

The background features a vibrant, abstract design with a color gradient from dark blue on the left to bright yellow and white on the right. The design consists of overlapping, wavy horizontal bands and a series of radiating lines that create a sense of motion and energy, resembling a stylized sunburst or a dynamic wave pattern.

cisco *Live!*

Let's go

#CiscoLiveAPJC



The bridge to possible

# How Cisco SD-WAN Analytics & Insights Powers Faster Time to Resolution?

Hassaan Ahmed - TME  
BRKENT-2469

cisco *Live!*

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# Cisco Webex App

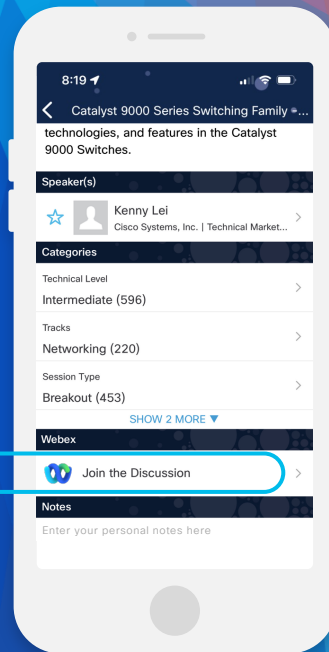
## Questions?

Use Cisco Webex App to chat with the speaker after the session

## How

- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until December 22, 2023.



<https://ciscolive.ciscoevents.com/ciscolivebot/#BRKENT-2469>

# Agenda

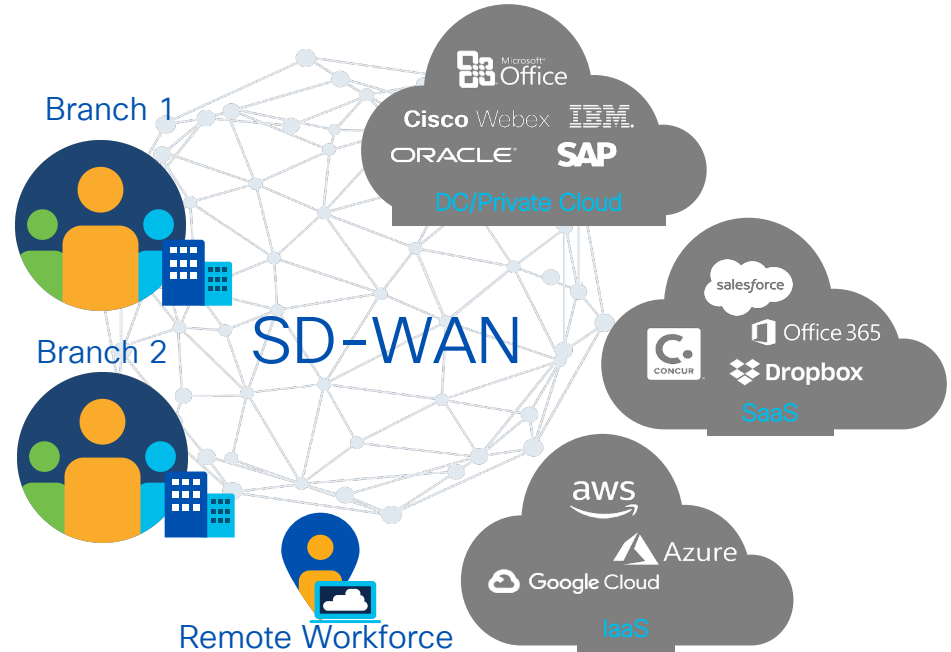
- Introduction
- SD-WAN Analytics
  - Applications Dashboard
  - Sites Dashboaard
  - Circuits Dashboard
  - Predictive Path Recommendations
  - SaaS Telemetry – Cloud OnRamp for SaaS
  - Reports
- Demo

# New Naming: Cisco Catalyst SD-WAN

| Old Name                     | New Name (rebranding)                 | Documentation                         | Displayed on Screens                  | API/CLI - Documentation |
|------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------|
| Cisco SD-WAN                 | Cisco Catalyst SD-WAN                 | Cisco Catalyst SD-WAN                 | Cisco Catalyst SD-WAN                 | Cisco Catalyst SD-WAN   |
| vManage                      | Cisco Catalyst SD-WAN Manager         | SD-WAN Manager                        | Manager                               | vManage                 |
| vAnalytics                   | Cisco Catalyst SD-WAN Analytics       | SD-WAN Analytics                      | Analytics                             | vAnalytics              |
| vBond                        | Cisco Catalyst SD-WAN Validator       | SD-WAN Validator                      | Validator                             | vBond                   |
| vSmart                       | Cisco Catalyst SD-WAN Controller      | SD-WAN Controller                     | Controller                            | vSmart                  |
| Self Service Portal          | Cisco Catalyst SD-WAN Portal          | Cisco Catalyst SD-WAN Portal          | Cisco Catalyst SD-WAN Portal          | SD-WAN Portal           |
| Cloud-Delivered Cisco SD-WAN | Cloud-Delivered Cisco Catalyst SD-WAN | Cloud-Delivered Cisco Catalyst SD-WAN | Cloud-Delivered Cisco Catalyst SD-WAN | NA                      |

# Challenges in Monitoring Applications over WAN

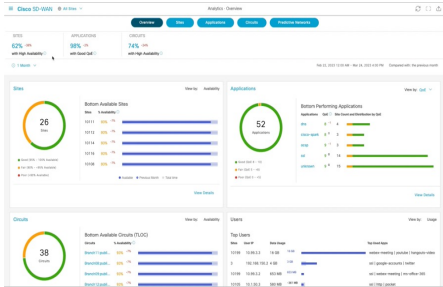
- Adoption of multi-cloud applications is driving demand for SD-WAN and DIA (Direct Internet Access)
- IT admins face increased visibility and monitoring challenges for cloud-based applications critical for their business
- Lack of insights result in delays in pin-pointing and troubleshooting and hence increased OpEx



SD-WAN Analytics offers deep insights into application and network performance over WAN and multi-cloud

# SD-WAN Analytics

## Visibility into Network & App Performance



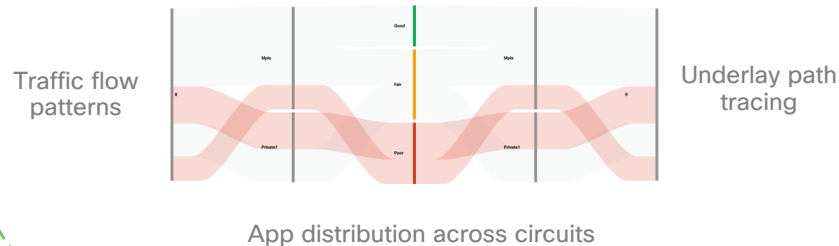
Application Experience

Scheduled Reports

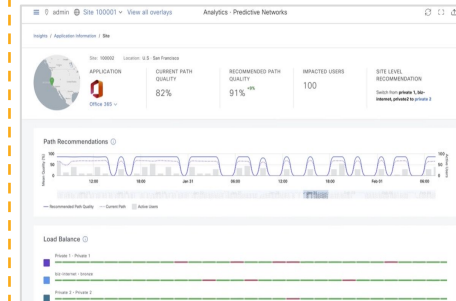
Historical Trends &  
Daily/Weekly/Monthly Aggregates



## Troubleshooting w/ Extensive Traffic Analysis



## Adaptive & Predictive Networking

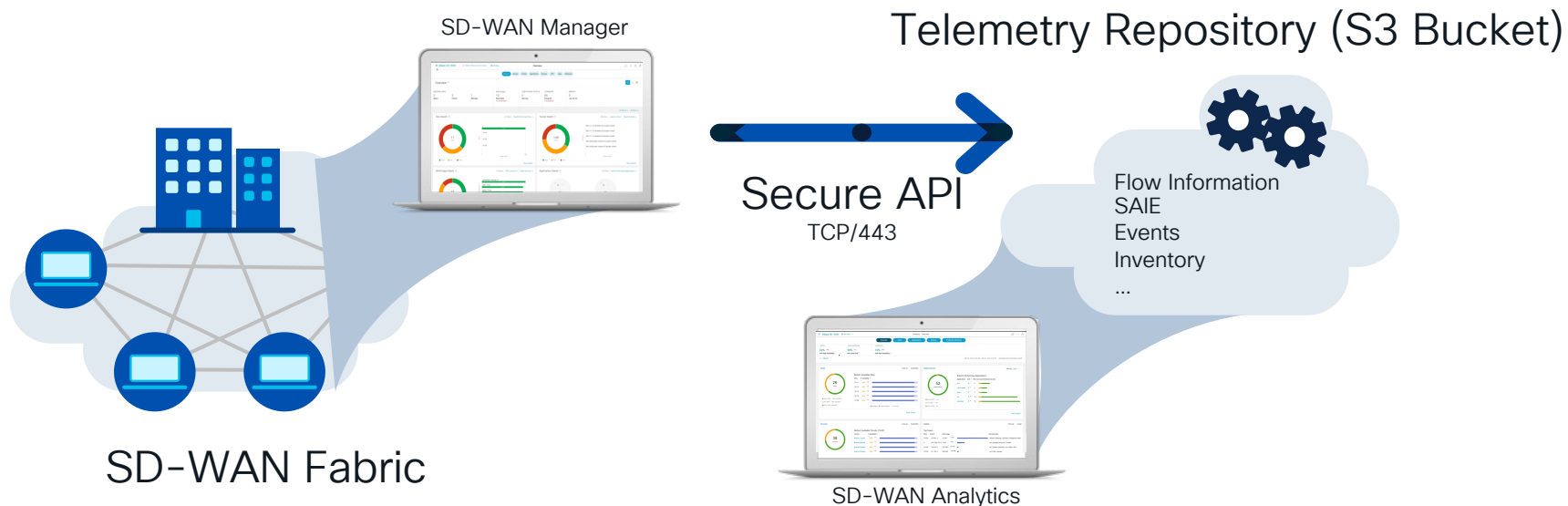


Predictive Path  
Recommendations

AIOps use-cases

SaaS Traffic  
Optimization

# SD-WAN Analytics Architecture

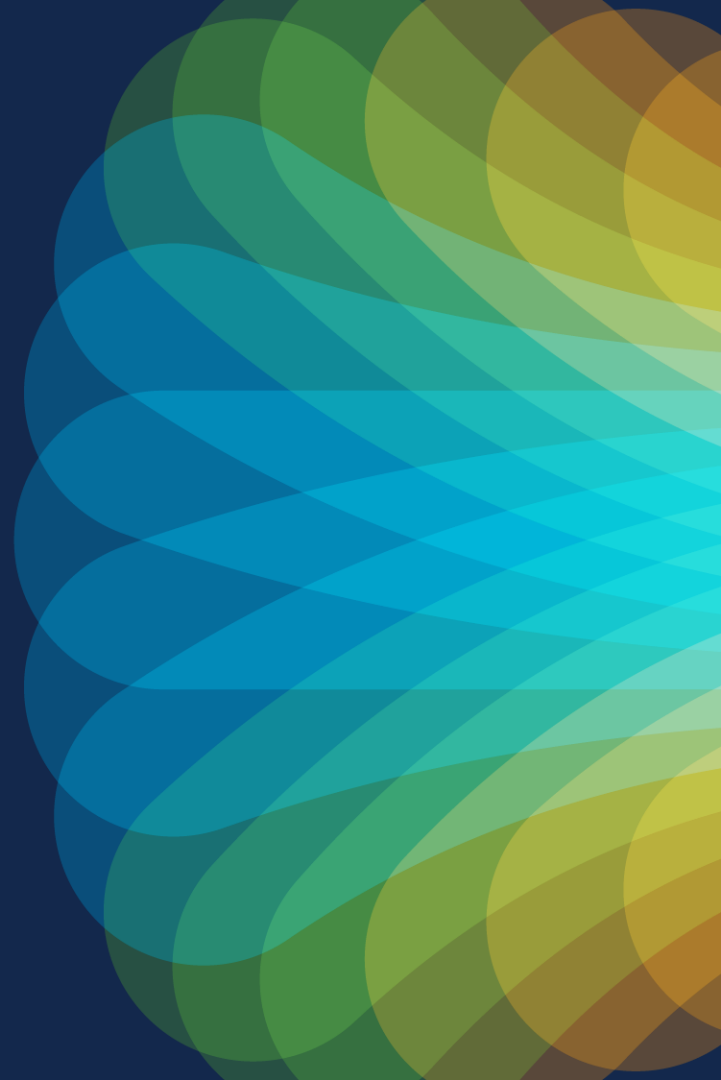


Cloud-Hosted SD-WAN Analytics

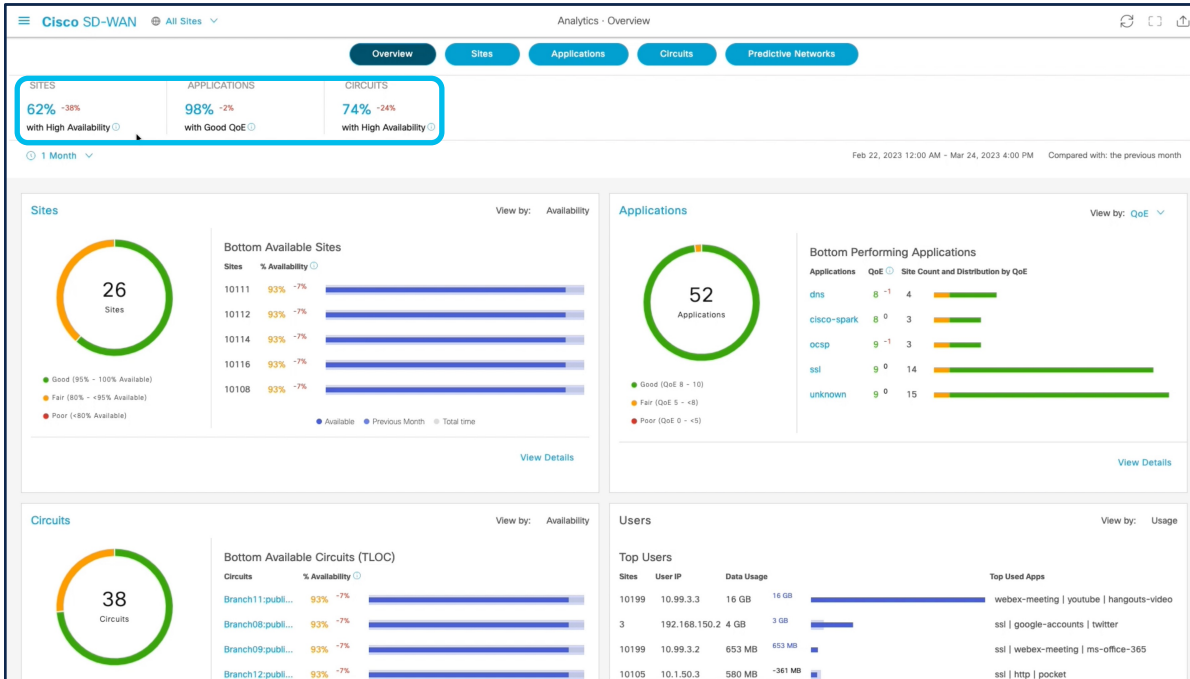
On-Prem or Cloud-Hosted SD-WAN Manager

# SD-WAN Analytics

## Overview Dashboard



# Overview Dashboard



## Benefits

Quickly gain operational insights into overall applications and network

## Highlights

- Snapshot view of your overall application experience and network health (sites, circuits)
- Identify top users across entire network
- Compare with previous time periods

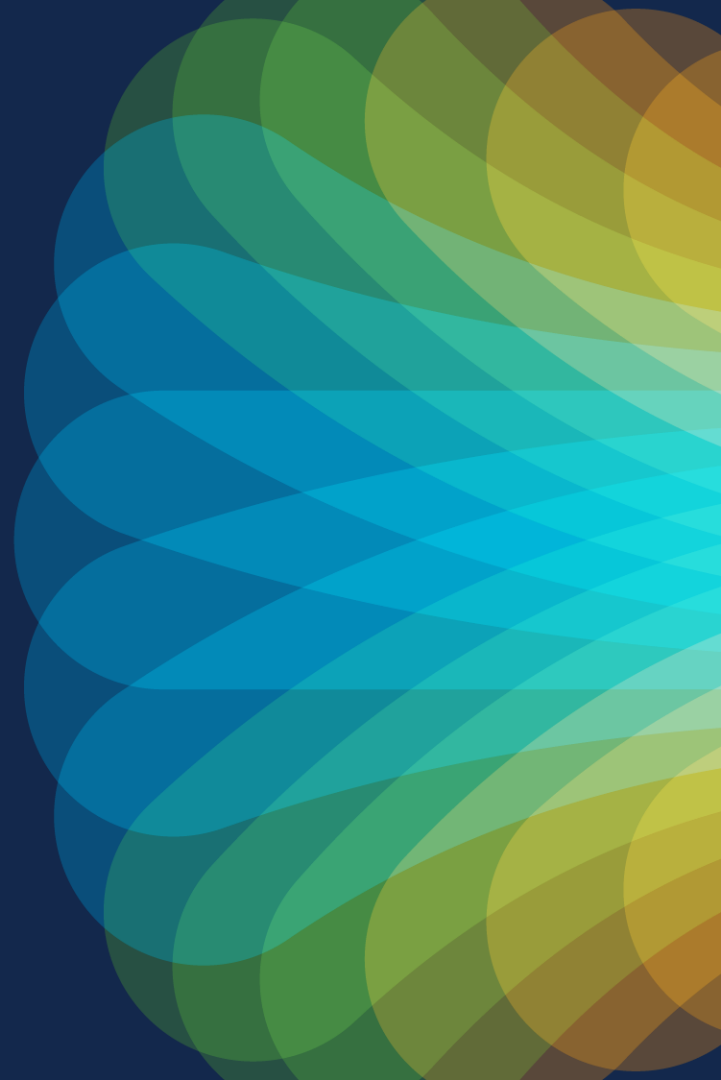
Navigation path: Summary Dashboard (Landing page)



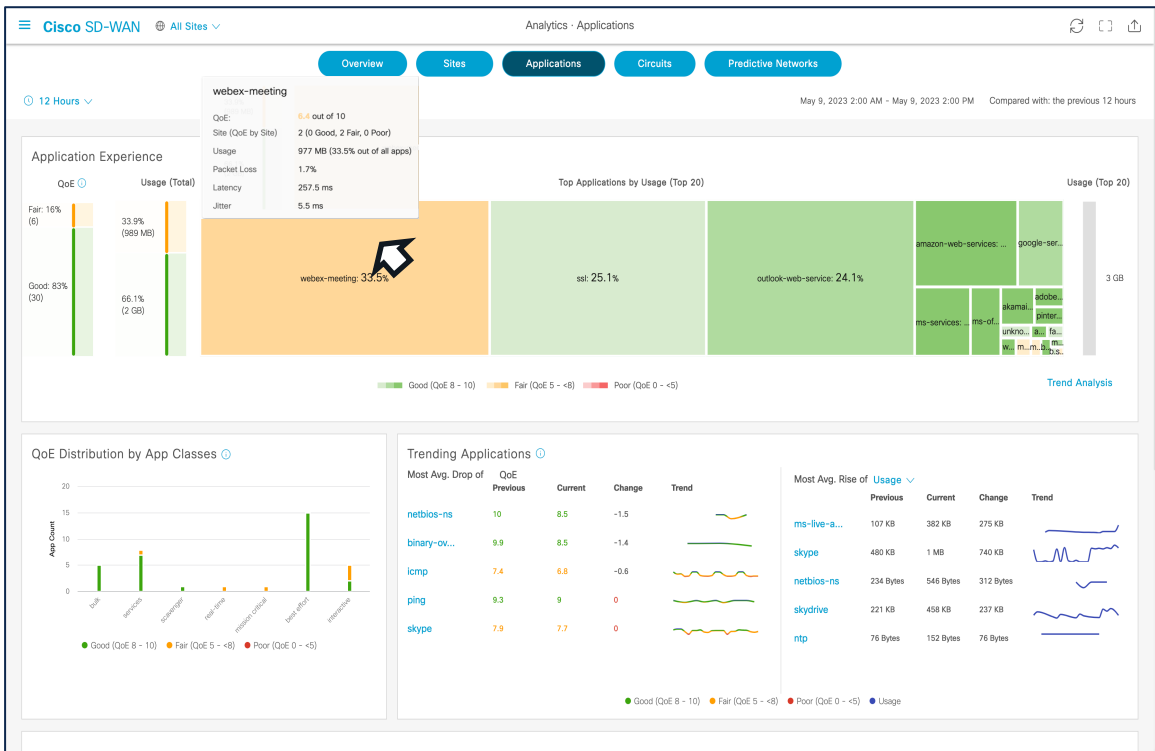
# Demo

# SD-WAN Analytics

## Applications Dashboard



# Applications Dashboard



Navigation path: Summary Dashboard -> Applications

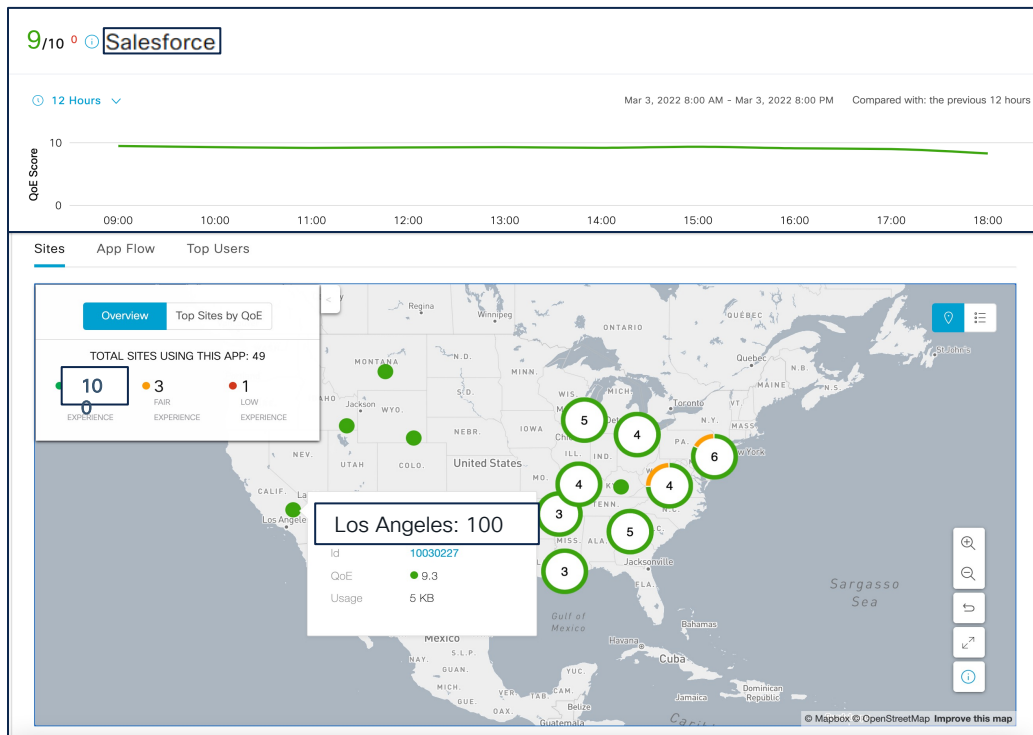
## Benefits

Deep actionable insights to optimize application experience

## Highlights

- Application summary by Quality of Experience (health score) and usage through a highly intuitive GUI
- Distribution by application classes – Get an aggregated view into how a group of similar applications is performing
- Trending applications – which Apps are experiencing drop in QoE or rise in usage, etc.

# Applications 360 View



Navigation path: Summary Dashboard -> Applications -> Click on an application

## Benefits

Quickly identify problem sites and gain historical insights at a per application level

## Highlights

- Benchmark application performance over time
- 360 degree view into application performance
  - Assess health across sites and identify if issue is widespread or local to a site/region
- Get insights into application flows
- Top users of an application

# Application 360 View – filtered by Site



## Benefits

Expedite troubleshooting by reducing Mean Time to Identification (MTTI) of application related issues

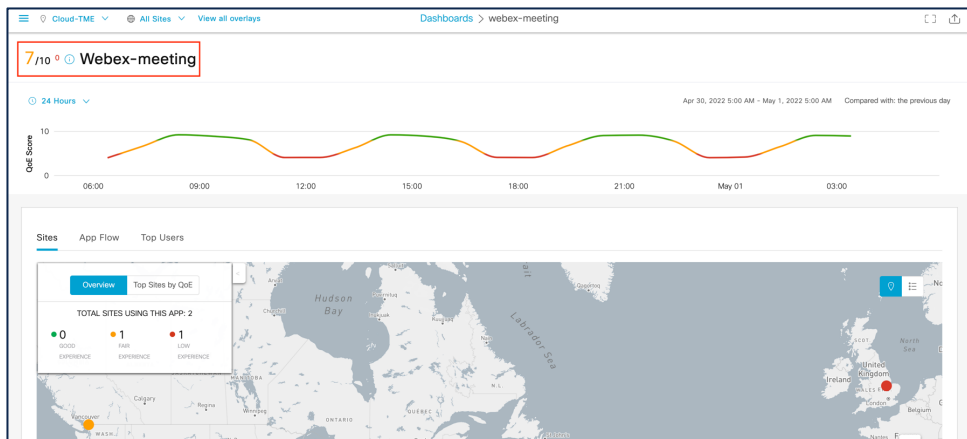
## Highlights

- Correlate application behavior at a site with associated network performance
- View application flows over various network paths – both tunnel and DIA (for CoR enabled applications)
- Understand who are the top users of an application

Navigation path: Summary Dashboard -> Applications -> Select application -> Filter by site

# What is QoE Score?

- Measure of deviation of Network KPIs (Loss/Latency/Jitter) from the established Application thresholds for each of these Network KPIs
- Uses loss/latency/jitter measured by SDWAN devices over tunnels (BFD) and towards SaaS application endpoints (http ping based for Cloud OnRamp SaaS enabled apps)



# Key components of the QoE score

3 Key components of QoE score are => Loss-score / Latency-score / Jitter-score for an application

Each of the above 3 are calculated based on the following formula which is finally combined to generate the QoE score for application

If Loss-measured < Application-Loss-Threshold :

$$\text{Loss-score} = 10$$

Else :

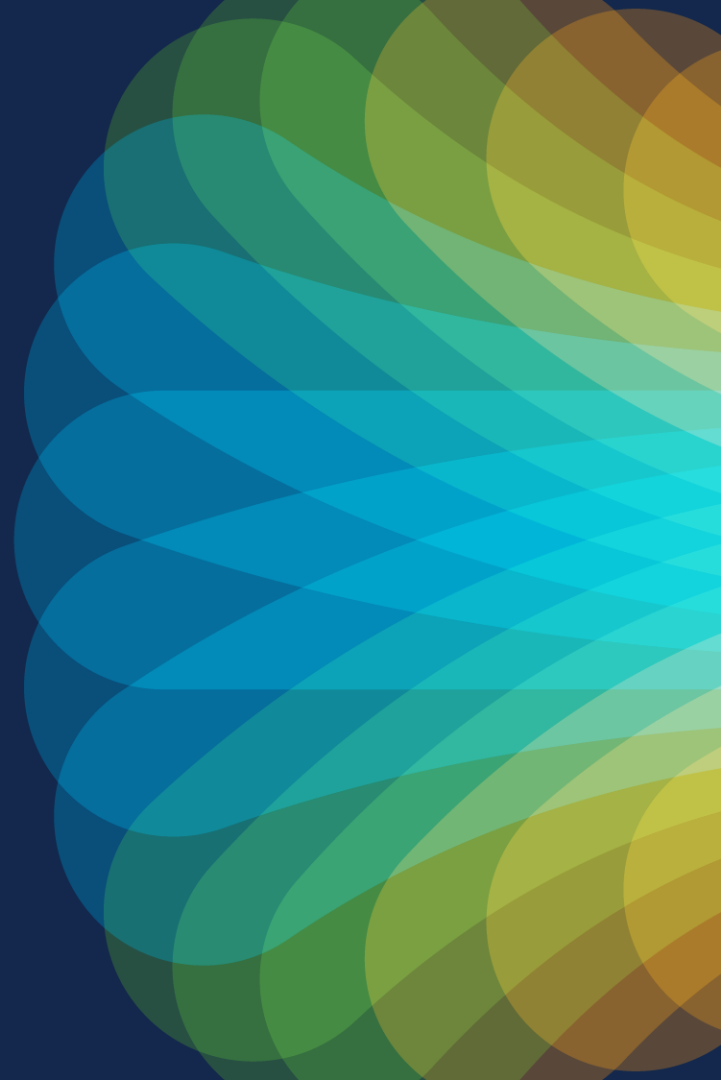
$$\text{Loss-score} = 10 * (\text{Application-Loss-Threshold} / \text{Loss-measured})$$



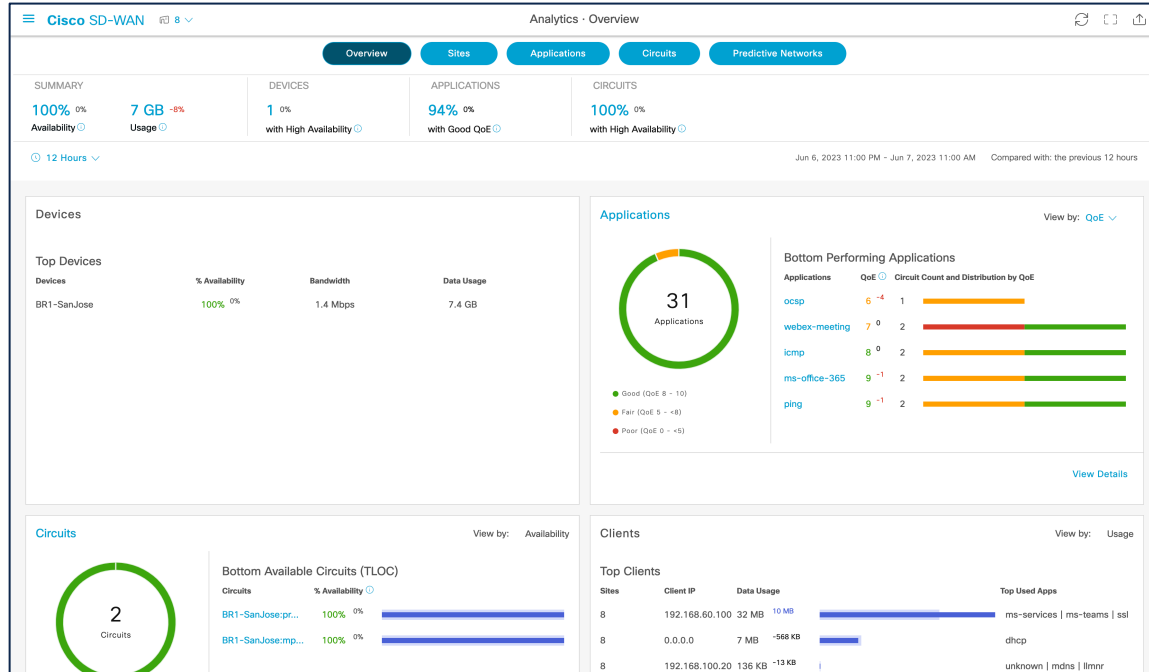
# Demo

# SD-WAN Analytics

## Sites Dashboard



# Site 360 View



## Benefits

Quickly assess application experience & network health at a specific site

## Highlights

- Review health of devices, circuits and applications per site
- Understand Top users and Top applications at a site
- Highlights areas that require additional attention at a site

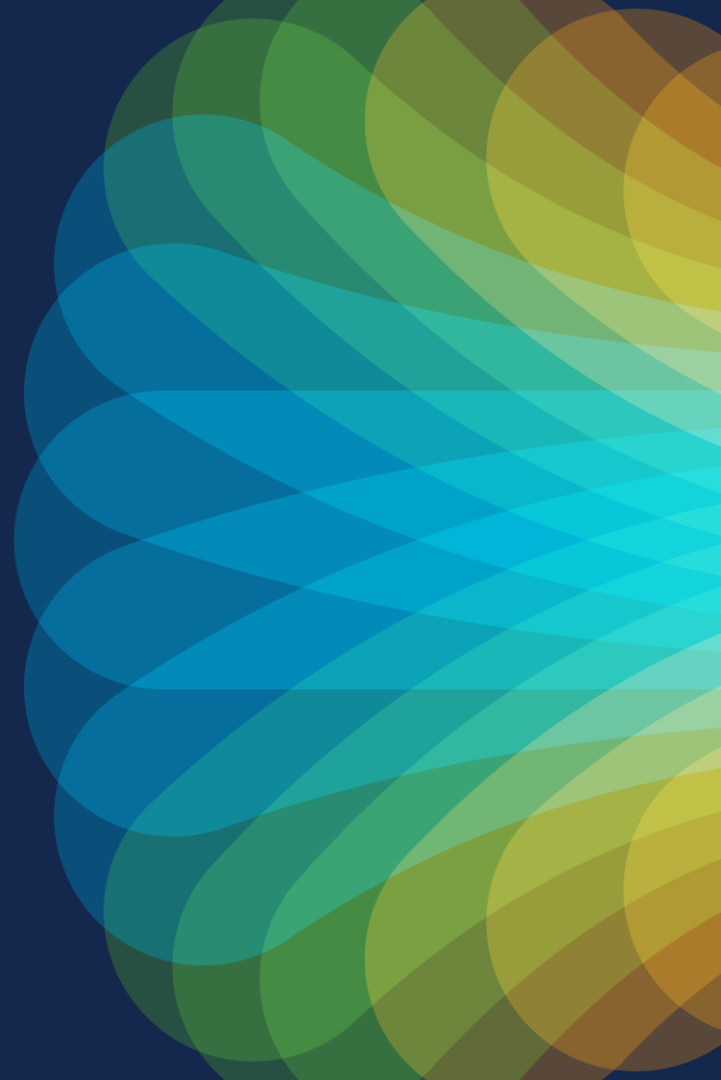
Navigation path: Summary Dashboard -> Filter by site



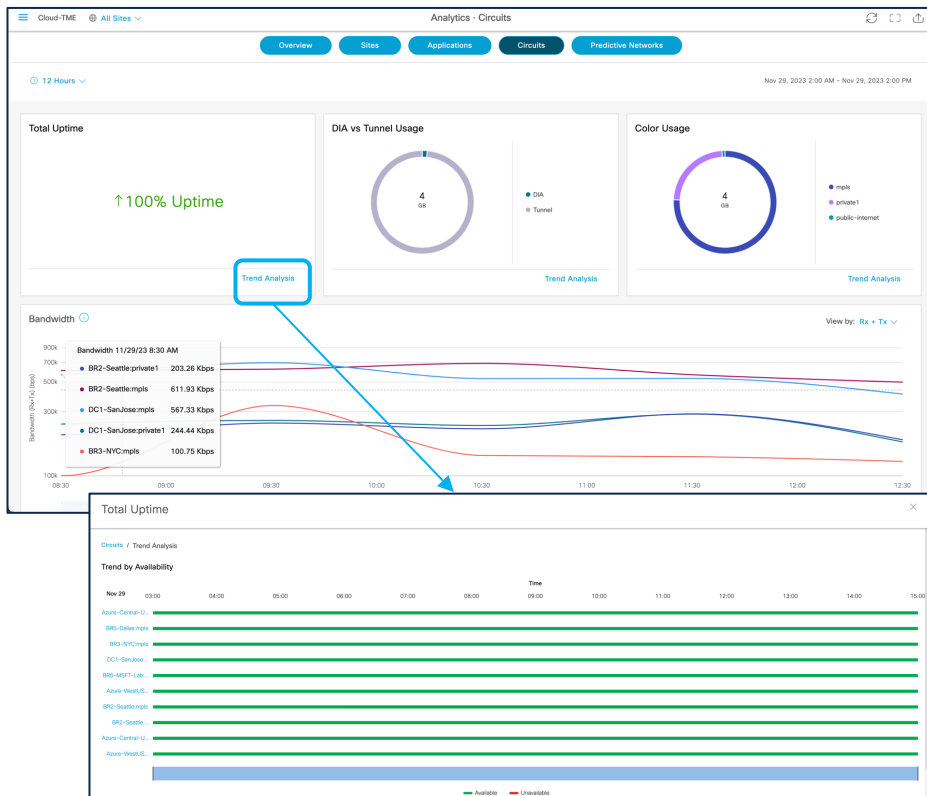
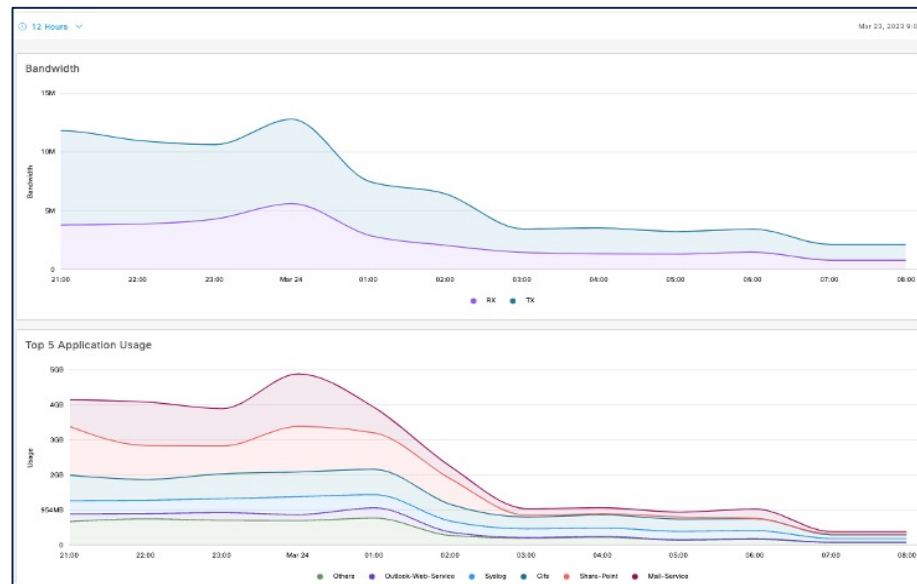
# Demo

# SD-WAN Analytics

## Circuits Dashboard



# Circuits Dashboard



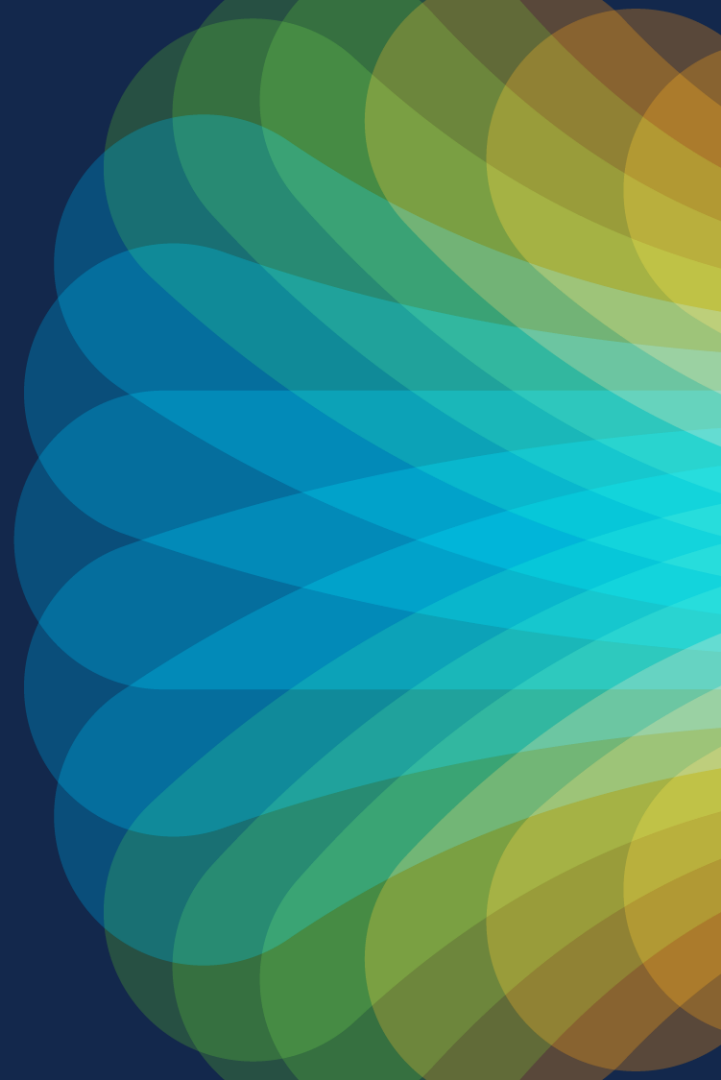
- Comprehensive visibility into WAN circuits
  - Overall & per site circuit uptime
  - Availability trend-line
  - DIA vs Tunnel Usage
  - Color Usage
- Top used circuits and usage trends
  - RX and TX bandwidth rate and utilization in percentage (%)



# Demo

# SD-WAN Analytics

## Predictive Path Recommendations



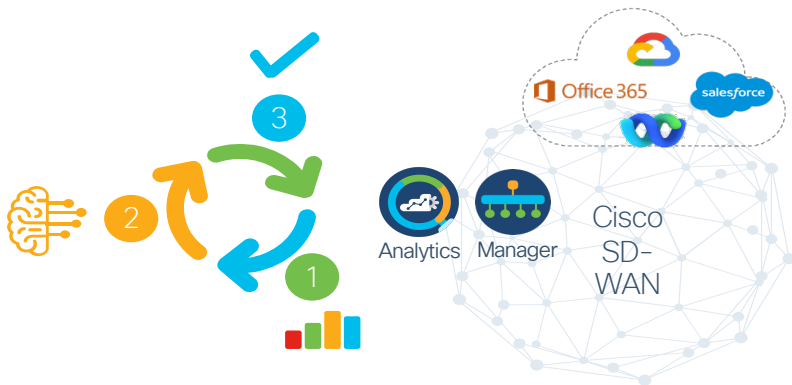
# AIOps: Predictive Path Recommendations



Forecast issues and make policy recommendations  
Transforming IT operations from a reactive to a predictive model



Generally Available in Americas and Europe



- 1 **Ingest Telemetry**: Collect network telemetry thru Analytics
- 2 **Data Analysis**: Predictive modeling to forecast issues & make path recommendations
- 3 **Feedback Loop**: Fine-tune SD-WAN policies to make path changes to improve App experience

Recommended Actions (6)

| Application Groups | Sites                         |
|--------------------|-------------------------------|
| Google Workspace   | Site 10001<br>U.S. - San Jose |
| Office 365         | Site 10001<br>U.S. - San Jose |

• Recommendation summary

- Current & Recommended Path Quality
- Realized Gain

**Office 365**  
Site 10001  
U.S. - San Jose

Switch from **private 1, biz-Internet, private2 to private 2**  
Oct 03, 2022, 08:21 AM

**Path Quality:**  
Current: 90%  
Recommended: 100% +10%

[View Details](#) [Mark as applied](#)

Out of the box Application Groups



# Activate Predictive Networks

- TE-EMBED-WANI license pre-deposited in 'eligible' brownfield customer accounts (DNA Advantage)
- The embed SKU will auto-expand for Greenfield DNA Advantage customers

**Predictive Path Recommendations**

Powered by **ThousandEyes** WAN Insights

The Predictive Path Recommendations powered by ThousandEyes WAN Insights analyzes historical data on application traffic flows across various network paths, forecasts future network connectivity issues, and makes recommendations for using alternate path(s) if appropriate. You can leverage these recommendations to adjust your SD-WAN policies to improve application experience for your users.

By clicking the "Activate" button you understand and agree that your SD-WAN analytics data will be shared with Cisco ThousandEyes WAN Insights to provide you with the Predictive Path Recommendations.

Please see the [ThousandEyes Privacy Data Sheet](#) for details regarding processing of personal data by ThousandEyes WAN Insights.

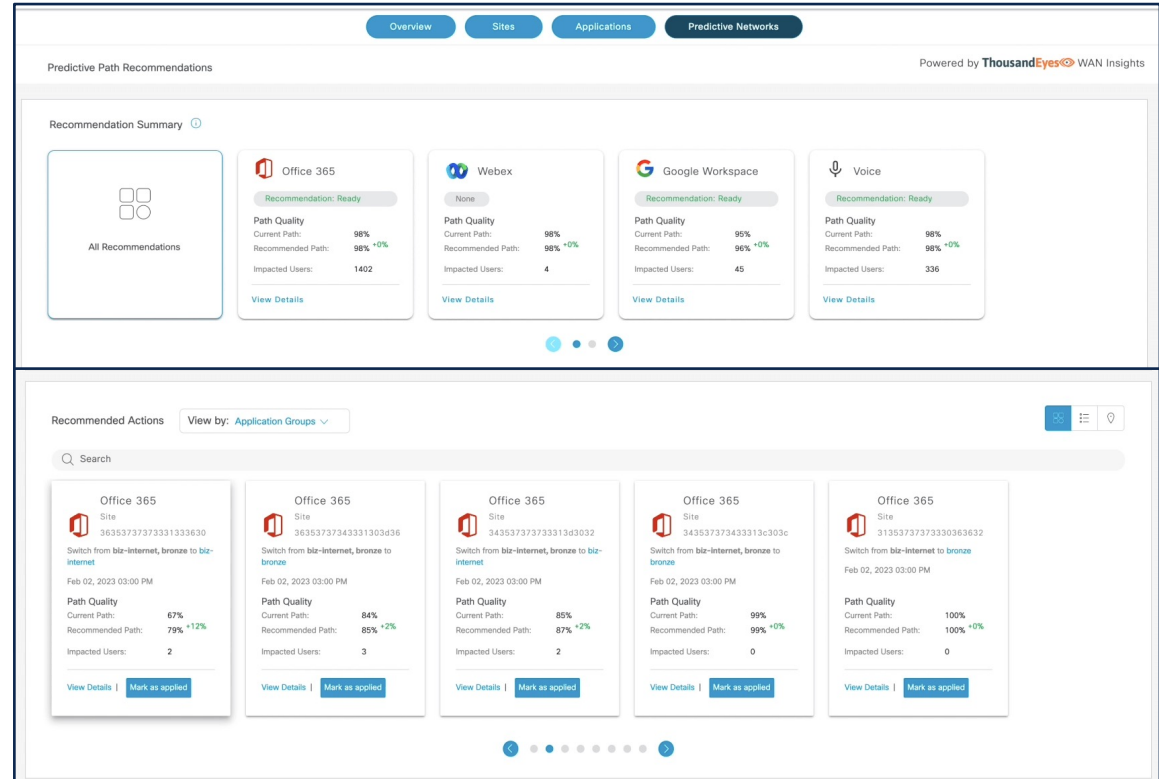
Depending on the size of your network, the activation may take up to several hours or days. Upon activation, the system will begin learning and analyzing from the historical data to make recommendations.

**Activate**

**Activate Predictive Path Recommendations**

# Predictive Path Recommendations

- Review Recommendation summary by App Group
  - Up to six application groups
- Click on an application group to view more details
- Per site recommendations across the Network

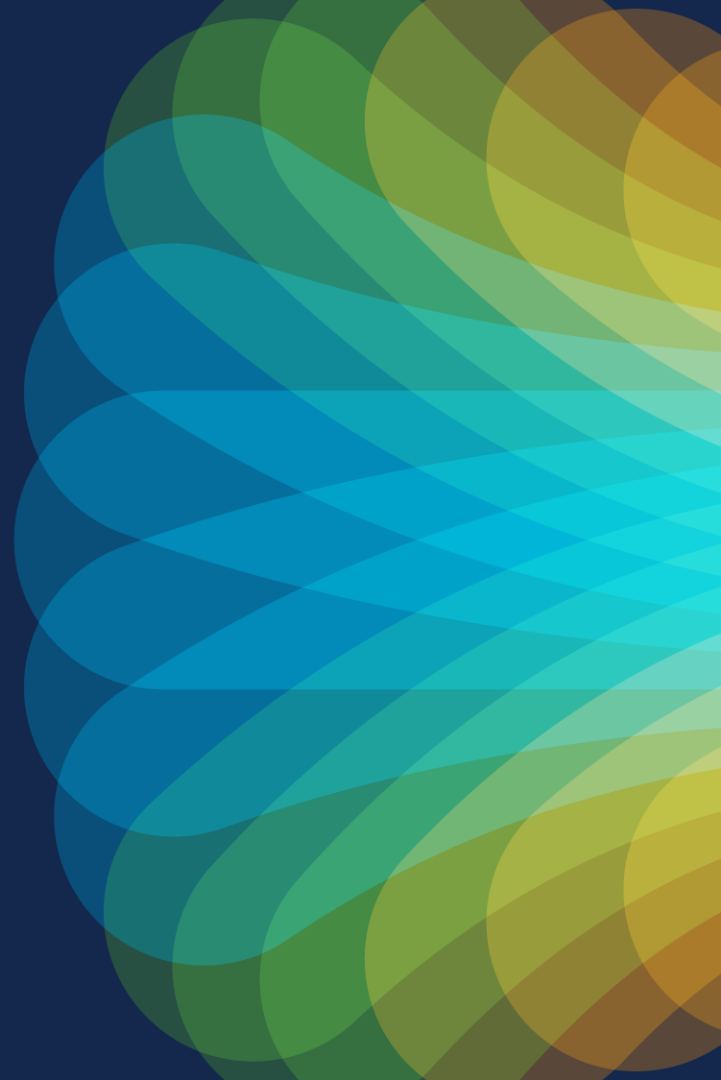




# Demo

# SD-WAN Analytics

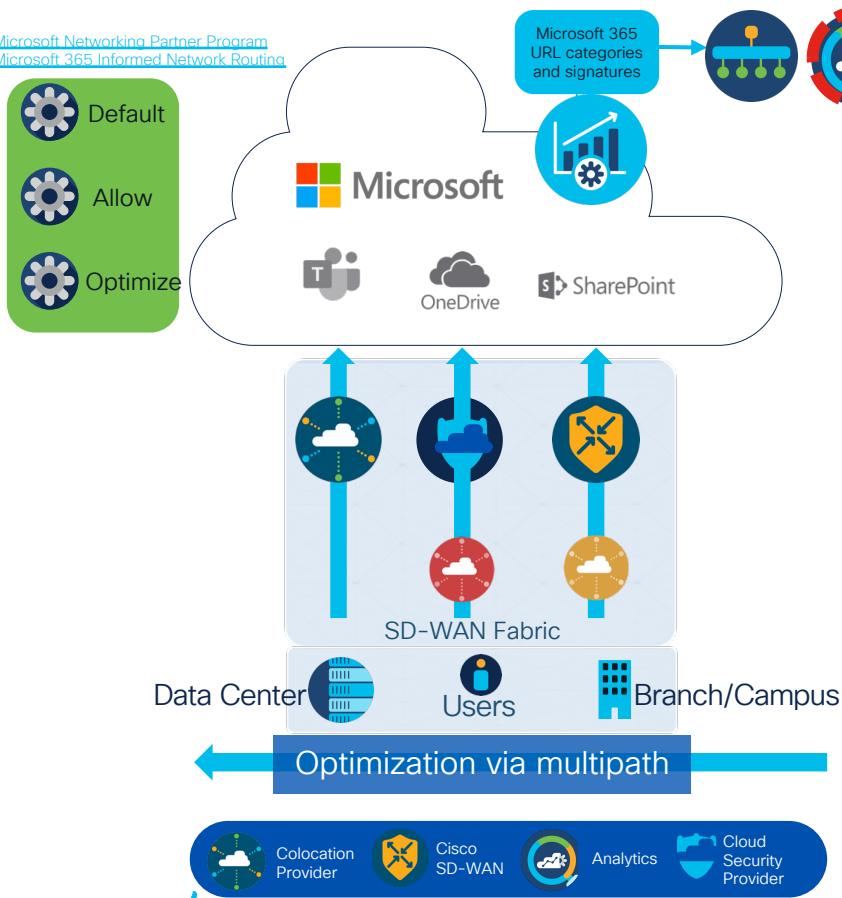
SaaS Telemetry Integrations



# Cloud OnRamp for SaaS: M365 Telemetry



[Microsoft Networking Partner Program](#)  
[Microsoft 365 Informed Network Routing](#)



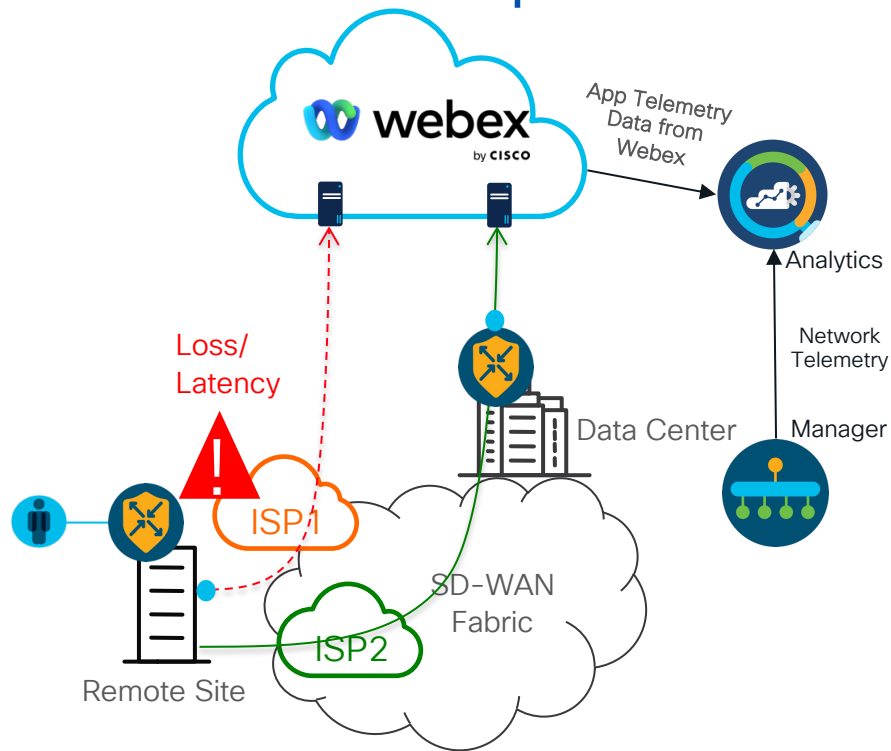
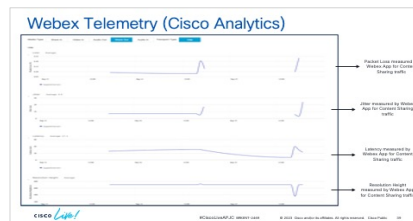
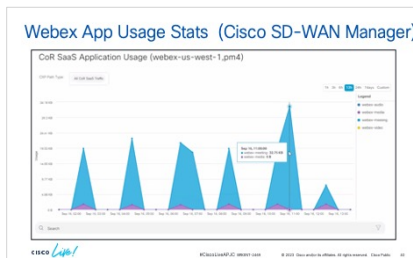
## Telemetry Exchange between Microsoft & Cisco SD-WAN Analytics



## Optimized SaaS Experience for M365

- Microsoft gathers path telemetry data between M365 client and Microsoft Apps
- Cisco SD-WAN tracks access to Microsoft Apps over WAN paths thru HTTP probes
- Cisco exchanges telemetry data with Microsoft to be able to route M365 application data more efficiently

# Cloud OnRamp for SaaS: Webex Telemetry



## Metrics Visibility

Packet loss, latency, framerate, media bitrate, jitter and many more



## Region-wise traffic classification

Webex – audio, video, media and meeting

 Real-time app experience feedback

 Insights into network and application performance

 Enhanced troubleshooting

# Webex Telemetry (Cisco Analytics)



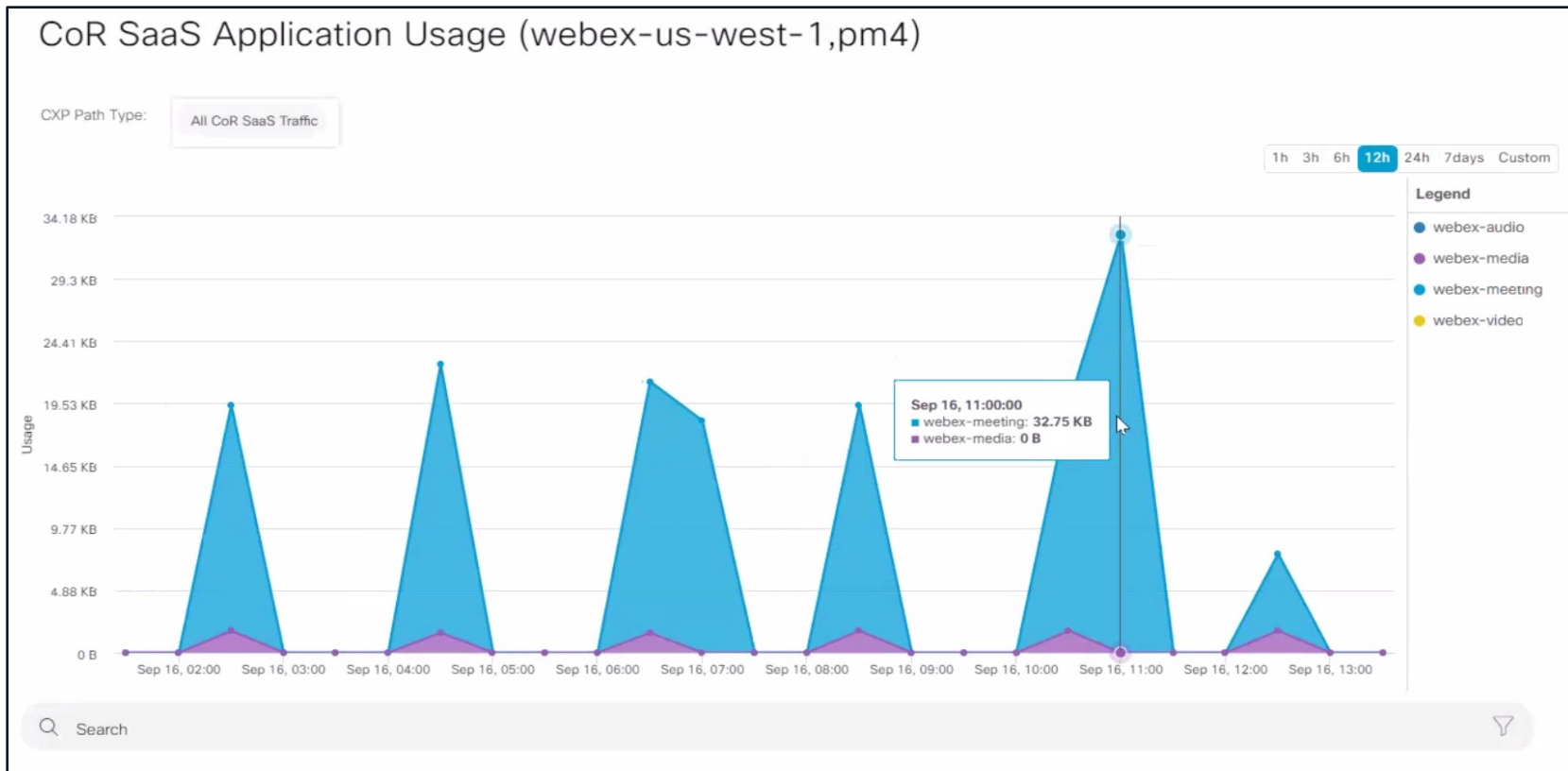
Packet Loss measured by Webex App for Content Sharing traffic

Jitter measured by Webex App for Content Sharing traffic

Latency measured by Webex App for Content Sharing traffic

Resolution Height measured by Webex App for Content Sharing traffic

# Webex App Usage Stats (Cisco SD-WAN Manager)

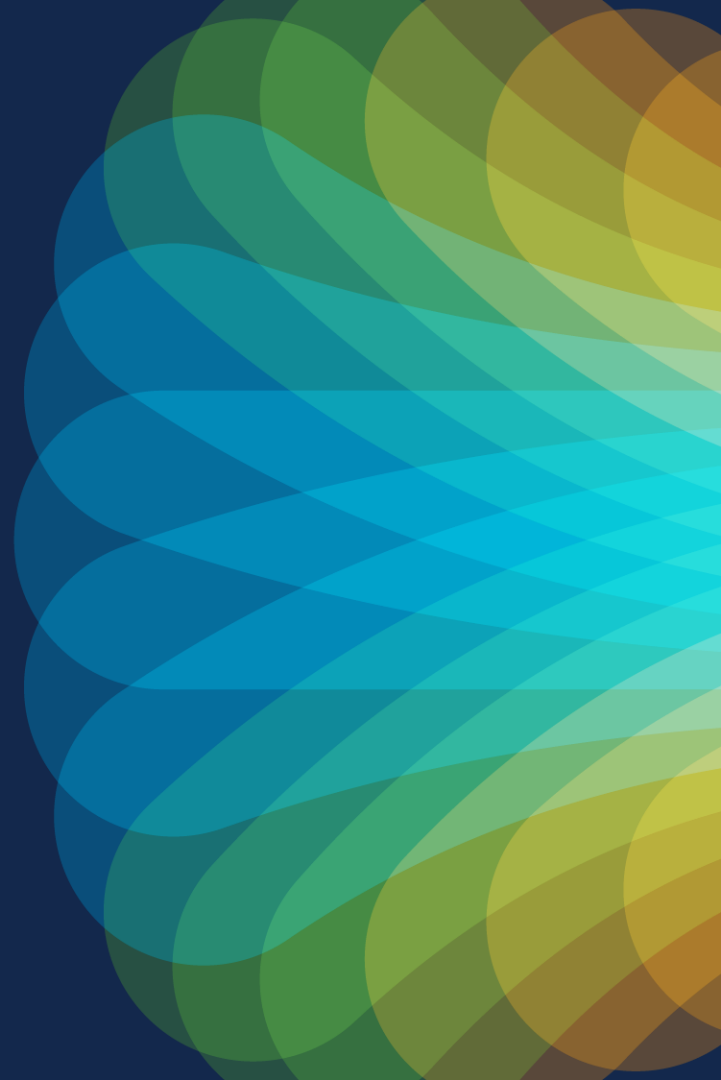




# Demo

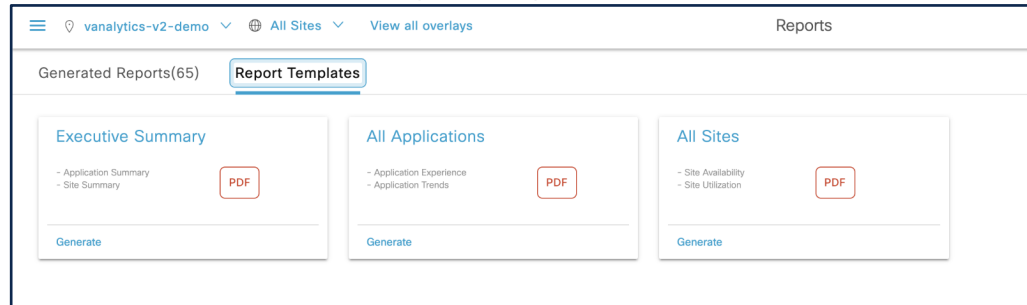
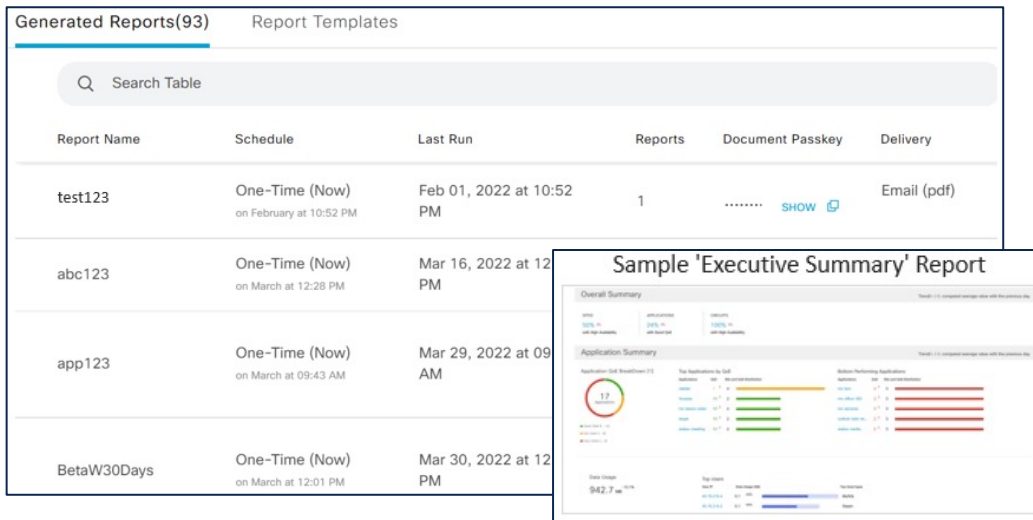
# SD-WAN Analytics

Reports



# Automated Reporting

## Report Templates



## Benefits

Meet your planning and audit needs

## Highlights

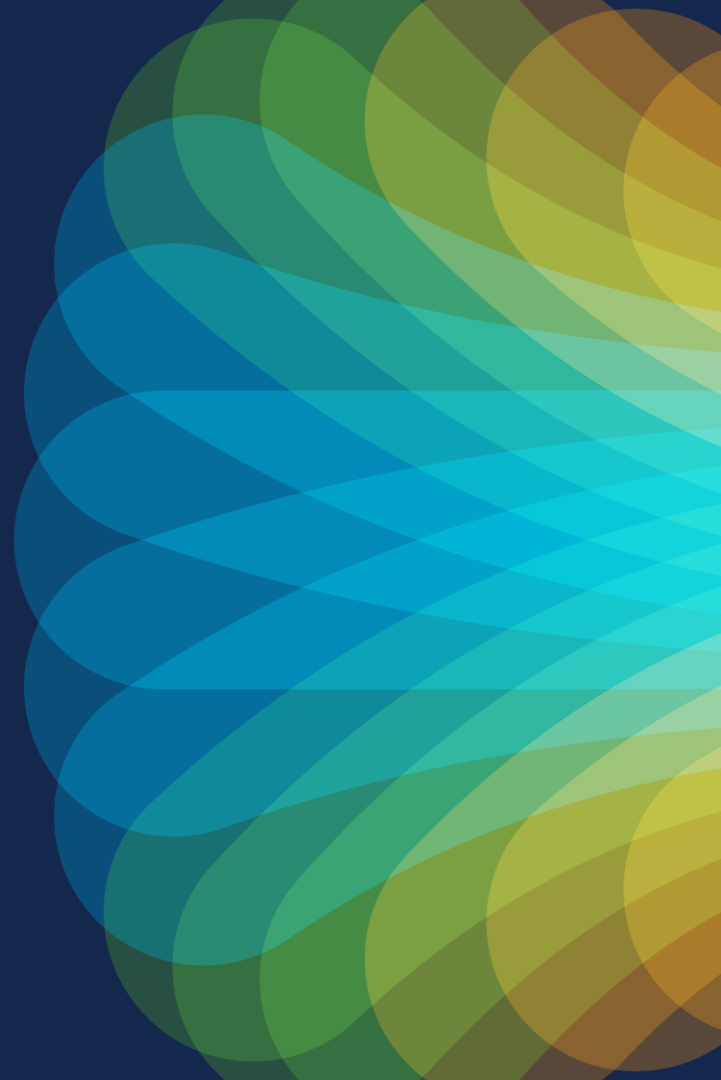
- Executive Summary, Applications, Sites reports
- Share periodic pdf reports (via email) with broader team
- Automated report generation at periodic frequency, such as daily or weekly
- Password protection for added security



# Demo

# SD-WAN Analytics

Easy Automated Onboarding



# Easy, Automated Onboarding for SD-WAN Analytics

Opening a TAC case to get onboarded is no longer required.

| Deployment                                 | User Experience                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cloud-hosted SD-WAN Manager                | <ul style="list-style-type: none"> <li>For Greenfield deployments, use SD-WAN Portal (SSP) to onboard Analytics alongside new SD-WAN fabric.</li> <li>For Brownfield deployments, go to “Admin Settings” on SD-WAN Manager, and “Enable “Cloud Services” &amp; “Analytics”               <ul style="list-style-type: none"> <li>Analytics will get onboarded automatically in the backend on the first file push.</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                 |
| On-prem or non-Cisco-hosted SD-WAN Manager | <ul style="list-style-type: none"> <li>For Cisco SD-WAN Manager &lt; 20.9.4, onboard your on-prem fabric to SD-WAN Portal (SSP), and copy associated OTP/Token. On SD-WAN Manager “Admin Settings”, enable “Cloud Services” and paste this OTP. Also, enable “Analytics”.               <ul style="list-style-type: none"> <li>Analytics will get onboarded automatically in the backend on the first file push.</li> </ul> </li> <li>For SD-WAN Manager &gt;=20.9.4, review and accept EULA on a pop-up displayed post login to get onboarded. No other action necessary.               <ul style="list-style-type: none"> <li>Analytics will get onboarded automatically in the backend on the first file push.</li> </ul> </li> </ul> |
| Cloud-delivered SD-WAN Service             | <ul style="list-style-type: none"> <li>SD-WAN Analytics is onboarded automatically alongside provisioning of new SD-WAN fabric. No user action necessary.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

# Cloud-hosted Overlay (Greenfield): Onboarding Analytics

Cloud Provider

  
AWS

  
AZURE

SD-WAN Versions

20.10.1

Enable Analytics

☐

Locations ⓘ

Primary Location

US West (N. California)

Secondary Location

US West (Oregon)

Data Location

Americas West

Preview

Fabric Name

Smart Account

PNP SDWAN POC

Virtual Account

msuchand\_CoR\_SaaS - 608301

Fabric Admin

Primary Location

US West (N. California)

Secondary Location

US West (Oregon)

Data Location

Americas West

TERMS & CONDITIONS \*

[Click here to review and agree to Terms & Conditions before proceeding](#)

Location of Analytics data

Cisco is constantly striving to advance our products and services, including improving product quality. Knowing how you use our products is key to accomplishing this goal. There are certain features of the SD-WAN solution that give you the option to configure whether Systems Information is shared with Cisco (e.g., vAnalytics, Walkme and certain feature usage data). However, if you are using the Cisco SD-WAN Cloud, the solution is required to collect and store certain Systems Information in order to function and provide the solution to you.

Cisco collects and processes your data in accordance with the [Cisco Data Policy](#), the [Cisco End User License Agreement](#) and the [Cisco Privacy Statement](#). Additionally, the [Cisco SD-WAN Cloud Privacy Data Sheet](#) describes the personal data that is collected and processed.

Click on **I Agree** to begin data collection and to upload data to the cloud.

# Cloud-hosted SD-WAN Manager (Brownfield): Onboarding Analytics

SD-WAN Manager < 20.9.4

Cloud Services ☒ Enabled ☐ Disabled

**Enable Analytics**

vAnalytics ⓘ ☒ Enabled ☐ Disabled

vMonitoring ☒ Enabled ☐ Disabled

☒ I agree to begin data collection and to upload data to the cloud.

**Save** Cancel

Note: Analytics will get onboarded automatically upon the first communication in the backend.

SD-WAN Manager >= 20.9.4

Cloud Services ☒ Enabled ☐ Disabled **Review EULA**

Cisco is constantly striving to advance our products and services, including improving product quality. Improving our products is key to accomplishing this goal. There are certain features of the SD-WAN solution that give you the option to configure whether Systems Information is shared with Cisco (e.g., vAnalytics, Walkme and certain feature usage data). However, if you are using the Cisco SD-WAN Cloud, the solution is required to collect and store certain Systems Information in order to function and provide the solution to you.

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Cloud Services ☒ Enabled ☐ Disabled

Analytics ⓘ ☒ Enabled ☐ Disabled **Enable Analytics**

**Save** Cancel

Note: Analytics will get onboarded automatically upon the first communication in the backend.

# 'On-Prem' SD-WAN Manager (version < 20.9.4): Onboarding Analytics

Dashboard > Create Non-Cisco Hosted Fabric

## Create Non-Cisco Hosted Fabric

### Accounts

Search by: ☒ Account Name ☐ Domain ID

Smart Account  
PNP SDWAN POC

Virtual Account  
msuchand\_CoR\_SaaS - 608301

134 fabrics left for this account [Upgrade](#)

Organization Name  
msuchand\_CoR\_SaaS - 608301

The organization name needs to match the organization name that is used on the controller profile.

### Locations

vAnalytics and Cloud Monitoring Service Connector

Americas East

Americas West

Europe

Australia

SD-AVC

Cisco Contact Email

Location of Analytics data

Dashboard > Fabric Details

## msuchand\_appqoe\_testing - 472223

### Description

Compliance Mode Disabled

Compliance Status NA

Expiration Process Inactive

### Data Service

vAnalytics and Cloud Monitoring Service Connector Americas West

DCA Status

DCA Monitoring Status

vAnalytics/Cloud Connector Token eyJpZCI6

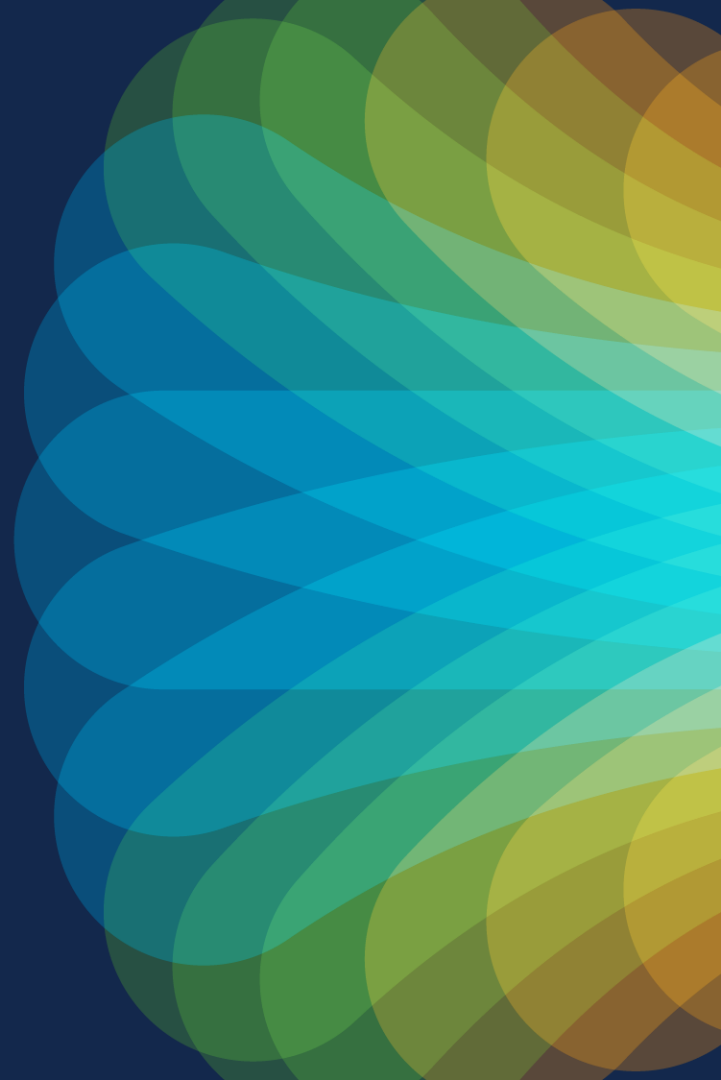
SD-AVC Status

SD-AVC Cloud Connector Token

Copy OTP/Token to SD-WAN Manager admin settings

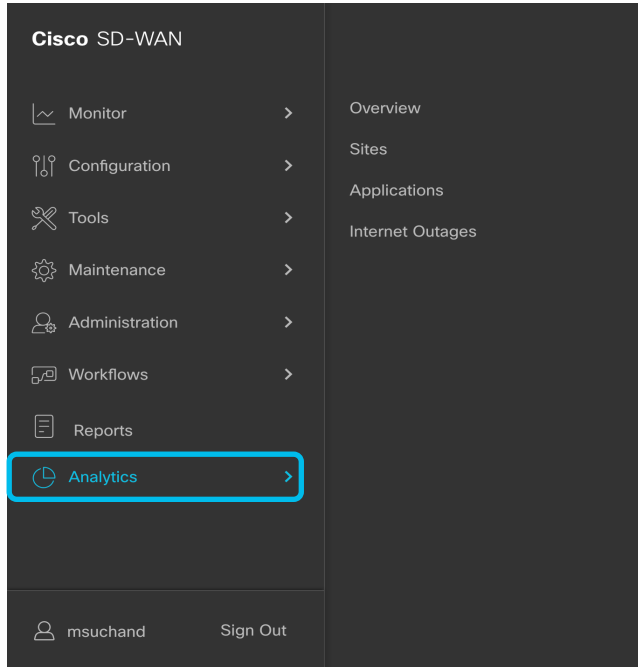
# SD-WAN Analytics

Access Workflow

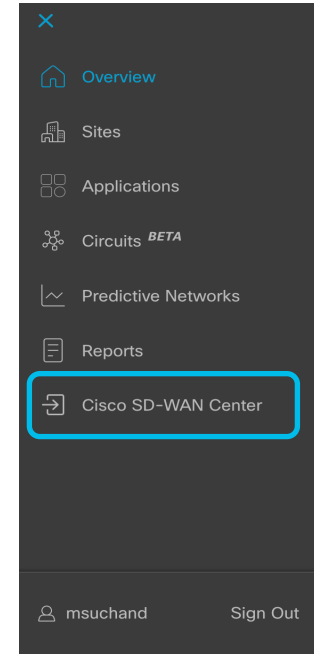


# Easy navigation between SD-WAN Manager & Analytics

Cross-launch for SD-WAN Manager  
(no separate authentication required)



Return to SD-WAN Manager console



# Resources & Call to Action

- Analytics 3.0 Overview [Video](#)
- [Subscribe](#) to our new YouTube channel! New content is posted weekly!
- For Technical Questions on Analytics, ask
- [cisco-sdwan-analytics@cisco.com](mailto:cisco-sdwan-analytics@cisco.com)

watch



[Analytics Overview Video](#)



[Predictive Path Recommendations](#)

read



[SD-WAN Analytics](#)



[Analytics User Guide](#)



[Cisco SD-WAN Cloud OnRamp for SaaS](#)



[SD-WAN Communities](#)

do



**Analytics demo access**

URL: <https://us01.analytics.sdwan.cisco.com>

User: [vanalytics\\_demo@external.cisco.com](mailto:vanalytics_demo@external.cisco.com)

Password: SDWANanalytics#3



# Did you know?

You can have a  
one-on-one session with  
a technical expert!

Visit Meet the Expert in The HUB  
to meet, greet, whiteboard & gain  
insights about your unique questions  
with the best of the best.



## Meet the Expert Opening Hours:

|                  |                         |
|------------------|-------------------------|
| <b>Tuesday</b>   | <b>3:00pm – 7:00pm</b>  |
| <b>Wednesday</b> | <b>11:15am – 7:00pm</b> |
| <b>Thursday</b>  | <b>9:30am – 4:00pm</b>  |
| <b>Friday</b>    | <b>10:30am – 1:30pm</b> |

# Session Surveys

We would love to know your feedback on this session!

- Complete a minimum of four session surveys and the overall event surveys to claim a Cisco Live T-Shirt



# Continue your education



- Visit the Cisco Showcase for related demos
- Book your one-on-one Meet the Engineer meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at [www.CiscoLive.com/on-demand](http://www.CiscoLive.com/on-demand)

The background features a vibrant, multi-colored abstract design. On the left, there are horizontal, wavy bands of color in shades of red, orange, yellow, and green. On the right, a bright white light source emits a series of colorful rays in shades of blue, green, and yellow, creating a sunburst effect.

cisco *Live!*

Let's go

#CiscoLiveAPJC