

The background of the slide is a vibrant, abstract graphic. It features a series of overlapping, wavy bands of color in shades of red, orange, yellow, green, and blue, creating a sense of movement and energy. On the right side, there is a bright, multi-colored sunburst or starburst effect that radiates outwards, adding to the dynamic feel of the design.

cisco *Live!*

Let's go

#CiscoLive



The bridge to possible

Making Catalyst SD-WAN easy

Operational Simplification and User Experience

Prashanth Raghavendra, Technical Marketing Engineer Technical Leader
BRKENT-1313

CISCO *Live!*

#CiscoLive



“Reconciliation”- Dustin Koa Art

Cisco Webex App

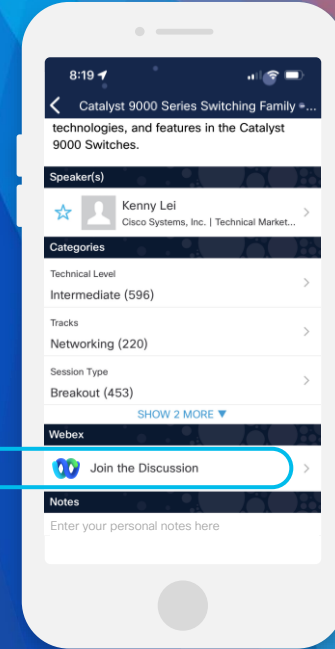
Questions?

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-1313>

About me



Prashanth
Raghavendra

SD-WAN
Technical Marketing
since 2020

Focus areas:

- User/Application Experience
- Operational features
- Analytics

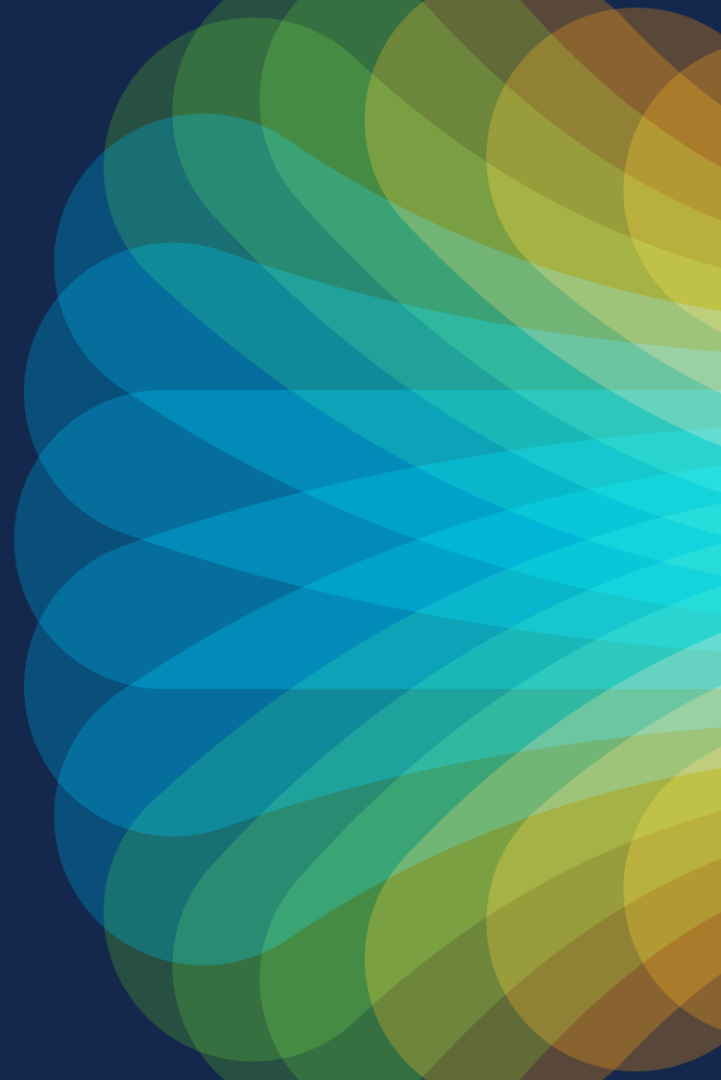
Presented sessions at various Cisco events:

- Cisco Live Melbourne/Amsterdam
- Cisco EN SEVT
- APJC SD-WAN Roadshows

Agenda

- Introduction
- Why, What, How & Where?
- Technical Details
 - UI, NHM, Workflows
 - Configuration and Policies
 - Monitoring and Troubleshooting
 - SD-Routing
 - Information and Help
 - Demonstration
- Summary / Conclusion

Introduction



WHY are we talking about
Operational Simplification
and User Experience?

Feedback from Customers/Partners

Cisco SD-WAN

.....

Lacks Troubleshooting Guidance
Poor Visibility into App/Site Performance
Deployment complexity
Operational challenges
PoC/PoV not easy
Designed for experts
Poor Visibility into App/Site Performance
Lacks Troubleshooting Guidance
Designed for experts
Deployment complexity
Operational challenges
Lacks Troubleshooting Guidance
Poor Visibility into App/Site Performance

Summarizing ...

Complexity

Template Sprawl

Unintuitive UI

Hard to Deploy

WHAT are we
doing about it?

Vision



Operational Simplification and Ease of use

Onboarding and Day-0 to Day-N operations



Ability to do a quick Proof-of-Concept

Ease of showcasing a solution by doing a quick POC to customers



Consistency in User eXperience with all Cisco Enterprise Products

Consistency in UI/UX in all Enterprise and other Cisco products.



Provide Cisco recommended best practices

Smart defaults, Pre-defined settings, Intuitive user actions

HOW are we
doing it?



Mission

Configuration

- Intuitive **workflows** to guide new and novice users to perform tasks
- Intent / Application driven workflows
- Use of **smart defaults** for configuration and policies

Monitoring

- Enhanced visibility into the network with new **customizable dashboards**
- Insights into **network and application performance monitoring** with graphical elements and tables
- Ability to monitor logs and trigger user-defined actions

Troubleshooting

- Dynamic **Topology views** to visualize network/site configuration and health.
- Guided troubleshooting with context-based tools and data
- Receive tidy, complete **reports** of WAN performance, on a scheduled basis.

WHERE do we
stand today?

Journey Overview

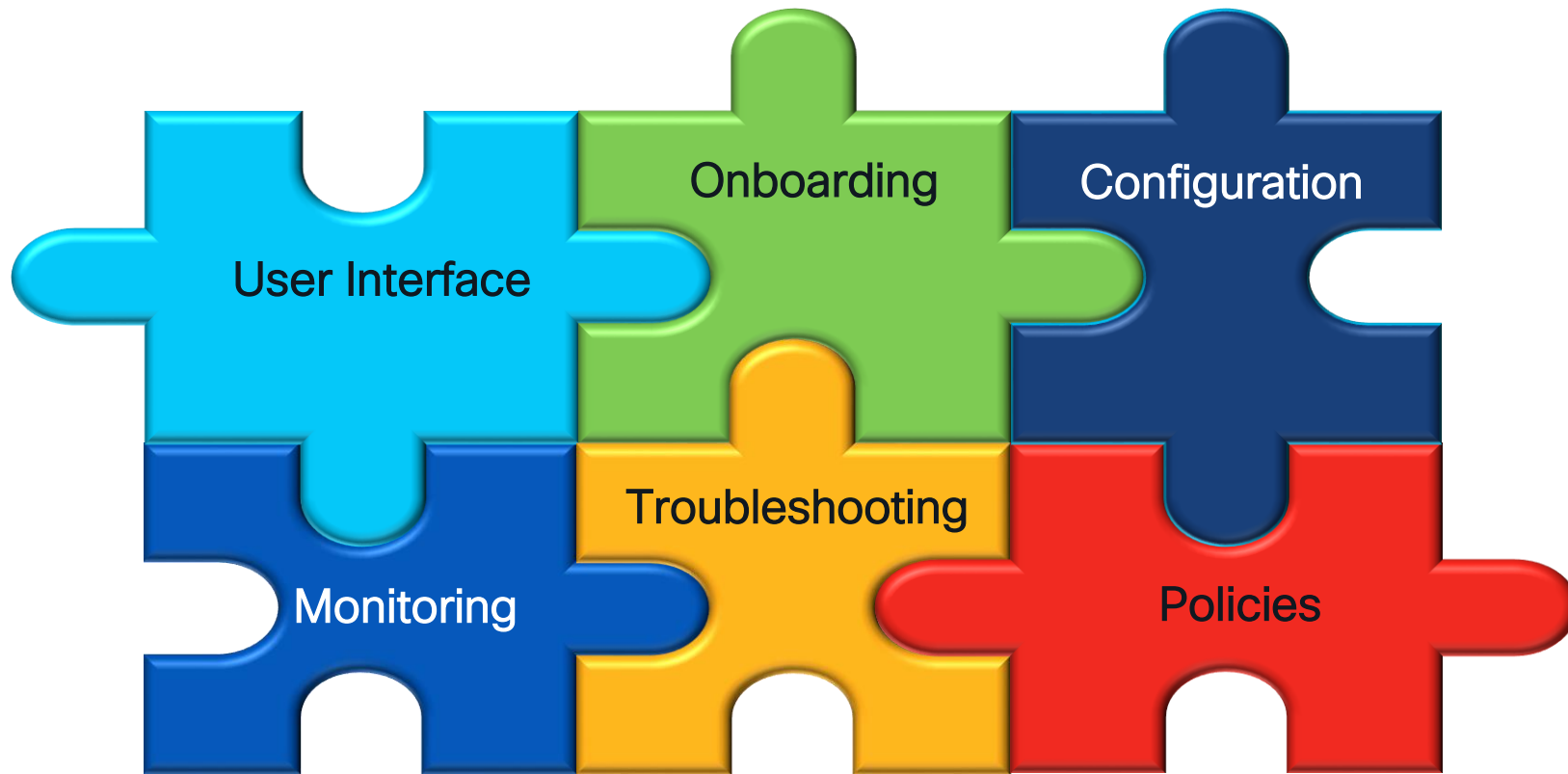


New Naming: Cisco Catalyst SD-WAN

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

Technical Details

Pieces of the Puzzle

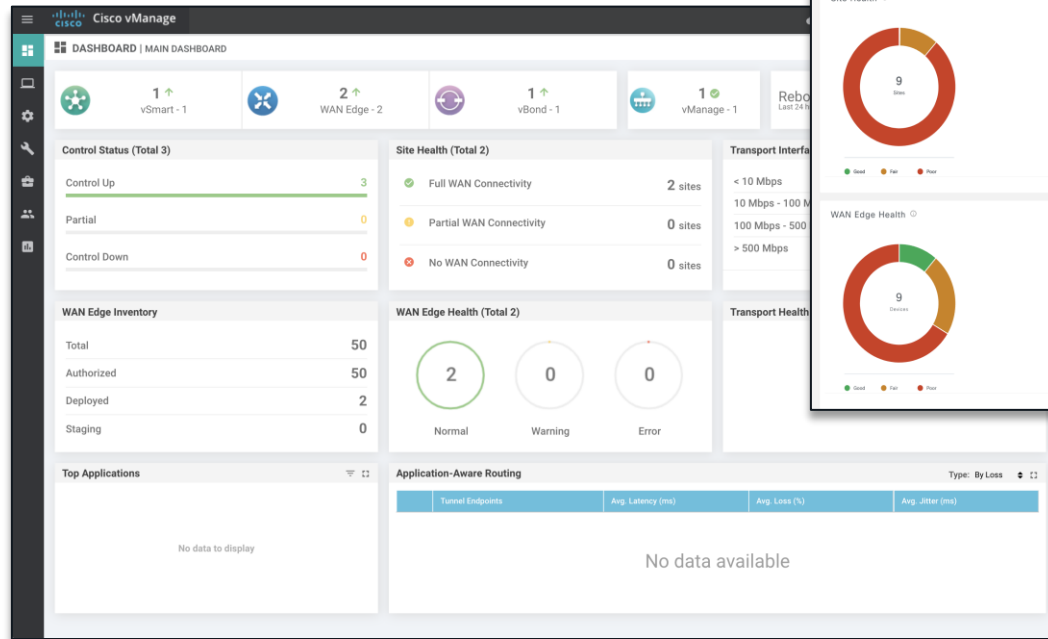
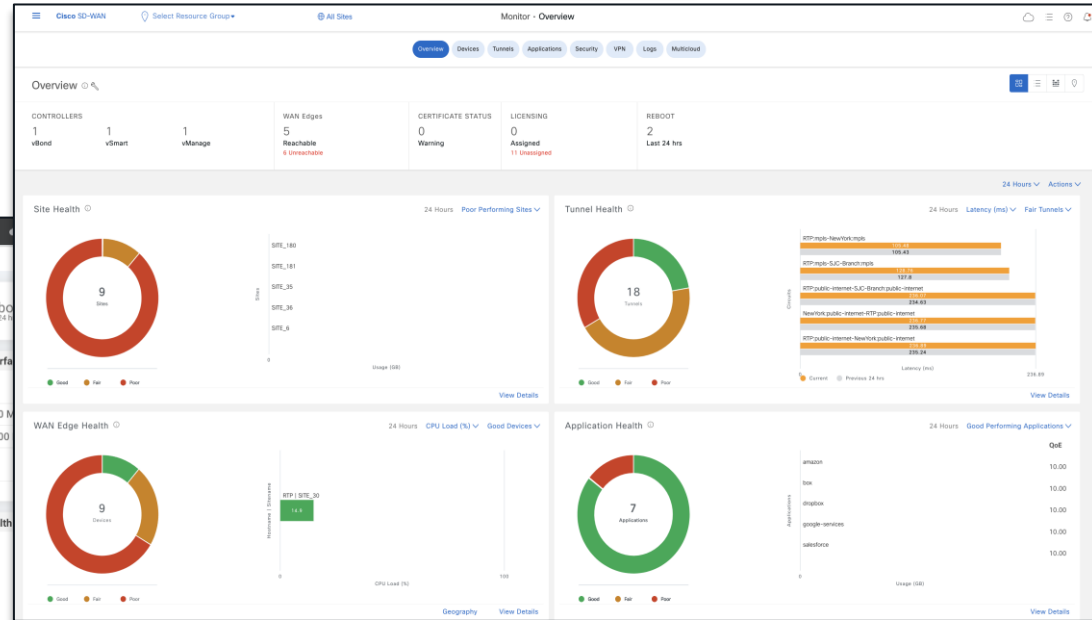


User Interface

New Look and Feel

20.6 Onwards

Prior to 20.6

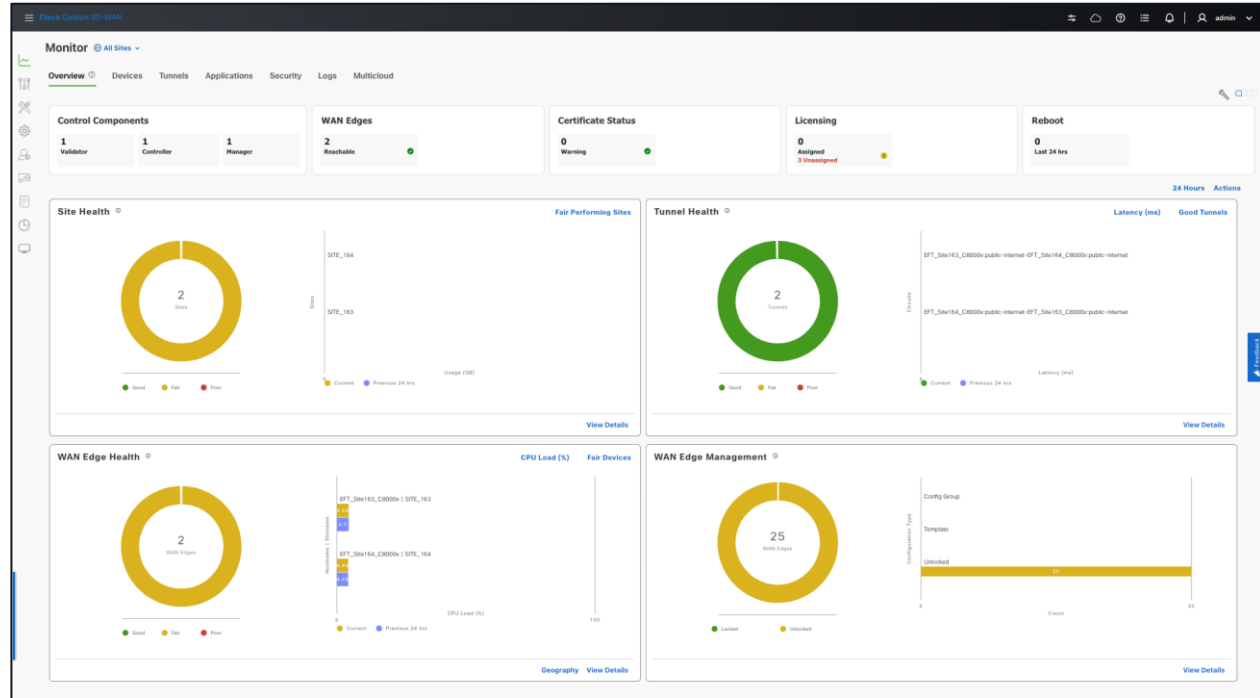


UI consistency in all Cisco products

Cisco is unifying the UI/UX across all its products.



The Magnetic UX Design Framework has been introduced in other products and is making its way into Catalyst SD-WAN with 20.13/17.13 release.



Network Hierarchy Manager (NHM)

- Organize your network with user-friendly site names
- Pre-define constructs like IP pools

The screenshot displays the Cisco Catalyst SD-WAN Network Hierarchy Manager (NHM) interface. The top navigation bar includes the Cisco Catalyst SD-WAN logo, a 'Select Resource Group' dropdown, and the page title 'Configuration • Network Hierarchy'. A search bar is located on the left sidebar. The sidebar shows a tree view of the network hierarchy under 'Global (16 of 16 nodes)'. The tree includes folders for AMER, APJC, and EMEA, each containing specific nodes like BR1_SanJose, BR2_NewYork, BR6_Dallas, BR3_Mumbai, BR4_Singapore, BR5_Melbourne, Controllers, and BR7_London. A context menu is open over the 'Global' node, showing 'Add Node' and 'Add Pool' options. The main panel displays the 'Global' node details, including a search bar, an 'Add Pool' button, and a table with one record: 'GLOBAL_SITE' with the description 'Site pool for GLOBAL node'.

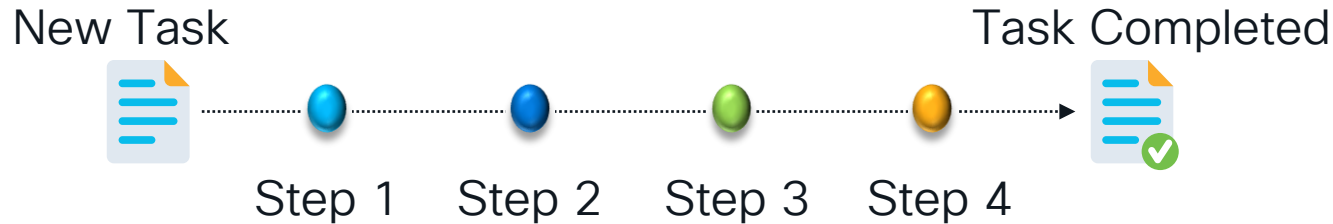
Name	Description
GLOBAL_SITE	Site pool for GLOBAL node

1 Record

Workflows

What is a Workflow?

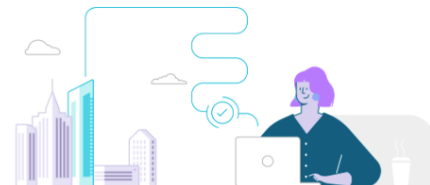
A workflow is a collection of guided steps to help you perform a certain task easily



🔍 Search all Workflows

Build and maintain your network more efficiently with Workflows.

Let us guide you through end-to-end workflows tailored to make your job easier.



Library

All Categories ▾

Quick Connect

Onboard your devices.

Firmware Upgrade

Upgrade your devices with the latest IOS XE SD-WAN image.

Software Upgrade

Upgrade your devices with the latest IOS XE SD-WAN image.

Sync and Install HSEC Licenses

Easily sync and install licenses on HSEC compatible devices.

Configure Teleworker Devices

Get secure access to your corporate network from the comfort of your home

Create Configuration Group

Configure your WAN with smart configuration group(s). Use recommended settings to get the WAN up and running quickly.

Create NFV Configuration Group

As a Network Architect create a device-independent NFV design for rapid deployment on Cisco's uCPE devices.

Create Security Policy

Use this workflow to configure your security policy.

Deploy Configuration Group

Push configuration to devices in your WAN

Deploy Policy Group

Push configuration to devices in your WAN

Feedback

Configuration

Fresh approach to Configuration

Simple, Re-usable and Structured



Simplicity

Workflow-based configuration that guides the user step-by-step.

Clearly identifies what is necessary, what is optional, and what is the Cisco recommended best practice.



Re-usability

Configuration components can be **re-used** across an entire device family (cEdge) instead of being specific to one device model.



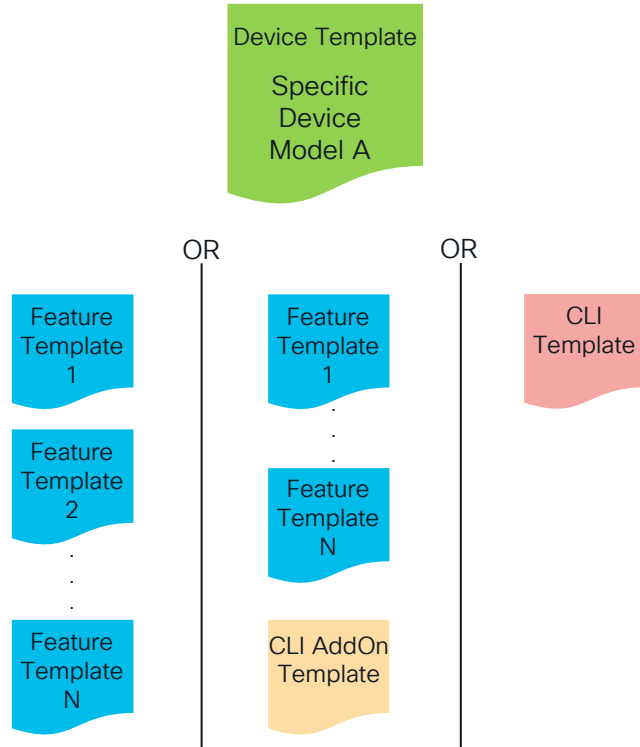
Structure

Group devices based on a shared configuration.

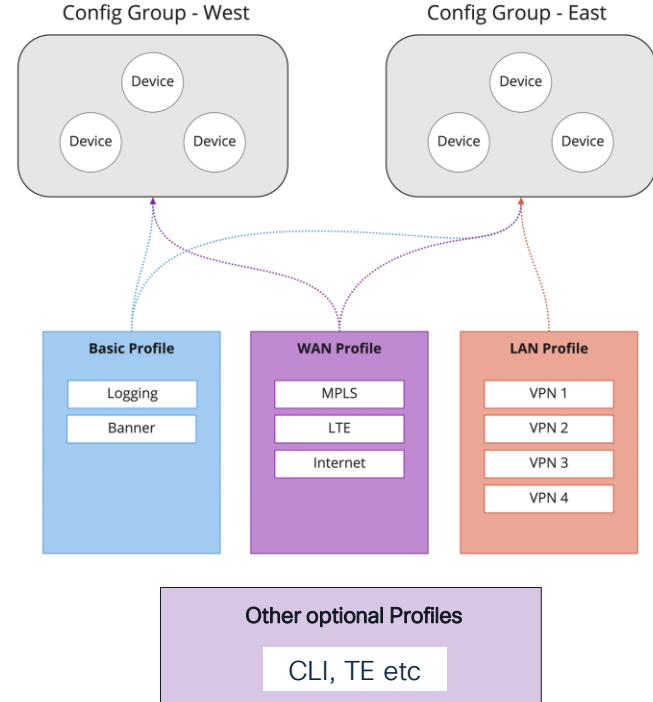
This structure can be used by other features of vManage such as Monitoring and Troubleshooting.

Configuration – Old vs. New Structure

Templates (UX 1.0)



Configuration Groups / Feature Profiles (UX 2.0) *



* See next slide for details!

Terminology: Config Groups and Feature Profiles

Configuration Groups

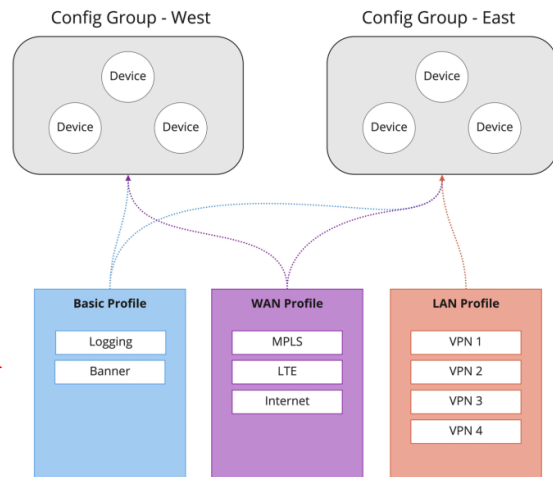
- Logical grouping of devices that share a common purpose within the WAN.
- The user defines and can customize this grouping based on *their* business needs.

Ex: East/West, Americas/APJC/EMEAR, Retail Store / Distribution Centre

Feature Profiles

- Flexible “buckets” of configuration that can be shared across Configuration Groups.
- Create Feature Profiles based on features that are required
- Put profiles together to complete device configuration, like building blocks
- Build, save, and reuse

Ex: Basic Profile, WAN Profile, LAN Profile



Workflow for Site Configuration



Create Configuration Group

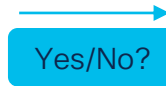
Configure your WAN with smart configuration group(s). Use recommended settings to get the WAN up and running quickly.



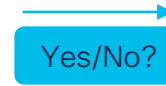
Deploy Configuration Group

Push configuration to devices in your WAN

Create



Associate

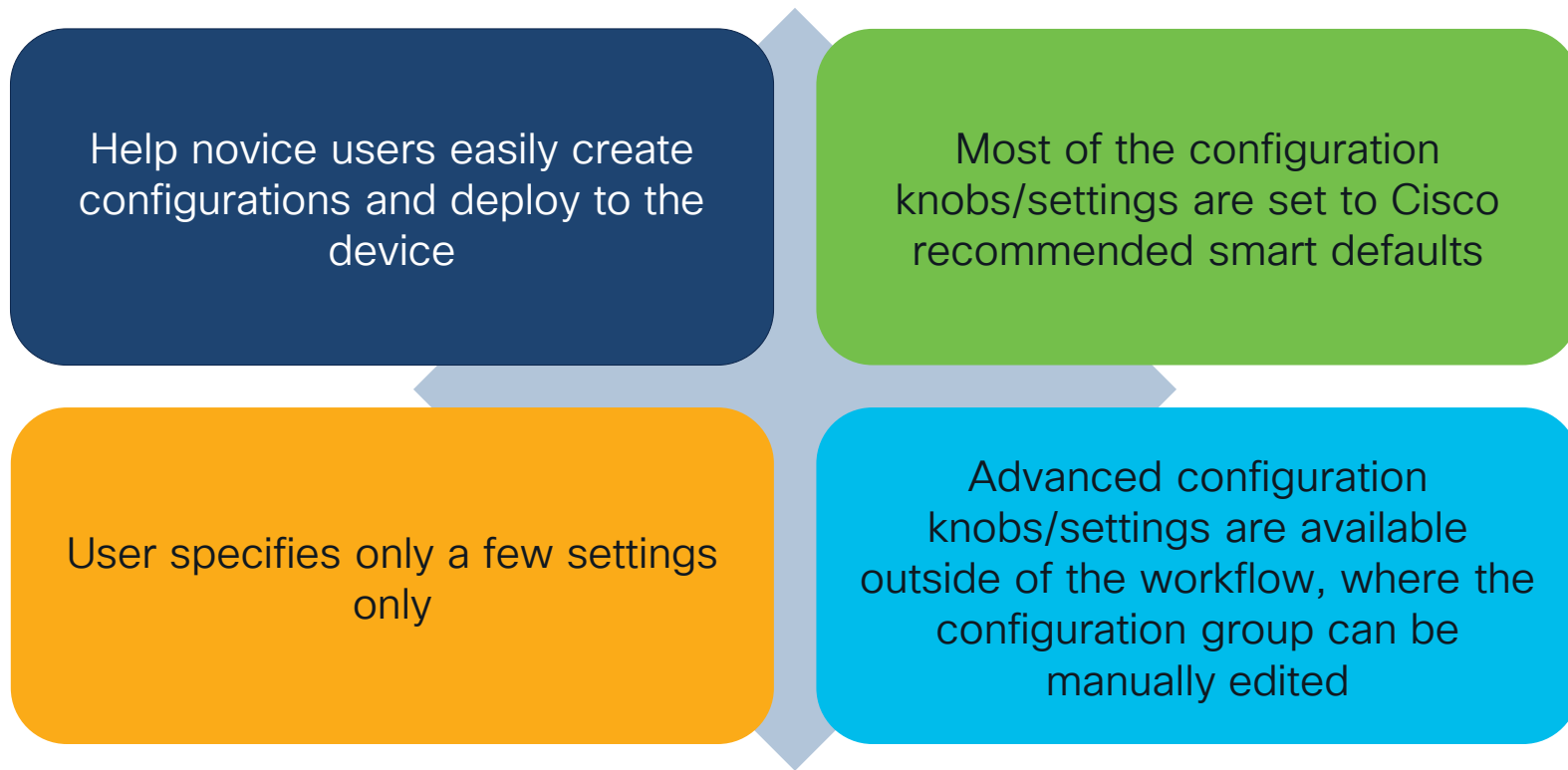


Deploy

Deploy

Single Router Site Configuration Video: <https://youtu.be/98z-d3knd1g>

Workflow – Goals

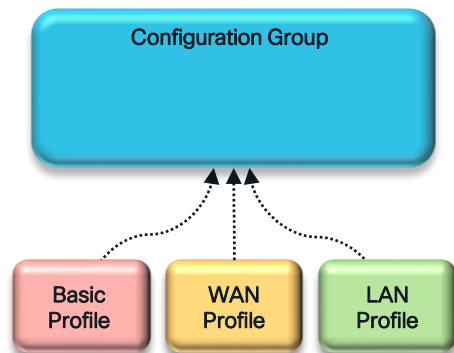


Create Configuration Group workflow incl. Associate and Deploy

Create Configuration Group
Configure your WAN with smart configuration group(s). Use recommended settings to get the WAN up and running quickly.

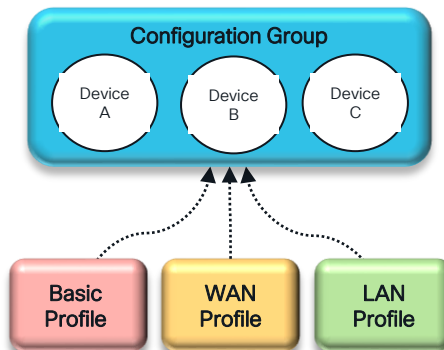
Create

1. Specify a name for the Configuration Group
2. Specify the device configuration / leave it as default (Cisco recommended)
3. Review the summary. Edit if required.
4. Configuration group created



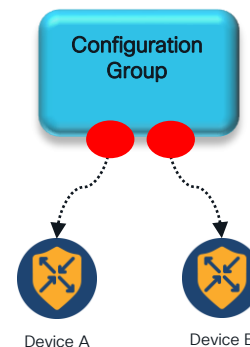
Associate

5. Select devices to associate with the configuration group
6. Review the summary. Edit if required.
7. Devices associated to Configuration group.



Deploy

8. Select devices to deploy the configuration group to
9. Specify device specific values for variables
10. Review the summary. Edit if required.
11. Configuration group deployed to devices



Workflows Comparison Use Case

Create a Branch with 1 Transport, 2 Service VPNs, Full-mesh topology

25 steps

Templates (UX 1.0)



1. Go to *Configuration* -> *Feature Templates*
- 2-19. Create all the Feature Templates (approx. 18)
20. Go to *Configuration* -> *Device Templates*
21. Create the Device Template.
Need to know which Feature Templates to use in this Device Template
22. Select the Device Template, click on *Attach Devices*
23. Select the Device, click on *Attach*
24. Specify values for each of the Template variables
25. Click on *Configure Devices* to push the configuration to the device

Configuration Groups (UX 2.0)



1. Launch the *Create Configuration Group* workflow
2. Setup the Site Configuration (parcels)
3. Click on *Create Configuration Group*
4. Choose device to associate with the Configuration group
5. Choose device to deploy the configuration group to
6. Specify the value for each of the variables
7. Click on *Deploy* to push the configuration to the device

Cisco
recommended
Smart defaults

7 steps

Artifacts Comparison for the same Use Case

19

Templates (UX 1.0)



- 1. Device Template
- 2-4. System Banner Logging
- 5-7. Global Settings (Services), NTP, AAA
- 8-9. BFD, OMP
- 10-11. VPN (0), VPN (0) Interface Ethernet
- 12-13. VPN (512), VPN (512) Interface Ethernet
- 14-16. VPN (10), VPN (10) Interface Ethernet, VPN (10) Routing
- 17-19. VPN (20), VPN (20) Interface Ethernet, VPN (20) Routing

Configuration Groups (UX 2.0)



- 1. Configuration Group
- 2. System (Basic) Profile (including its Parcels)
- 3. Transport (WAN) Profile (including its Parcels)
- 4. Service (LAN) Profile (including its Parcels)

4



Demo

CISCO *Live!*

Policies

New Policy Definition in 20.12 Software

Policy Group with app-aware routing, on-prem and cloud-based security:

The screenshot displays the Cisco SD-WAN Configuration - Policy interface. At the top, there's a navigation bar with 'Cisco SD-WAN', a 'Select Resource Group' dropdown, and the title 'Configuration · Policy'. On the right, there are icons for cloud, list, help, and notifications. Below the navigation bar, a 'Group of Interest' section highlights five policy categories: 'Policy Group' (1), 'Application Priority & SLA' (1), 'Embedded Security' (1), 'Secure Internet Gateway' (1), and 'DNS Security' (0). A red dashed box encloses the first four categories. Below this, a '+ Add Policy Group' link is visible. The main configuration area is titled 'NP-CL-Policy-Group'. It contains several input fields: 'Policy Group Name' (NP-CL-Policy-Group), 'Description' (Demo Policy Group), 'Policy' (NP-CL-Policy-Group), 'Application Priority' (NP-CL-App-Policy), 'Embedded Security' (NP-CL-Security-Policy), 'Secure Internet Gateway' (NP-CL-SIG-Policy), and 'DNS Security' (Please Select one). On the right side of the configuration area, there's a 'Deployment' section with 'Associated to: 0 Device(s)' and two buttons: 'Save' and 'Deploy'. The bottom right corner shows the timestamp 'As of: June 5, 2023 at 4:12 PM'.

Cisco SD-WAN Select Resource Group Configuration · Policy

Group of Interest

Policy Group 1 Application Priority & SLA 1 Embedded Security 1 Secure Internet Gateway 1 DNS Security 0

+ Add Policy Group As of: June 5, 2023 at 4:12 PM

NP-CL-Policy-Group

Policy Group Name * NP-CL-Policy-Group

Description Demo Policy Group

Policy

Application Priority NP-CL-App-Policy

Embedded Security NP-CL-Security-Policy

Secure Internet Gateway NP-CL-SIG-Policy

DNS Security Please Select one

Deployment

Associated to: 0 Device(s)

Save Deploy



New! 20.12

Policies / Application

TEST

Simplified Policy

Show Options

Simple

Advanced

SDWAN Fabric Traffic Policy Mapping

> **Gold**
Business Relevant

Preferred Color

Select Preferred Color

When SLA not met

Select When SLA not met

Backup Color

Not Applicable

> **Silver**
Default

Preferred Color

Select Preferred Color

When SLA not met

Select When SLA not met

Backup Color

Not Applicable

> **Bronze**
Business Irrelevant

Preferred Color

Select Preferred Color

When SLA not met

Select When SLA not met

Backup Color

Not Applicable

Internet Offload Traffic Mapping

Offload To SIG

Select Application List

Service Destination

Secure Internet Gateway (SIG)

Fallback to Routing

Yes



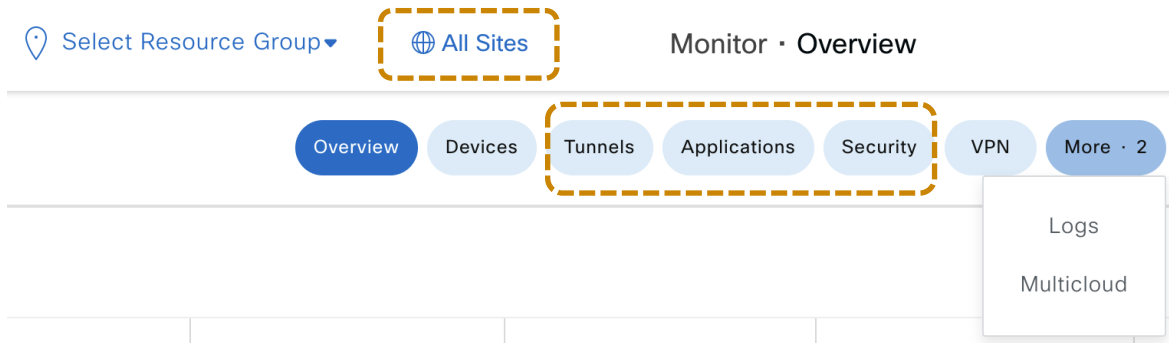
Demo

CISCO *Live!*

Monitoring and Troubleshooting

Summary for the monitoring improvements

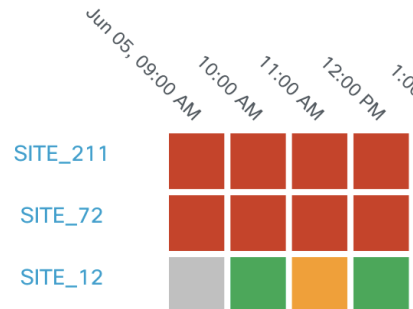
1. New Dashboards:



2. Fully Customizable Dashboard and Tagging

 Add Dashlet

3. Application Monitoring and Site Health:

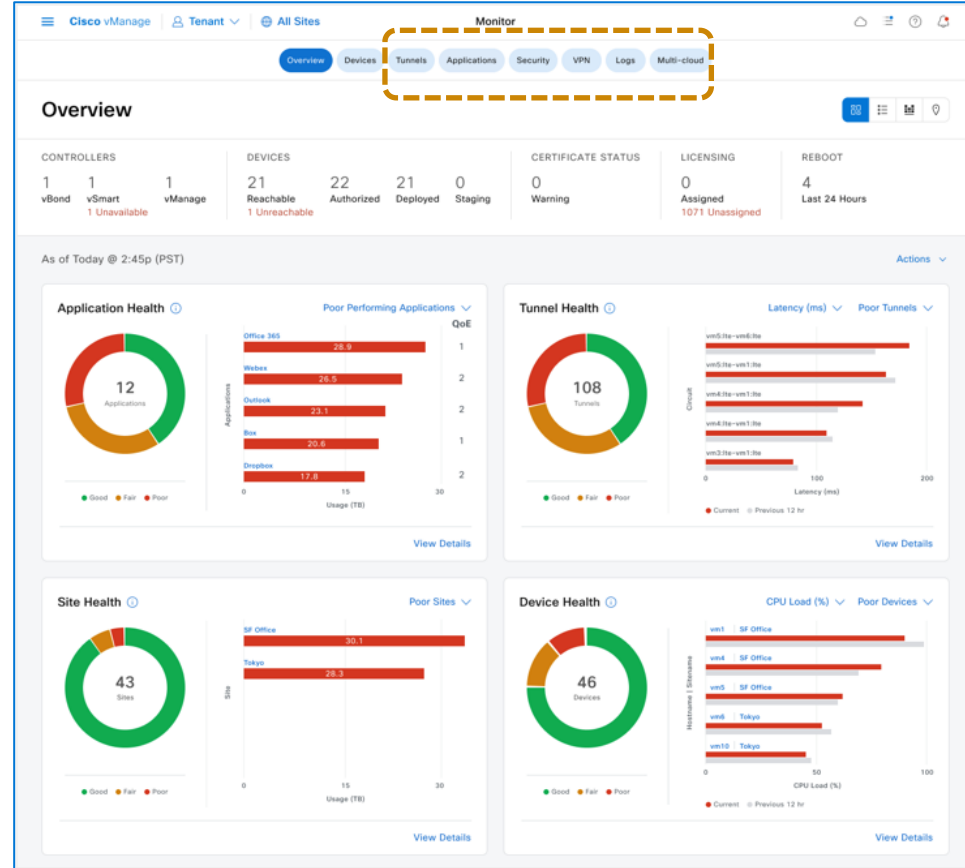


New Dashboards

Enhanced dashboards with new and customizable widgets.

Monitor your WAN from a global perspective or drill down to a site perspective.

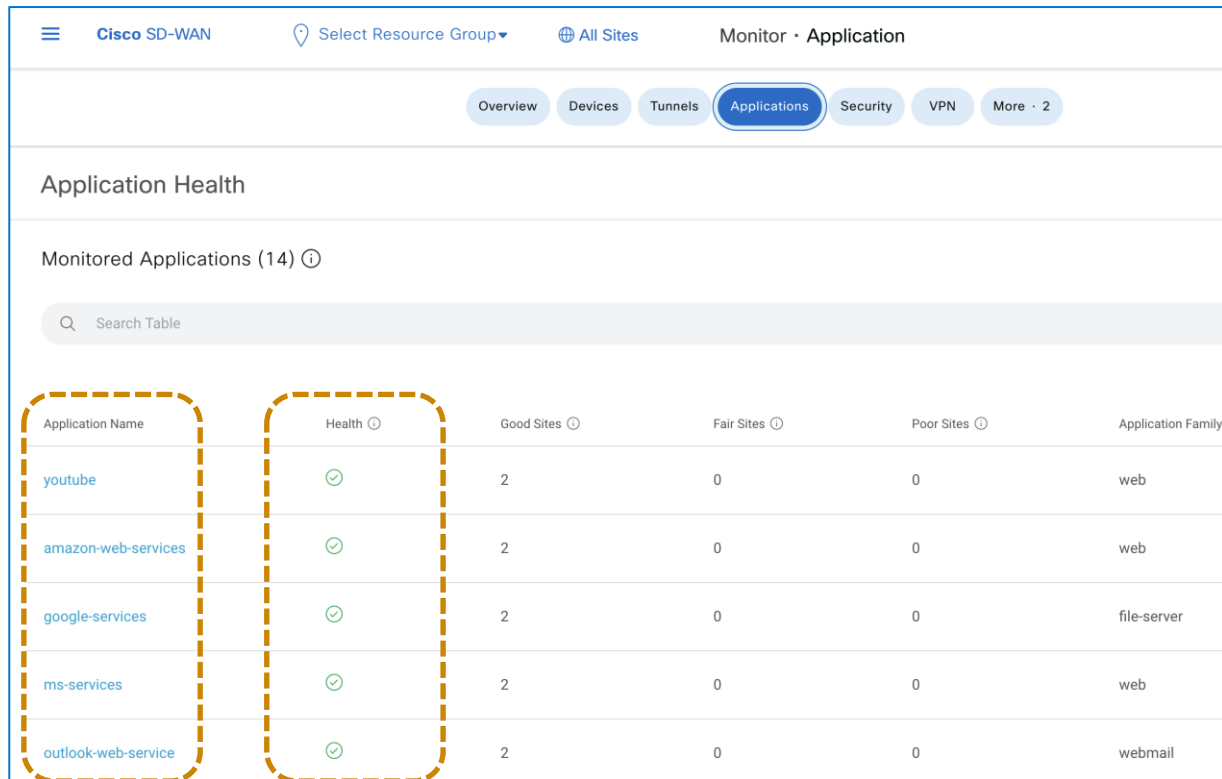
Toggle between different dashboards such as Security, Devices, Tunnels, and Applications



New Application Dashboard

Robust application data
on apps that matter most.

Troubleshoot problematic
applications across the
WAN or at individual
locations.



Cisco SD-WAN Select Resource Group All Sites Monitor · Application

Overview Devices Tunnels Applications Security VPN More · 2

Application Health

Monitored Applications (14) ⓘ

Search Table

Application Name	Health ⓘ	Good Sites ⓘ	Fair Sites ⓘ	Poor Sites ⓘ	Application Family
youtube	✓	2	0	0	web
amazon-web-services	✓	2	0	0	web
google-services	✓	2	0	0	file-server
ms-services	✓	2	0	0	web
outlook-web-service	✓	2	0	0	webmail

Enabling Application Monitoring

System Profile

- > add Feature
- > Perf. Monitoring

14 Apps pre-selected,
71 Apps total.

Associate with Devices
and Deploy.

The screenshot shows the Cisco SD-WAN Configuration Groups interface. The 'Add Feature' dialog is open, showing the 'Performance Monitoring' feature type. The 'Name' field is pre-filled with 'NP-CL-PerfMon'. The 'Application Performance Monitoring' tab is selected, and the 'Monitoring' checkbox is checked. A table of 14 pre-selected applications is shown, including Intuit, Concur, Oracle, Amazon AWS, and Salesforce. The 'Save' button is visible at the bottom right.

Type	Feature Name
aaa	AAA
bfd	BFD
banner	Banner
basic	Basic
global	Global
logging	Logging
mrf	MRF-Region1

Application Group
Intuit
Concur
Oracle
Amazon AWS
Salesforce

Customize your Dashboard

Smart: Azure suggested because cloud credentials detected.

8+ different Dashlets from Inventory to App-aware Routing.

The screenshot shows the Cisco Monitor Overview dashboard. On the left, there are two dashlets: 'Site Health' and 'WAN Edge Health'. The 'Site Health' dashlet shows a donut chart with 5 sites, with a legend indicating Good (green), Fair (orange), and Poor (red). The 'WAN Edge Health' dashlet shows a semi-circular gauge with 5 sites, with a legend indicating Up (green), Partial (orange), and Down (red). On the right, there is a list of dashlets to be added, including Microsoft Azure, Transport Health, Site BFD Connectivity, Transport Interface Distribution, and WAN Edge Inventory. The 'Add Dashlet' dialog box is open, showing the 'Microsoft Azure' dashlet selected. The dialog box has a close button (X) in the top right corner. At the bottom right of the dialog box, there are 'Cancel' and 'Add' buttons.

Monitor · Overview

All Sites

Add Dashlet

Site Health

5 Sites

Good Fair Poor

WAN Edge Health

5 Sites

Up Partial Down

Microsoft Azure

Cloud Gateways Down 0 Partial 0 Up 0

Cloud Edge Down 0 Up 0

Connected Branch Devices Up 0

Connected Tags 0

Connected Host VNets 0

Connected VPN Connections 0

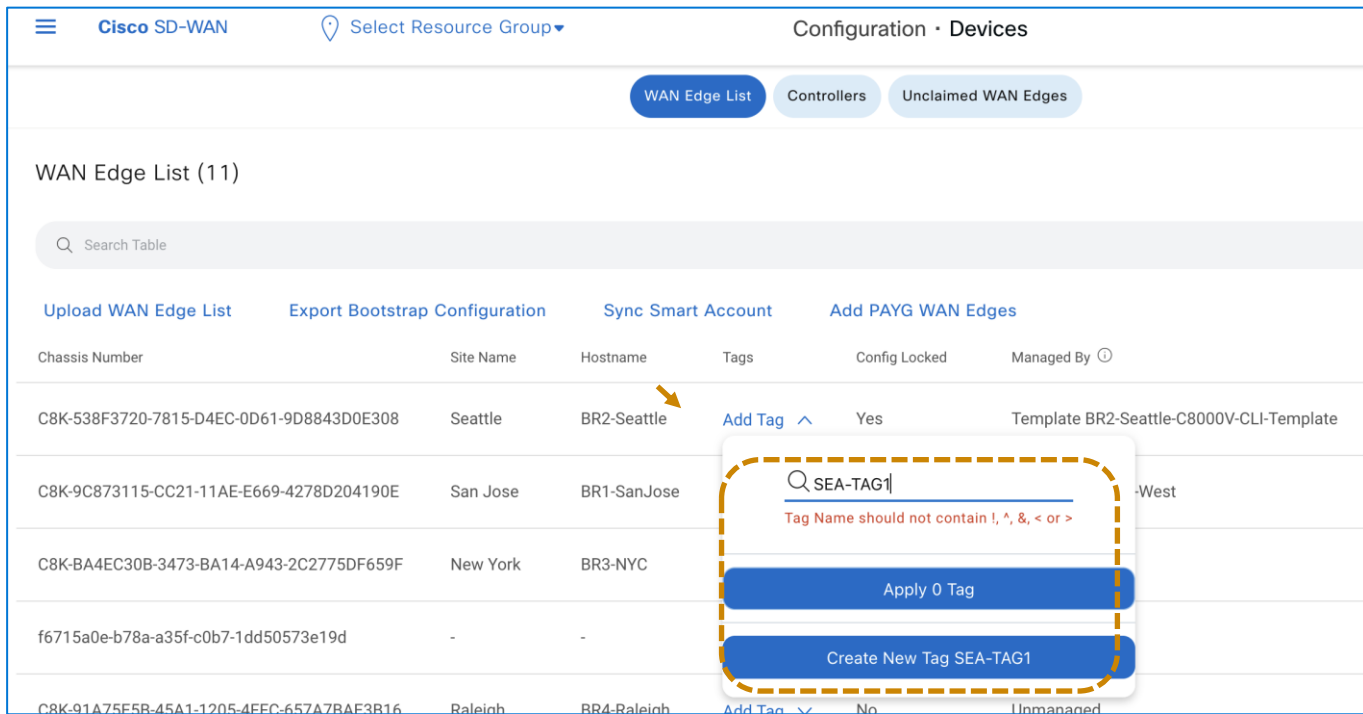
Cancel Add

Tagging Sites and Devices

Create Config Group with Tag Rule.

Add new Router to the Config Group just by adding Tag!

In Future: Tags for Policies and more.



The screenshot displays the Cisco SD-WAN Configuration - Devices page. The top navigation bar includes the Cisco SD-WAN logo, a 'Select Resource Group' dropdown, and the 'Configuration - Devices' title. Below the navigation bar, there are tabs for 'WAN Edge List', 'Controllers', and 'Unclaimed WAN Edges'. The 'WAN Edge List' tab is active, showing a table with 11 devices. The table columns are Chassis Number, Site Name, Hostname, Tags, Config Locked, and Managed By. A modal dialog is open for adding a tag to the device BR2-Seattle. The dialog shows a search for 'SEA-TAG1' and options to 'Apply 0 Tag' or 'Create New Tag SEA-TAG1'.

Chassis Number	Site Name	Hostname	Tags	Config Locked	Managed By
C8K-538F3720-7815-D4EC-0D61-9D8843D0E308	Seattle	BR2-Seattle	Add Tag ^	Yes	Template BR2-Seattle-C8000V-CLI-Template
C8K-9C873115-CC21-11AE-E669-4278D204190E	San Jose	BR1-SanJose			West
C8K-BA4EC30B-3473-BA14-A943-2C2775DF659F	New York	BR3-NYC			
f6715a0e-b78a-a35f-c0b7-1dd50573e19d	-	-			
C8K-91A75F5B-45A1-1205-4FEC-657A7BAE3R16	Raleigh	BR4-Raleigh	Add Tag v	No	Unmanaged

Drill down from global view to a single Site Dashboard

Change the context of your global view to that of any site.

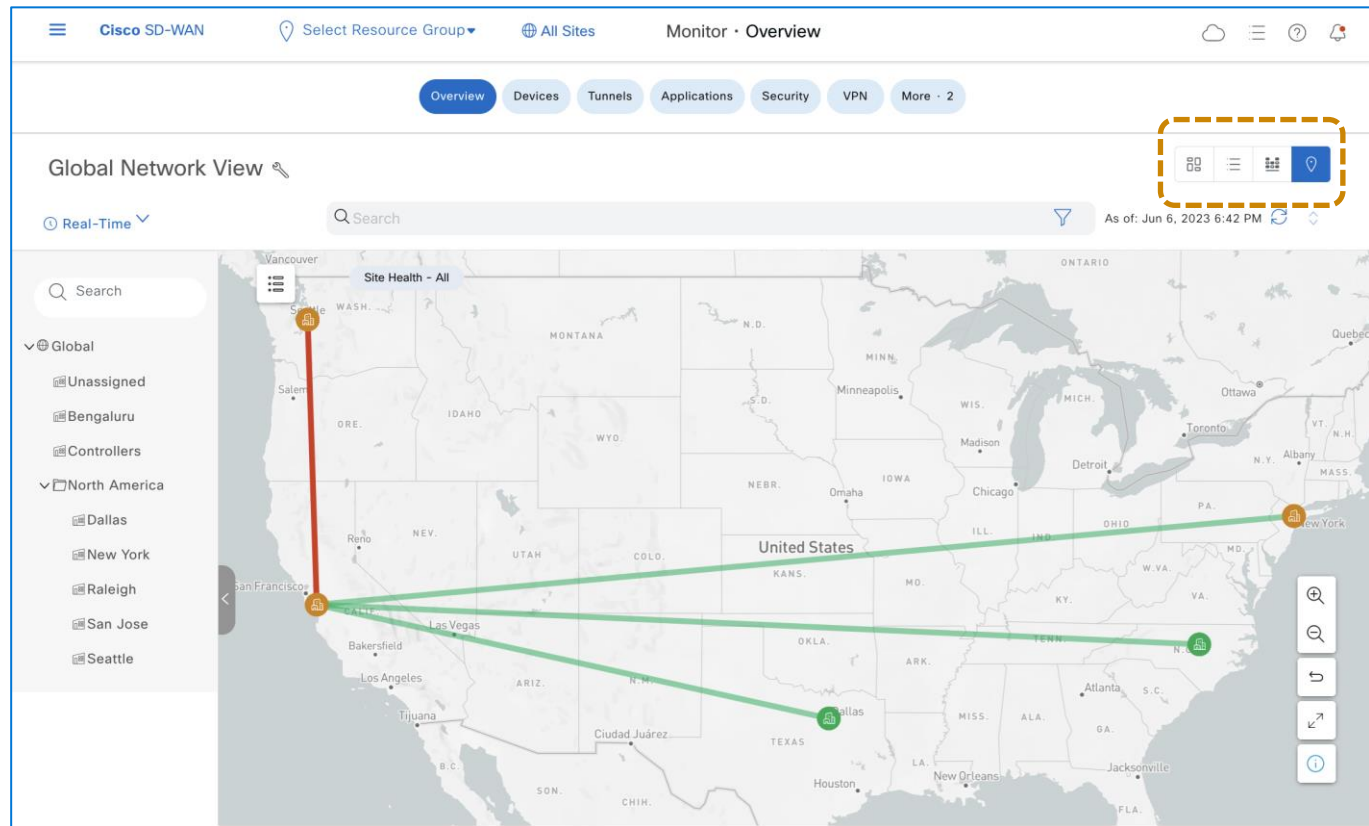
Example: from global view to San Jose Site.

The screenshot displays the Cisco SD-WAN Monitor Overview page. At the top, the navigation bar includes the Cisco SD-WAN logo, a 'Select Resource Group' dropdown, and the 'All Sites' button, which is highlighted with a dashed orange box. Below the navigation bar, the 'Overview' tab is active. The main content area shows a summary of system components: 1 vBond, 1 vSmart, 1 vManage, and 5 WAN Edges (5 Reachable). A dropdown menu is open from the 'All Sites' button, listing various sites including Unassigned, Bengaluru, Controllers, North America (expanded), Dallas, New York, Raleigh, San Jose (highlighted), and Seattle. The bottom of the page features 'Site Health' and 'Tunnel Health' sections, with a 'Fair Performing Sites' link visible.

Global Topology View added in 20.12 Software!

Interactive global topology with live health information.

Drill down to a specific site and receive a detailed summary of its performance.

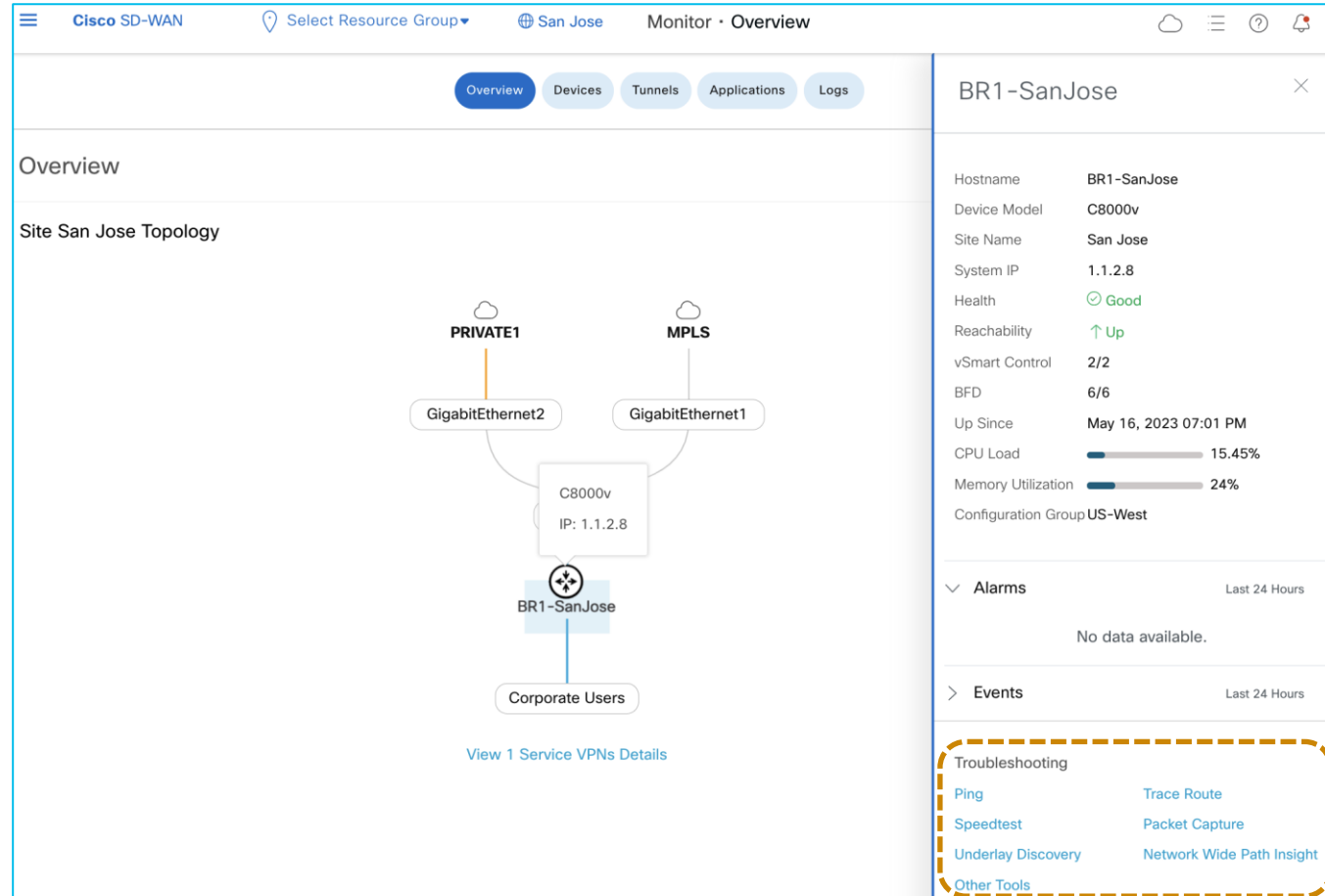


Interactive Topology for a specific Site

Dynamic status of
transport circuits,
devices and service
VPNs.

Troubleshooting tools
at your fingertips

Video on [YouTube](#)



Reports

Receive tidy,
complete reports of
WAN performance, on
a scheduled basis.

The screenshot displays the Cisco SD-WAN Reports interface. On the left, a sidebar menu lists various functions: Monitor, Configuration, Tools, Maintenance, Administration, Workflows, Reports (highlighted with a blue arrow), and Analytics. The main content area is titled 'Reports' and includes a 'Select Resource Group' dropdown. Below this, there are tabs for 'My Reports' and 'Report Templates'. The 'My Reports' section shows a table of reports with columns for Report Name, Schedule, Status, and Recipients. Two reports are listed: 'NP-Summary' and 'NP-Report-Mgmt-Summary', both with an 'On-Demand' schedule and a 'Completed' status. To the right, the 'Executive Summary Report' configuration panel is open, showing options for 'Enter Report Name' (NP-Summary), 'Select Sites' (All Sites), 'Time Frame' (30 Days), 'Delivery' (Optional), and 'Schedule' (Run Now).

Report Name	Schedule	Status	Recipients
> NP-Summary	On-Demand	Completed	-
> NP-Report-Mgmt-Summary	On-Demand	Completed	-

2 Records

Executive Summary Report

Enter Report Name*
NP-Summary

Select Sites (12) Edit
All Sites

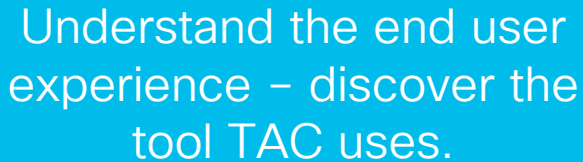
Time Frame
☐ 7 Days ☒ 30 Days

Delivery (Optional)
☐ Email Report

Schedule*
☒ Run Now
☐ Run Later (One-Time)
☐ Run Recurring

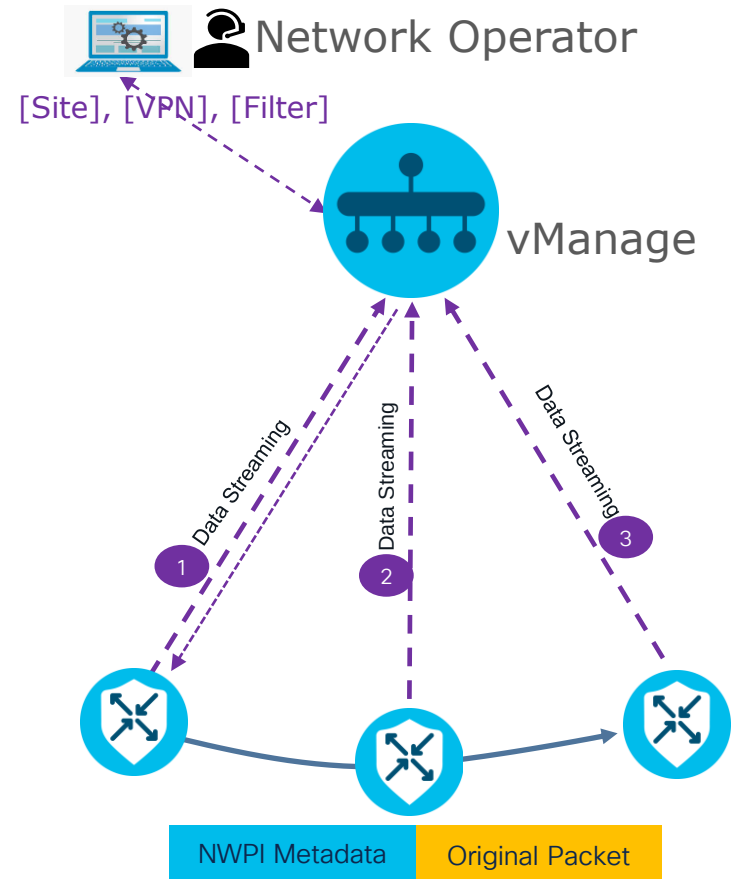
Cancel Update Report

Deep insights into
application and network
performance



How NWPI works

1. Network operator creates trace
2. vManage instructs first router to write NWPI metadata into SD-WAN header
3. Subsequent routers in path use NWPI metadata to send flow information to vManage
4. vManage correlates into a single view



First packet match & Network Wide Path Insights

- Encrypted SaaS traffic
- If not detected on the 1st packet
-> suboptimal path
- Easy validation with NWPI
- Full demo: <https://youtu.be/ZcsSVckYdXA>

Hostname: BR5 Event List: FIRST_PACKET/DPL_DONE
Version: 17.09.01a.0.240, Input: GigabitEthernet4, Output: GigabitEthernet3

Ingress Feature

Remote System IP : 1.2.2.201
Interface : GigabitEthernet3
Candidate Path 4 :
Type : SDWAN SESSION
Local Color : public_internet
Remote Color : public_internet
Encap : IPSEC
Remote System IP : 1.2.2.200
Interface : GigabitEthernet2

SDWAN App Route Policy >> View Policy <<

VPN ID : 1
VRF : 1
Policy Name : _SDWANDEMO-All_SDWANDEMO-AAR-Policy-SDW
Seq : 151
Req SLA : SDWANDEMO-Bulk-Data (1)
Act SLA : SDWANDEMO-Bulk-Data (1)
Policy Flags : 0x20
Fallback to best Path : no
SLA Strict : No
Actual Color : mpls (2)
Preferred Color : mpls (0x4)
Tunnel Match Reason : MATCHED_SLA_AND_PREF_ENCAP_COLOR

Egress Feature

NBAR

Packet number in flow: 4
Classification state: Final
Classification name: CustomApp
Classification ID: 3471 [21:3471]
Candidate classification sources:
SDAVC-DOMAINS: CustomApp [3471]
Classification visibility name: CustomApp
Classification visibility ID: 3471 [21:3471]
Number of matched sub-classifications: 0
Number of extracted fields: 0
Is PA (split) packet: False
TPH-MQC bitmask value: 0x1
Source MAC address: 00:50:56:A4:0B:A0
Destination MAC address: 00:50:56:A4:57:17
Traffic Categories:
ms-office-365/category: unset
ms-office-365/service-area: unset
sdavc/feed-id: 0
webex/region: 0

IPSec

Result : IPSEC_RESULT_SA
Action : ENCRYPT
SA Handle : 27
Peer Addr : 10.252.252.1
Local Addr : 10.252.252.17

Transmit Report



Demo

CISCO *Live!*

SD-Routing

Catalyst SD-WAN Manager for Routing (SD-Routing)



Energize Routing customer base with innovation

- *Accelerate journey to cloud and security*



Easier migration to SD-WAN

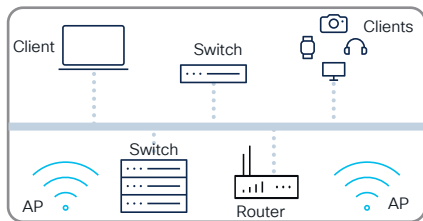
- *Migration capabilities from Routing to SD-WAN*



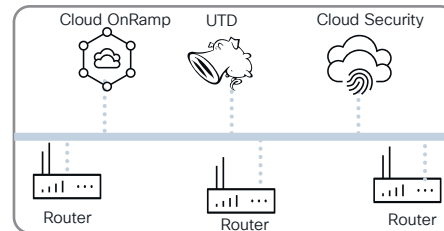
One management for all WAN use cases

- *Same workflows, tools, UI for SD-WAN and Routing*

WAN Orchestration and Life Cycle Management



Catalyst Full
Stack



Policy

SD-Access, AI-enhanced radio resource management, AP provisioning, User Defined N/W

Cloud OnRamp workflows, SIG connectivity workflow, Embedded security functions, SaaS DIA optimization

Assurance

Wireless 3D Analyzer, Samsung/Intel client analytics
Wireless sensor dashboard, PoE analytics, Client 360

Network Wide Path Insight (NWPI), Application performance monitoring, Security and cloud monitoring

Lifecycle Management

Device onboarding (PnP, Offline) , Device inventory, Software image management (SWIM) workflows, Device 360 monitoring, Troubleshooting, APIs, Reporting, RBAC, IDP integration



Customer A



DNA Center



SDWAN Manager



Customer B

17.12-20.12: Lifecycle Management



Device onboarding

- New deployment (using PnP)
- Existing deployment (CLI, Bootstrap, OTP)
- UX 2.0 quick-connect workflow



Monitoring

- Device health: CPU, memory, disk-utilization
- Device interface status and statistics
- Alarms and events



Troubleshooting

- Ping, traceroute, SSH
- Real-time show commands
- Logs and core-file collection



Software image management

- Software installation workflows
- Fail safe rollback in case of connectivity loss
- Pre-upgrade checks

Software Upgrade

2 of 4 steps

Select upgrade devices

Which devices do you want to upgrade?

All Devices (6)

0 selected	Hostname	System IP	Site ID	Device Model	Current Version	Tag
☐	Cupertino	172.16.255.14	300	CR800v (Autonomous)	17.12.01.0.176018	
☐	SJCPrimary	172.16.255.11	100	CR800v (Autonomous)	17.12.01.0.176018	
☐	SJCSecondary	172.16.255.21	100	CR800v (Autonomous)	17.12.01.0.176018	
☐	Stanford	172.16.255.16	400	CR800v (Autonomous)	17.12.01.0.176018	
☐	Wardfield1	172.16.255.15	500	CR800v	17.12.01.0.176018	

Packets Received: 4

Packet loss (%): 20

Round Trip Time

Min (ms)	0.76
Max (ms)	1.085
Avg (ms)	0.89

Starting Nping 0.7.80 (https://nmap.org/nping) at 2023-03-31 22:07 UTC

SENT (0.0399s) ICMP [10.0.5.11 > 10.0.1.15 Echo request (type=8/code=0) id=6903 seq=1] IP [ttl=64 id=27603 ipLen=28]

SENT (1.0403s) ICMP [10.0.5.11 > 10.0.1.15 Echo request (type=8/code=0) id=6903 seq=2] IP [ttl=64 id=27603 ipLen=28]

RCVD (1.0414s) ICMP [10.0.1.15 > 10.0.5.11 Echo reply (type=0/code=0) id=6903 seq=3] IP [ttl=254 id=27603 ipLen=28]

SENT (2.0413s) ICMP [10.0.5.11 > 10.0.1.15 Echo request (type=8/code=0) id=6903 seq=3] IP [ttl=64 id=27603 ipLen=28]

RCVD (2.0424s) ICMP [10.0.1.15 > 10.0.5.11 Echo reply (type=0/code=0) id=6903 seq=3] IP [ttl=254 id=27603 ipLen=28]

SENT (3.0433s) ICMP [10.0.5.11 > 10.0.1.15 Echo request (type=8/code=0) id=6903 seq=4] IP [ttl=64 id=27603 ipLen=28]

RCVD (3.0442s) ICMP [10.0.1.15 > 10.0.5.11 Echo reply (type=0/code=0) id=6903 seq=4] IP [ttl=254 id=27603 ipLen=28]

SENT (4.0450s) ICMP [10.0.5.11 > 10.0.1.15 Echo request (type=8/code=0) id=6903 seq=5] IP [ttl=64 id=27603 ipLen=28]

RCVD (4.0456s) ICMP [10.0.1.15 > 10.0.5.11 Echo reply (type=0/code=0) id=6903 seq=5] IP [ttl=254 id=27603 ipLen=28]

Max rt: 1.085ms | Min rt: 0.760ms | Avg rt: 0.890ms

Raw packets sent: 5 (1408) | Rcvd: 4 (1128) | Lost: 1 (20.00%)

Nping done: 1 IP address pinged in 4.05 seconds

Up Since: Mar 30, 2023 09:28 PM

Tags

Network Wide Path Insight Tool

Create a Trace | Insight Summary

Troubleshooting

Ping | Traceroute

Speedtest | Packet Capture

Underlay Discovery | SSH

Admin Tech | Simulate Flows

Other Tools

FOR YOUR REFERENCE

FAQ: <http://cs.co/vManageRoutingFAQ>

SD-Routing Roadmap

Orchestration Plane

2H CY2023

CY2024

Theme	Common dashboard for SD-WAN and Routing	Policy capabilities Routing deployments from vManage
Capabilities	<p>Lifecycle Management</p> <ul style="list-style-type: none"> Device onboarding Monitoring – Device health, Alarms Troubleshooting tools Software image management <p>Assurance</p> <ul style="list-style-type: none"> Application performance monitoring* 	<p>Policy (Configuration)</p> <ul style="list-style-type: none"> On-prem security functions** SIG connectivity** Cloud OnRamp** Modelled configurations Migration from Routing to SD-WAN** <p>Assurance</p> <ul style="list-style-type: none"> Network Wide Path Insight** , Security and Cloud Monitoring
Platforms	 <p>C8500, C8300, C8200, C8000V, ISR4K*</p>	 <p>ISR1K**, ASR1K**, IoT**</p>
Controllers	 <p>On-Premises, Cloud-hosted, Multi-tenant*</p>	 <p>Controller footprint optimization**, Scale</p>

* Best-effort, not yet committed

** Roadmap items : Not scoped and not committed

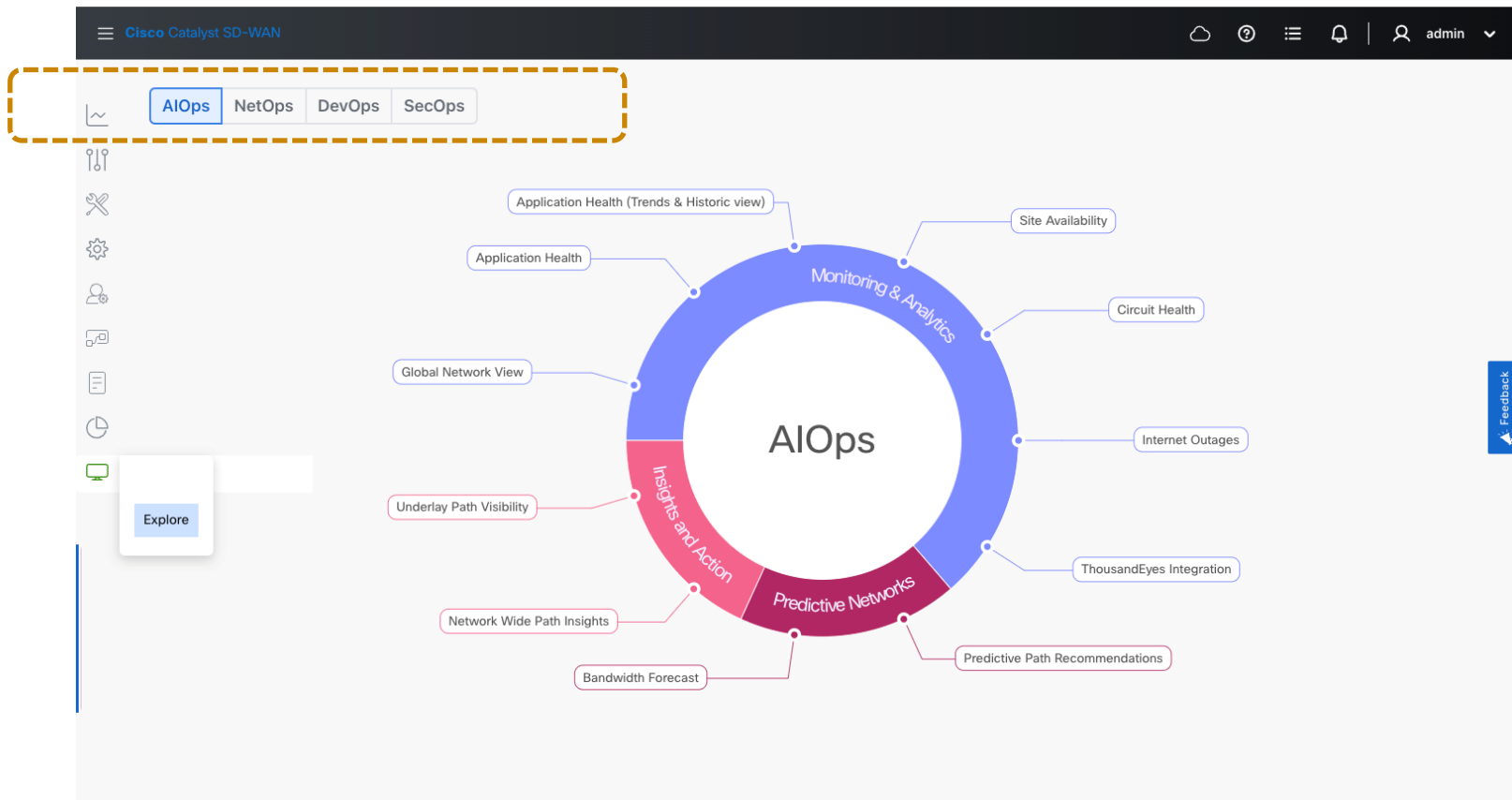


Demo

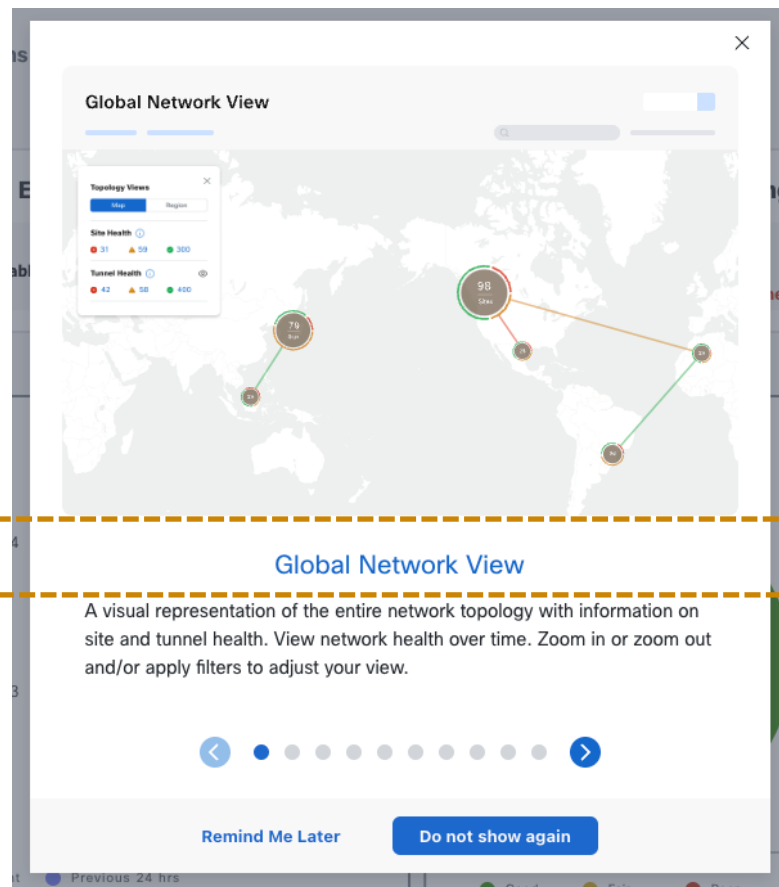
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Information and Help

Explorer wheel



Spotlight



Context-Aware Online Documentation

Cloud-Delivered technical documentation.

Intelligence to correlate content to the screen makes it easy to read related only content.

The screenshot shows the Cisco Monitor Overview page. The 'Overview' tab is selected in the top navigation bar. A sidebar titled 'Online Documentation' is open on the right, displaying a list of links: 'Help', 'Online Documentation', 'SD-WAN User Guide', 'Ask Cisco Networking', 'About', and 'Report Issue (internal)'. An orange arrow points from the 'Overview' tab to the 'Monitor Overview' section in the sidebar. The main content area displays various health metrics: 'Edges' (0 Warning), 'CERTIFICATE STATUS' (0 Warning), 'LICENSING' (0 Assigned, 5 Unassigned), and 'REB' (0 Last). A large green donut chart shows '18 Tunnels' with a status of 'Fair Performing Sites'. The sidebar also contains sections for 'Applications Health', 'Site Health', and 'Tunnel Health'.

Monitor Overview

Applications Health

You can view the usage of applications in a graphical format. The graph is depicted for **Good**, **Fair**, and **Poor** performing applications which is measured by application performance monitoring feature. The applications bandwidth usage information is displayed for each Application. You can also filter the applications based on the health status using the drop-down list for **Good Performing Applications**, **Fair Performing Applications**, and **Poor Performing Applications**.

Click **View Details**, to open the **Monitor > Applications** window.

Site Health

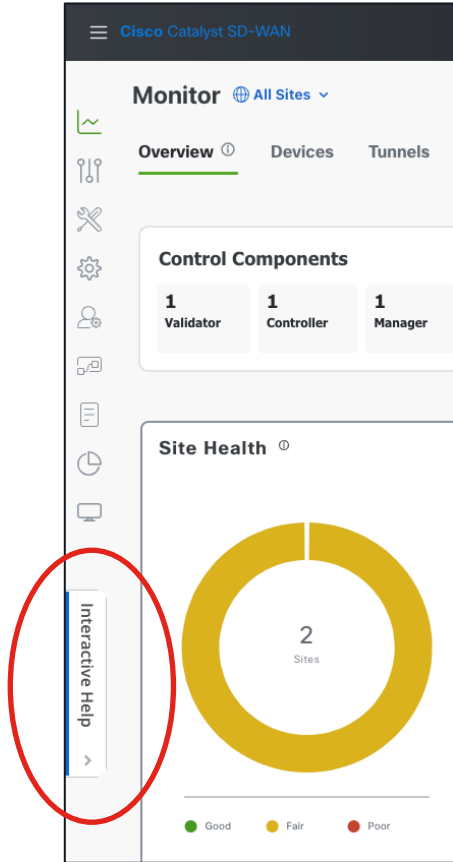
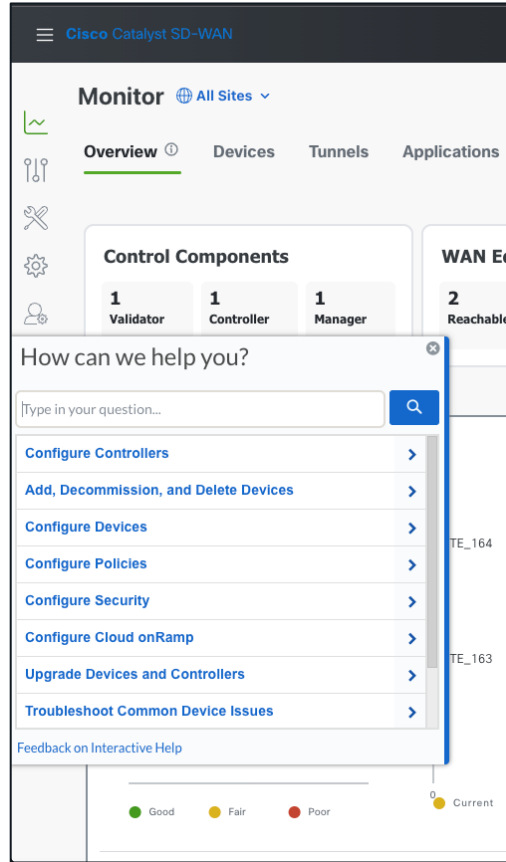
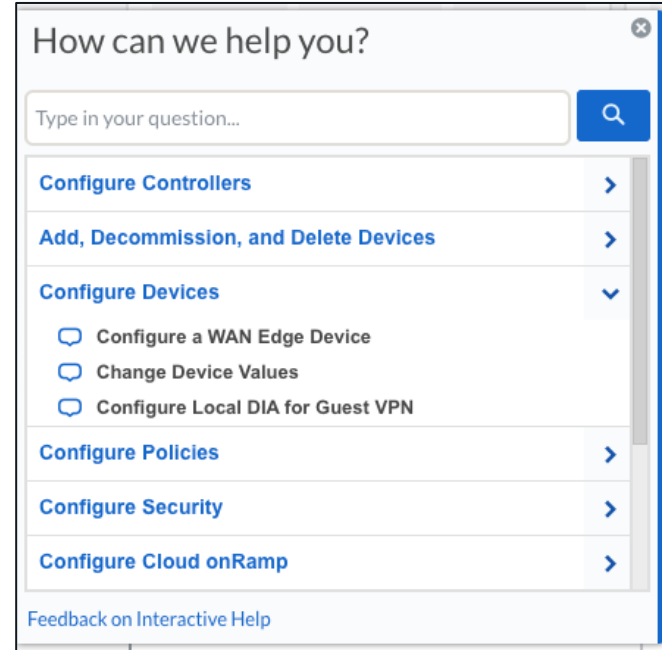
The **Sites Health** pane displays the overall health across all sites which is measured based on the average QoE across all sites. The sites health depends on the device health, tunnels health and the application health. The pane also displays bandwidth usage information for each site. You can also filter the sites health pane view based on the health status using the drop-down list for **Good Performing Sites**, **Fair Performing Sites**, and **Poor Performing Sites**.

Click **View Details**, to open the site table view window.

Tunnel Health

The **Tunnel Health** pane lists the following information about all

Interactive Help





Demo

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Summary / Conclusion

Comparison

Old (UX 1.0)

Less-intuitive workflows

Templates sprawl can be high

Slower more manual configuration

Configuration modify and deploy bind

Poor Visibility into Applications/Sites

Lack of Troubleshooting guidance



New (UX 2.0)

Intuitive and Guided workflows

Reduced Configuration sprawl
(model agnostic, re-use, structure)

Quicker and easier with smart defaults

Modify now, deploy selectively later

New dashboards, Applications/Sites
performance monitor

Site and Global Topology,
Troubleshooting tools guidance

Adoption

Existing Customers



Continue using templates (UX1.0) for current and new features



Assess UX 2.0 and plan migration

New Customers



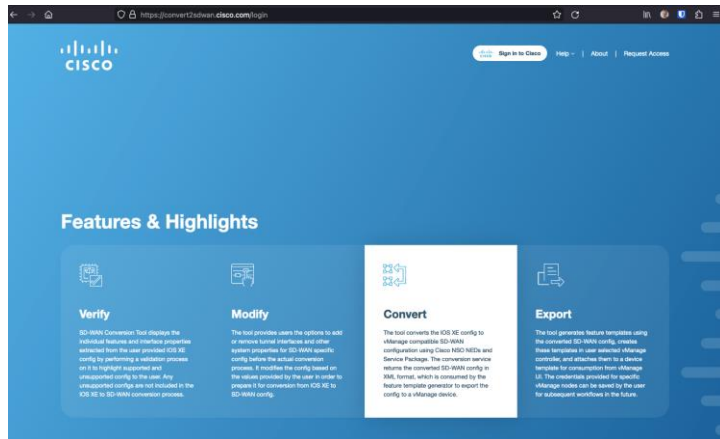
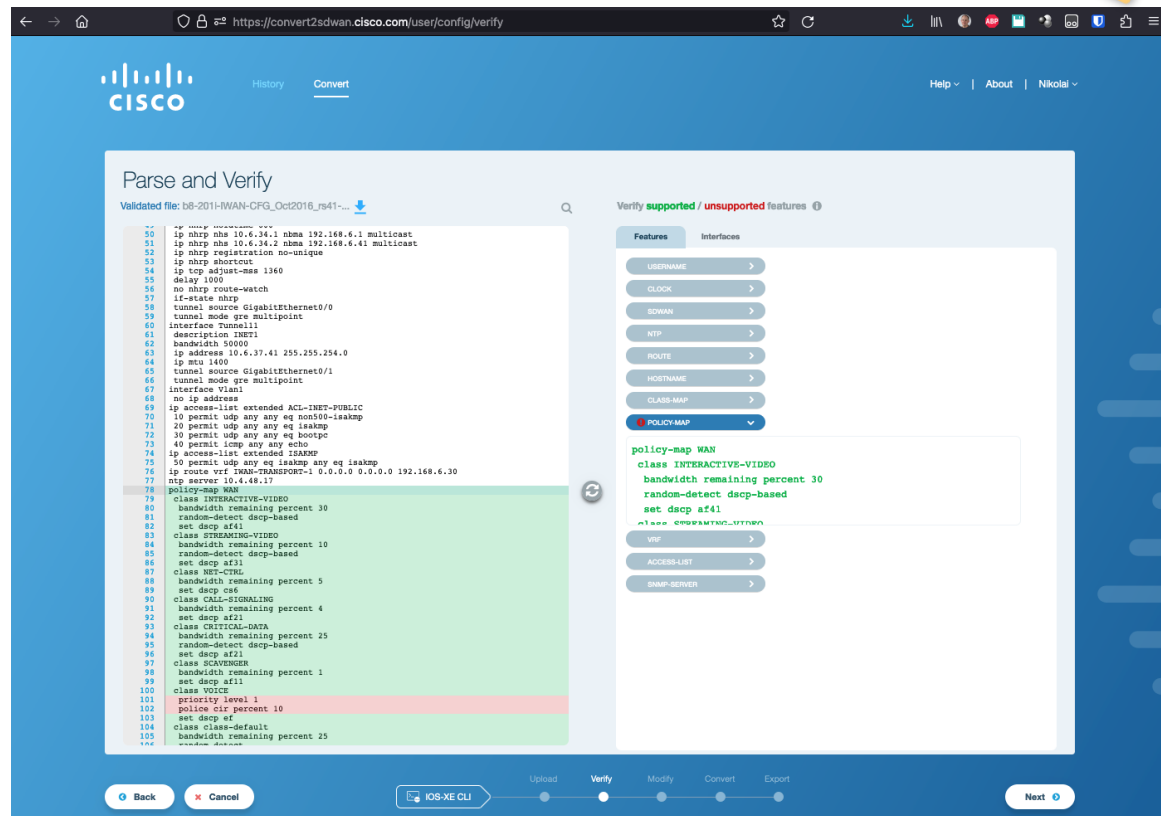
Proof of Concept with UX 2.0



Deploy with UX 2.0

Conversion tool

Upcoming



* Images for reference only. Actual tool UI may vary.

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Closing comments

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The bridge to possible

Thank you

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The background is a vibrant, abstract graphic. It features a central bright white light source from which numerous colorful rays emanate, creating a sunburst or starburst effect. The rays transition through a spectrum of colors: yellow, orange, red, and then various shades of blue and green. Overlaid on this are large, soft, wavy shapes in similar colors, giving the overall impression of a dynamic, energetic, and celebratory atmosphere.

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Let's go

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