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The bridge to possible

Cisco IT Advances Proactive, Predictive Operations with Cisco Nexus Dashboard

Cisco IT · Industry: Technology · Location: San Jose, California

Cisco IT delivers applications and services that support 75,000 employees as well as partners and customers around the world. Its data center environment includes 10 production fabrics of Cisco ACI and more than 70 network appliances, 35,000 endpoints, and 900 applications. For more information, visit Inside Cisco IT.

Challenges
- Improve data center network visibility and service assurance
- Accelerate anomaly detection, troubleshooting, and remediation
- Consolidate IT toolsets and footprint
- Reduce IT operations costs

Solutions
- Cisco Nexus® Dashboard
- Cisco Nexus® Dashboard Insights (formerly Nexus Insights)
- Cisco® Application Centric Infrastructure (Cisco ACI™)

Results
- Unified operations toolset and correlated infrastructure insights
- Cut the time spent going back-and-forth between monitoring tools by 50 percent
- Reduced correlation efforts by 40 to 50 percent
- Accelerated mean time to detect (MTTD) by 30 percent

For more information
- Cisco Nexus Dashboard
- Cisco Nexus Dashboard Insights
- Cisco ACI

Challenge: Reduce toolset sprawl and IT operations inefficiency

When you have 10 network fabrics spread across five data centers, getting a full picture of what's happening – with contextual details about where, when, and why it's happening – can be extremely challenging. But it's getting easier for Cisco IT, thanks to new solutions that provide a unified and correlated view of its network infrastructure, endpoints, and events.

"We launched a data center service assurance initiative two years ago," explains Curt Poage, operations and service assurance lead for Cisco IT. "And we're progressively transitioning from reactive to proactive – and eventually predictive – IT operations."

With an SNMP-based tool providing limited value, the team was an early adopter of Cisco's API-driven monitoring and assurance solutions. While those solutions provided essential insights, they also added to an expansive and increasingly onerous toolset.

"We're a networking team, not a data science team," says John Banner, network architect for Cisco IT, noting the proliferation of dashboards and the difficulty of correlating information among them. "We need the ability to see the big picture, and if something goes wrong, we need to know exactly where to look instead of poking around and hoping to get lucky."

Those needs are now being met by Cisco Nexus Dashboard and Cisco Nexus Dashboard Insights

(formerly Nexus Insights), which combine a number of network monitoring and assurance tools within a single platform and consistent user experience. Those tools include Cisco Network Insights Advisor (NIA) and Cisco Network Insights for Resources (NIR), with Cisco Network Assurance Engine (NAE) being added to the Cisco Nexus Dashboard Insights platform in 2021.

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>
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> Network Architect, Cisco IT
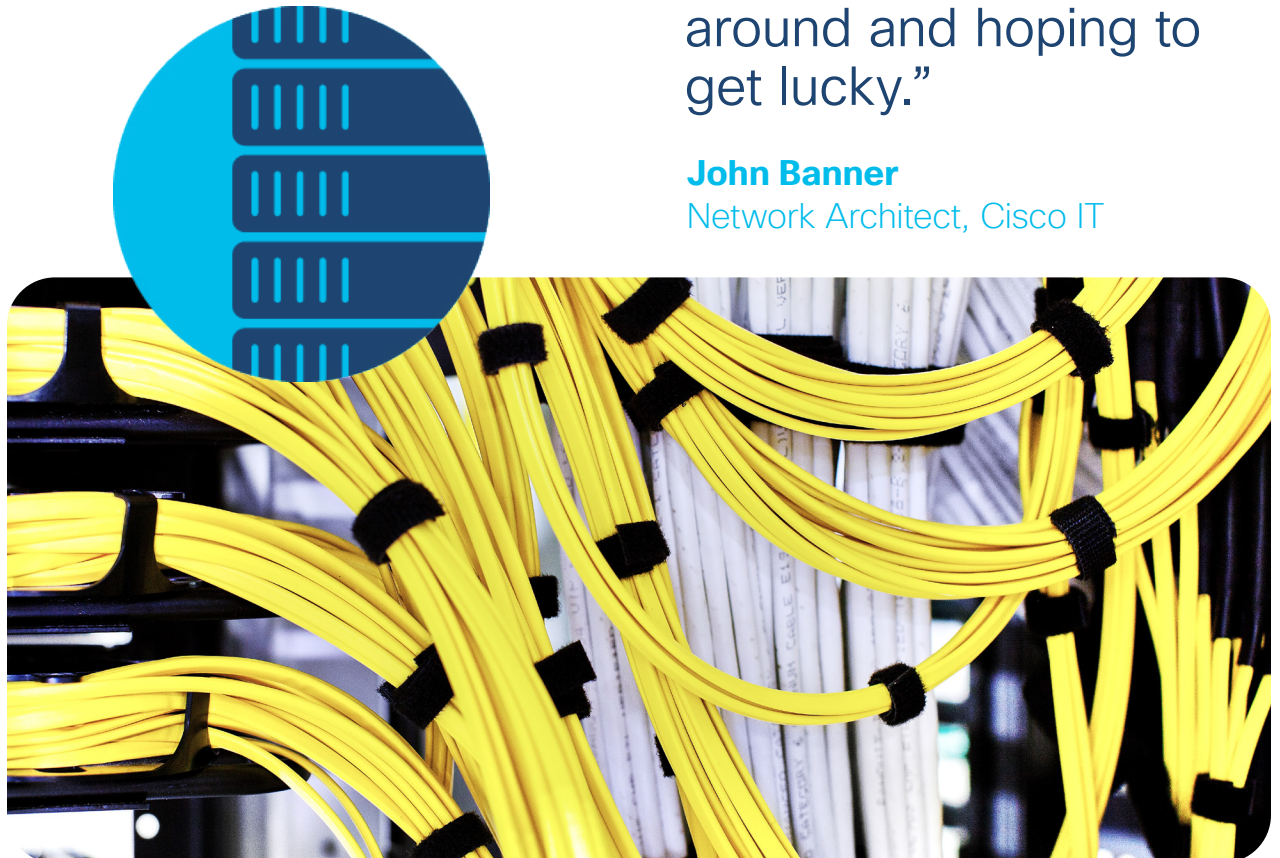
"Nexus Dashboard has unified our intent-based network functions and enabled us to implement new service assurance innovations. By consolidating separate tools that used to run on separate VMs, it has reduced our footprint and costs. We have fewer VMs to procure, manage, and upgrade. And we are no longer struggling to attain a single version of the truth from multiple dashboards."

Curt Poage
Operations and Service
Assurance Lead, Cisco IT

Attaining a single version of the truth

Cisco IT now has a single pane of glass for each data center that provides a comprehensive and federated view of its Cisco ACI network fabrics.

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The truth is now obtained from Cisco Nexus Dashboard Insights, which continuously monitors the network fabrics for issues and anomalies, helps prioritize troubleshooting efforts by highlighting the most critical events, and provides contextual details and remediation guidance that accelerate mean time to repair (MTTR).

"Nexus Dashboard Insights provides a consolidated view of all the data in our fabrics," says Noel Shen, service assurance program manager for Cisco IT, noting a 50 percent reduction in time spent going back-and-forth between monitoring tools. "Having all of this information in a single dashboard has drastically changed our troubleshooting procedures. Instead of opening multiple tools for different issues, we are able to quickly see the big picture and then drill down into any of the data."

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John Banner
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"It also enables us to easily correlate events, anomalies, and audit logs without looking at multiple sources and trying to match timestamps," Banner adds. "Our correlation efforts have been reduced by 40 to 50 percent."

In addition to monitoring network infrastructure and events, Cisco Nexus Dashboard Insights also tracks endpoints and provides detailed flow analytics.

"We now have a much deeper view and better understanding of endpoint communication across the fabrics," says Shen. "We can see latency, flow movement, and packet drops in real time, and we can pinpoint where the issues are happening. From what we've learned so far, we expect a 30 percent reduction in mean time to detect (MTTD) for enabled flows."

The platform also provides helpful end-of-life, security, and bug advisories.

"We used to track release information and product reports, but it's easy to miss something," says Banner. "Now all of this information is at our fingertips, which helps us plan code and hardware upgrades and enables us to act quickly when security or bug advisories come up."

Learn more about Cisco data center computing and networking customer deployments.