

CISCO *Live!*



#CiscoLive



The bridge to possible

# Give Your NOC a Second Pair of (Thousand)Eyes

Nazar El-Murad  
Consulting Engineer  
BRKAPP-1005



#CiscoLive

# Cisco Webex App

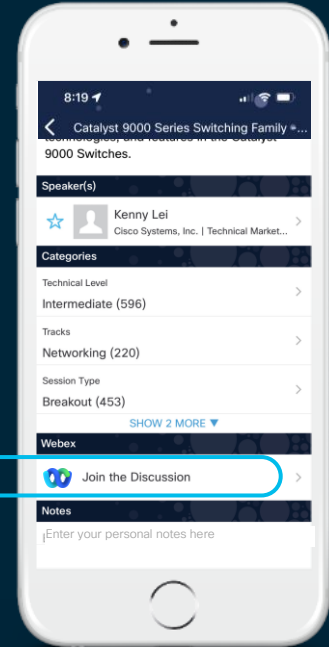
## Questions?

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 June 17, 2022.



<https://ciscolive.ciscoevents.com/ciscolivebot/#BRKAPP-1005>



# Agenda

- What is ThousandEyes?
- Do I Need a Dashboard?
- Prior to the start
- Do's and Don'ts
- How Our Customers Do It
- Takeaways

# What is ThousandEyes?

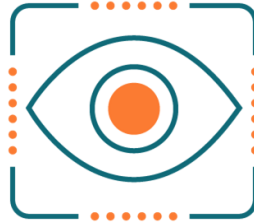


# ThousandEyes – Delivering Network Intelligence

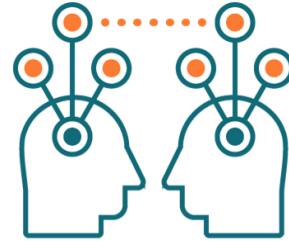
At ThousandEyes – We allow you to visualize any network as if it was your own, quickly surface actionable insights, and collaborate and solve problems with your partners.



NETWORK DATA



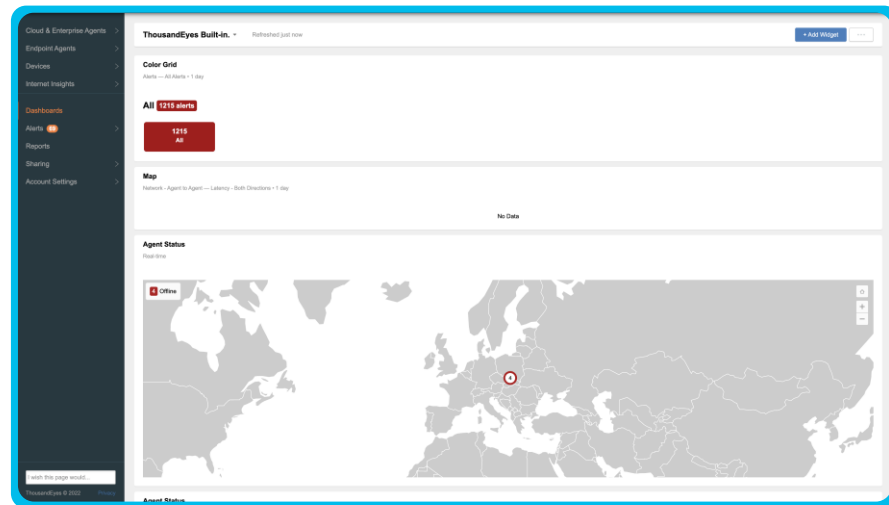
VISUAL ANALYSIS



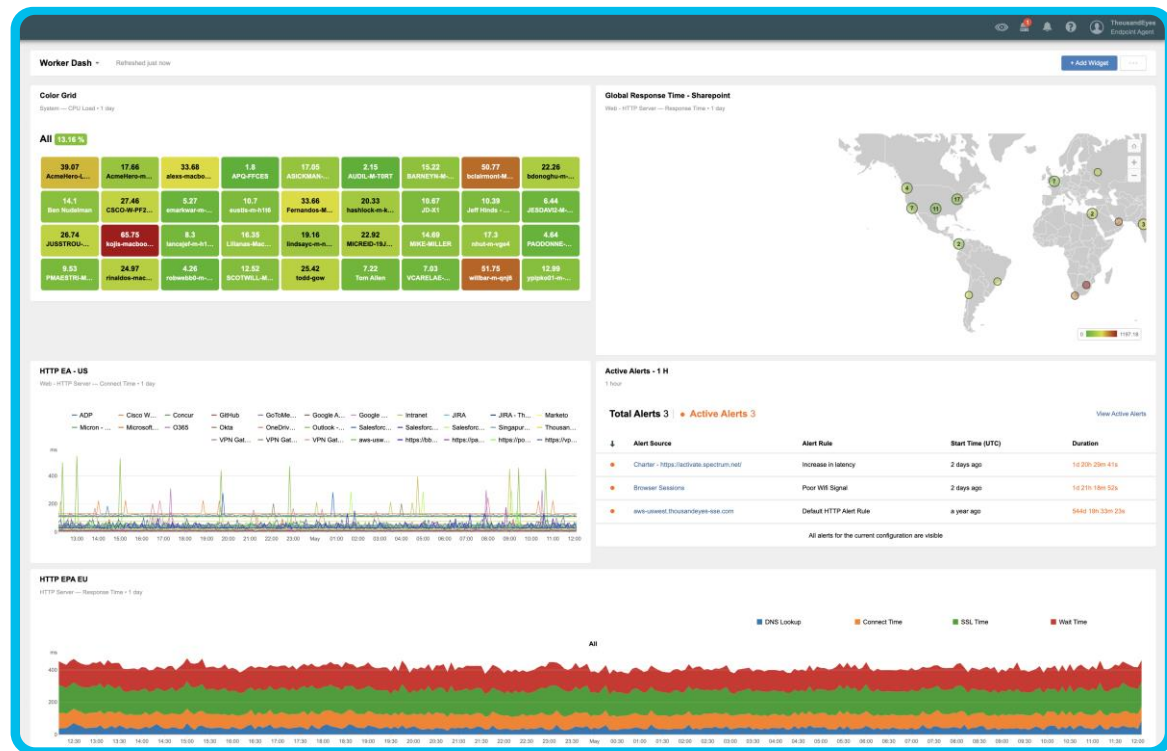
SHARED KNOWLEDGE

# Do I Need a Dashboard?

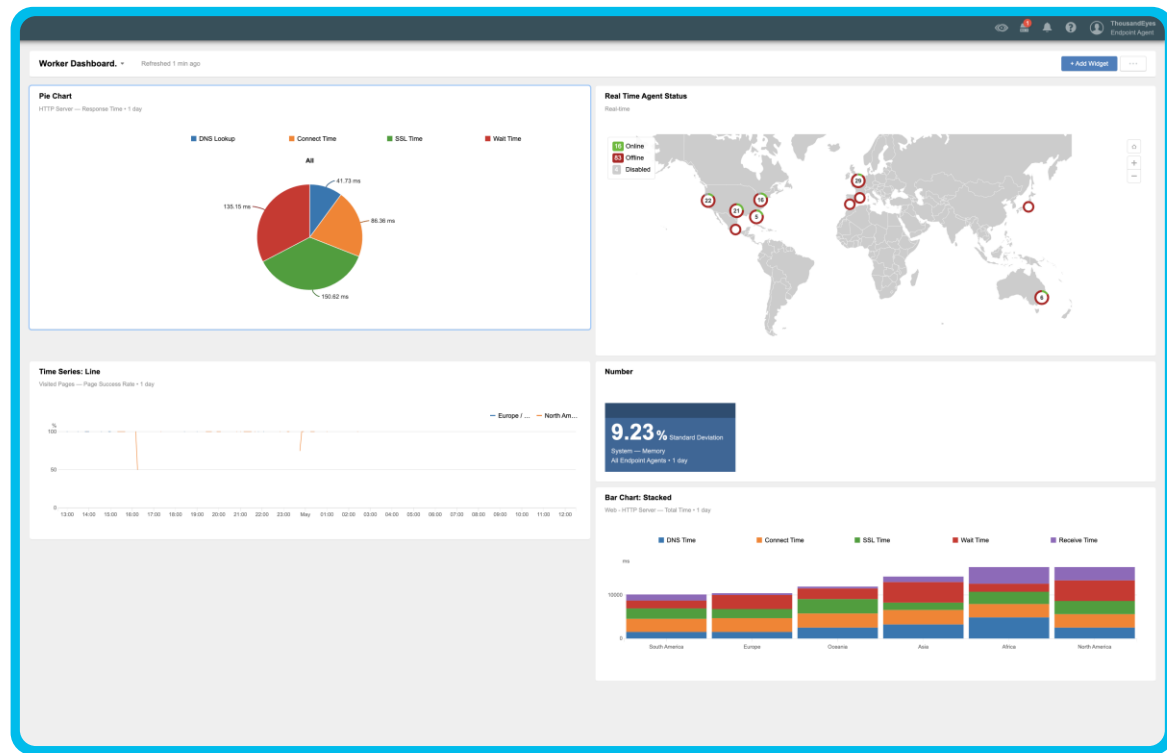
**YES!**







# The Dream



# The Reality

“Data is like  
garbage. You’d  
better know what  
you are going to do  
with it before you  
collect it.”

Mark Twain



Prior to the start

# Before You Start

+ or – dashboards  
as needed

Start slow

Know your audience

Evaluate the Dashboard's purpose

## Leverage Labels

Group your tests and Vantage points using Labels

Tests **Test Labels** Credentials Repository

Search label by name 11 labels [Add New Label](#)

Label Name	Tests
APACJ Cloud	10 ...
conferencing	2 ...
DC	1 ...
EU	3 ...
EU Prod	2 ...
Peer-to-peer US	1 ...
TE pages	3 ...
US	3 ...
US Canary	1 ...
Voice services	1 ...
Webex	2 ...

Cloud and Enterprise Agents Endpoint Agents BGP Routing Devices Internet Insights

Search 4 Rules [Add New Alert Rule](#)

Name	Type	Conditions	Apply to	Default
DNS - normal - Critical	DNS Server	Error is present	2 tests	<input type="checkbox"/>
DNS - normal - Info	DNS Server	Resolution Time > 8 ms	2 tests	<input type="checkbox"/>
DNS - normal - Major	DNS Server	Resolution Time > 11 ms	2 tests	<input type="checkbox"/>
DNS - normal - Minor	DNS Server	Resolution Time > 9 ms	2 tests	<input type="checkbox"/>

## Configuring user access

Set how and who should access and edit Dashboards and Reports

## Naming convention

Use descriptive names for your alerts

Profile **Roles** Users Account Groups

### Role-based Permission Control

You can define permission sets of different roles in your organization.

Show: All Permissions (3) Search dash [+ New Role](#)

	Organization Admin	Account Admin	Regular User
Edit dashboard templates for all users in account group	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Edit own dashboard templates	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Set dashboard template as account group default	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

# Different Perspectives Lead To The Best Ideas

Operational Dashboards	Real time or close to real time, snapshot of the performance
Analytical Dashboards	Data from the past to identify trends. that can influence future decision-making
Strategic Dashboards	Track performance in relation to your key performance indicators

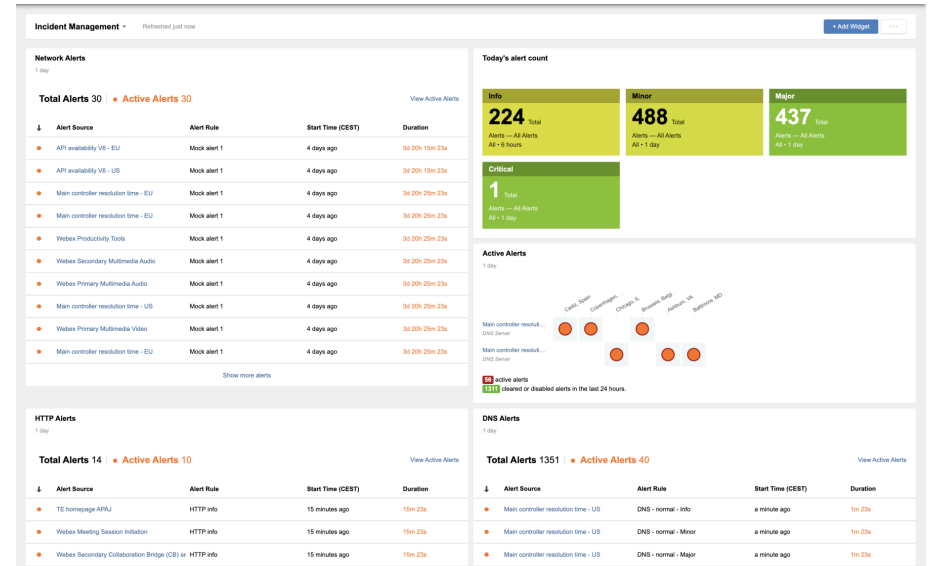
# Operational Dashboards





# Summarize your Alerts

- Decreases the MTTD
- More visibility into incidents per layer



Network Alerts

1 day

Total Alerts 30 | Active Alerts 30

[View Active Alerts](#)

↓	Alert Source	Alert Rule	Start Time (CEST)	Duration
●	API availability V6 - EU	Mock alert 1	4 days ago	3d 20h 15m 23s
●	API availability V6 - US	Mock alert 1	4 days ago	3d 20h 15m 23s
●	Main controller resolution time - EU	Mock alert 1	4 days ago	3d 20h 25m 23s
●	Main controller resolution time - EU	Mock alert 1	4 days ago	3d 20h 25m 23s
●	Webex Productivity Tools	Mock alert 1	4 days ago	3d 20h 25m 23s
●	Webex Secondary Multimedia Audio	Mock alert 1	4 days ago	3d 20h 25m 23s
●	Webex Primary Multimedia Audio	Mock alert 1	4 days ago	3d 20h 25m 23s
●	Main controller resolution time - US	Mock alert 1	4 days ago	3d 20h 25m 23s
●	Webex Primary Multimedia Video	Mock alert 1	4 days ago	3d 20h 25m 23s
●	Main controller resolution time - EU	Mock alert 1	4 days ago	3d 20h 25m 23s

[Show more alerts](#)

HTTP Alerts

1 day

Total Alerts 14 | Active Alerts 10

[View Active Alerts](#)

↓	Alert Source	Alert Rule	Start Time (CEST)	Duration
●	TE homepage APAJ	HTTP info	15 minutes ago	15m 23s
●	Webex Meeting Session Initiation	HTTP info	15 minutes ago	15m 23s
●	Webex Secondary Collaboration Bridge (CB) se	HTTP info	15 minutes ago	15m 23s

Today's alert count

Info

224

Total  
Alerts — All Alerts  
All • 6 hours

Minor

488

Total  
Alerts — All Alerts  
All • 1 day

Major

437

Total  
Alerts — All Alerts  
All • 1 day

Critical

1

Total  
Alerts — All Alerts  
All • 1 day

Active Alerts

1 day



56 active alerts

1311 cleared or disabled alerts in the last 24 hours.

DNS Alerts

1 day

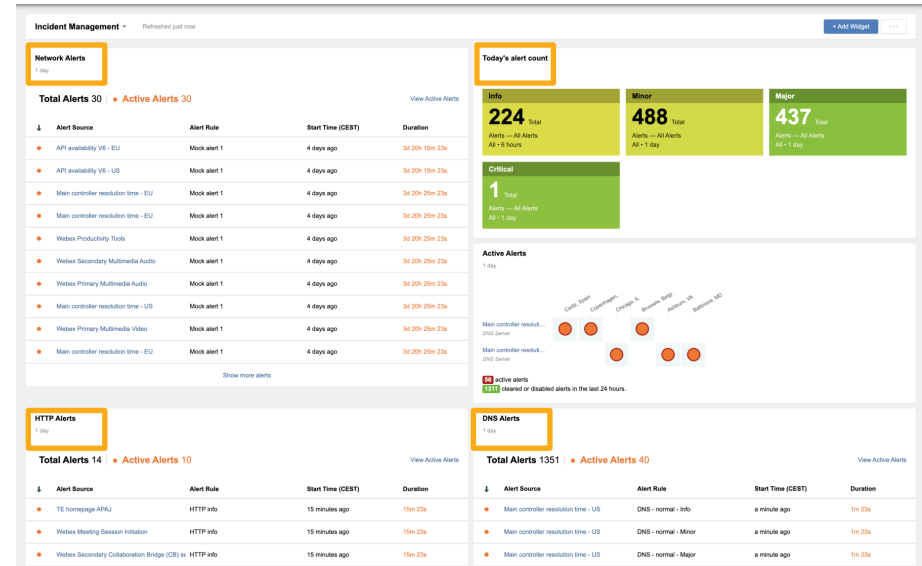
Total Alerts 1351 | Active Alerts 40

[View Active Alerts](#)

↓	Alert Source	Alert Rule	Start Time (CEST)	Duration
●	Main controller resolution time - US	DNS - normal - Info	a minute ago	1m 23s
●	Main controller resolution time - US	DNS - normal - Minor	a minute ago	1m 23s
●	Main controller resolution time - US	DNS - normal - Major	a minute ago	1m 23s

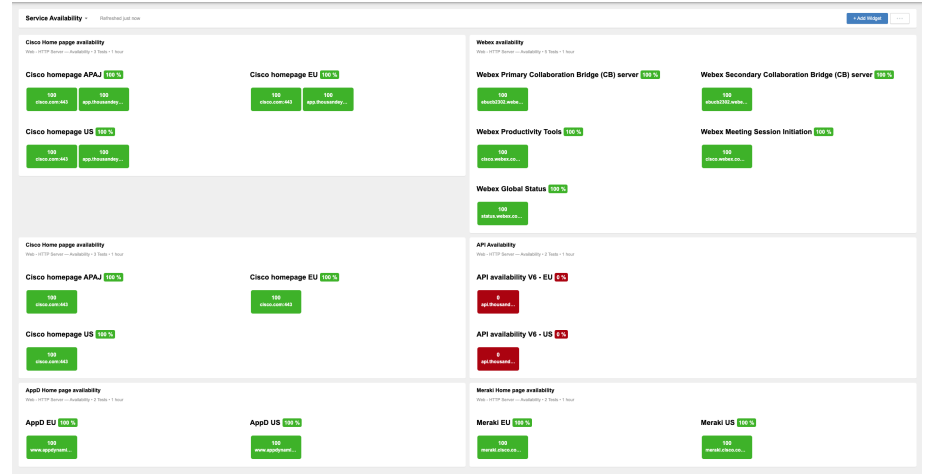
# Summarize your Alerts

- Decreases the MTTD
- More visibility into incidents per layer



# Availability Matters

- Essential SLA
- Most often the resources are Client facing



Cisco Home page availability

Web - HTTP Server — Availability • 3 Tests • 1 hour

Cisco homepage APAJ 100 %



Cisco homepage US 100 %



Cisco homepage EU 100 %



Cisco Home page availability

Web - HTTP Server — Availability • 3 Tests • 1 hour

Cisco homepage APAJ 100 %



Cisco homepage US 100 %



Cisco homepage EU 100 %



AppD Home page availability

Web - HTTP Server — Availability • 2 Tests • 1 hour

AppD EU 100 %



AppD US 100 %



Webex availability

Web - HTTP Server — Availability • 5 Tests • 1 hour

Webex Primary Collaboration Bridge (CB) server 100 %



Webex Productivity Tools 100 %



Webex Global Status 100 %



Webex Secondary Collaboration Bridge (CB) server 100 %



Webex Meeting Session Initiation 100 %



API Availability

Web - HTTP Server — Availability • 2 Tests • 1 hour

API availability V6 - EU 0 %



API availability V6 - US 0 %



Meraki Home page availability

Web - HTTP Server — Availability • 2 Tests • 1 hour

Meraki EU 100 %

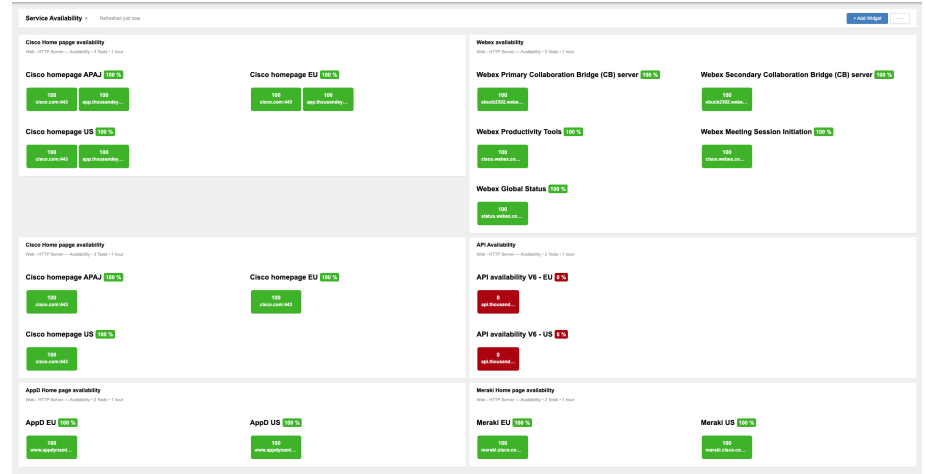


Meraki US 100 %



# Availability Matters

- Essential SLA
- Most often the resources are Client facing

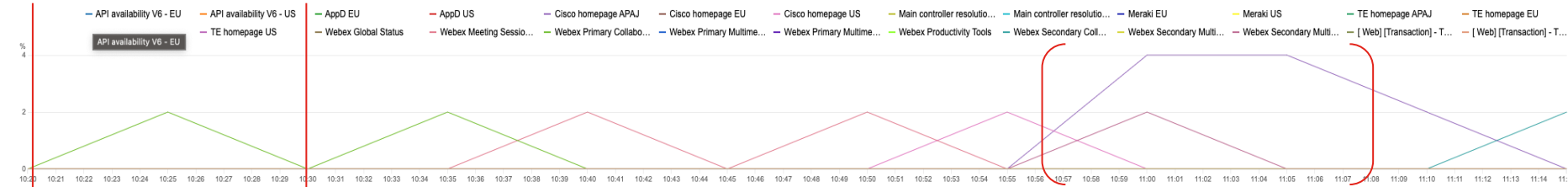


- Easily spot unacceptable degradations
- Spot correlations within a system



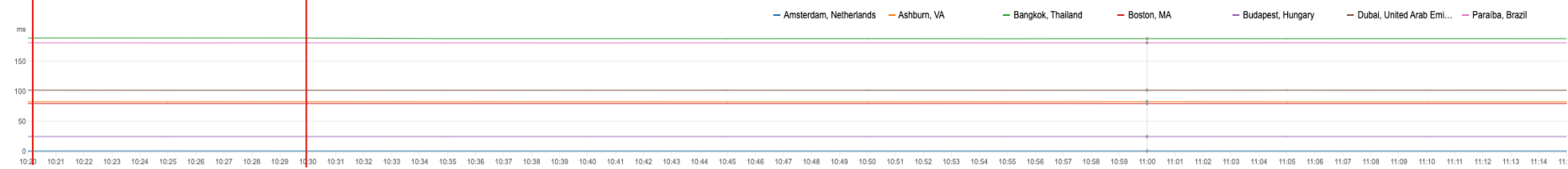
Maximum Network Loss

Network - Agent to Server — Packet Loss • 1 hour



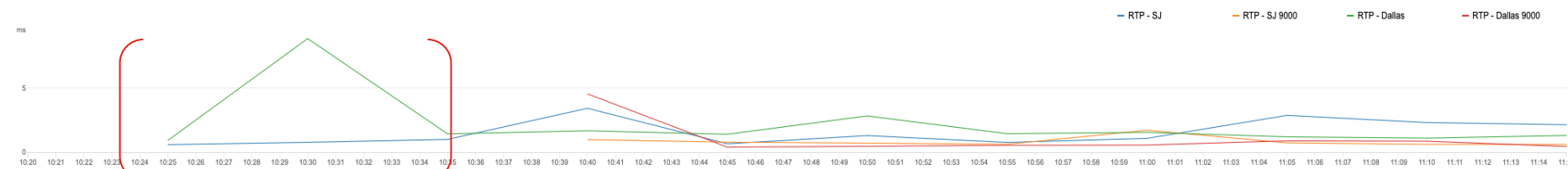
Latency to Webex bridge

Network - Agent to Server — Latency • Webex Primary Collaboration Bridge (CB) server • 1 hour



RTP packet delay (PDV)

Voice - RTP Stream — PDV • 1 hour

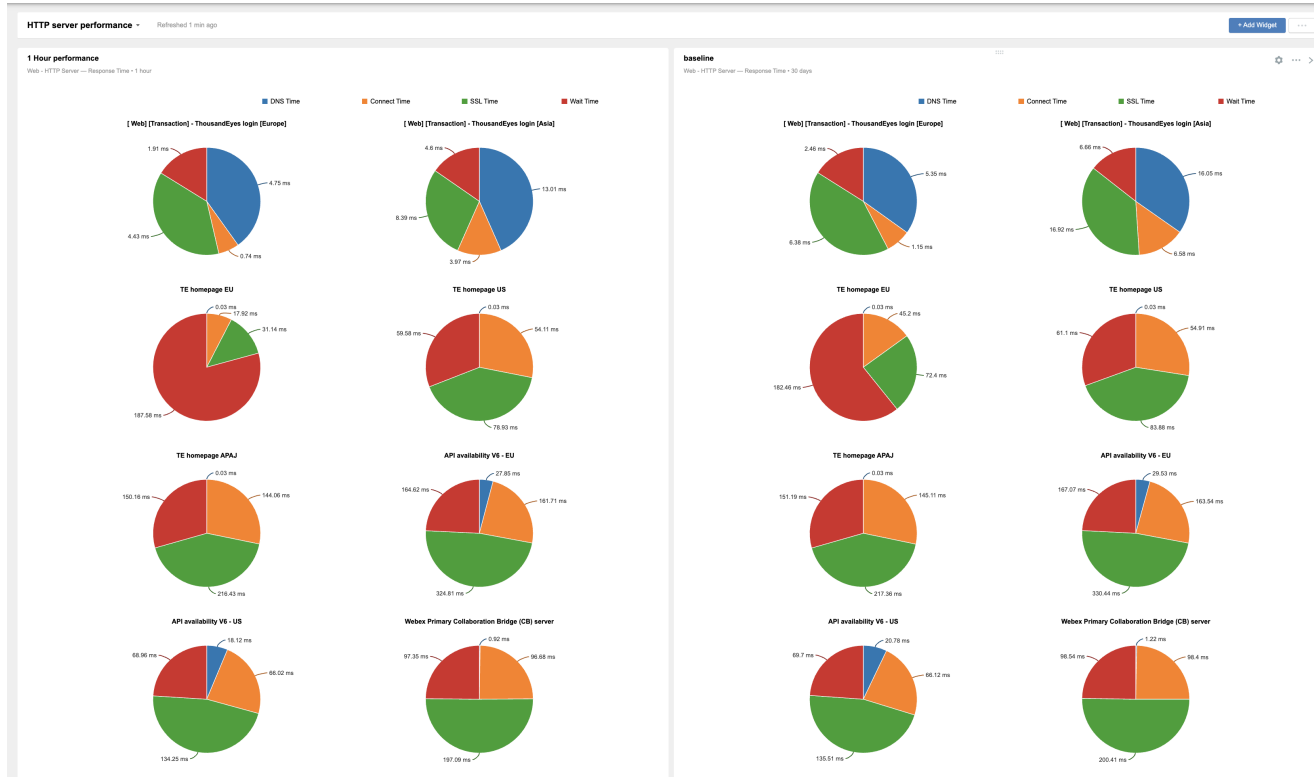




- Easily spot unacceptable degradations
- Spot correlations within a system

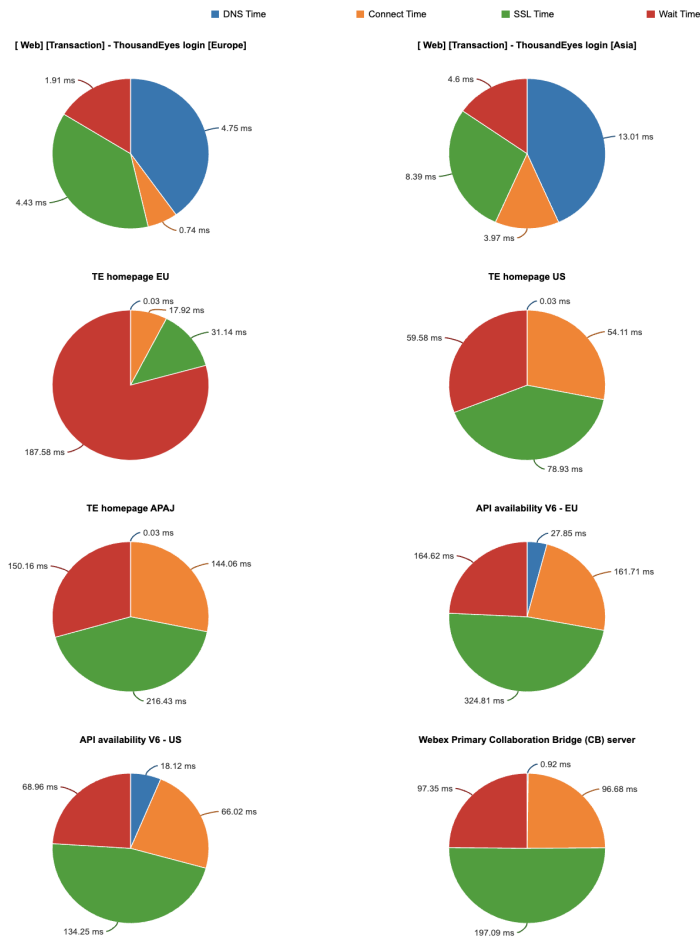


# Set a Baseline



## 1 Hour performance

Web - HTTP Server — Response Time • 1 hour



## baseline

Web - HTTP Server — Response Time • 30 days

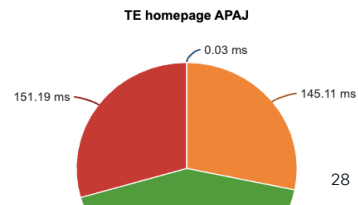
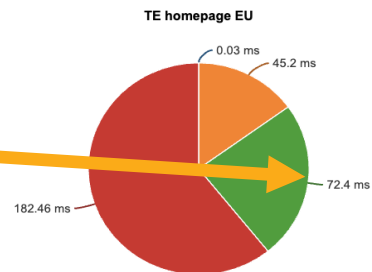
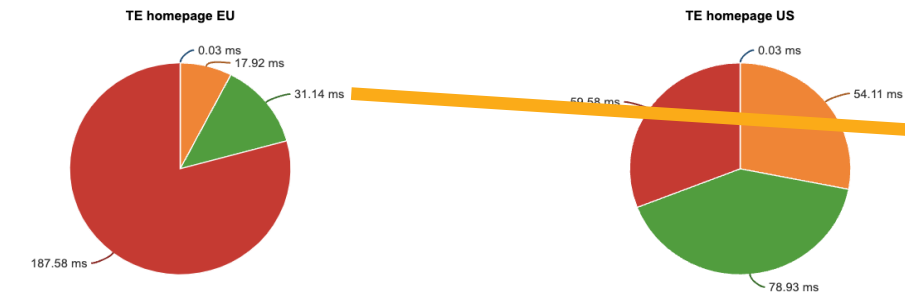
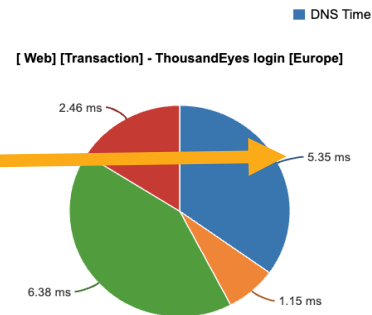
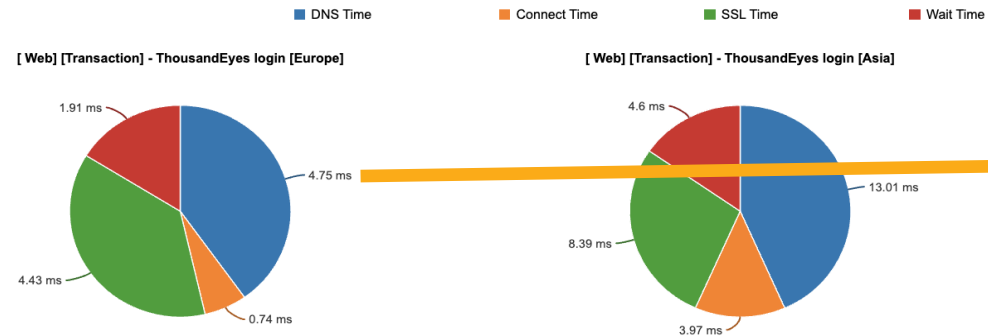


## performance

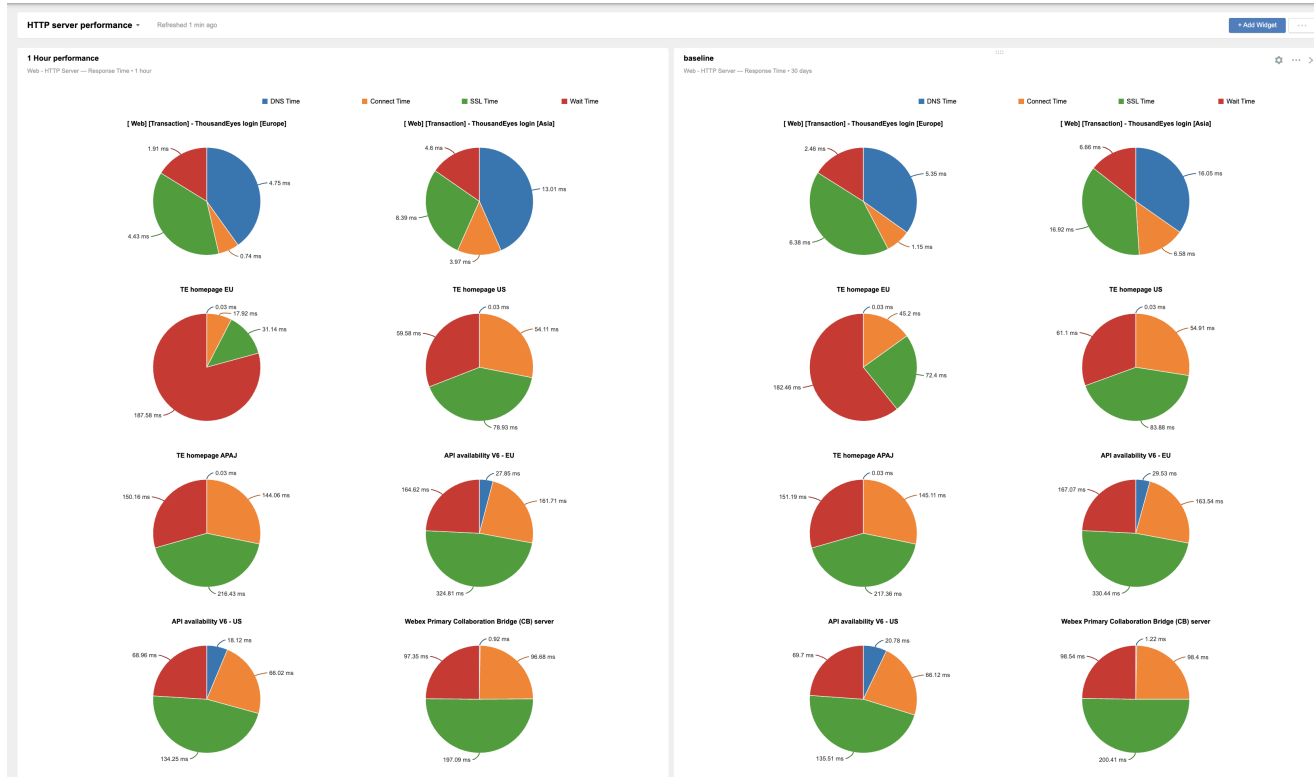
Server — Response Time • 1 hour

## baseline

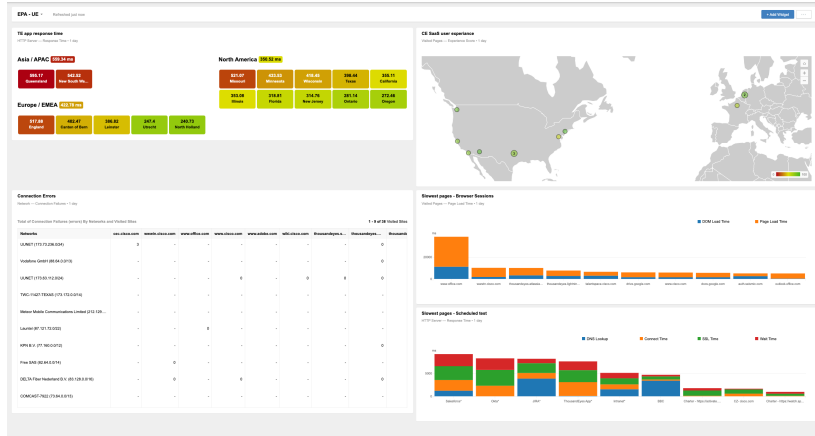
Web - HTTP Server — Response Time • 30 days



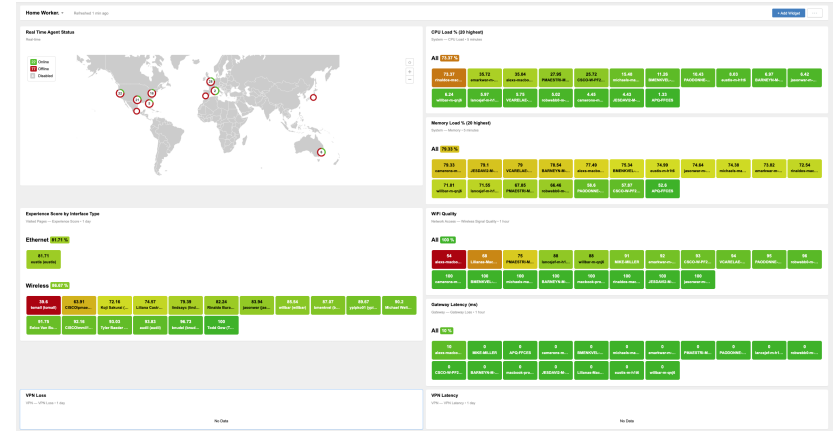
# Set a Baseline



# End User Monitoring



SaaS Monitoring



Agent Performance Monitoring

TE app response time

HTTP Server — Response Time • 1 day

Asia / APAC 559.34 ms



Europe / EMEA 422.78 ms



North America 350.52 ms



Connection Errors

Network — Connection Failures • 1 day

Total of Connection Failures (errors) By Networks and Visited Sites

1 - 9 of 38 Visited Sites

Networks	cec.cisco.com	www.in.cisco.com	www.office.com	www.cisco.com	www.adobe.com	wiki.cisco.com	thousandeyes.a...	thousandeyes....	thousand...
UUNET (173.73.236.0/24)	3	-	-	-	-	-	-	-	0
Vodafone GmbH (88.64.0.0/13)	-	-	-	-	-	-	-	-	0
UUNET (173.63.112.0/24)	-	-	-	0	-	0	0	-	0
TWC-11427-TEXAS (173.172.0.0/14)	-	-	-	-	-	-	-	-	-
Meteor Mobile Communications Limited (212.129....	-	-	-	-	-	-	-	-	-
Launtel (87.121.72.0/22)	-	-	0	-	-	-	-	-	-
KPN B.V. (77.160.0.0/12)	-	-	-	-	-	-	-	-	0
Free SAS (82.64.0.0/14)	-	0	-	-	-	-	-	-	-
DELTA Fiber Nederland B.V. (83.128.0.0/16)	-	0	-	0	-	-	-	-	0
COMCAST-7922 (73.64.0.0/13)	-	-	-	-	-	-	-	-	-

CE SaaS user experience

Visited Pages — Experience Score • 1 day



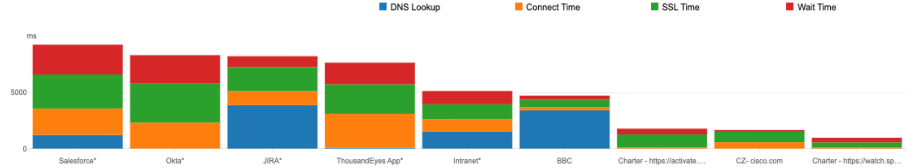
Slowest pages - Browser Sessions

Visited Pages — Page Load Time • 1 day

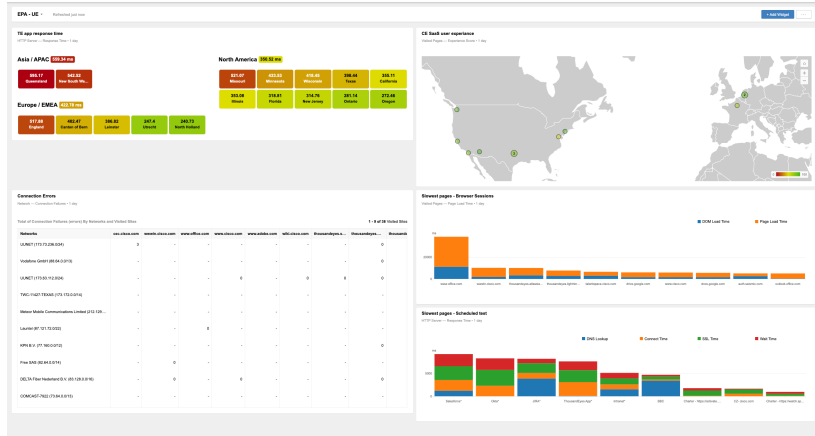


Slowest pages - Scheduled test

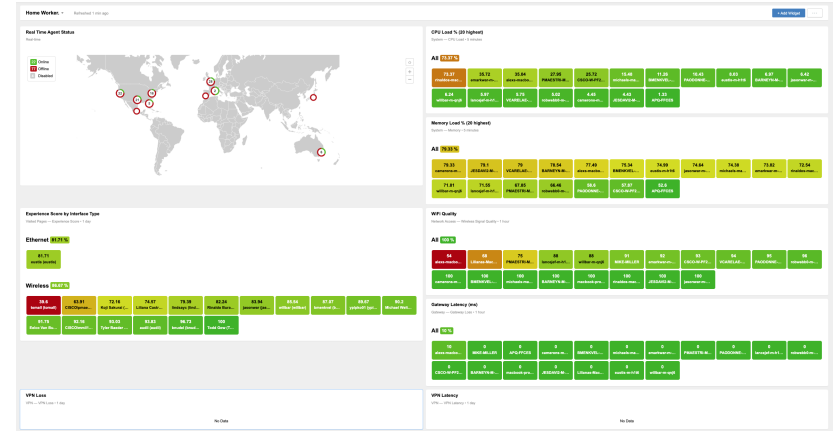
HTTP Server — Response Time • 1 day



# End User Monitoring



SaaS Monitoring



Agent Performance Monitoring



### Real Time Agent Status



### Experience Score by Interface Type

Visited Pages — Experience Score • 1 day

#### Ethernet 81.71 %



#### Wireless 86.67 %



### VPN Loss

VPN — VPN Loss • 1 day

No Data

### CPU Load % (20 highest)

System — CPU Load • 5 minutes

#### All 73.37 %



### Memory Load % (20 highest)

System — Memory • 5 minutes

#### All 79.33 %



### WiFi Quality

Network Access — Wireless Signal Quality • 1 hour

#### All 100 %



### Gateway Latency (ms)

Gateway — Gateway Loss • 1 hour

#### All 10 %



### VPN Latency

VPN — VPN Latency • 1 day

No Data

54 willbar)	87.07 bmenkvel (b...	89.67 ypipko01 (ypi...	90.2 Michael Welt...
----------------	-------------------------	---------------------------	-------------------------

71.81 willbar-m-qnj6	71.55 lancejef-m-h1...	67.85 PMAESTRI-M...	66.46 robwebb0-m-...	58.6 PAODONNE-...	57.87 CSCO-W-P
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## WiFi Quality

Network Access — Wireless Signal Quality • 1 hour

All 100 %

54 alexs-macbo...	68 Lillianas-Mac...	75 PMAESTRI-M...	88 lancejef-m-h1...	88 willbar-m-qnj6	91 MIKE-MIL
100 camerons-m...	100 BMENKVEL-...	100 michaels-ma...	100 BARNEYN-M-...	100 macbook-pro...	100 rinaldos-m

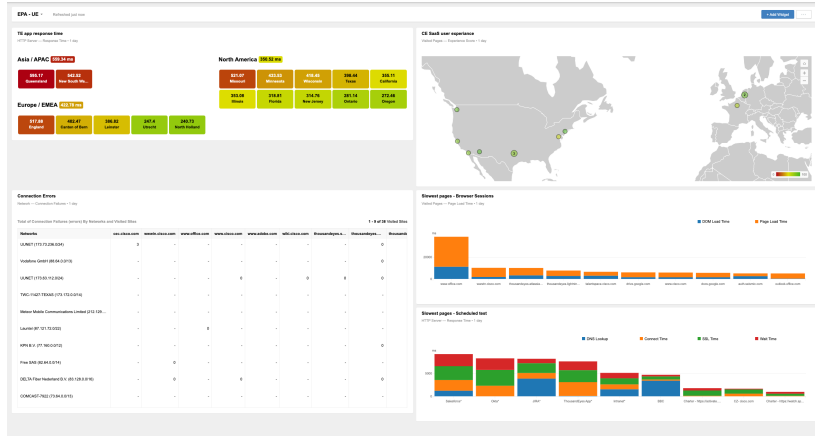
## Gateway Latency (ms)

Gateway — Gateway Loss • 1 hour

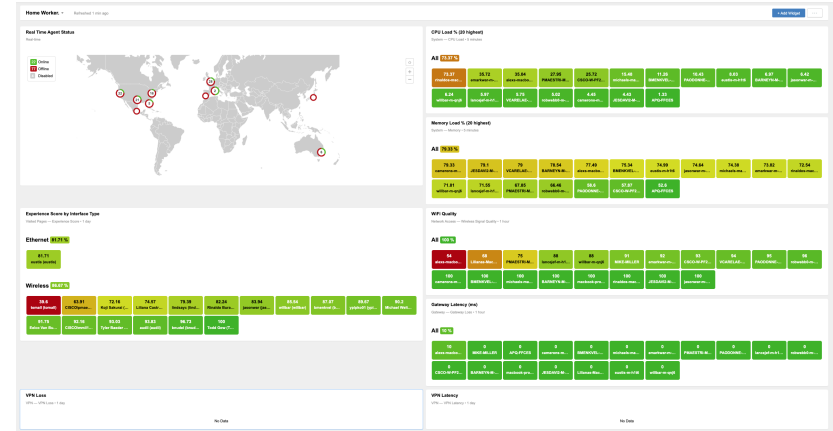
All 10 %

10	0	0	0	0	0
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# End User Monitoring



SaaS Monitoring



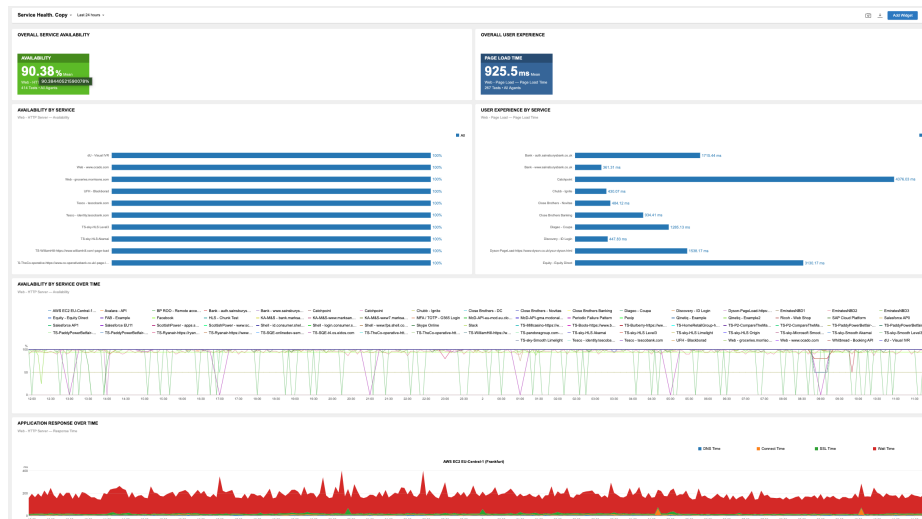
Agent Performance Monitoring

# Analytical Dashboards

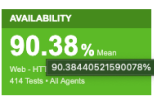


# Reports

- As powerful as dashboards
- Additional tools for analysis:
  - Snapshots
  - Scheduled snapshots
  - Offline reports (PDF and CSV formats)
- Time range selector
- Automated report delivery



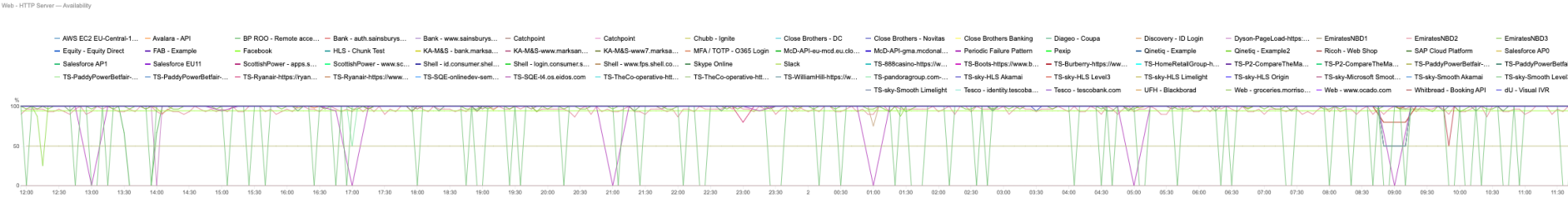
OVERALL SERVICE AVAILABILITY



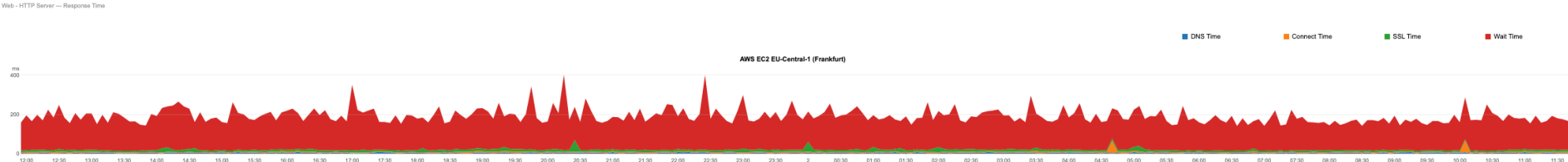
AVAILABILITY BY SERVICE



AVAILABILITY BY SERVICE OVER TIME



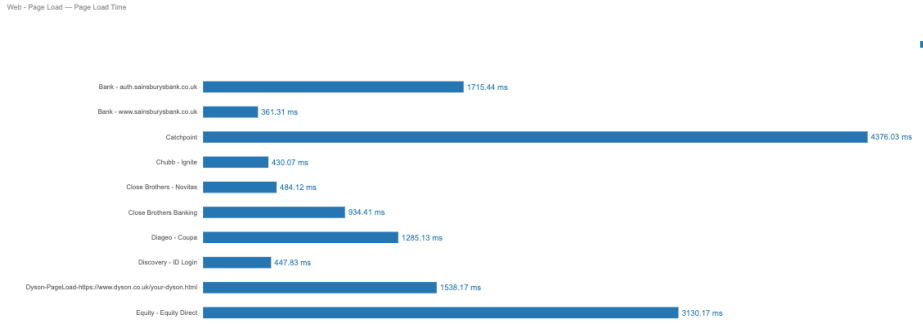
APPLICATION RESPONSE OVER TIME



OVERALL USER EXPERIENCE

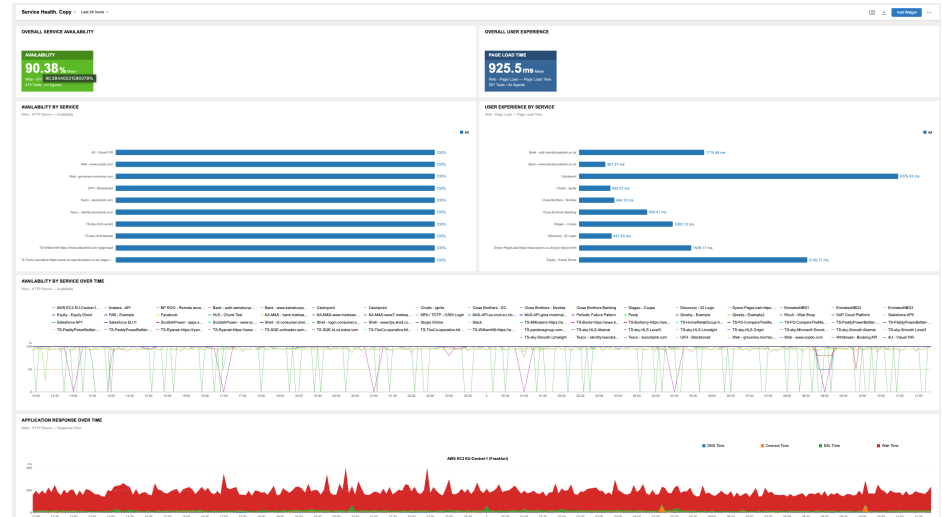


USER EXPERIENCE BY SERVICE



# Reports

- As powerful as dashboards
- Additional tools for analysis:
  - Snapshots
  - Scheduled snapshots
  - Offline reports (PDF and CSV formats)
- Time range selector
- Automated report delivery



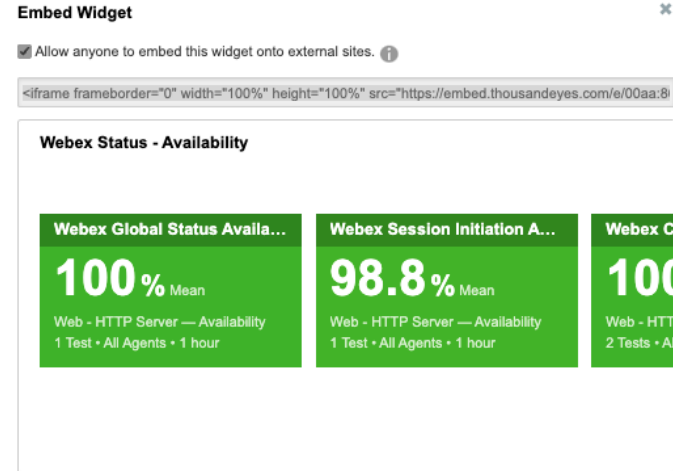
# Strategic Dashboards





# Metrics that are important to the whole organization

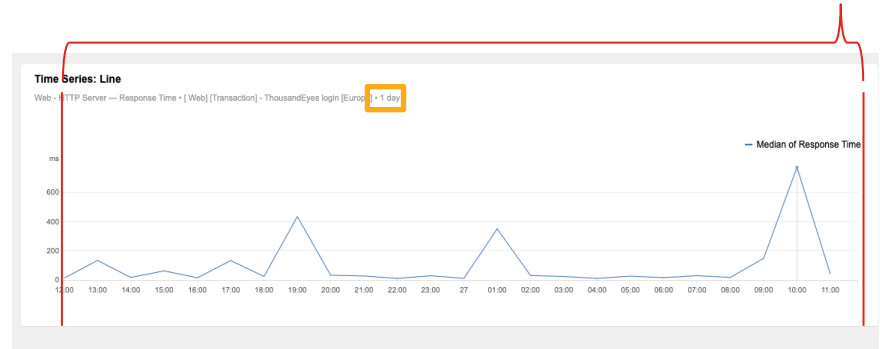
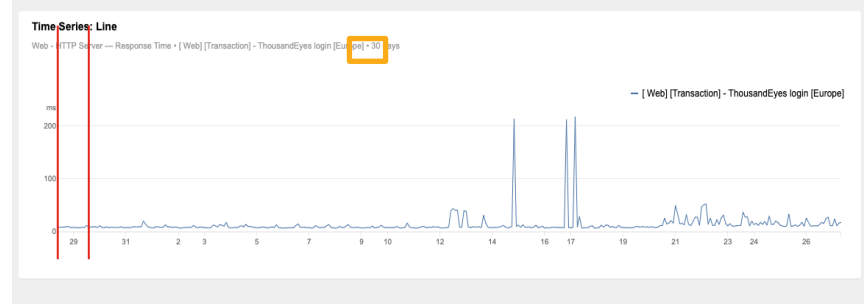
- Can be shared with upper management or staff that have no access to ThousandEyes
- Individuals know how to kick-off performance of key metrics



# Do's and Don'ts

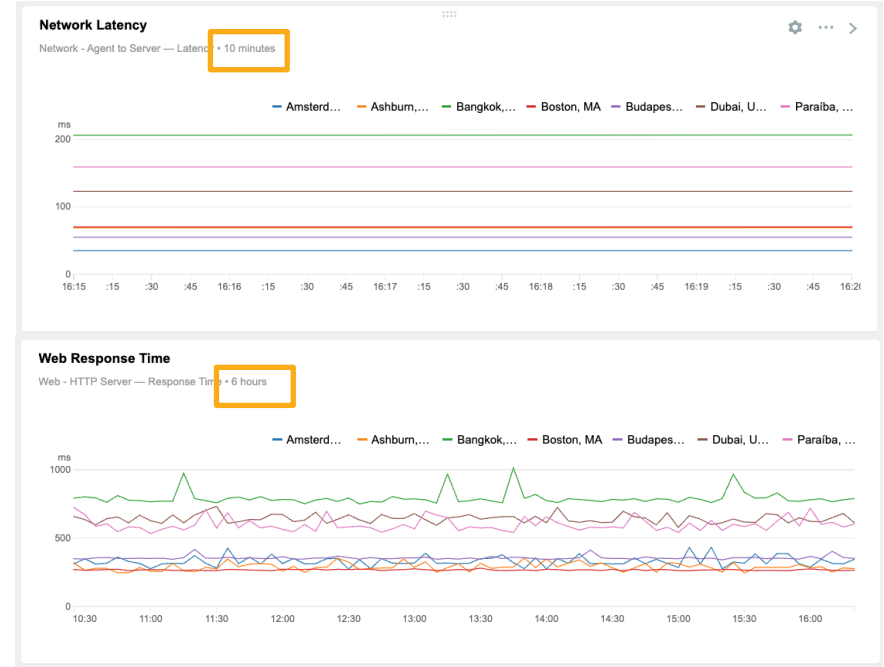
# Time Spans

- Longer ranges smooth the data which might hide some issues



# Time Spans

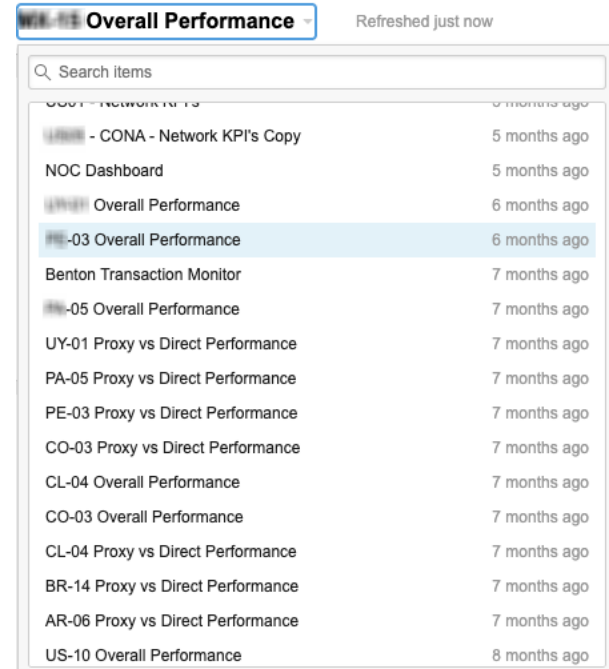
- Use a consistent timespan across all the widgets in a dashboard



# How Our Customers Do It

# Dashboard's Purpose

- 2 main purposes
  - Proxy performance comparison
  - Performance overview
- Multiple dashboards with easy-to-read information



# Structural Approach

General overview



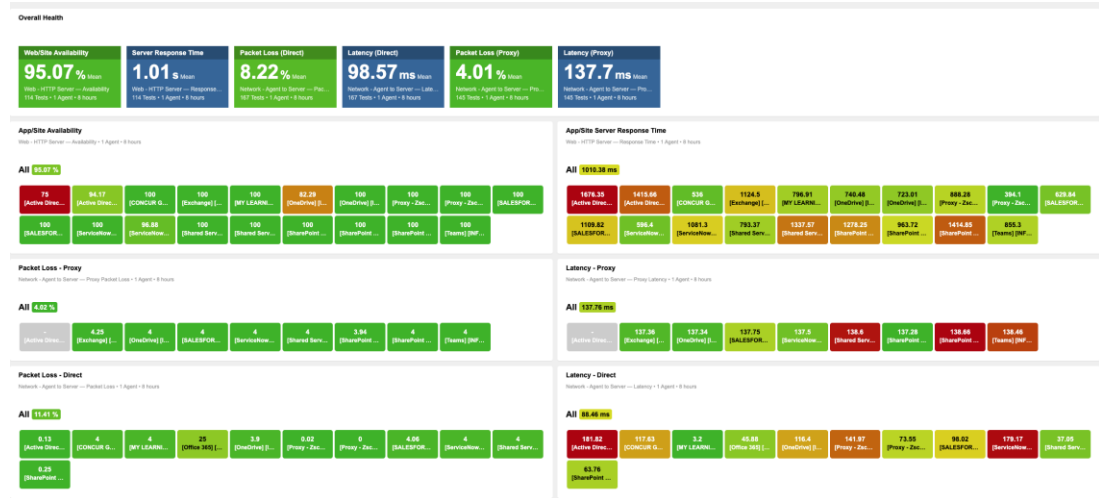
Easy to understand  
color scaling



8h interval on all  
widgets



Baseline comparison



# For Smaller Accounts

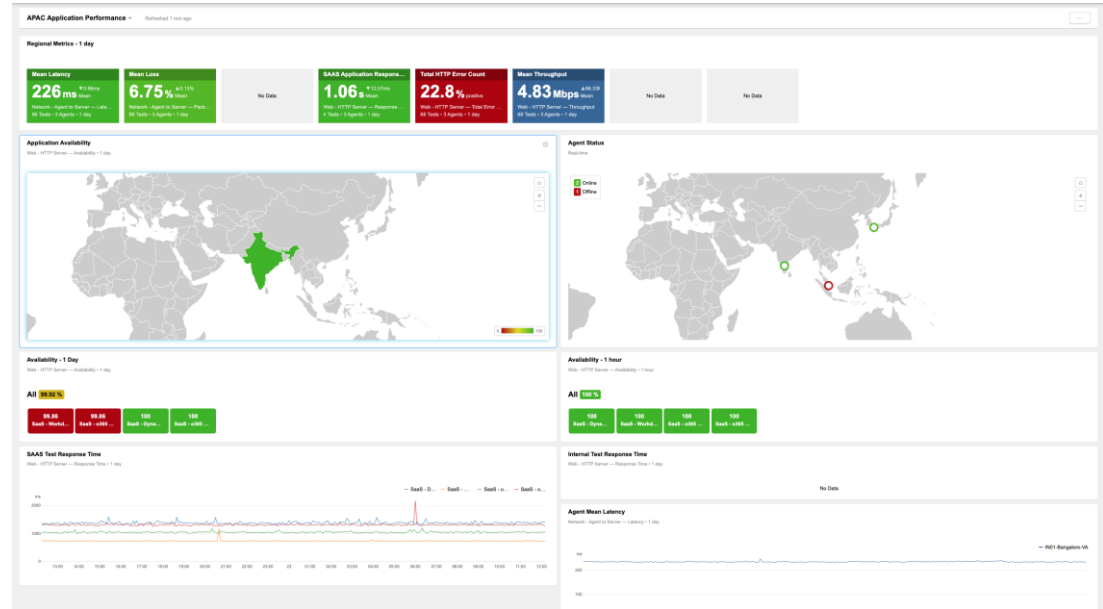
Aggregation by Region



Mixed approach



Hard to read information





# Takeaways

1. Time savings. Access your data easily
2. Faster response and troubleshooting time
3. Improved performance analysis





The bridge to possible

# Thank you

# Technical Session Surveys

- Attendees who fill out a minimum of four session surveys and the overall event survey will get Cisco Live branded socks!
- Attendees will also earn 100 points in the Cisco Live Game for every survey completed.
- These points help you get on the leaderboard and increase your chances of winning daily and grand prizes.



# Cisco Learning and Certifications

From technology training and team development to Cisco certifications and learning plans, let us help you empower your business and career. [www.cisco.com/go/certs](https://www.cisco.com/go/certs)

## Pay for Learning with Cisco Learning Credits

(CLCs) are prepaid training vouchers redeemed directly with Cisco.



## Learn

### Cisco U.

IT learning hub that guides teams and learners toward their goals

### Cisco Digital Learning

Subscription-based product, technology, and certification training

### Cisco Modeling Labs

Network simulation platform for design, testing, and troubleshooting

### Cisco Learning Network

Resource community portal for certifications and learning



## Train

### Cisco Training Bootcamps

Intensive team & individual automation and technology training programs

### Cisco Learning Partner Program

Authorized training partners supporting Cisco technology and career certifications

### Cisco Instructor-led and Virtual Instructor-led training

Accelerated curriculum of product, technology, and certification courses



## Certify

### Cisco Certifications and Specialist Certifications

Award-winning certification program empowers students and IT Professionals to advance their technical careers

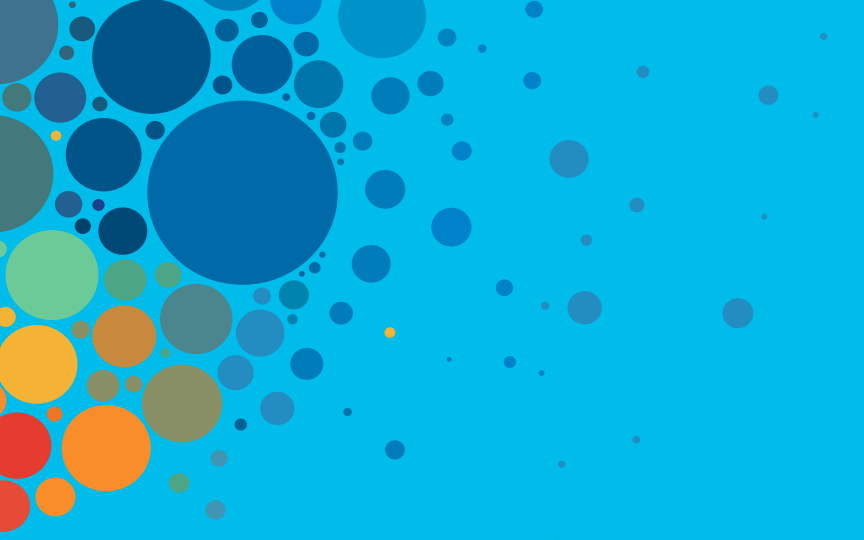
### Cisco Guided Study Groups

180-day certification prep program with learning and support

### Cisco Continuing Education Program

Recertification training options for Cisco certified individuals

Here at the event? Visit us at **The Learning and Certifications lounge at the World of Solutions**



# 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](https://www.CiscoLive.com/on-demand)

CISCO *Live!*



#CiscoLive