
- Source IP—IP address of the user's device.
- User Agent—Software stack used to make a web request.
- After—Logs after the occurrence of a specific event.

- Before—Logs before the occurrence of a specific event.

For certain types of events such as change in WLAN, you can find additional details.

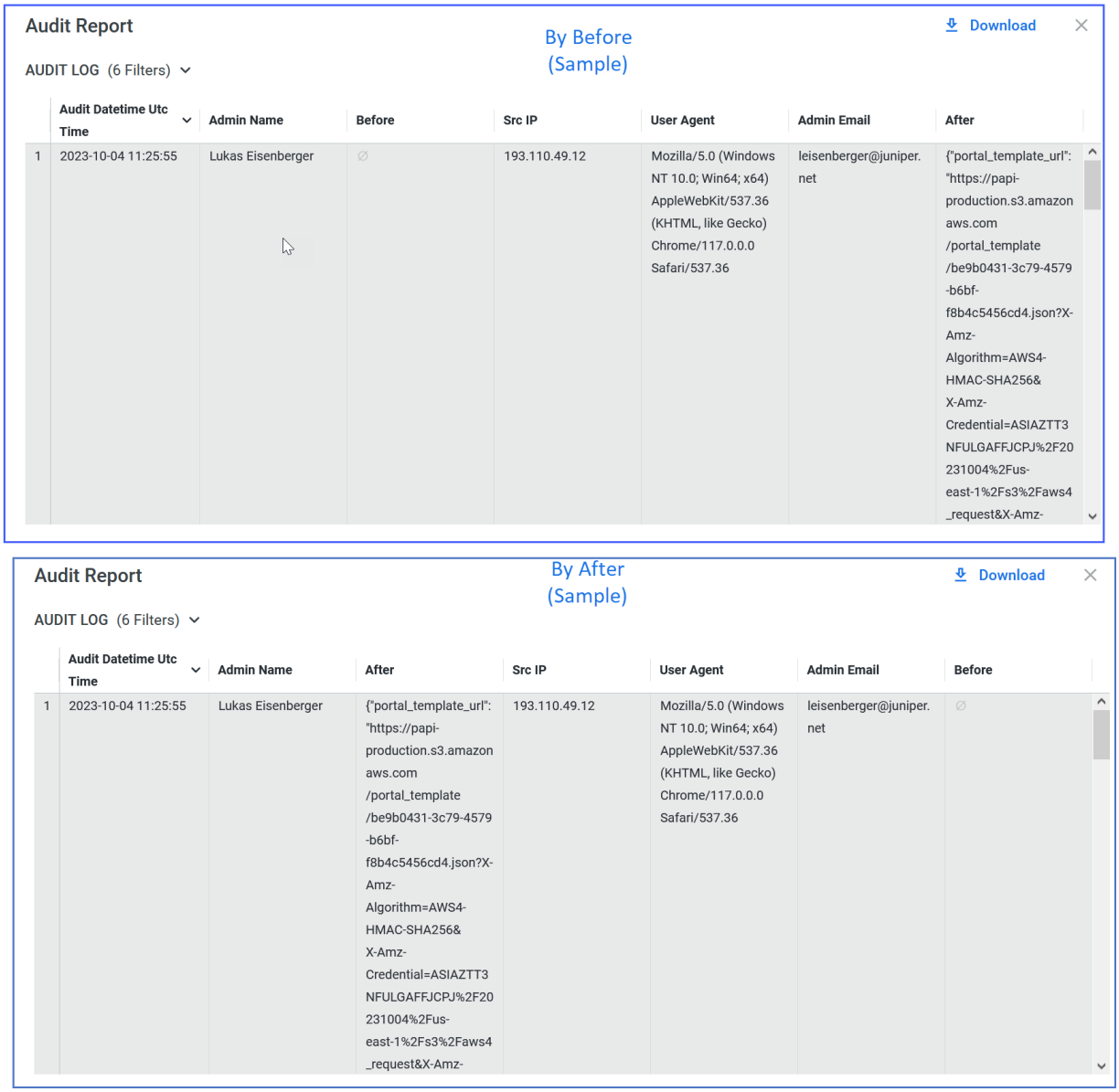
To view additional details, click the message and select either the **By Before** or **By After** option.

Figure 174: View Additional Details for Audit Log



The audit record opens in a new window. On this report, you can see information as shown in Figure 175 on page 218.

Figure 175: Audit Log Before and After Event Details

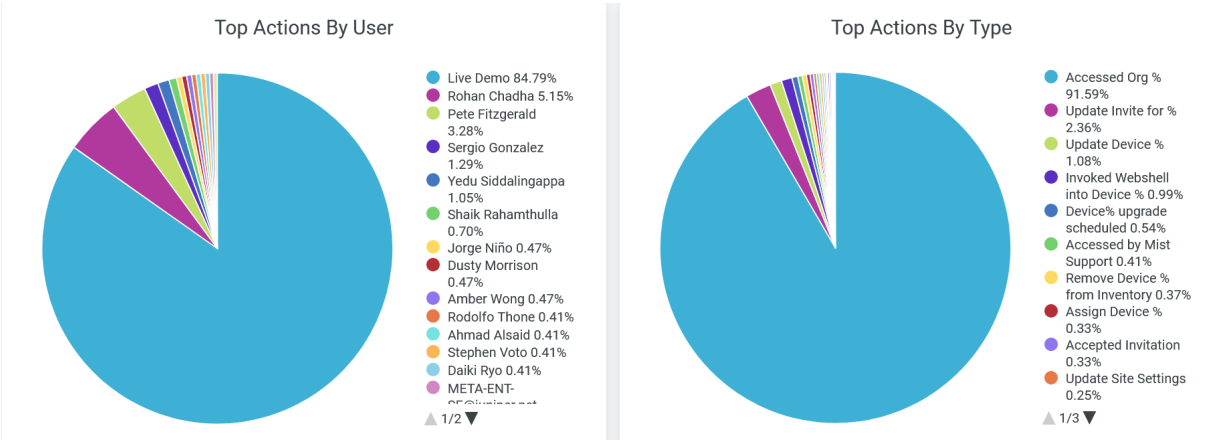


You can see that the After and Before columns provide additional information.

Top Actions by User and Type

The tile displays users, the percent of events that each user performs, and the percentage of occurrences of each event type.

Figure 176: Top Actions by User and Device Type



In the Top Actions by Users chart, you can view the users who triggered the events that occurred in the selected time period. The legend shows the names of users with the percentage of events that each user triggered. You can place the cursor on a wedge in the pie chart to see the number of logs for an event and the associated username.

In the Top Actions by Type chart, you can view the distribution of event types, based on the number of occurrences of each event type, expressed as percentages. The legend shows the event types and the corresponding percentage of each type. You can place the cursor on a wedge in the pie chart to see the number of occurrences for an event type.

To hide data for a user or an event type in the charts and see data for only the remaining ones, click the username or the event type in the legends.

SEE ALSO

Introduction to Juniper Mist Analytics | 2

Mist Premium Analytics Dashboards | 10

Premium Analytics—Frequently Asked Questions | 5

Wireless Network Insights | 85

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Inventory

IN THIS SECTION

The inventory dashboard displays the details of organization-wide hardware, subscriptions, and firmware information.

Features and Benefits

- With inventory analytics, you get an up-to-date and thorough information about the inventory of all assets, including access points (APs), switches, WAN edge devices, and firmware. You can use this information to efficiently manage and maintain these assets.
- Inventory details help you in regulatory and audit compliance, performance management, and capacity planning
- Inventory analytics provides insights into the subscriptions and their duration of validity. Monitoring these subscriptions is crucial for maintaining uninterrupted operations.

Before You Begin

- Refer to "Mist Premium Analytics License" on page 8 to know about license requirements for Juniper Mist™ Premium Analytics.
- See View and Update Your Device Inventory to know how to make changes to individual devices or to multiple devices in the inventory.
- Refer to Subscriptions to learn about the subscriptions available for Juniper Mist.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboards. See Figure 4 on page 17.

Access Inventory

1. From the left menu on the Juniper Mist portal, select **Analytics > Premium Analytics.**.
2. On the Premium Analytics page, click **Inventory**.
   The Inventory dashboard appears.
3. You can select the site in the **Site Name** filter to get the inventory report for the selected site.

   From the dashboard actions on the top-right corner of the dashboard, select **Reset filter** to reset the filter.

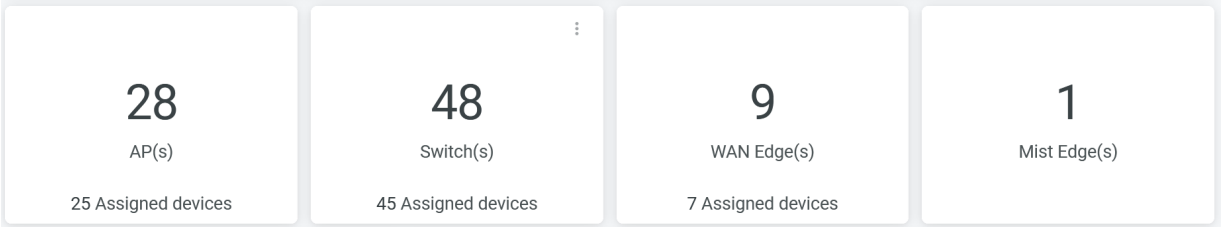
Inventory Dashboard

IN THIS SECTION

The Inventory dashboard includes various tiles that provide graphical representations of analytics at a granular level.

On the top of the dashboard, you can view a summary of the devices in the site.

Figure 177: Audit Report

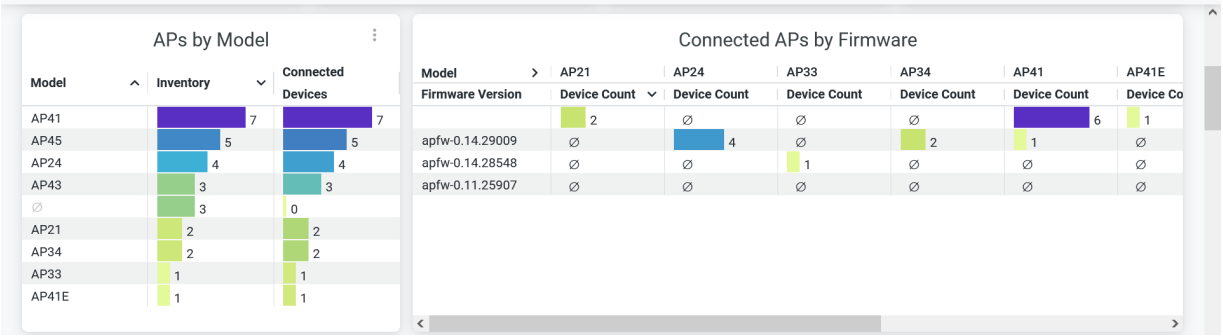


The details include the number of APs, switches, WAN edge devices, and Juniper Mist Edge device.

APs by Model and Firmware

The tile shows the count of APs sorted by model and the count of APs in operation sorted by firmware version.

Figure 178: APs by Model and Firmware



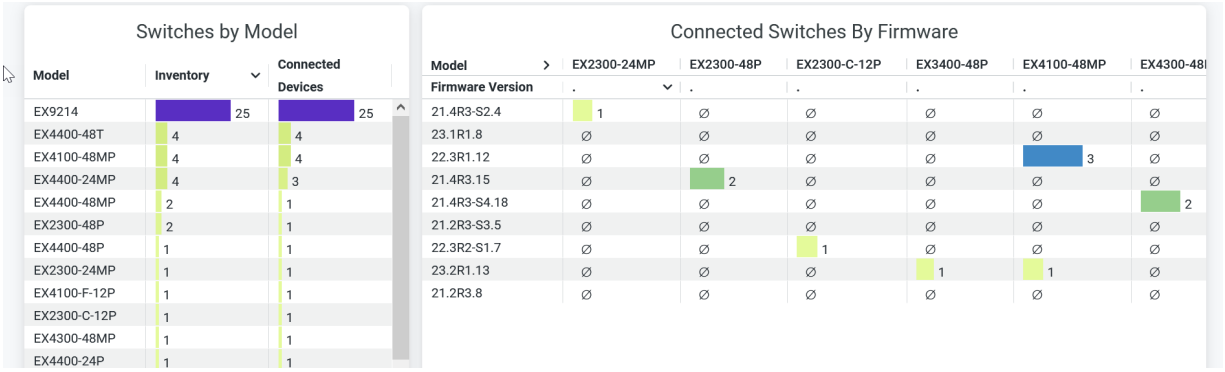
In the **APs by Model** section, you can see the number of APs for each model type and also the number of devices that are connected to these APs.

In the **Connected APs by Firmware** section, you can see the AP models with device count in each version of firmware.

Switches by Model and Firmware

The tile shows the count of switches sorted by model and the connected switches sorted by their firmware version.

Figure 179: Switches by Model and Firmware



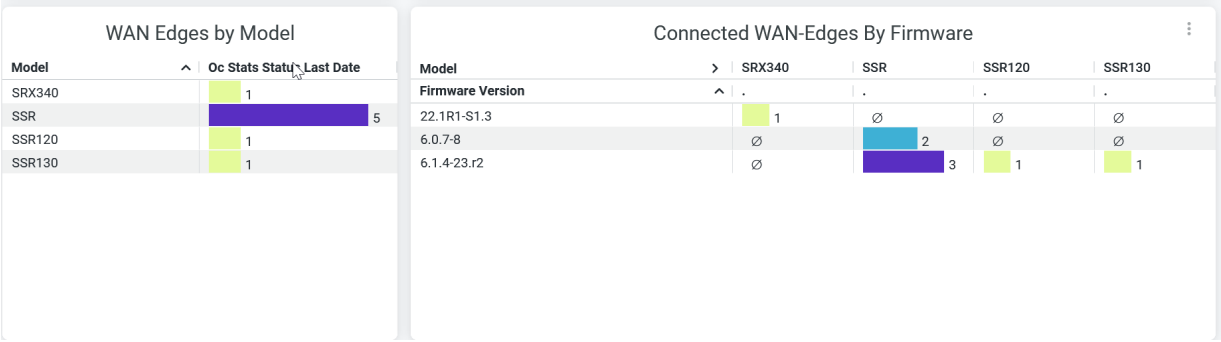
In the **Switches by Model** section, you can see the number of switches for each model type and also see the number of devices that are connected to these switches.

In the **Connected Switches by Firmware**, you can see the switch models with device count in each version of operating system software.

WAN Edges by Model and Firmware

The tile shows the count of WAN edge devices sorted by model and the connected WAN edge devices sorted by firmware version.

Figure 180: WAN Edges by Model and Firmware



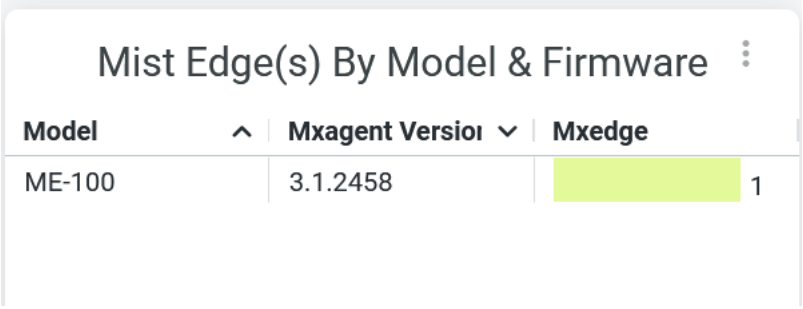
In the **WAN Edges by Model** section, you can see the number of WAN edge devices for each model type and also see the number of devices that are connected to these devices.

In the **Connected WAN Edges by Firmware** section, you can see the WAN edge models with device count in each version of operating system software.

Mist Edges by Model and Firmware

The tile shows the count of Juniper Mist Edge devices sorted by model and firmware version.

Figure 181: Mist Edges by Model and Firmware

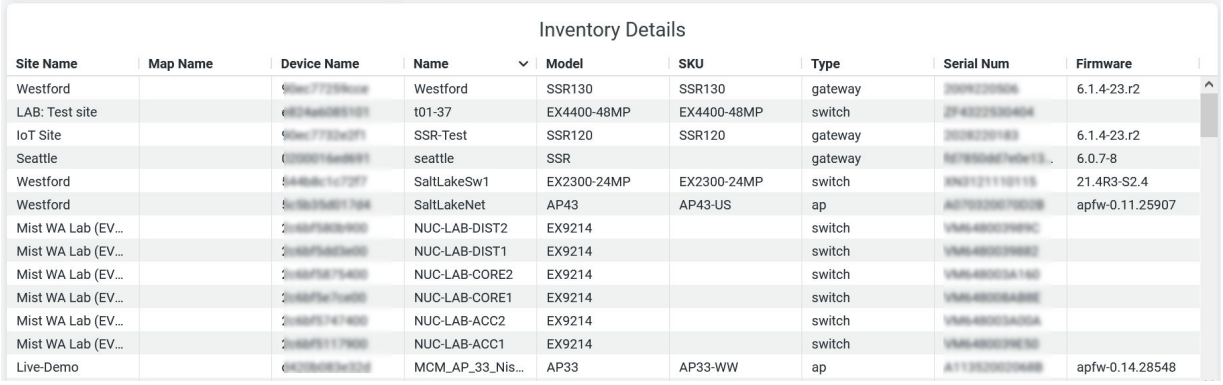


You can see the number of Juniper Mist Edge devices for each model type and firmware version.

Inventory Details

The tile shows the detail inventory of all devices in the selected site or all sites of your organization.

Figure 182: Inventory Details



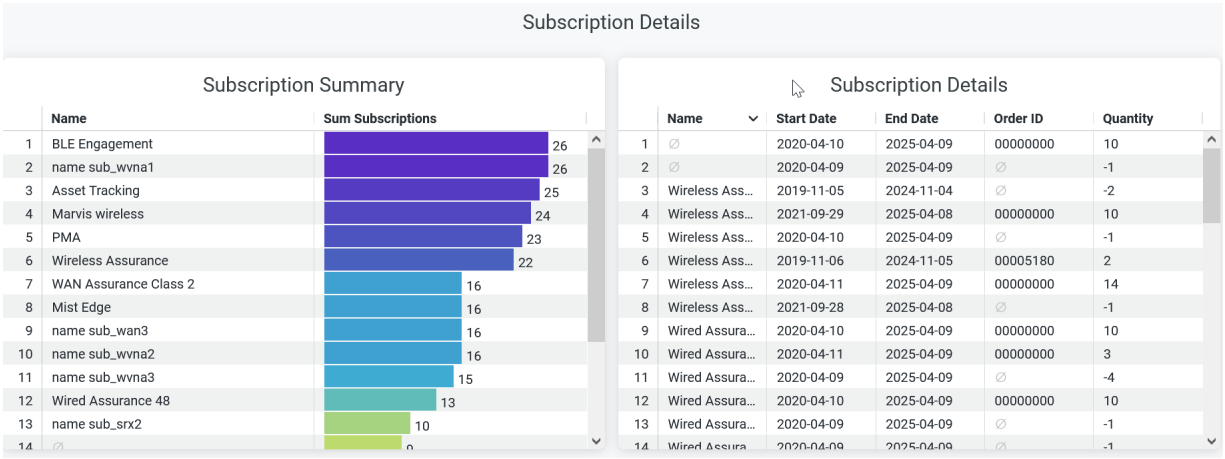
You can see:

- Site Name—Name of the site where the device is located.
- Map Name—Floor in a site where the device is located.
- Device Name—Name of the device.
- Model—Model type.
- SKU—Stock keeping unit (SKU) number assigned to device.
- Type—Type of device—switch, AP, or gateway.
- Serial Number—A unique identifier of the device.
- Firmware—Operating system version running on the device.

Subscription Summary

The tile shows the details of subscriptions and their status.

Figure 183: Inventory Details



In the **Subscription Summary** section of the tile, you can see the number of subscriptions for each subscription type.

In the **Subscription Details** section, you can see the subscriptions types with start date and end date, order ID of the subscriptions, and the number of units of each subscription type.

SEE ALSO

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CHAPTER 7

Occupancy Analytics

Occupancy Analytics

IN THIS SECTION

Use the Occupancy Analytics dashboard to identify the overcrowded areas in your sites. You can leverage this information to manage site occupancy with capacity limits for different zones in your site.

You must configure location zones (Add Location Zones to Floor Plan) when you use the occupancy analytics pages. You can restrict the number of clients by using the zones that you set up on the Live View page, which you access during tasks related to location services.

You can use the Occupancy Analytics dashboard to:

- Receive real-time updates about congested areas.
- Adhere to social distancing protocols within the site.
- Plan real estate for better space utilization.

Features

Juniper Mist™ provides two types of Occupancy Analytics—as part of Juniper Mist standard analytics and Juniper Mist™ Premium Analytics.

Table 10 on page 228 presents a comparison of the features found in both versions of Occupancy Analytics.

Table 10: Occupancy Analytics Features

Features	Standard Occupancy Analytics	Premium Analytics
Heatmap of floor and zone occupancies based on preconfigured maximum capacity restrictions	Yes	Yes
Ability to customize report timeframe and location source	Yes	Yes
Occupancy trends over time	No	Yes
Zone ranking based on capacity utilization and dwell time	No	Yes
User ranking based on dwell time	No	Yes

Before You Begin

Set up your floorplan and add location zones. See Juniper Mist Location Services Guide for details.

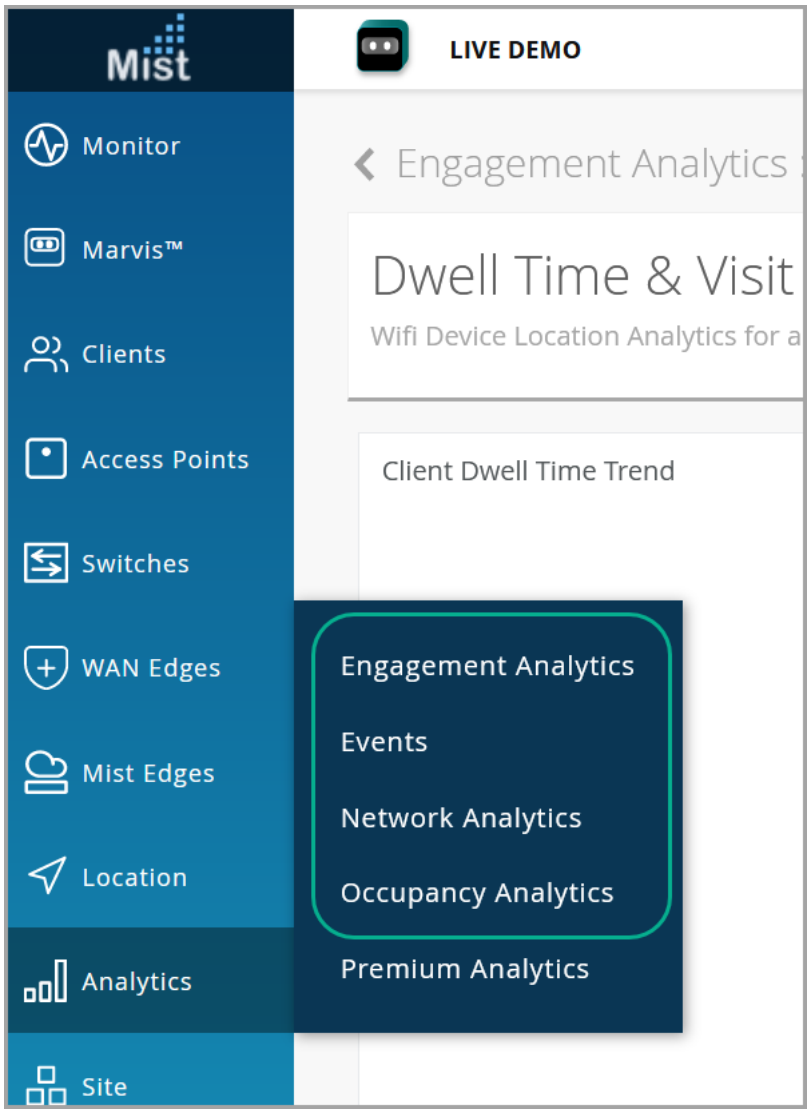
Add proximity zones to a floor plan. See Add Proximity Zones to a Floorplan for details.

View Occupancy Analytics Dashboard

To access Occupancy Analytics:

1. From the left menu of the Juniper Mist portal, select **Analytics > Occupancy Analytics**.

Figure 184: Analytics Dashboards



The Occupancy Analytics dashboard appears. On the dashboard, you see visuals of zones of the floor plan. On the page, you see each floor plan with its zones on a separate tile.

2. Use the options available at the top of the dashboard to customize your view.

Figure 185: Occupancy Analytics

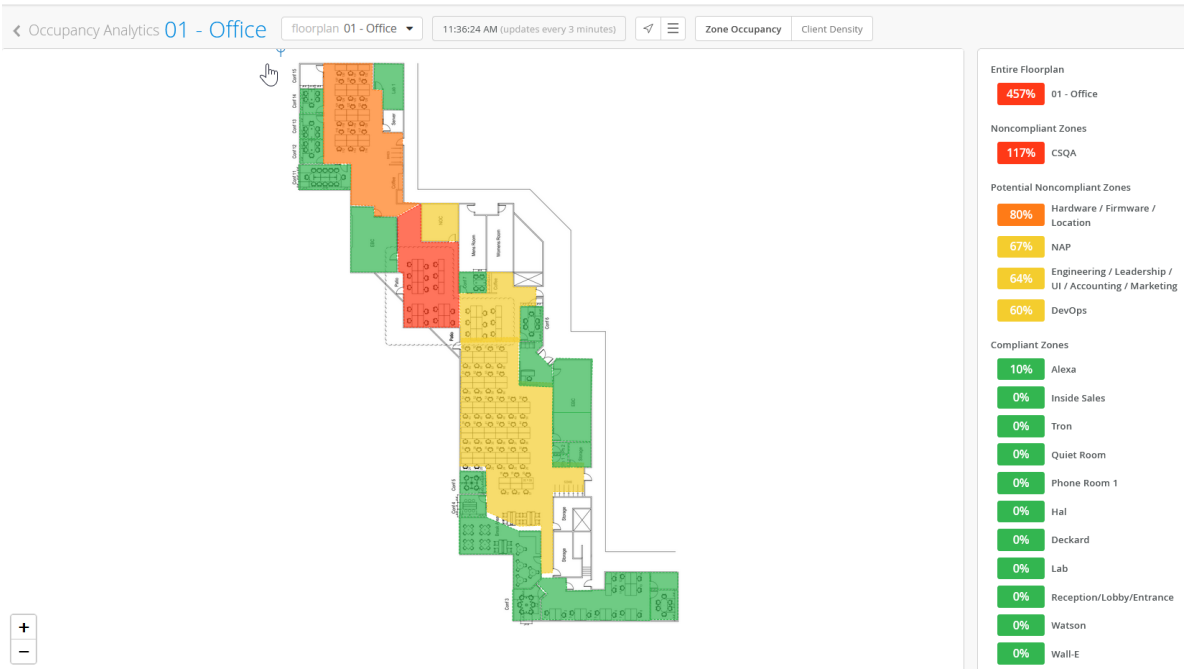
- Site—Select site from drop-down.
- Time—Time when the analytics data was last updated.
- View—Toggle between the map view (arrow icon) and the table view (hamburger menu).
- Zone Occupancy—See the occupancy in each zone of the selected site or floor. The zones are color-coded so that you can quickly identify the ratio of occupancy to capacity. For example, zones with low occupancy, that is below 50 percent of capacity, are in green. Zones with excess occupancy, that is over 100 percent of capacity, are in red.
- Client Density—Identify the current occupancy across the floor plan. For example, the areas with the highest number of occupants are in red, and the areas with the fewest occupants are in blue.
- Occupant Types—Select the types of clients to include in the occupancy count of each zone. The client types are:
  - WiFi Clients—Clients that are currently connected to the wireless network.
  - Mobile Apps—Clients that are using Juniper Mist SDK-enabled applications.
  - Assets/Badges—Bluetooth Low Energy (BLE) tags that you have attached to employee badges and high-value equipment.

View Zone Occupancy on a Heatmap

1. On the Occupancy Analytics dashboard, select the site from the drop-down menu on the banner. The dashboard displays visuals of each floor of the site.

2. Click a floor to see the details. On the dashboard, you see a heat-map of the floor occupancy. On the right pane, you see a list that displays the percentage of occupancy.

Figure 186: Occupancy Details on a Heatmap



You can quickly identify the percent of occupied capacity from the color-coded heatmap.

- Green—Low occupancy, that is, below 50 percent of capacity.
- Yellow—Occupancy is between 50 percent and 80 percent of capacity.
- Orange—Occupancy is above 80 percent of capacity.
- Red—Excess occupancy, that is, occupancy of over 100 percent of capacity.

Click any zone in the heatmap or the list to see information only about that zone.

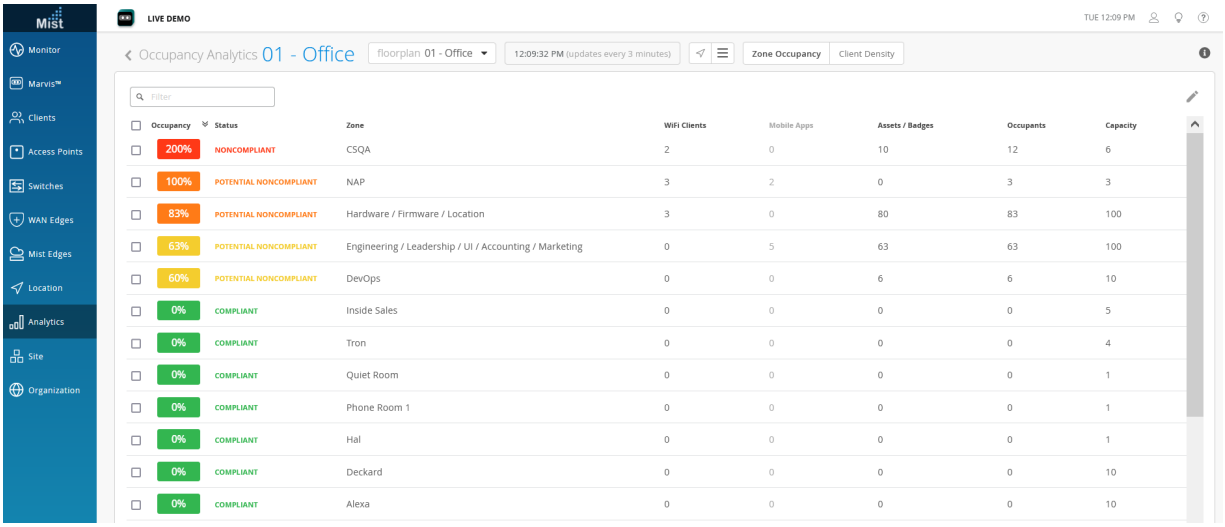
Click any zone in the list to see the number of occupants and available capacity.

NOTE: To edit the capacity limit, click the pencil icon, and then enter the maximum number of occupants.

View Zone Occupancy on a Table

On the Occupancy Analytics dashboard, click the hamburger menu on the banner to see the details in a table.

Figure 187: Occupancy Details on a Table



On the table, you can see:

- Percentage representation of the occupancy to capacity ratio
- Status of each zone displayed in terms of utilized capacity
  - Compliant—Low occupancy, that is, capacity utilization is below 50 percent.
  - Potential non-compliant—Occupancy is between 50 percent and 100 percent of capacity.
  - Non-compliant—Excess occupancy, that is, capacity utilization is over 100 percent.
- Type of connected clients—Wireless, mobile application, assets, or badges
- Number of occupants in each zone
- Available capacity in each zone

To edit the capacity limit, click the pencil icon, and then enter the maximum number of occupants.

View Client Density Per Zone

On the Occupancy Analytics dashboard banner, click **Client Density** to see the heatmap for client density.

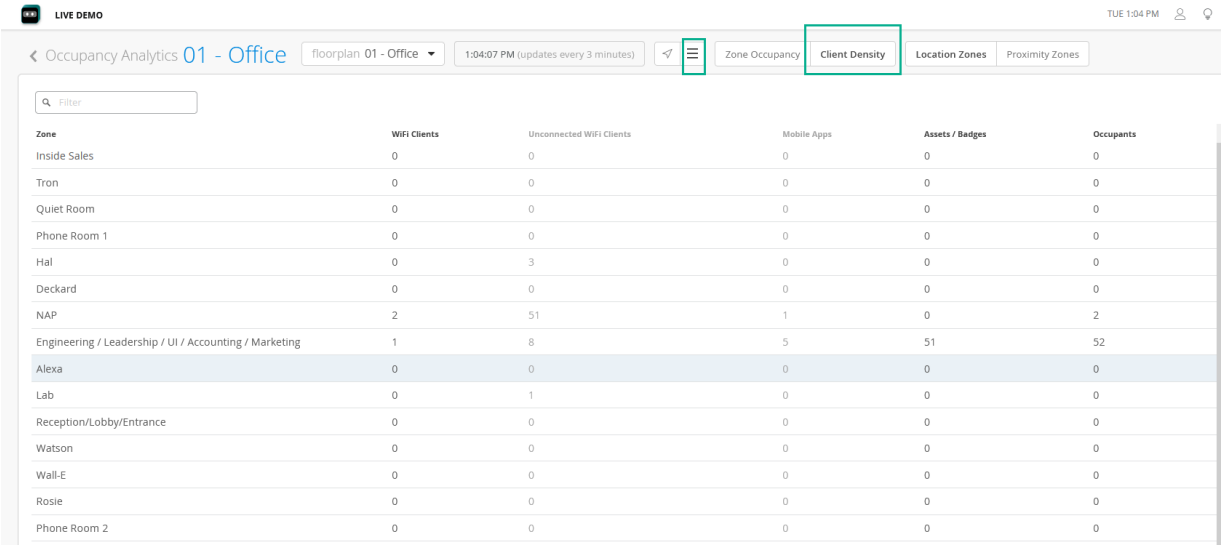
Figure 188: Client Density

Use the legend on the right side of the page to get the number of clients on each zone.

Click the zoom in (+) and zoom out (–) icons to adjust the level of detail that you see on the heatmap.

Click the hamburger menu on the banner to see the details in a table.

Figure 189: Client Density View as Table



You can identify the following information for each zone:

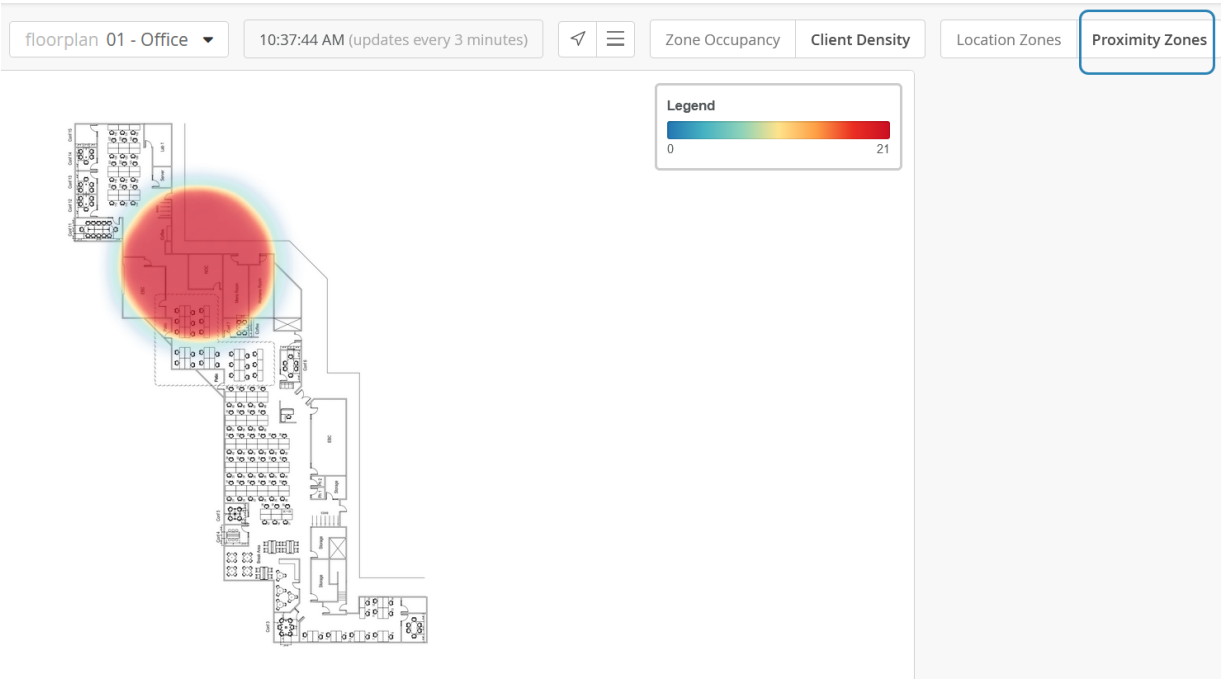
- Type of connected clients—Wireless, mobile app,assets, and badges
- Number of occupants

View Proximity Zone Details

View proximity zone information to gather occupancy and engagement data for SDK clients, named assets, and connected and unconnected wireless clients.

On the Occupancy Analytics dashboard, click **Client Density** and then click **Proximity Zone**.

Figure 190: Client Density View

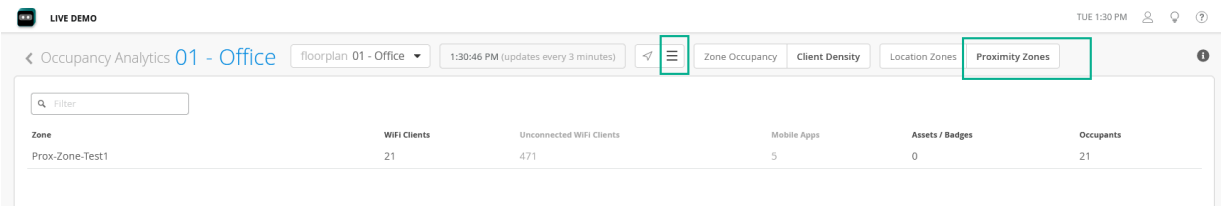


Use the legend on the right side of the dashboard to get the number of clients on each zone.

Click the zoom in (+) and zoom out (–) icons to adjust the level of detail that you see on the dashboard.

Click the hamburger menu on the banner to see the details in a table.

Figure 191: Proximity Zone Details



You can identify the following information for each zone:

- Type of connected clients (wireless, mobile application, assets, and badges)
- Number of occupants

8

CHAPTER

Engagement Analytics

Engagement Analytics

IN THIS SECTION

Use Engagement Analytics to see the visitor count, trends, and dwell time. You can customize the dashboard to generate and download reports.

Features

Juniper Mist™ provides two types of Engagement Analytics—as part of Juniper Mist standard analytics and Juniper Mist™ Premium Analytics.

Table 11 on page 237 presents a comparison of the features in the standard and premium versions of Engagement Analytics.

Table 11: Engagement Analytics Features

Features	Standard Engagement Analytics	Premium Analytics
Visitor segmentation and dwell time reporting based on user-defined dwell time.	Yes	Yes
Unique visitor trends based on predefined labels for visitor segmentation	Yes	Yes
Dwell time and visits per site, floor, AP, and zones	Yes	Yes

Table 11: Engagement Analytics Features *(Continued)*

Features	Standard Engagement Analytics	Premium Analytics
Heatmap of floor and zone occupancies	Yes	Yes
Popular motion paths including traffic flows between zones	No	Yes
Data ingestion and reporting of location-based occupancy and third-party data	No	Yes

Before You Begin

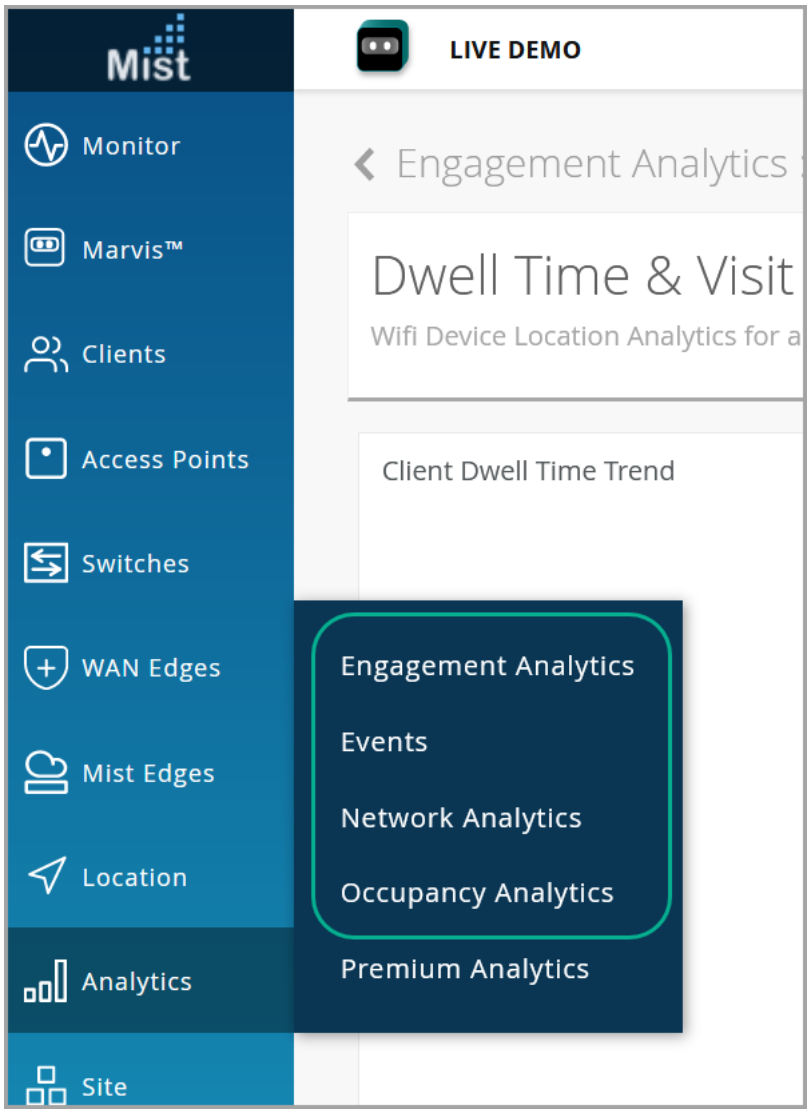
- See Set the Engagement Dwell Limits and Schedule for a Site to enable the Engagement Analytics options for a site.
- See Juniper Mist Location Services Guide to learn how to setup your sites and floor plans for location services.
- See "Mist Premium Analytics License" on page 8 to know about the license requirements for Juniper Mist Premium Analytics.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboards. See Figure 4 on page 17.

View Engagement Analytics Dashboard

To access the Network Analytics dashboard:

1. From the left menu of the Juniper Mist portal, select **Analytics > Engagement Analytics**.

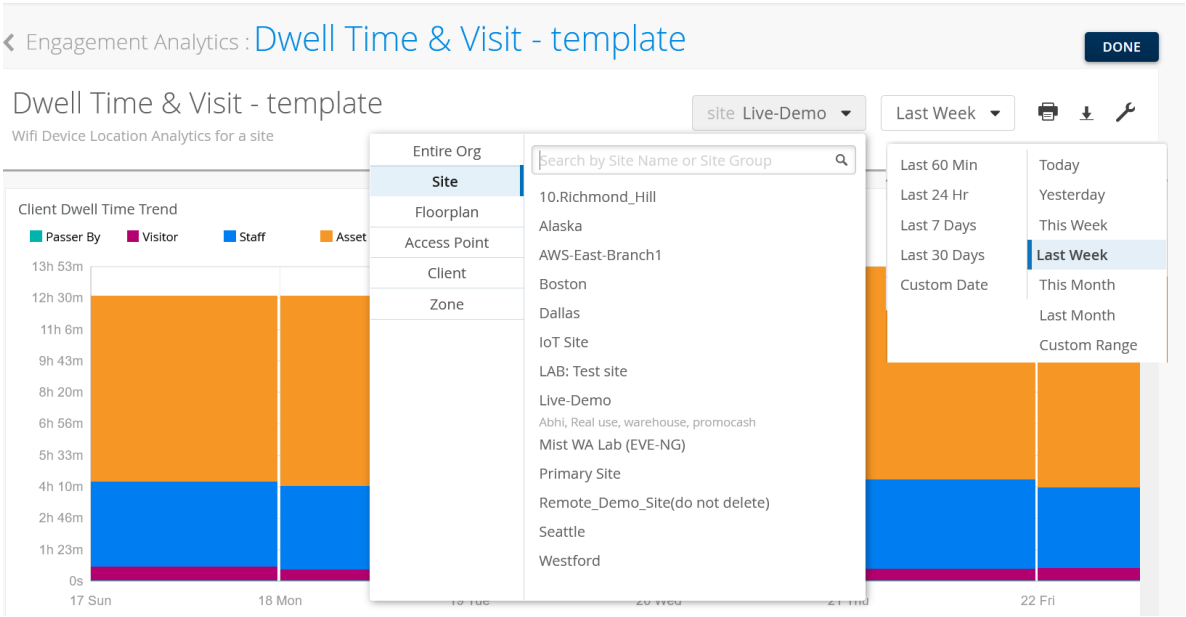
Figure 192: Analytics Dashboards



The Engagement Analytics dashboard appears. This dashboard displays the default views of organization insights, which are grouped in different tiles, in the form of templates.

2. Use the options at the top of the dashboard to customize your view or build new reports.

Figure 193: Engagement Analytics Filter Options



Select an option from the **org** menu to define the scope of the report as entire organization, site, floorplan, access point, client, or zone.

Set the time period for the report. You can select an hour, day, week, month, or custom time range.

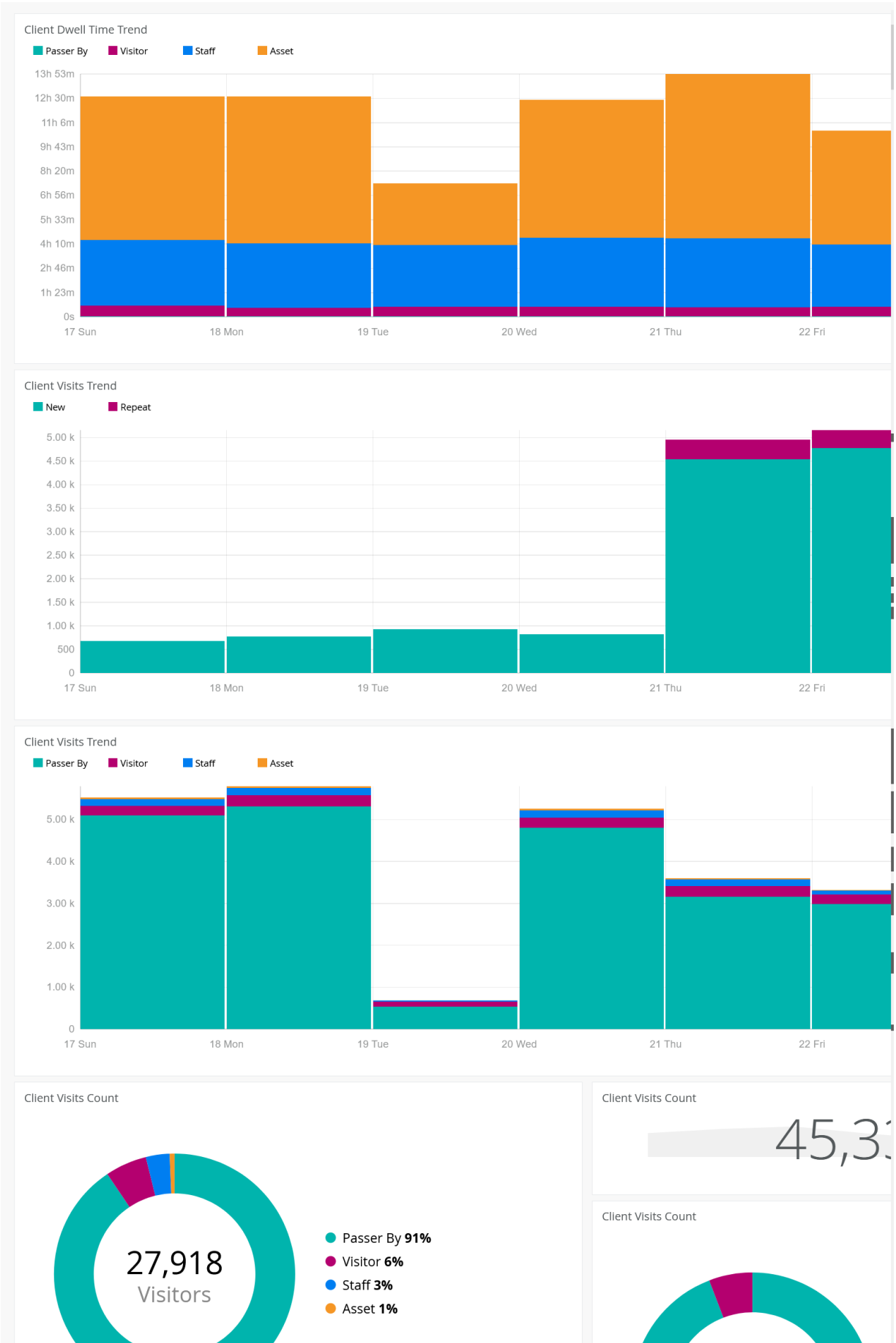
Click the print icon to print the report, and click the download icon to download the report.

Click the spanner icon to apply the defined scope and time period to all the tiles. This step ensures that you see reports for the same scope and time period on all the tiles.

Create Reports Using Templates

The Engagement Analytics dashboard displays default reports that you can use as templates to generate new, customized reports.

Figure 194: Engagement Analytics Templates



You can use any of the following templates to generate reports:

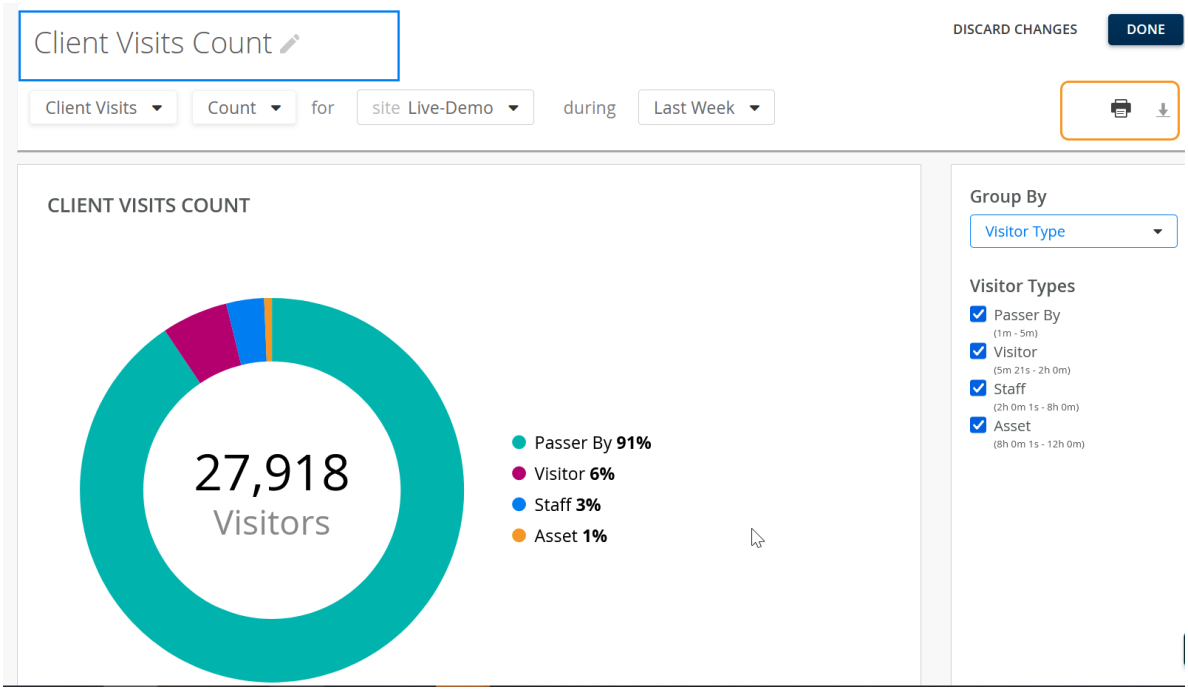
- Client Dwell Time Trend—Stacked bar graph that shows the dwell time by all the clients over 7 days. Each bar shows the total dwell time by four types of users—passerby, visitor, staff, and asset—in a day.
- Client Visits Trend (New and Repeat)—Stacked bar graph that shows the visitor count for 7 days. Each bar shows the total visits by two types of users—new and repeat—in a day.
- Client Visits Trend (User Type)—Stacked bar graph that shows the visitor count for 7 days. Each bar shows the total visits by four categories of users—passerby, visitor, staff, and asset—in a day.
- Client Visit Counts (New and Repeat)—Pie chart that shows the distribution of visitors in percentages for the selected duration. Each wedge in the chart represents a new or repeat user. Hover over any wedge to see the actual number of visitors.
- Client Visit Counts (User Type)—Pie chart that shows the distribution of visitors in percentages for the selected duration. Each wedge in the chart represents a user category—passerby, visitor, staff, and asset. Hover over a category to see the actual number of visitors.
- Client Visit Counts—Total number of visits.
- Client Visit Dwell Time Count—Average connection time by all the visitors.

To generate a new report by using the template:

1. Click the required template to open the template on a new page.

   The following figure shows the Client Visits Count template on a new page.

Figure 195: Generate Report Using Template



Use the following options to customize your report:

- Click the title of the tile to rename the report.
- Select the metrics that you want to include in the report:
  - Applications—Visitor traffic and data usage for the particular application.
  - Assets—Total count of all assets. You can select sub categories—dwell time, visits, and wait time.
  - App Clients—Number of visitors connected through applications. You can select sub categories—dwell time, visits, and wait time.
  - BLE Clients—Number of visitors connected through a BLE.
  - Wireless Clients—Number of visitors connected through a wireless device. You can select sub categories—dwell time, visits, and wait time.
  - WLANs—Number of WLANs that support connections.
- Select the option to sort the report. The availability of sorting options depends on the metrics that you select to customize the report.
- You can sort the report by:
  - Bytes and clients (Applications)

    - Count, trend, locations (Assets, App clients, BLE clients)
    - Count, trend, list, ranked, locations (Wireless clients)
    - Count, list, ranked (WLANs)
  - Select any of the following options as the scope of the report:
    - Entire Organization
    - Sites
    - Floor Plan
    - Access Point
    - Zone
  - Select the duration. You can select by day, week, month, custom date, custom date and time range.
  - Select color from the available options for the report.
  - Use filters to further refine your report. You can apply filters for the WLAN criteria. Available options are:
    - Radio bands
    - Device model
    - Device type
    - Operating system
    - WLAN
2. Click **DONE** after you customize and sort the report.

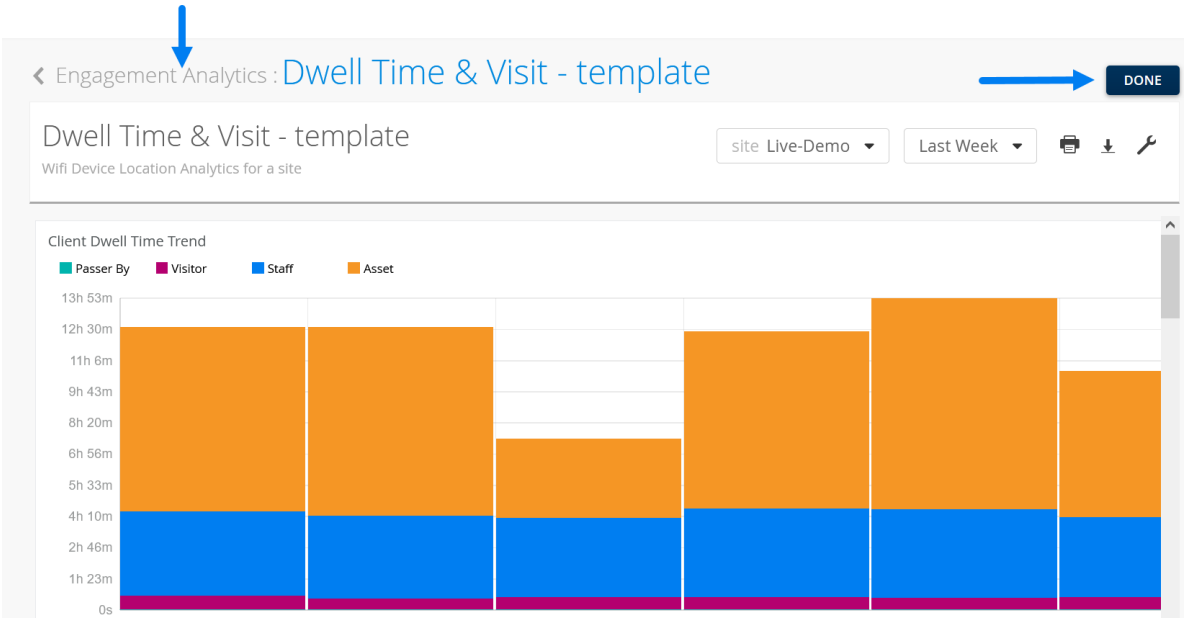
   The system saves the customized report. You can also print or download the report by using the options available on the top-right corner of the screen.

Access Saved Reports

To access your saved report:

1. Click **Engagement Analytics** or **DONE** on the template page.

Figure 196: Access Reports Library



2. The Engagement Analytics library page appears displaying all the available reports.

   Click the hamburger menu on the top-right corner of the page to arrange the reports as a list.

   Scroll-down the page and select **template** to go back to the page to generate a new report.

9

CHAPTER

Network Analytics

Network Analytics

IN THIS SECTION

On the **Network Analytics** dashboard, you can get a detailed view of network performance, traffic throughput, connected device information, other statistics, and network trends.

In this page, you can customize your view with the most relevant data and re-size each tile according to your requirements.

With Network Analytics, you can:

- Track network health, performance, and status.
- Know the amount and types of traffic passing through the network.
- Get insights about devices, access points (APs), switches and ports connected to your network, and site events including client, access point (AP), and switch events.
- Easily generate a customized report that can support your decision making.

Before You Begin

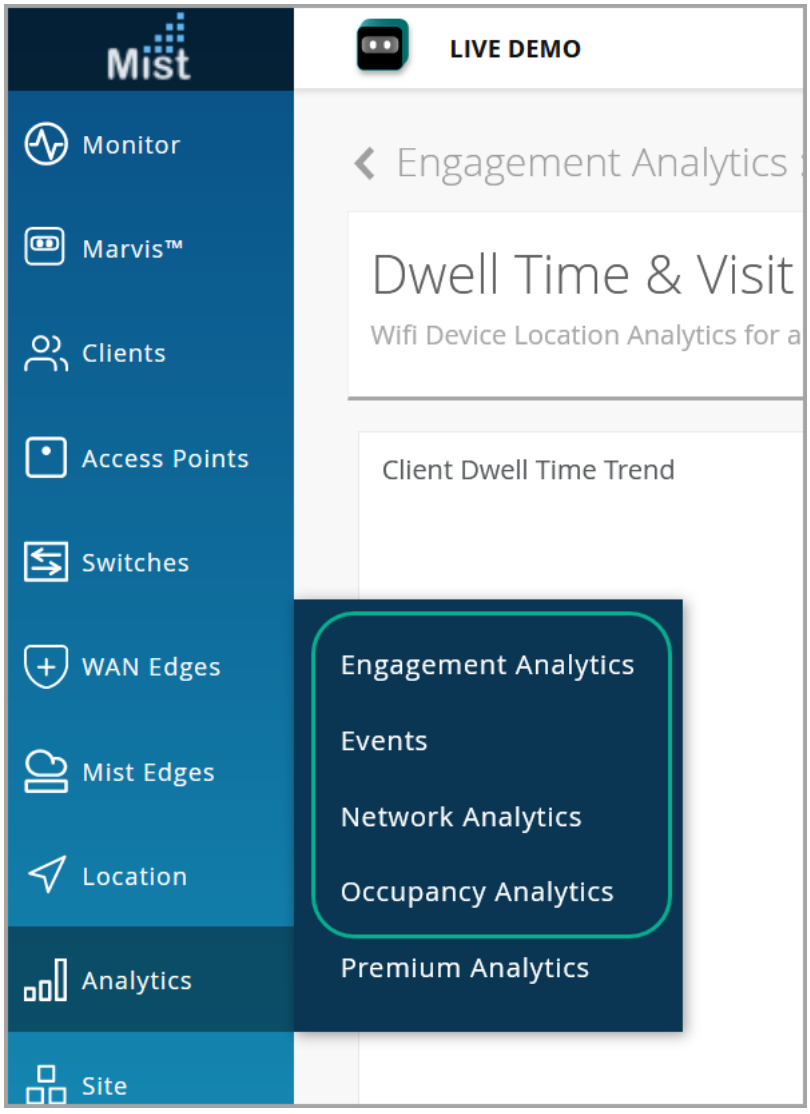
- See Juniper Mist Location Services Guide to learn how to sett up your sites and floor plans for location services.
- See "Mist Premium Analytics License" on page 8 to know about the license requirements for Juniper Mist™ Premium Analytics.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboards. See Figure 4 on page 17.

View Network Analytics Dashboard

To access the Network Analytics dashboard:

1. From the left menu of the Juniper Mist portal, select **Analytics > Network Analytics**.

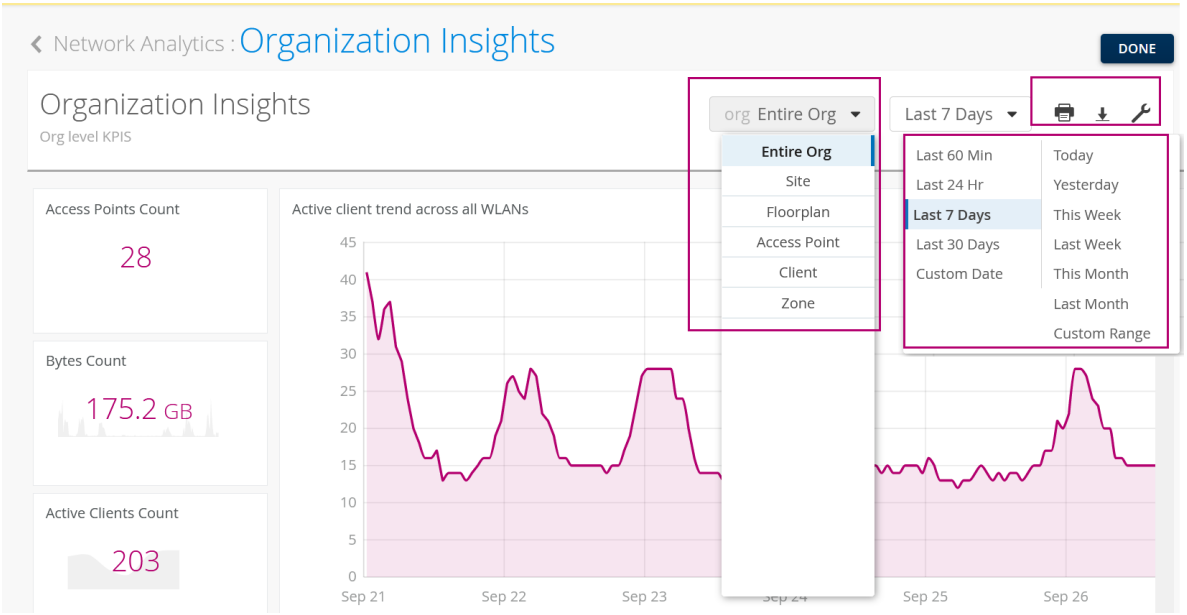
Figure 197: Analytics Dashboards



The Network Analytics dashboard appears. This page displays the default views of organization insights.

2. Use the options at the top of the dashboard to customize your view or create new reports.

Figure 198: Network Analytics Filter Options



Select an option from the **Organization** menu to define the scope of the report as entire organization, site, floorplan, access point, client devices, or zone.

Set the time period for the report. You can select hour, day, week, month, or a custom time range.

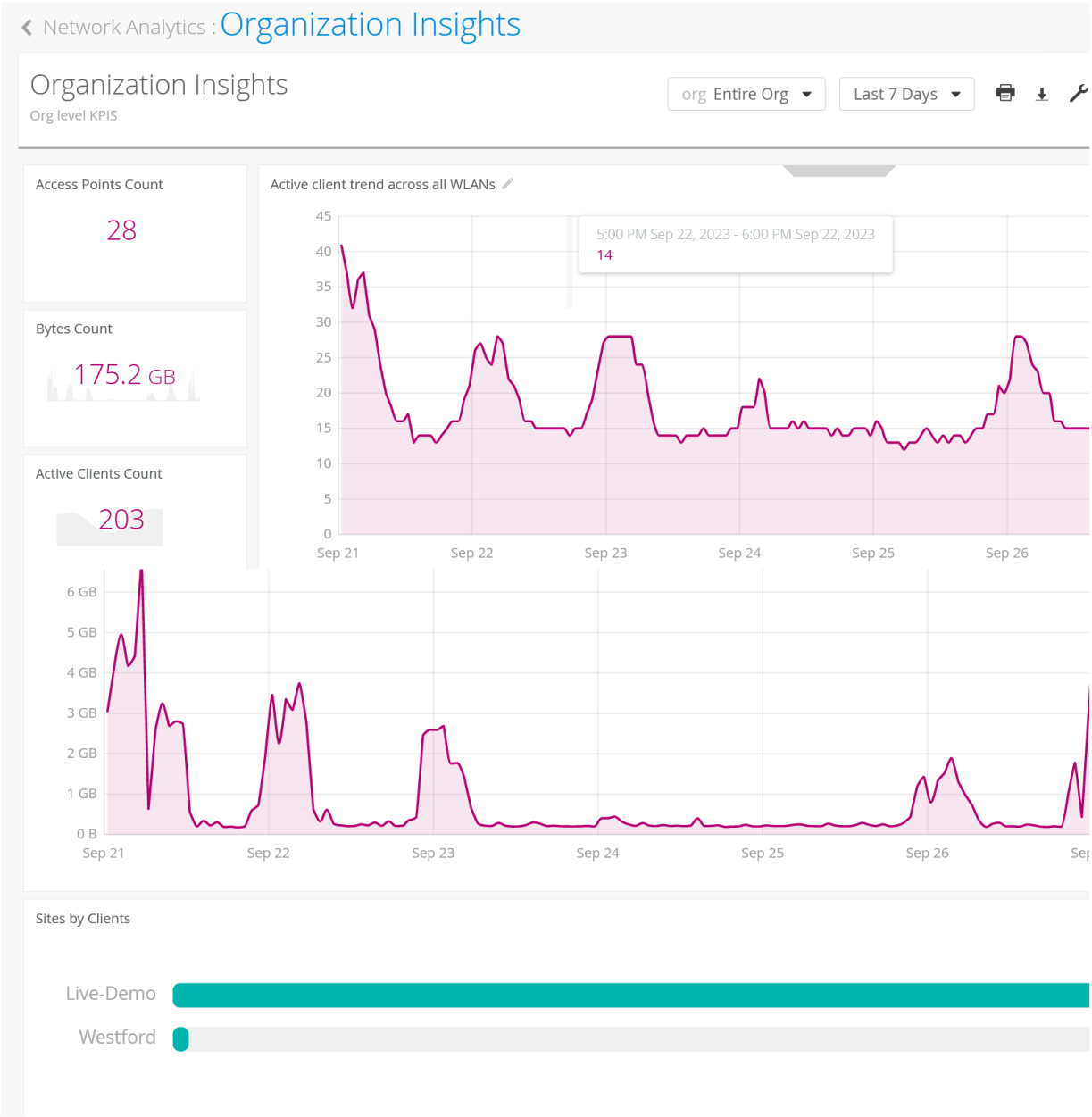
Click the print icon to print the report, and click the download icon to download the report.

Click the spanner icon to apply the defined scope and time period to all the tiles. This step ensures that you see reports for the same scope and time period on all the tiles.

Create Reports Using Templates

The Network Analytics dashboard displays default reports that you can use as templates to generate new, customized reports.

Figure 199: Network Analytics Templates



You can use any of the following templates to generate reports:

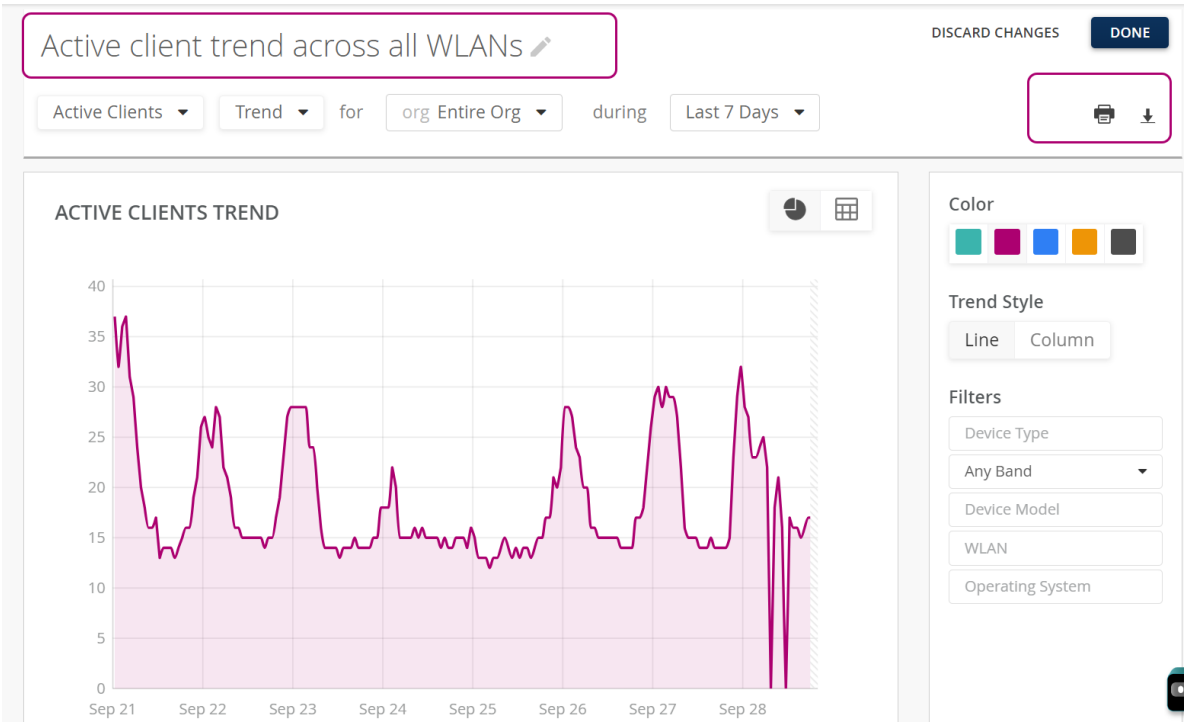
- Access Points Count—Number of active access points (APs).
- Active Client Trends across WLANs—Number of active client devices connected across all WLANs.
- Bytes Counts—Total traffic volume across a site.
- Active Clients Count—Number of active client devices.

- Sites by Clients—Number of client devices in each site.
- Traffic Utilization across all WLANs—Traffic volume across all WLANs.

To generate a new report by using the template:

1. Click the required template to open the template on a new page.
   The following figure shows the Active Client Trends across WLANs template on a new page.

Figure 200: Generate Reports Using Template



Use the following options to customize your report:

- Click the title of the tile to rename the report.
- Select the metrics that you want to include in the report:
  Measures
  - Bytes—Volume of client traffic.
  - Auth Latency—Average latency that clients experience during authentication.. This metric indicates the time a wireless client takes to connect to the wireless network.
  - Channel Utilization—Channel utilization trends in the 2.4-GHz and 5-GHz radio channels grouped by APs.

- DHCP Latency—Average latency that clients experience to set up a Dynamic Host Configuration Protocol (DHCP) connection. This metric reflects the time that a user takes to connect to a site by using DHCP.
- DNS Latency—Average latency that clients experience to establish a connection by using Domain Name System (DNS). This metric reflects the time that a user takes to connect to a site by using DNS.
- Retries—Count of attempts that a wireless client makes to reconnect to the wireless network.
- RSSI—Average received signal strength that client devices experience.
- SLE—The percent of service-level expectation (SLE) that clients experience. You can filter the result further by AP health, capacity, coverage, roaming, successful connection, throughput, and time to connect.

Entities

- Access Points
- Applications—Visitor traffic and data usage for a particular application.
- Clients—Total count of clients. You can see information for active and unconnected clients.
- DHCP Server—IP address of each DHCP server that establishes the network and client connections.
- DNS Server—IP address of each DNS server that establishes the network and client connections.
- Gateway—IP address of gateways involved in establishing connections.
- Honeypot APs—Honeypot APs present in your network. Honeypot APs are unauthorized APs that advertise your service set identifier (SSID).
- Rogue APs—Rogue APs are APs that you have not claimed for your organization, but are connected on your organization's wired network.
- Sites—Sites with client connections.
- Switches—List of switches present in your organization.
- WLANs—WLANs with active client connections.

Events

- AP Events—AP events are those events that are related to an AP or are reported by an AP. An example of an AP event is when the AP configuration changes.

- AP Event Type—List of AP events sorted by event types.
- Client Events—Count of client events. Client events are related to or reported by individual client devices. An example of a client event is when a DNS request from a client fails.
- Event Type —List of client events sorted by event types.
- Guest Logins—Count of guest logins.
- RRM Events—Count of events related to Radio Resource Management (RRM).
- Site Events—Count of events related to a site. Site events are the ones that affect a large number of devices or clients. An example of a site event is DNS or DHCP server reachability or AP reboot events.
- Switch Events—Count of events related to a switch. Examples of switch events include configuration changes, software updates, and system alarms.

Others

- AP Channels—Location of AP channels in floor plans.
- Band—List of radio bands ordered by the number of client events.
- BSSID—Count of client events occurring at each basic service set identifier (BSSID). BSSID is a MAC address of an AP.
- Channel—List of radio channels ordered by the number of client events.
- Device Models—List of client device models.
- Device Types—List of client device types.
- Operating Systems—List of operating systems running on the client devices.
- Protocols—List of 802.11 protocols ordered by the number of client events.
- VLANs—List of VLAN IDs ordered by the number of client events.
- Wireless Coverage—Wireless coverage in the floor map. You must select the floor plan to see the map. You can sort or filter the map by radio band types 2.4 GHz, 5 GHz, and 6 GHz.

- Select the option to sort the report. The availability of sorting options depends on the criteria that you select to customize the report. You can sort the report by:
  - Bytes, count, trend, average, list, ranked
  - Scope—You can set the scope as entire organization, sites, floor plan, access point, or clients.
  - Duration—You can set the duration to a day, week, month, or a custom date and time range.

- Colors for the report.
- Further refining options including

- Use filters to further refine your report. You can apply filters for WLAN criteria. Available options are: Radio bands, device model, device type, operating system, and WLAN

2. Click DONE after you select the options to customize, sort, and filter the report?

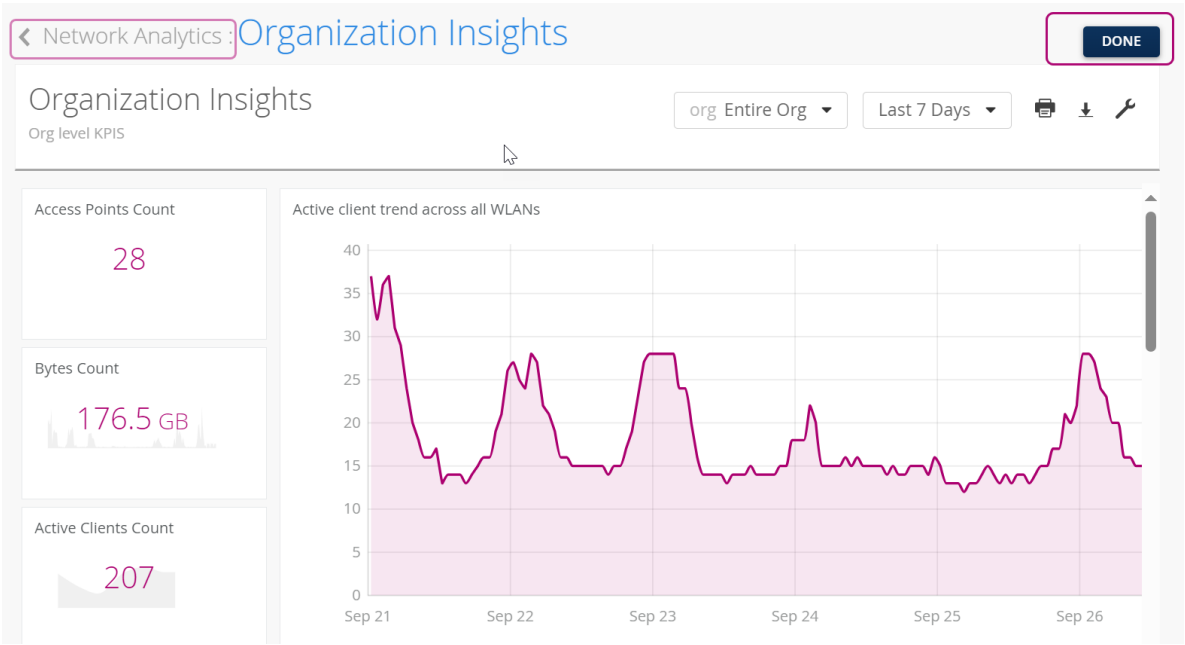
   The system saves the customized report. You can also print or download the report by using the options available on the top-right corner of the screen.

Access Saved Reports

To access your saved report:

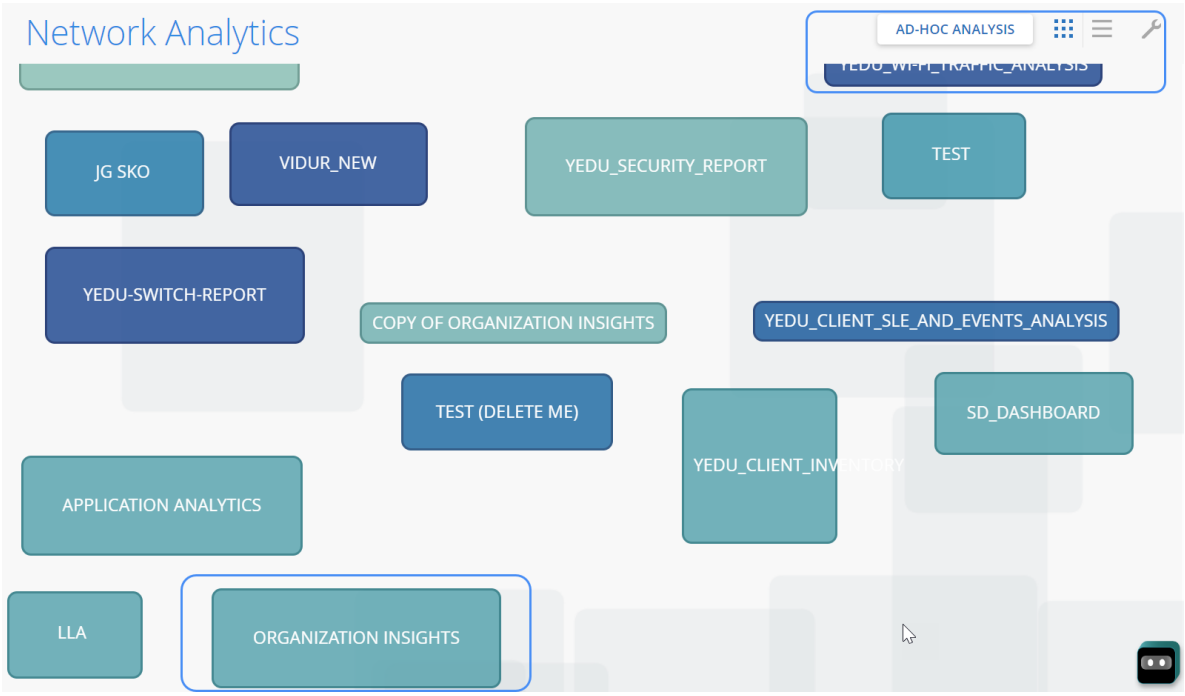
1. Click **Network Analytics** or **DONE** on the template page.

Figure 201: View Saved Report



2. The Engagement Analytics library page appears displaying all the available reports.

Figure 202: Access Reports Library



Click the hamburger menu on the top-right corner of the screen to arrange the reports as a list.

Select **template** at the bottom of the page to go back to the page to generate a new report.

10
CHAPTER

Events

Events

IN THIS SECTION

The Events analytics provides a high level view of the events that occurred over a specific time period within a selected site in your organization.

Features

- • Real-time observation details help you to detect connectivity issues and respond in real-time
  - View granular-level details of each event and quickly identify the problematic areas for further observations.

Before You Begin

- Refer to "Mist Premium Analytics License" on page 8 to know about license requirements for Juniper Mist™ Premium Analytics.
- Become familiar with the options available on the Juniper Mist Premium Analytics dashboards. See Figure 4 on page 17.

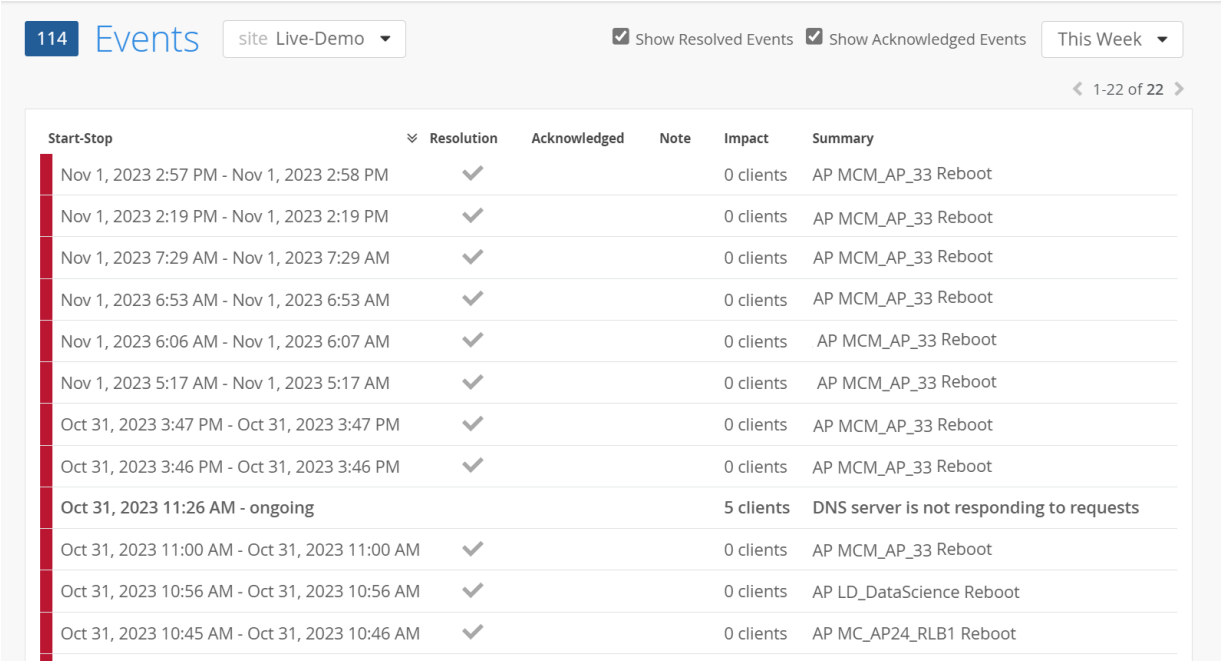
Access Events Analytics

1. From the left menu on the Juniper Mist portal, select **Analytics >Events**.
   The **Events** dashboard appears.
2. Use the following options to filter the results:
   - Sites
   - Time period (By default, the dashboard shows **Today**. You can select the options to display results for previous day, week, previous week or custom time and days.
   - Show or hide resolved events and acknowledged events with respective check boxes.

Events Dashboard

Events page displays a log of a specific site's events for the selected tie period.

Figure 203: Events

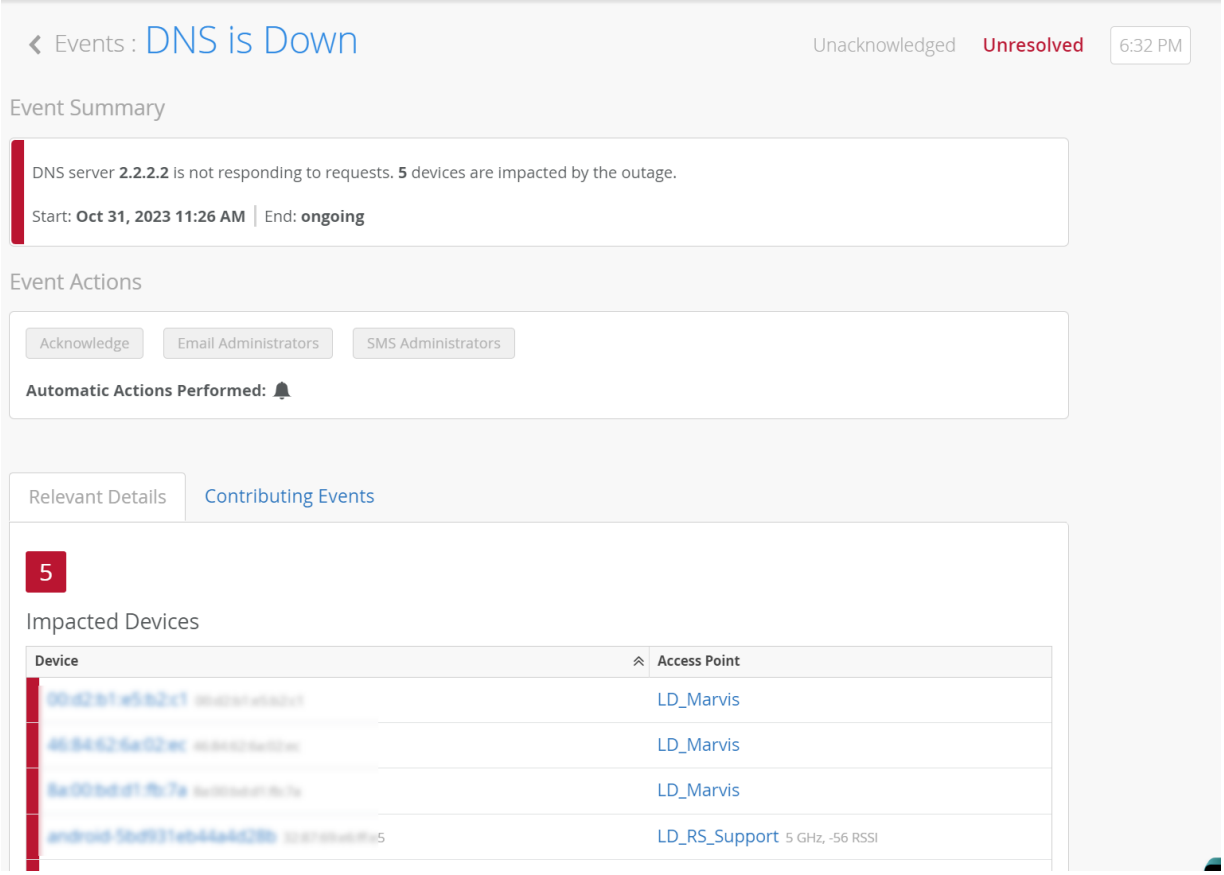


You can view the following details:

- Start-Stop—Timestamp of the event's occurrence.
- Resolution—Resolution status of the event. (if the event is resolved or not)
- Acknowledged—Acknowledgment status of the event.
- Notes—Note for the particular event.
- Impact—Number of clients impacted by the event.
- Summary—Brief description of the event.

Click on any of the events to open the detail description of the event in a new page.

Figure 204: View Additional Details for Audit Log



- Events Summary—View the details of the event with current status and time stamp. Here, you will see the cause of the event.
- Event Actions—See automatic actions, such as sending e-mails or SMS messages, that Mist performed as a result of this event.
- Relevant details—See devices that were impacted and access point the device is connected to.
- Impact Map—View an impact map of the event (if applicable).
- Contributing Events—Other network and events that are related to occurrence of this event. Click on the contributing event to display additional details (if available)

SEE ALSO

Introduction to Juniper Mist Analytics | 2

Mist Premium Analytics Dashboards | 10

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