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The Art of Designing ThousandEyes Alerts & Dashboards

Dirk Woellhaf, Lead Solutions Architect
ThousandEyes, DACH
BRKAPP-2549

Cisco Webex App

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- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
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Webex spaces will be moderated by the speaker until November 15, 2024.



<https://ciscolive.ciscoevents.com/ciscolivebot/#BRKAPP-2549>



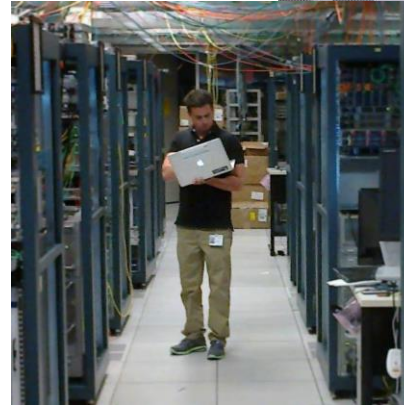


Agenda

- Introduction
- How to work with Alerts
- Art of Dashboard Design
- Conclusion

Introduction – Dirk Woellhaf

- 20+ Years Networking Experience
- Joined ThousandEyes in 2021
- Covering Customers in Germany, Austria and Switzerland



Introduction to ThousandEyes

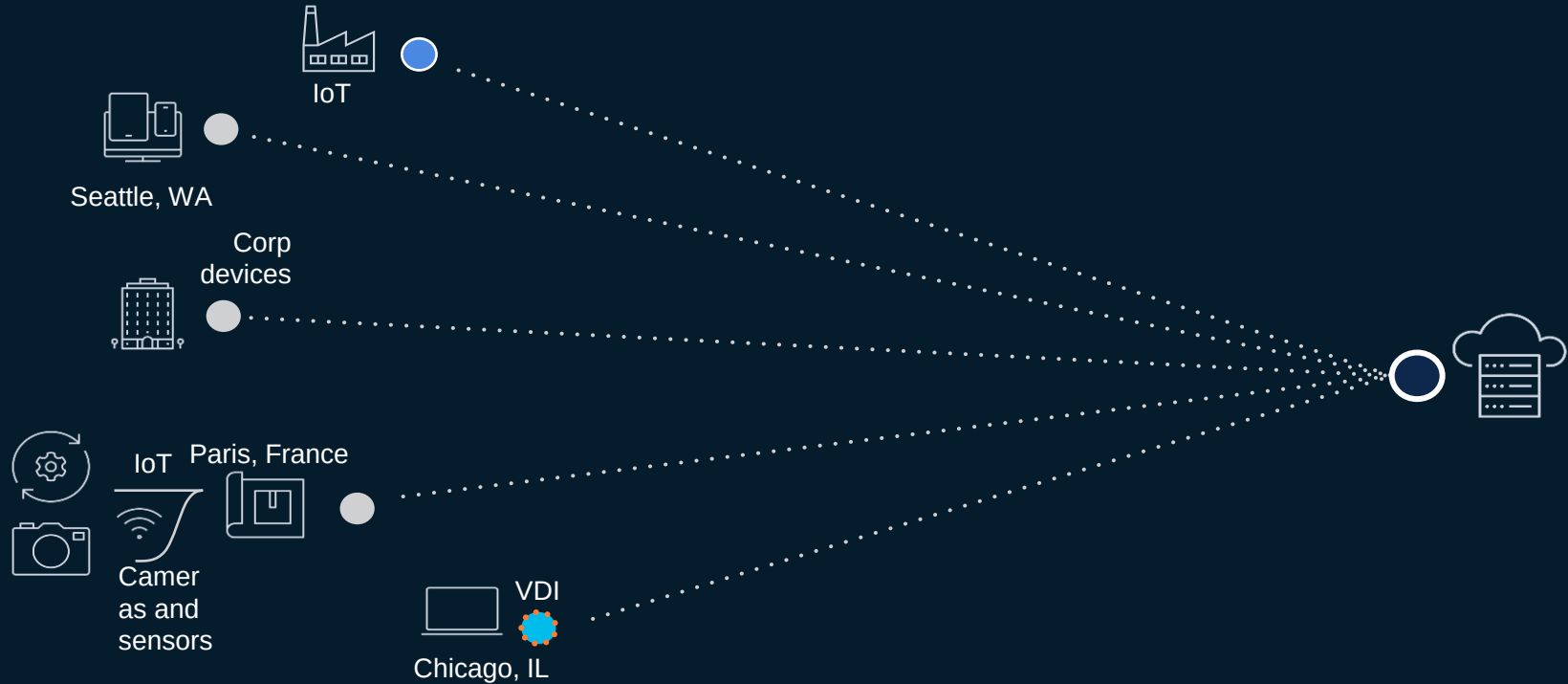


The NETWORK

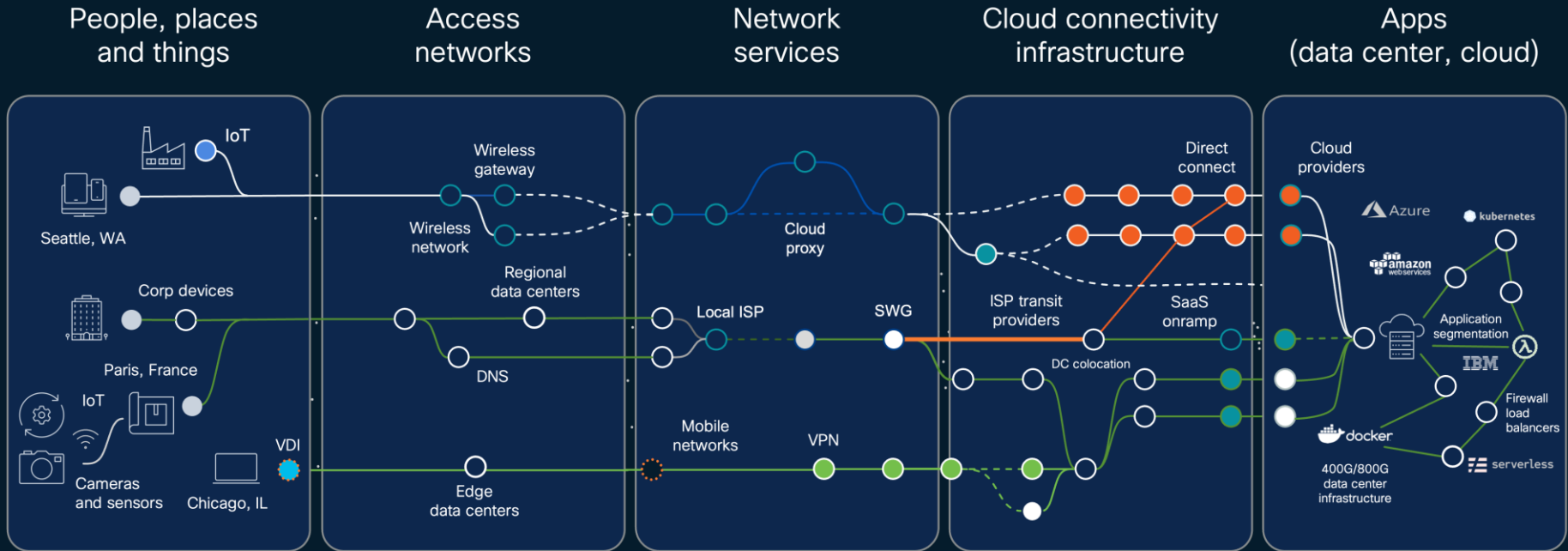
Interconnection of private environments, service providers and services that form a user's experience of an app



The Experience you **want**



But the **reality** is...



The Challenge

We're in a new world

Your Apps

Your People

Your Infrastructure

All
distributed



The Challenge

Massive blind spots erode ability to manage

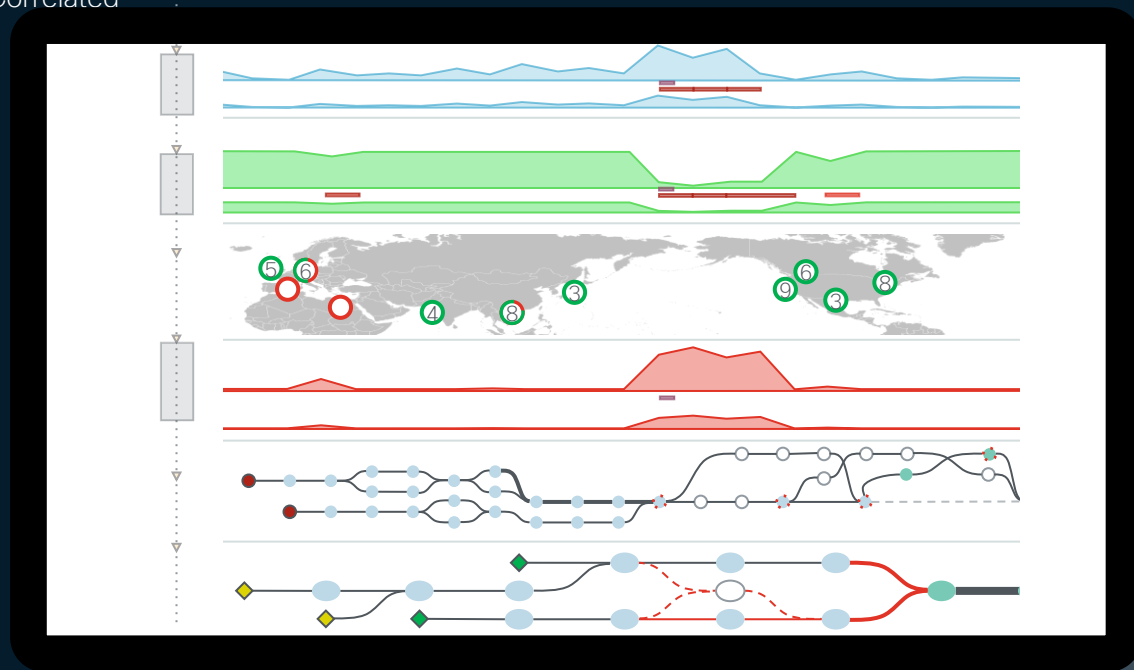
So many layers, domains, and providers

Traditional tools don't work for what you don't own



Correlate performance across **every** layer

Time
Correlated



ThousandEyes



Cloud Agents

Globally distributed agents installed and managed by ThousandEyes in 200+ cities around the world.



ISP | Broadband | Cloud Provider



Enterprise Agents

Lightweight software-based agents easily installed on your own network, in data centers, branch offices and VPCs.



Cisco | Docker | Linux



Endpoint Agents

Lightweight Agent and Browser-based plugins installed on end-user laptops and desktops.



Apple | Microsoft

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How To Work With Alerts



What does a Test look like?



Source Agent Details

Enterprise Agent TECOPS-2278-Cluster	Search Network, Country, IP Address, Prefix or T...
Agent Details	
Private IP Address	10.1.17.164 Info (3)
Public Address	173.38.220.56
Network	Cisco Systems, Inc. (AS 109)
Location	Netherlands
Interface Details	
IP Address	10.1.17.164
Prefix	
Measurements from this agent	
Number of Targets	1
Loss	0%
Latency	27 ms
Jitter	< 1 ms
Min. Path MTU	1398 bytes
Probing Mode	tcp-sack-mode
Path Trace Mode	classic

Path Details

Node in Agent's Network aer01-mdai-sbb-gw1-hun2-0-25.cisco.com	
IP Address	173.38.195.6
Prefix	173.38.128.0/17
Network	Cisco Systems, Inc. (AS 109)
Locations	Almere, Netherlands
(Reported by Agents)	
DSCP	CS 1 (DSCP 8)
Avg. Response	13 ms

What does a Test look like?



Source Agent Details

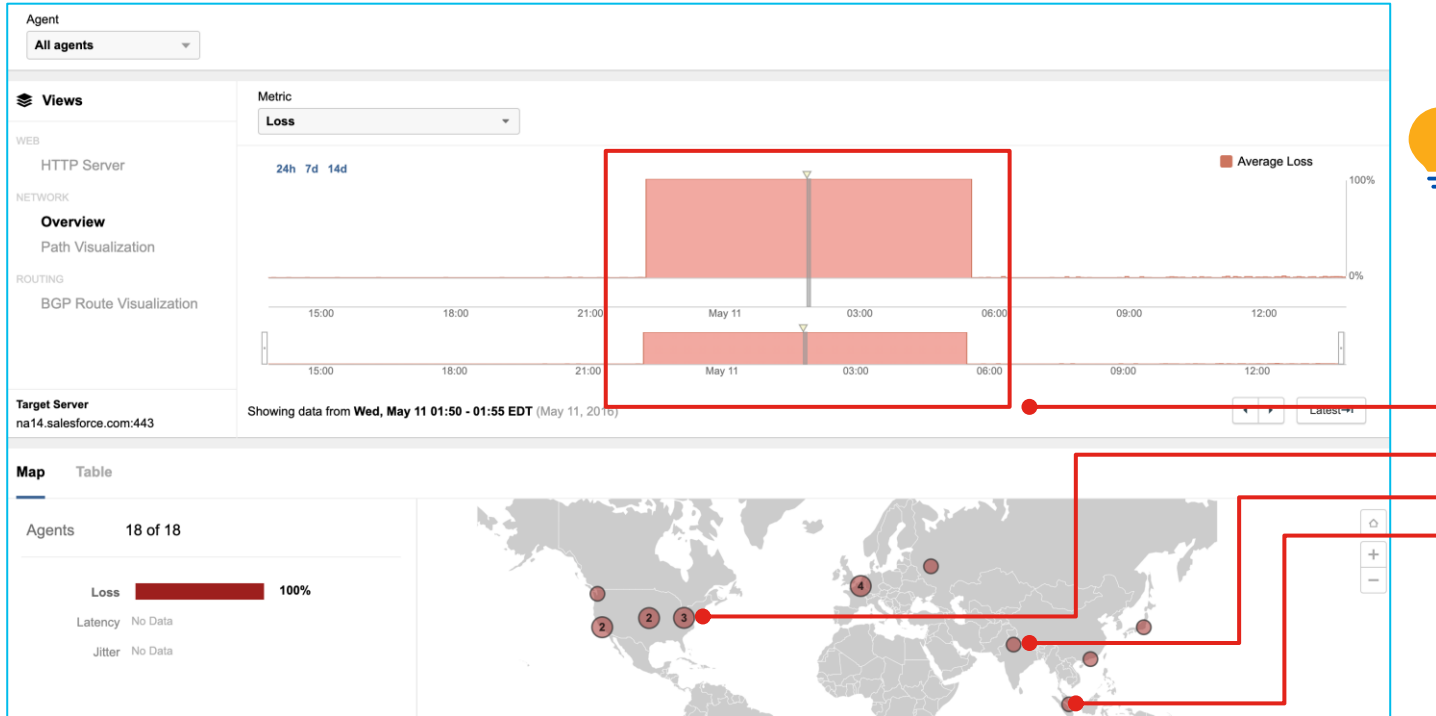
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Alerts

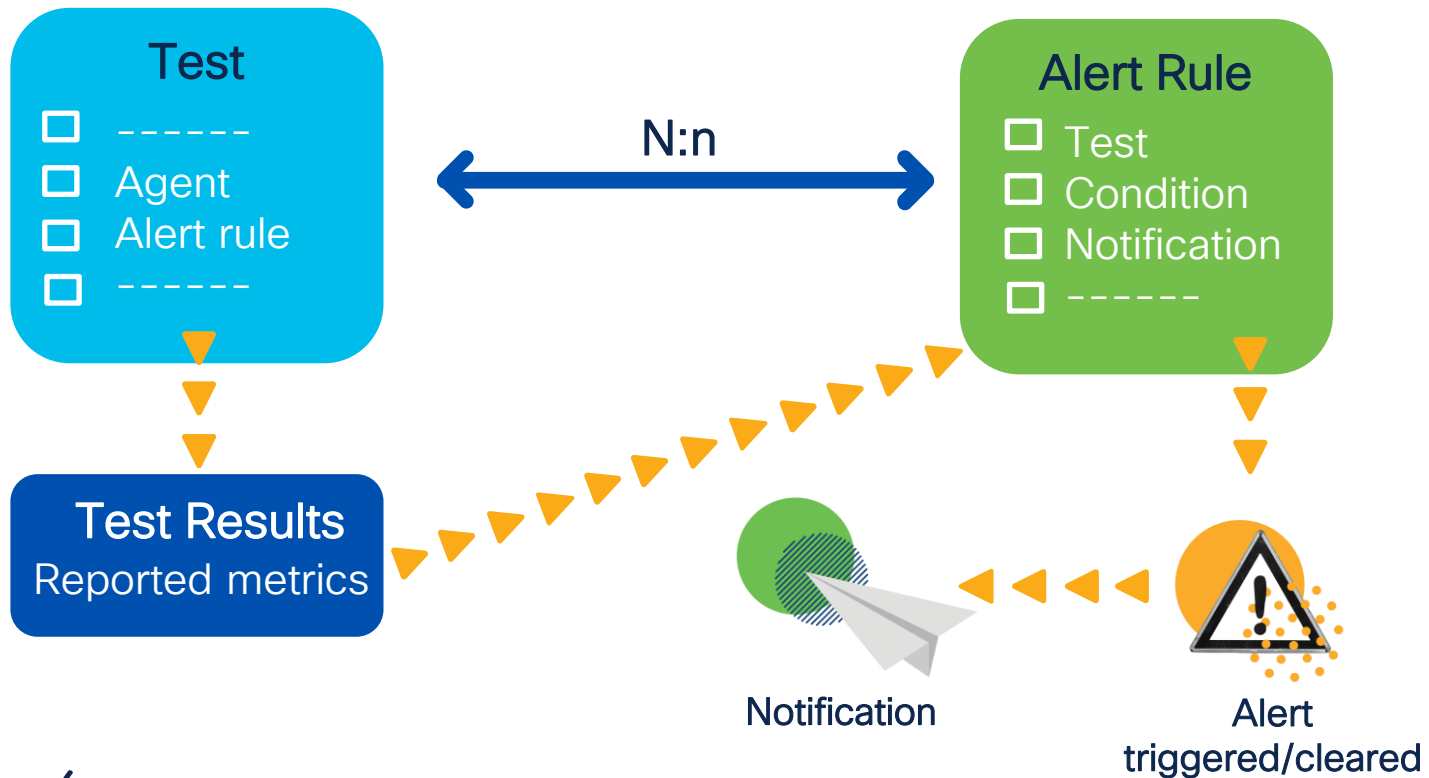
Notification generated when test results meet conditions that you define



- Two States:**
- Triggered
 - Cleared

Conditions

Alert Flow



Integrate with 3rd party products and get notified



Email

servicenow

PagerDuty

slack



3rd party integrations



Webhooks



CRUD API

Customise Visibility
Across Tools

Correlate Disparate
Data at Scale

Bridge Monitoring Gaps
with Internet Intelligence



Alerts

Default Rules

- Platform ships with default alert rules configured
- Enabled for each test
- Should be modified to fit your organisation.
- Highly customisable alerts

Name ▲	Type	Conditions	Apply to
Default Agent to Agent Network Alert Rule 2.0	Agent to Agent	Packet Loss ≥ 10%	0 tests
Default Call Setup Alert Rule 2.0	SIP Server	Error Type is any	0 tests
Default DNS Server Alert Rule 2.0	DNS Server	Error is present	0 tests
Default DNS Trace Alert Rule 2.0	DNS Trace	Error is present	0 tests
Default DNSSEC Alert Rule 2.0	DNSSEC	Error is present	0 tests
Default FTP Alert Rule 2.0	FTP Server	Error Type is any	0 tests
Default HTTP Alert Rule 2.0	HTTP Server	Error is present	0 tests
Default Network Alert Rule 2.0	Agent to Server	Packet Loss ≥ 10%	0 tests
Default Page Load Alert Rule 2.0	Page Load	Page Load has error or Page Load timed out or Page Load is incom...0 tests	
Default SSL Certificate Expiry Rule 2.0	HTTP Server	Certificate expires within 30 days	2 tests
Default Voice Alert Rule 2.0	RTP Stream	MOS ≤ 3	0 tests
Default Web Transaction (Classic) Alert Rule 2.0	Transaction (Classic)	Error is present	0 tests
Default Web Transaction Alert Rule 2.0	Transaction	Error is present	0 tests

Alerts Severity

- Severity level of the resulting alert is displayed both in the ThousandEyes UI and in Integrations
- Levels are static
- Severity levels:
 - Info (default)
 - Minor
 - Major
 - Critical

GENERAL

Rule Name: Default SSL Certificate Expiry Rule 2.0

Tests: 2 of 10 tests selected

Agents: All agents

Severity: **Info** Minor Major Critical

GENERAL

Rule Name: Default DNS Server Alert Rule 2.0

Tests: 0 of 1 tests selected

Agents: All agents

Severity: Info **Minor** Major Critical

Alerts

Suppression Windows (ASW)

- Data from tests assigned to the window is not evaluated against alert rule criteria
- Alerting conditions will not trigger an alert until the ASW has ended
- Apply to Cloud and Enterprise Agent tests **only**

New Alert Suppression Window

GENERAL

Name

Tests

☒ Enabled

SCHEDULE

Starts

Duration hour minutes

Repeat

End Repeat

Alerts

Snoozing aka Real-Time Suppression Windows

- Allows for temporarily ignore an alert
- Doesn't change the alert configuration
- Reactively: After the alert triggered

Suppress and Move

You are about to suppress this alert and move it temporarily to Alerts History.

How long would you like to suppress this alert for?

Custom

Custom End Time

01/16/2024 05:51 PM Europe/Amsterdam (GMT+1)

Why are you suppressing this alert?

Known Outage

Notes (Optional)

Outage #CLEUR-2024-AMS-042

This alert will remain in Alerts History from now until the end of the suppression window. Alerts that are still active after this time will move back to the Active Alerts screen.

Cancel Confirm

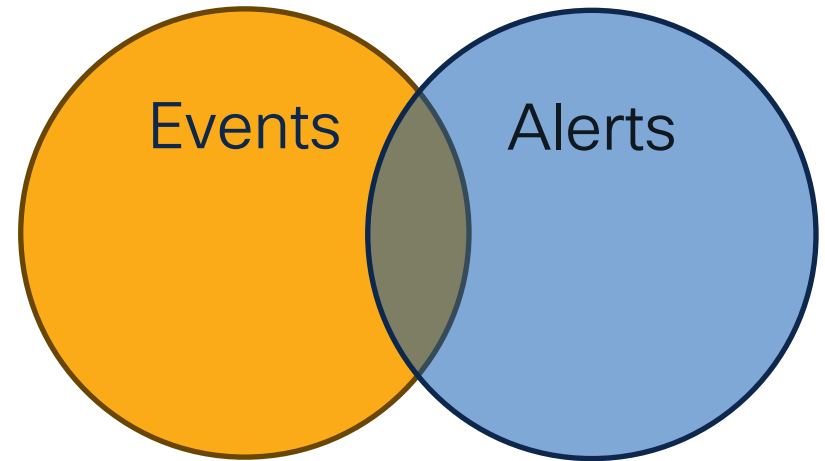
Demo: How to Read and Create Alert Rules



Events - From Visibility to Action



Events
complement alerts,
not replace them



Alerts are great if
you know what a
failure looks like

- RTT must be below 200ms
- API call must finish within 50ms
- HTTP GET response must match a regex
- Proxy must return a 404

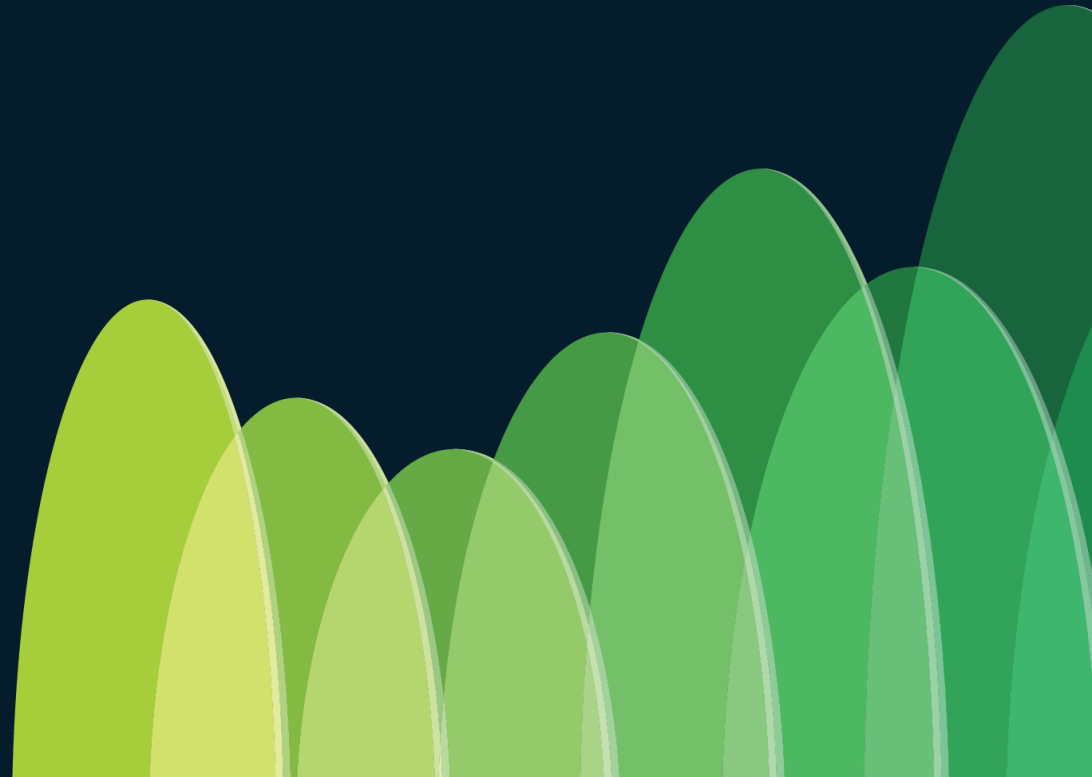
- Events are degradation from status quo
- Exact root-cause can't always be found
- Events should not be generated without enough evidence
- Decisions should be based on entire data



Demo: Events

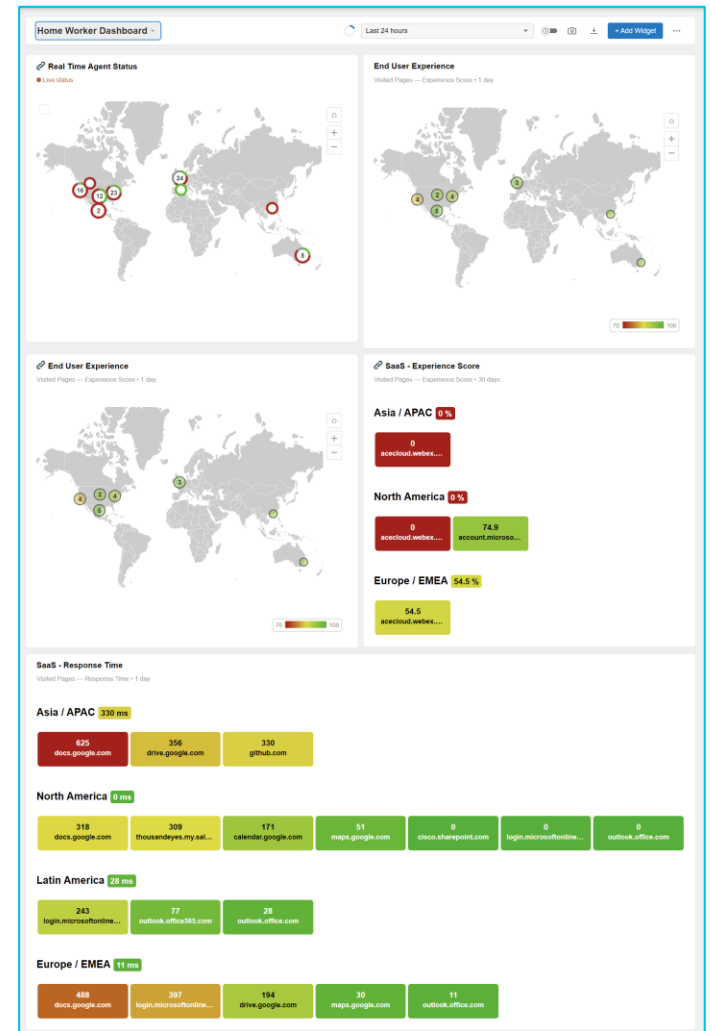


Art of Dashboard Design



Dashboards

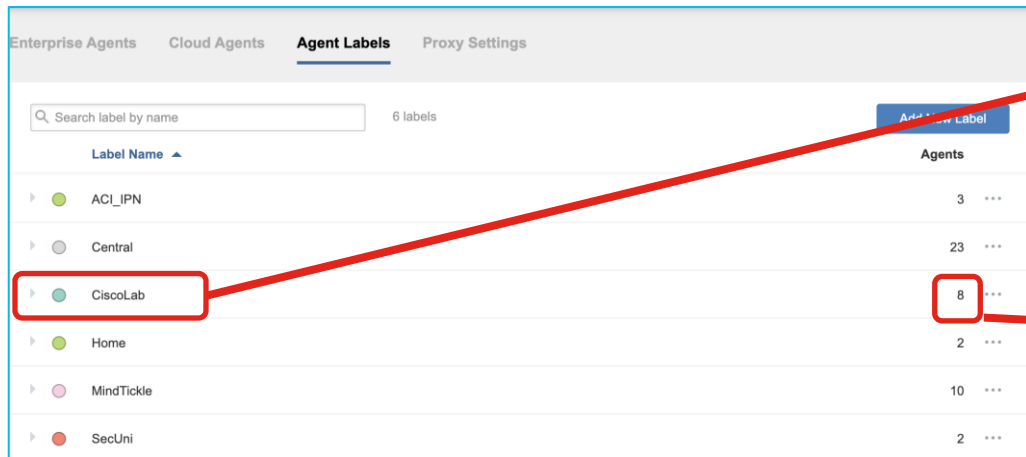
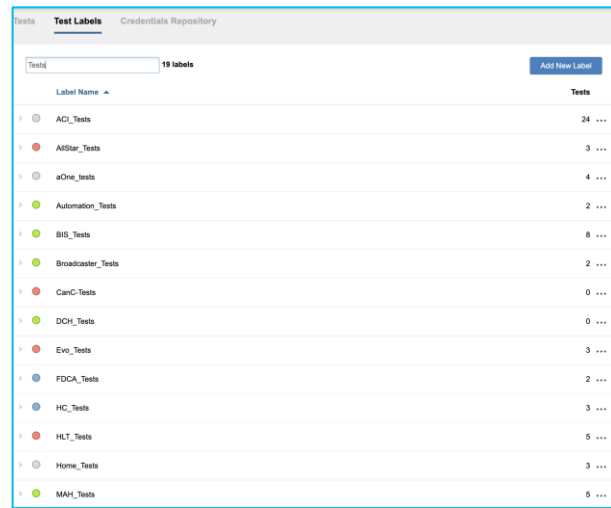
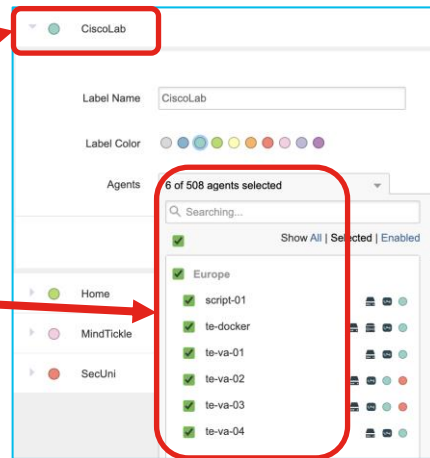
- Consists of one or more widgets
- Refreshes every 2min
- Prevent users from being locked out due to inactivity
- Built-In Dashboards available (Read-Only!)
- Can be shared with other Account-Groups under same Org
- Labels should be used to make Dashboards more dynamic



Dashboards

Filtering with Labels

- Labels can be used to make dashboards more dynamic
- Agent & Test Labels can be used as filters/selectors in dashboard widgets



Demo: Labels



Before we create some Labels...

Label: Harry



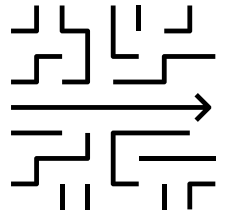
Label: Keanu

The Five Hat Racks

5 ways to present data

- 1 Location
- 2 Alphabetical
- 3 Time

- 4 Category
- 5 Hierarchy



Dashboards Design Considerations

Who is using the Dashboard

- Operation team → Real-time & tactical
- Management → Strategic Overview & Descriptive

Purpose of Dashboard

- Network overview
- Application performance

Fancy vs usefulness

- Tempting but information must be useful
- Optimization can help to balance

Feedback

- Dashboard usability within the teams
- How it helped or not in Observability

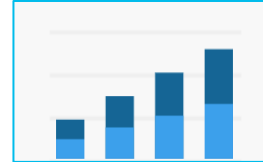
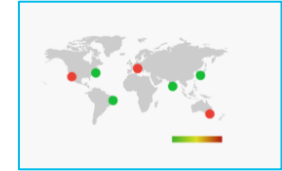
Dashboard Architecture

- Dashboard Name, Filters, Time Interval, Snapshot etc. options.



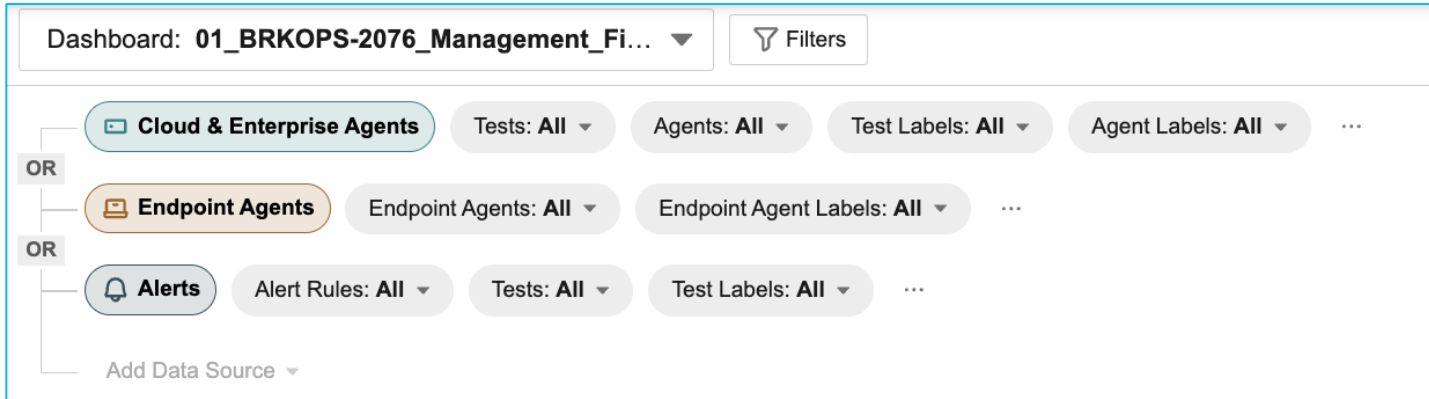
- Dashboards are composed of widgets, 5 main categories

- Live Status
- Breakdown
- Data Summary
- Time Series
- Maps



Dashboard Filters

- Apply a single set of Filters to a Dashboard
- Saves time and provides a more efficient way of monitoring your data with different views

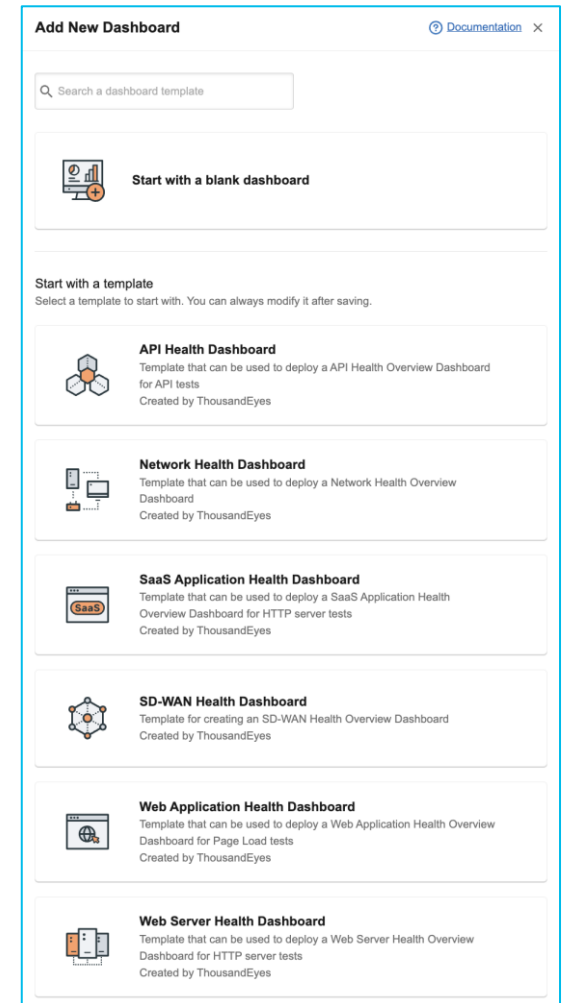


<https://docs.thousandeyes.com/whats-new/changelog#id-2024-03-28>

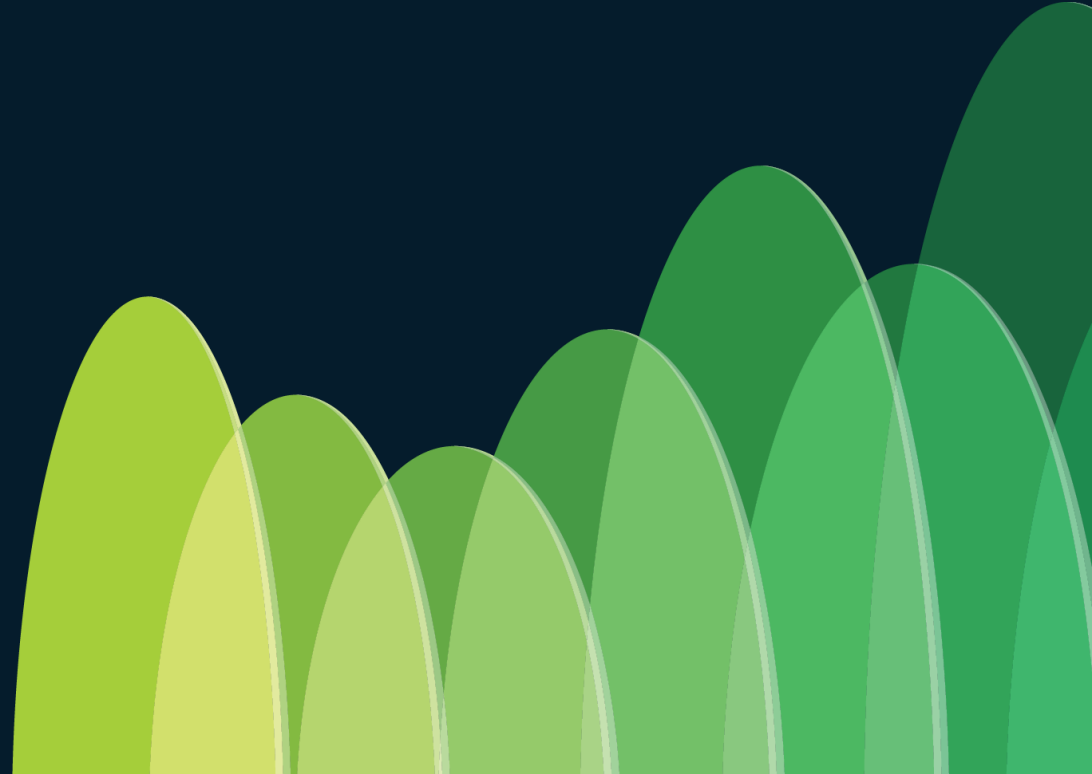
Dashboard Templates

- Added on May 25th 2024
- Efficient way to deploy commonly used Widgets
- Enable you to visualize tests and critical metrics in one place

<https://docs.thousandeyes.com/whats-new/changelog#id-2024-05-29>



Demo: How To Create Dashboards



Conclusion



Conclusion

01 Early detection

02 Network & Application
Observability

03 Thresholds & KPI's

04 Continuous
optimization

Smooth operation, proactive
measurements, insights of the
services and performance

MTTI



Application Insights



Success



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Designing Enterprise Network Assurance (ENNA)
v1.0 Code: 300-445 ENNA

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Further Reading

- Documentation <https://docs.thousandeyes.com>
- Blog <https://blog.thousandeyes.com>
- API <https://developer.thousandeyes.com>
- Getting started <https://docs.thousandeyes.com/product-documentation/getting-started>
- Changelog <https://docs.thousandeyes.com/whats-new/changelog>
- Cisco Devices <https://docs.thousandeyes.com/product-documentation/global-vantage-points/enterprise-agents/managing/cisco-devices>
- Internet Outages Map <https://www.thousandeyes.com/outages/>

Keynote Deep Dives

Wednesday
10:30am – 11:30am



Experiences Amplified:
How AI Can Fuel
Better Employee
and Customer
Experiences

Level 1
Room 106



Smart, Secure,
Seamless:
Transforming
Experiences with
Next-Generation
Networking

Level 2
Room 204



Harness a Bold
New Era:
Transform Data
Centre and
Service Provider
Connectivity

Level 2
Room 203



Securing User to
Application and
Everything in
Between

Level 2
Melbourne Room 2



Unlocking
Digital Resilience
through Unified
Observability

The HUB
Centre Stage

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