AI/ML in Cisco Catalyst Center

Transforming Network Operations

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IBOOPS-2391

Agenda

- Introduction to Cisco AI Analytics
- Why AI/ML for NetOps?
- Cisco AI Analytics in action:
  - AI Network Analytics
    - Baseline dashboard
    - AP Performance Advisories
    - Event Analytics
  - AI Endpoint Analytics – Smart Grouping and Spoofing detection
- Conclusion

By Way of Introduction …

I'm a **Principal Engineer** in the Cisco AI Analytics team, and I've been with Cisco for 17 years.

I focus on AI/ML for Cisco Catalyst Center Assurance, working closely with both internal engineering teams as well as customers, where I bring my experience in running and troubleshooting networks (especially wireless), contributing to the use-case definition, data collection and validation, up to the field testing on real customer networks.

Federico Lovison
Principal Engineer
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By Way of Introduction …

I'm a **Senior Software Engineer** in the Cisco AI Analytics team, and I've been with Cisco for 8 years.

My primary focus revolves around ensuring the quality of Cisco AI Network Analytics use cases, which are accessible through the Cisco Catalyst Center (formerly known as Cisco DNAC).

In my prior role, I served as a Network Consulting Engineer as part of the Cisco CX Business Unit. I have been contributing to Cisco's success since 2016, bringing valuable expertise and dedication to my roles.

Ashwin D V
Software Engineer
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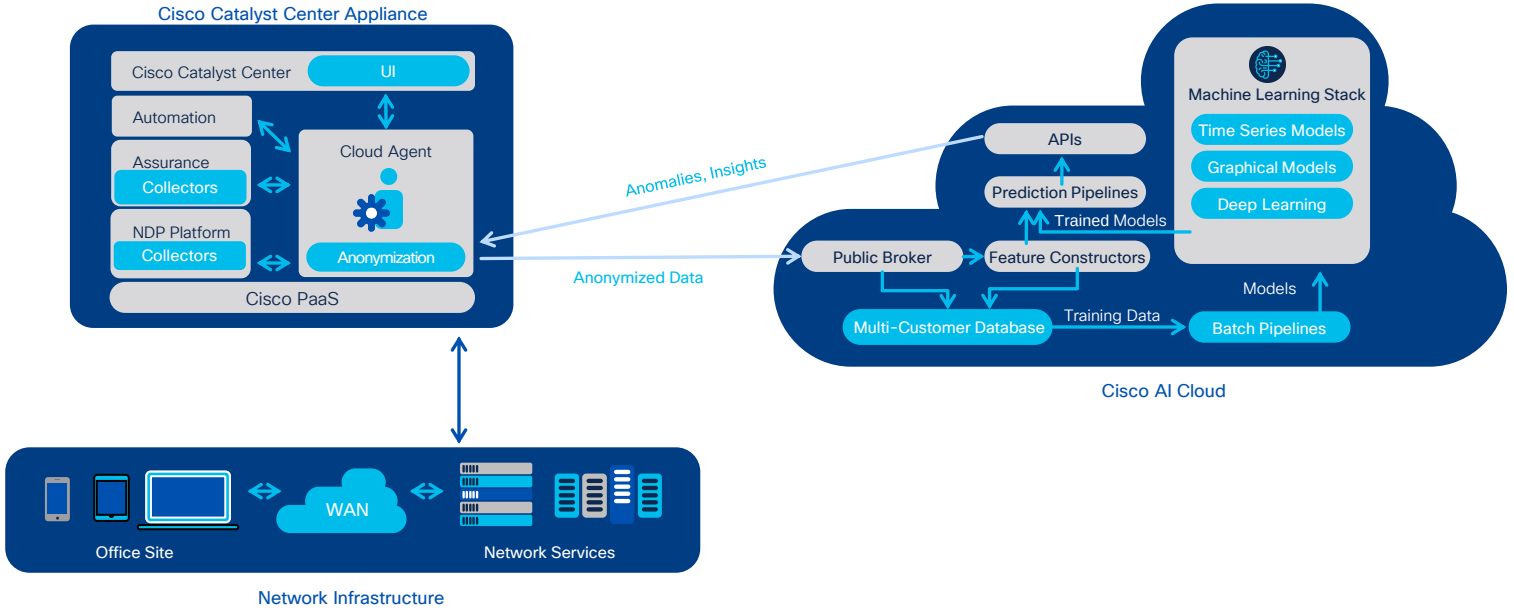
Housekeeping

- Main flow
  - Slides used to introduce the use cases
  - Live demo to show practical examples of how to benefit from the different features
  - Open discussion and Q&A
- The setup will be available for individual access
  - During or after the session (from a personal device)
  - Walk-In Lab: **LABOPS-1399**

Why AI/ML in NetOps?

1. Threshold based approach is ineffective as all networks are different
2. Patterns in data reveal lots of insights

Cisco AI Analytics Architecture



Learning, Analyzing and Transforming How You Manage Your Network

Cisco AI Network Analytics

Cognitive Issue Detection & Analysis

- **AI-Driven Baselining**
  Define Normal for a Given Network
- **AI-Driven Anomaly Detection**
  Root Cause Complex Issues
- **AI Baseline Dashboard**
  Explore Network Performance

Trends and Insights

- **AI-Driven Trends**
  Long-term trends
- **Network Heatmaps**
- **AP Performance Advisories**
  Long-term performance analysis

Comparative Analytics

- **AI-Driven Peer Comparison**
  Compare to Peers
- **AI-Driven Network Comparison**
  Compare Performance by Sites, AP Models, Clients

Event Analytics

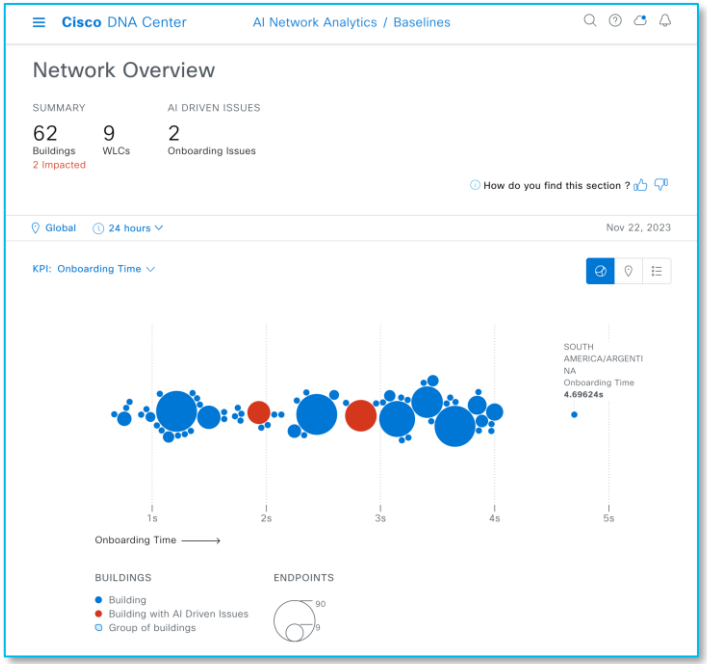
- **Network Events Visibility**
  Wired and Wireless
- **Identify Relevant Events**
  Correlate across multiple data sources, such as Syslog and Reachability

Baseline dashboard

Step 1: Identify interesting buildings

Overall network view

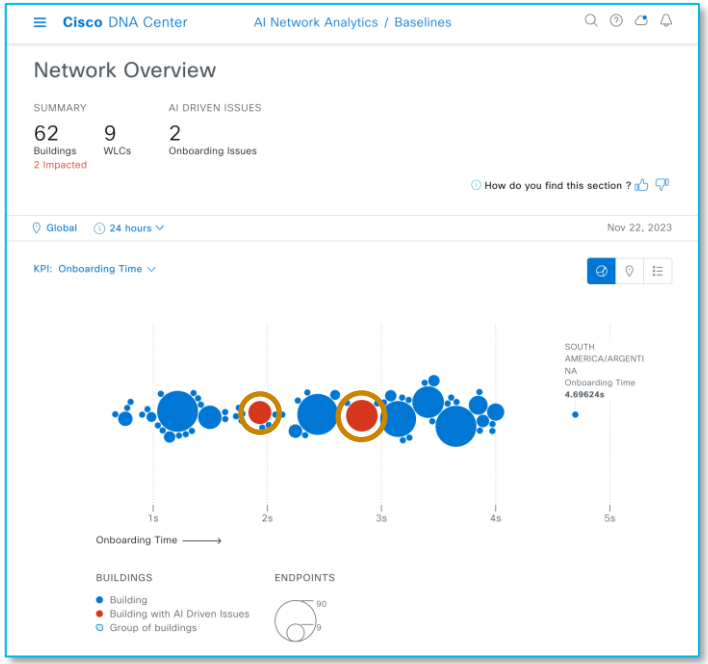
Buildings organized based on performance and detected anomalies



Baseline dashboard

What makes a building “interesting”?

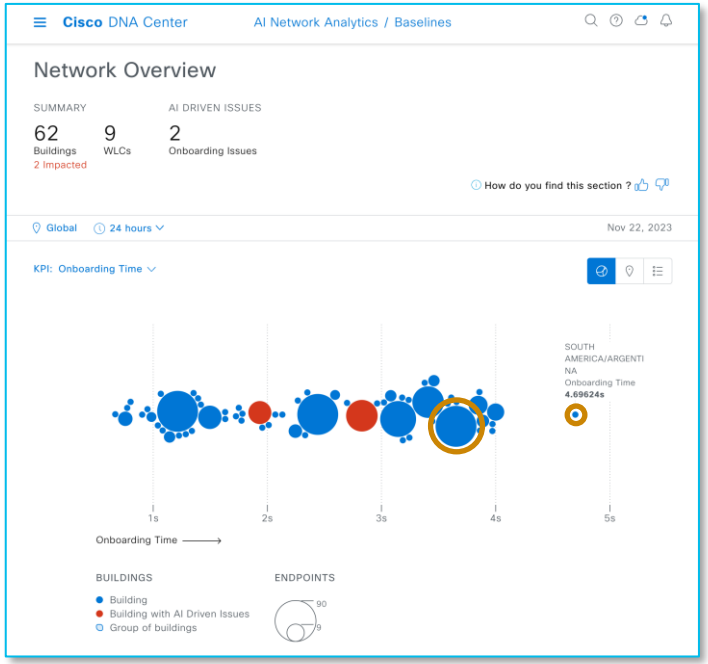
Buildings with AI-Driven issues are highlighted in red.



Baseline dashboard

What makes a building “interesting”?

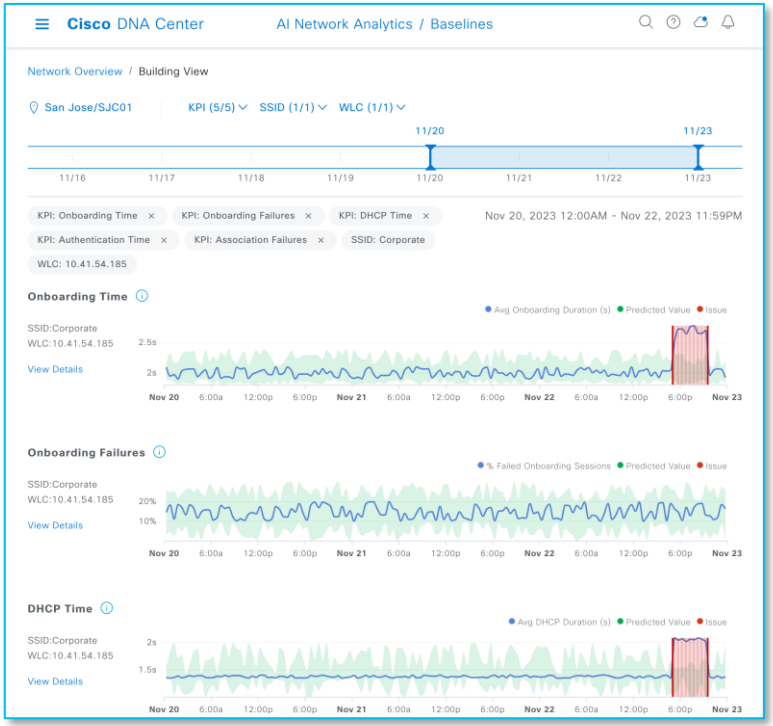
Some buildings are worth to check even if there are no AI-Driven issues reported.



Baseline dashboard

Step 2: Jump into building view

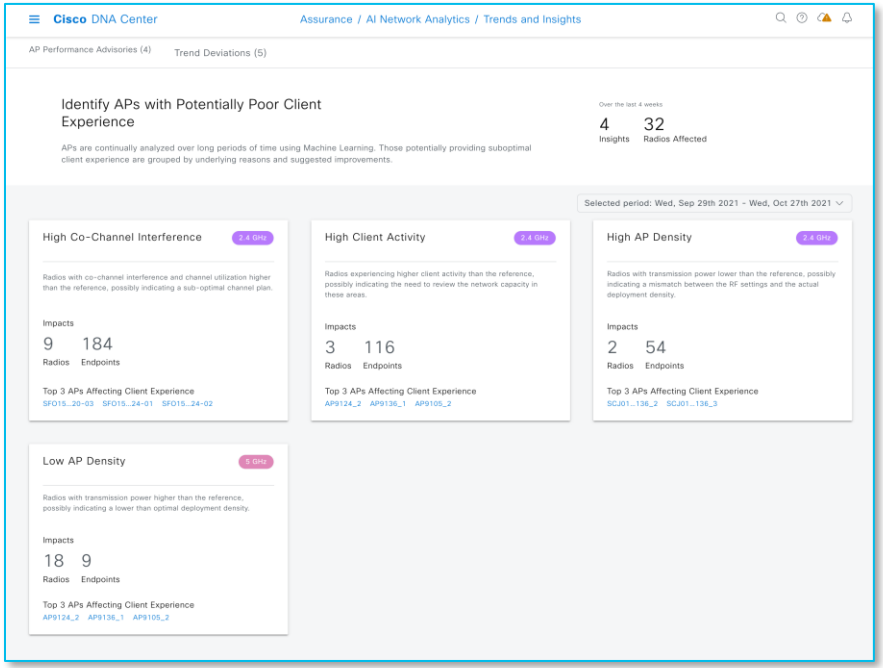
- Observe and compare performance across SSIDs and KPIs



AP Performance Advisories

Radios delivering poor client experience

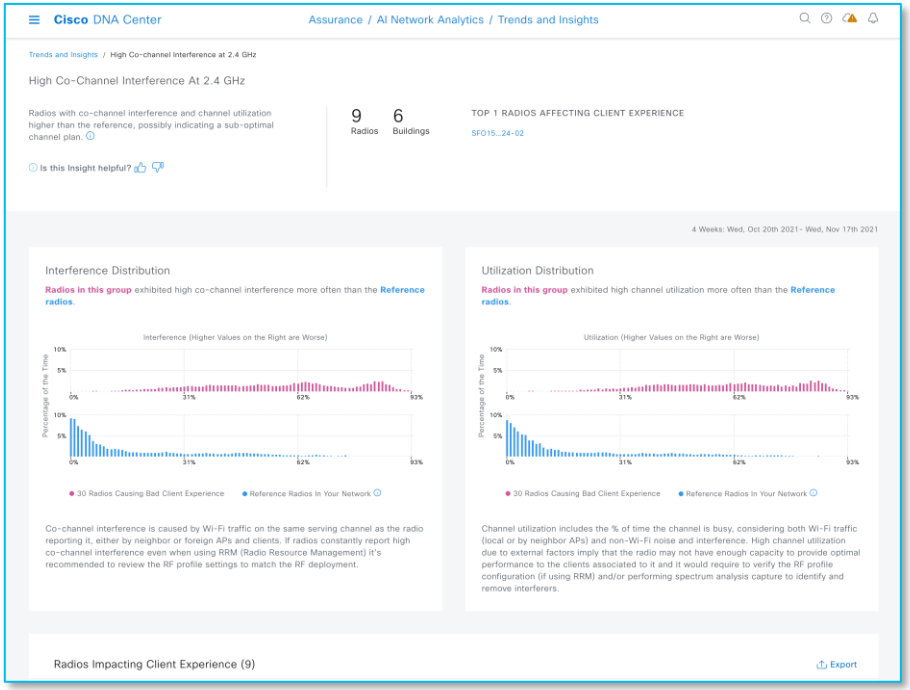
- Long-term analysis over multiple KPIs
  - Quickly identify radios and areas requiring optimization



AP Performance Advisories

Dig into the root cause analysis

- Compare problematic vs. good radios



Event Analytics

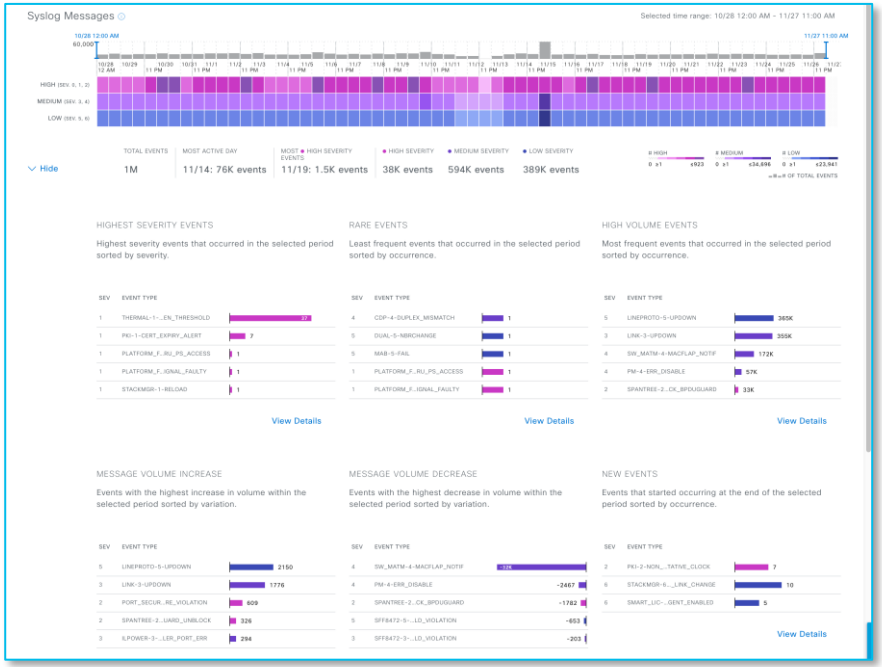
Get the global picture

- Analytics for wireless and wired
- Expose and correlate trends across multiple event types

Event Analytics

Easily find interesting events

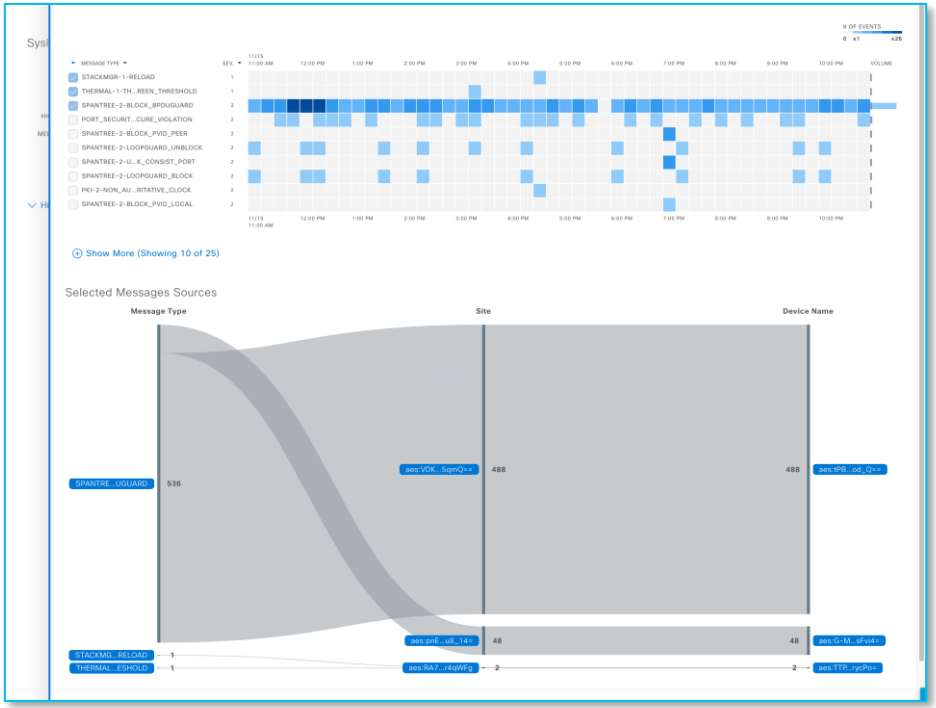
- Cards expose top events based on multiple criteria



Event Analytics

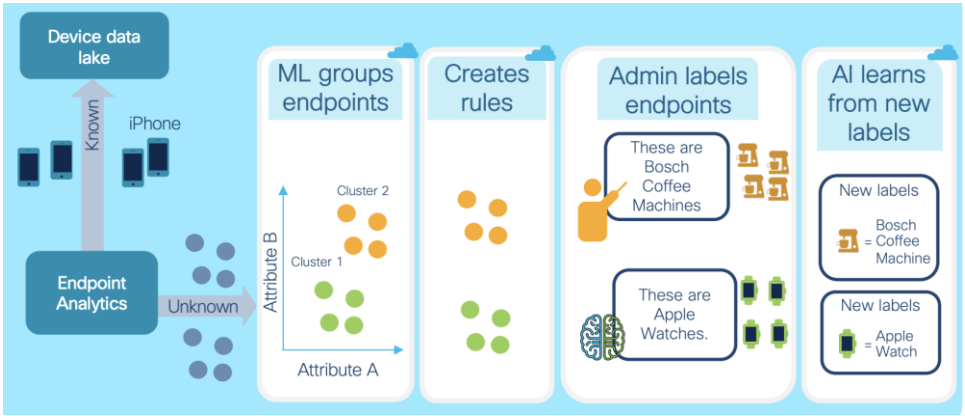
Zoom-in with the detailed view

- Events timeseries
- Assess impact across sites and devices
- See all events



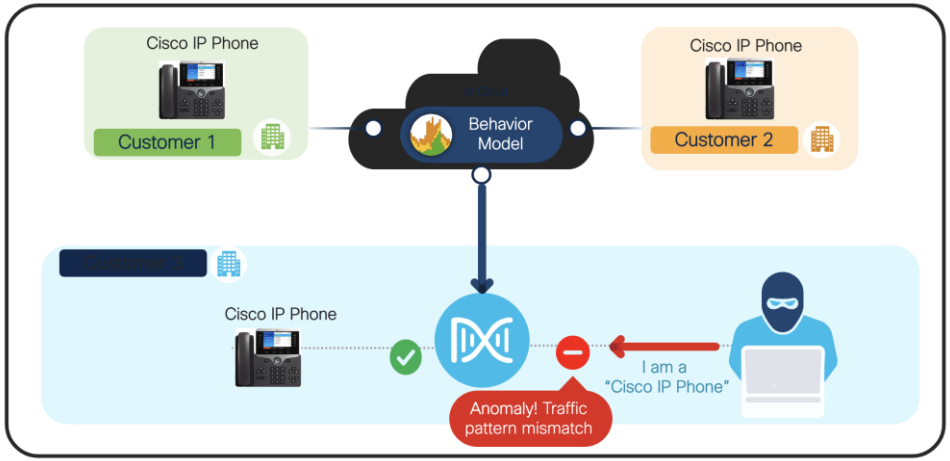
Smart Grouping

- Smart Grouping is part of AI Endpoint Analytics
- Smart Grouping is a ML based approach to group similar unknow endpoint
- Smart Grouping is integrated with Cisco ISE **enabling** enforcing right authorization



Spoofing Detection

- Spoofing Detection is part of AI Endpoint Analytics
- Spoofing Detection is a ML based approach to detect endpoint deviating from its **typical** behaviour
- Spoofing Detection is integrated with Cisco ISE **enabling** Threat Containment (Block/ Limit access)



Webex App

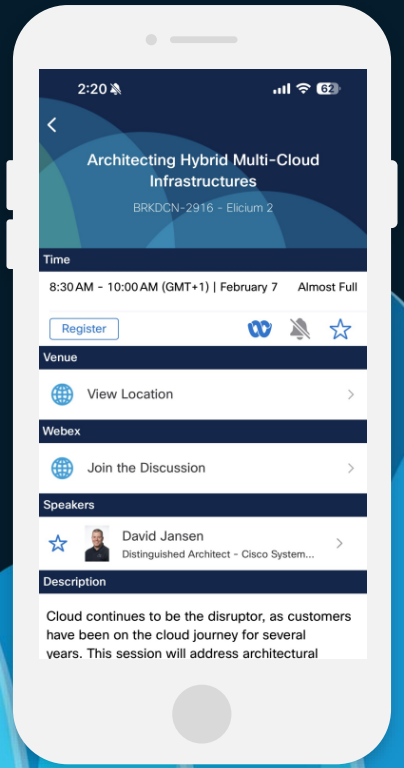
Questions?

Use the Webex app to chat with the speaker after the session

How

1. Find this session in the Cisco Events 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 February 28, 2025.



Fill Out Your Session Surveys

Participants who fill out a minimum of 4 session surveys and the overall event survey will get a unique Cisco Live t-shirt.

(from 11:30 on Thursday, while supplies last)

All surveys can be taken in the Cisco Events mobile app or by logging in to the Session Catalog and clicking the ‘Participant Dashboard’

Content Catalog

Continue your education

- Explore Cisco AI Analytics on the Walk-in lab: **LABOPS-1399**
- 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 ciscolive.com/on-demand. Sessions from this event will be available from March 3.

Continue your education

- Related sessions:
- BRKEWN-2667 Cisco Catalyst Wireless Supercharged by Cisco Catalyst Center

  BRKCOC-2483 Cisco IT: Streamlining Network Management and Decisions with Catalyst Center Automation and Splunk
- BRKOPS-2038 The Flow of Things: Navigating and Properly Enabling NetFlow-based Solutions through Cisco Catalyst Center

Thank you

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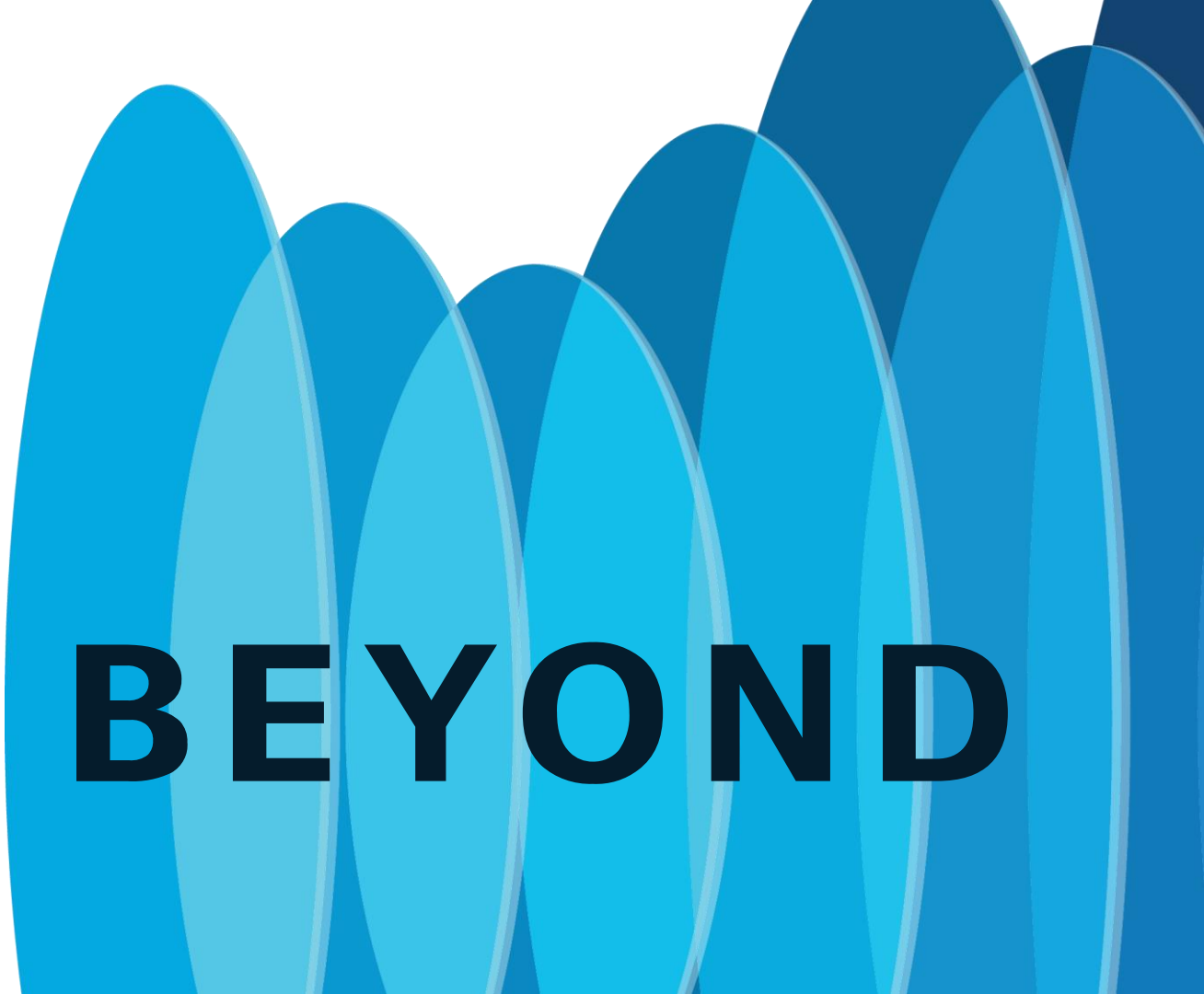

GO BEYOND