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Solution Overview

Cisco and CA Technologies Partner for Comprehensive ACI Assurance

Do you have complete visibility into the performance of your applications traversing your Cisco® Application Centric Infrastructure (ACI) Fabric? Get comprehensive, end-to-end network coverage to ensure your digital transformation goals.

June 2017

Overview

Your digital transformation is all about agility. The agility expended by your customers and the agility enterprises need to provide them the customer experience they deserve. Software Defined Networking (SDN) architectures support that agility through rapid and continuous deployment of IT infrastructure for new applications and application demand to successfully compete in the digital age.

Cisco and CA Technologies have come together through collaboration and innovation to drive our customers' software-defined network and management success that powers differentiated application and customer experiences.

The combined solutions provide advanced analytics and visibility to improve the triage and help ensure the agility and health of Cisco ACI deployments while providing true performance of the application and application path.

Benefits

- **All-in-one comprehensive monitoring:** Broad capabilities to acquire, present, and analyze Cisco ACI network performance metrics along with traditional data centers, enterprise, and service provider networks with expert dashboards for end-to-end assurance
- **Deep diagnostics and rich analytics:** Converging device availability, flow, faults, and packet analysis within specific contextual workflows to bring granular visibility into Cisco ACI application and service performance along with advanced analytics for capacity planning, percentile, and deviation from normal operational intelligence
- **Advanced scale:** Monitoring scale for the most dynamic and complex networks in the world, while delivering the same access and experience, over an extended historical period, with no data loss

Digital Transformation Requires SDN-based Network Transformation

Enterprise digital transformation affects network infrastructure, and SDN is the foundation of the new architectures that support it. In a recent survey, SDN (35 percent) was in the five top IT initiatives that affect network infrastructure team decision making. Furthermore, among all enterprises, 26 percent say they have deployed a SDN-based solution such as Cisco ACI or OpenFlow-based solutions to support their initiatives.

Although applications in the digital age require modern networks that can expand and contract dynamically based on consumer demand, SDN technologies introduce unprecedented levels of automation and dynamism to the network. Automation at any level needs to be constantly validated to ensure it is meeting business and customer requirements.

The problem: Traditional network monitoring tools are not designed to provide visibility into complex and dynamic network environments, and they fall short in the following areas:

- Correlate network (ACI Fabric) effect on the application experience
- Unravel the (ACI) abstraction layers to verify and understand the relationships and dependencies built after deployment to validate service activation success, and visualize and monitor all the layers within ACI architectures
- Scale to meet the monitoring needs of highly dynamic software-defined networks
- Monitor both the traditional and new SDN-enabled architectures together in one operational user interface (UI)

The result: Today's network performance-monitoring tools are unable to bring health visibility, quick triage, or comprehensive capacity planning for your application infrastructure deployments.

The Solution: Network Operations and Analytics from CA Technologies for Cisco ACI

Network Operations and Analytics from CA Technologies for Cisco ACI provides industry-leading visibility into the components and infrastructure that comprise today's software-defined data centers. Using Cisco ACI northbound Representation State Transfer (REST) application programming interfaces (APIs), CA Performance Management automatically discovers the leaf switches and application profiles to provide visibility into which leaf switches are servicing a particular application profile and which application profiles they are servicing.

The ability to understand how logical entities in the ACI fabric affect or are affected by physical infrastructure is a key value that CA Performance Management provides. When using OpenStack with ACI, the CA platform provides even more depth by providing views into how an entity from Cisco ACI

that may either have a low health score or is causing degradation to a customer or application experience is related to the underlying physical and virtual infrastructure (not just the ACI infrastructure). This information helps network teams isolate problems on a layer or component of the stack (maybe high CPU, memory, or interface usage on a virtual machine, vSwitch, hypervisor, or ACI leaf switch.)

Using out-of-the-box dashboards, network teams can view ACI leaf and spine switches that provide performance metrics for CPU, memory, interface, ACI health score and fault counts, etc. Additionally, you can use an ACI health-score dashboard in conjunction with the innovative Network Operations and Analytics ACI group tree to look at the health scores and fault counts of the physical and logical entities in ACI.

Figure 1. Correlate Cisco ACI Relationships between Underlay and Applications, Endpoints, and Endpoints Groups
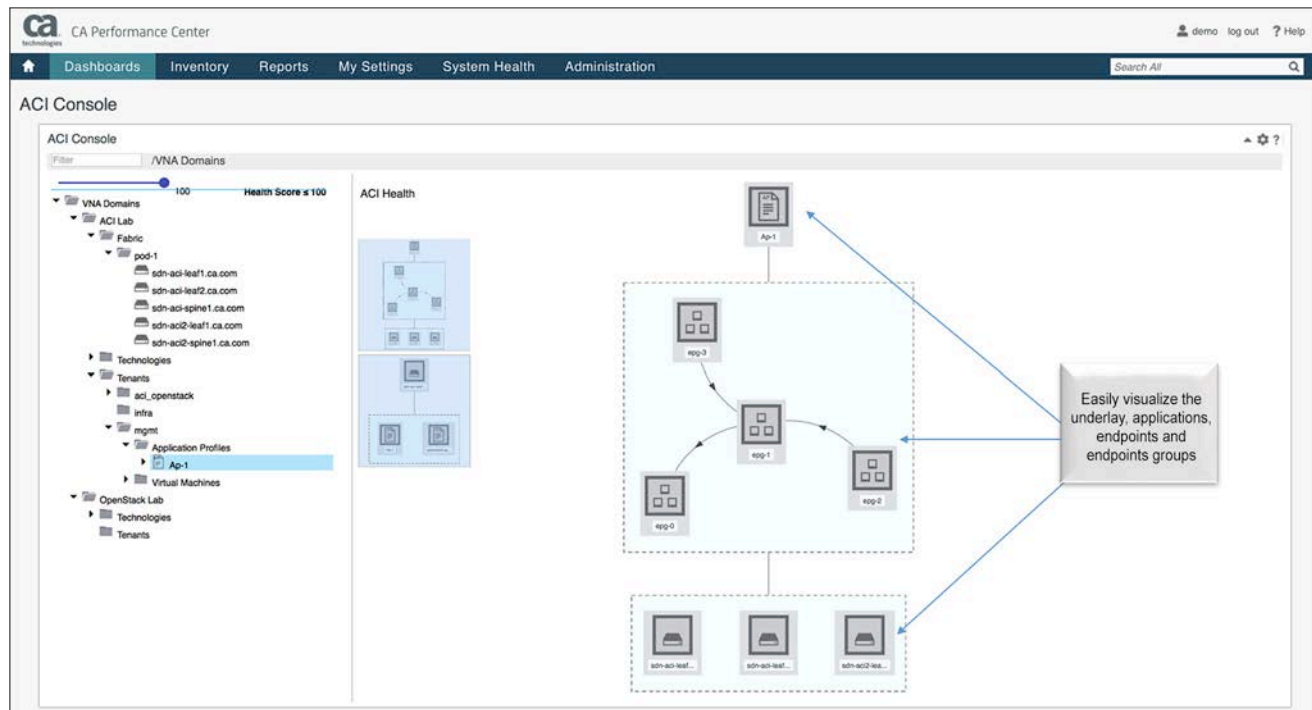
Figure 2. Quickly Understand Historical Self-Reported Cisco ACI Health, Thresholds on Health, and Future Health Projections (For Example, Analytics on Cisco ACI-Specific Information)
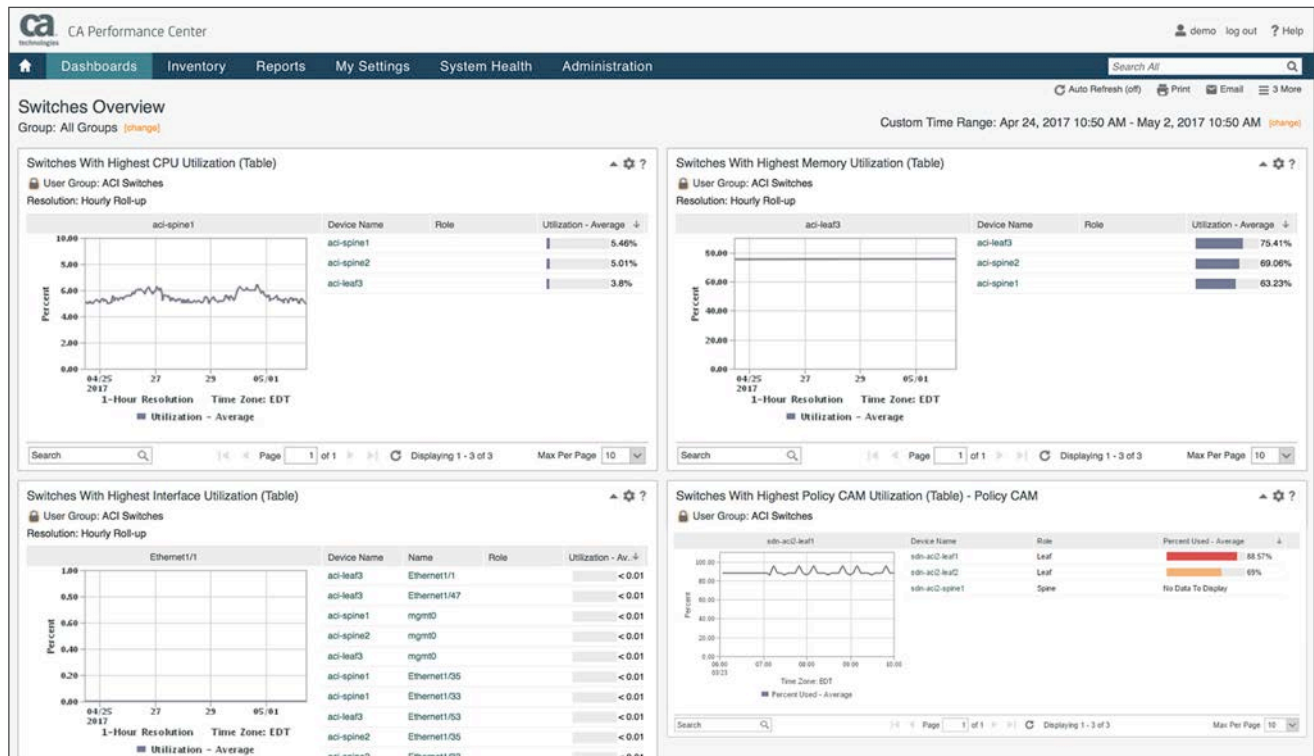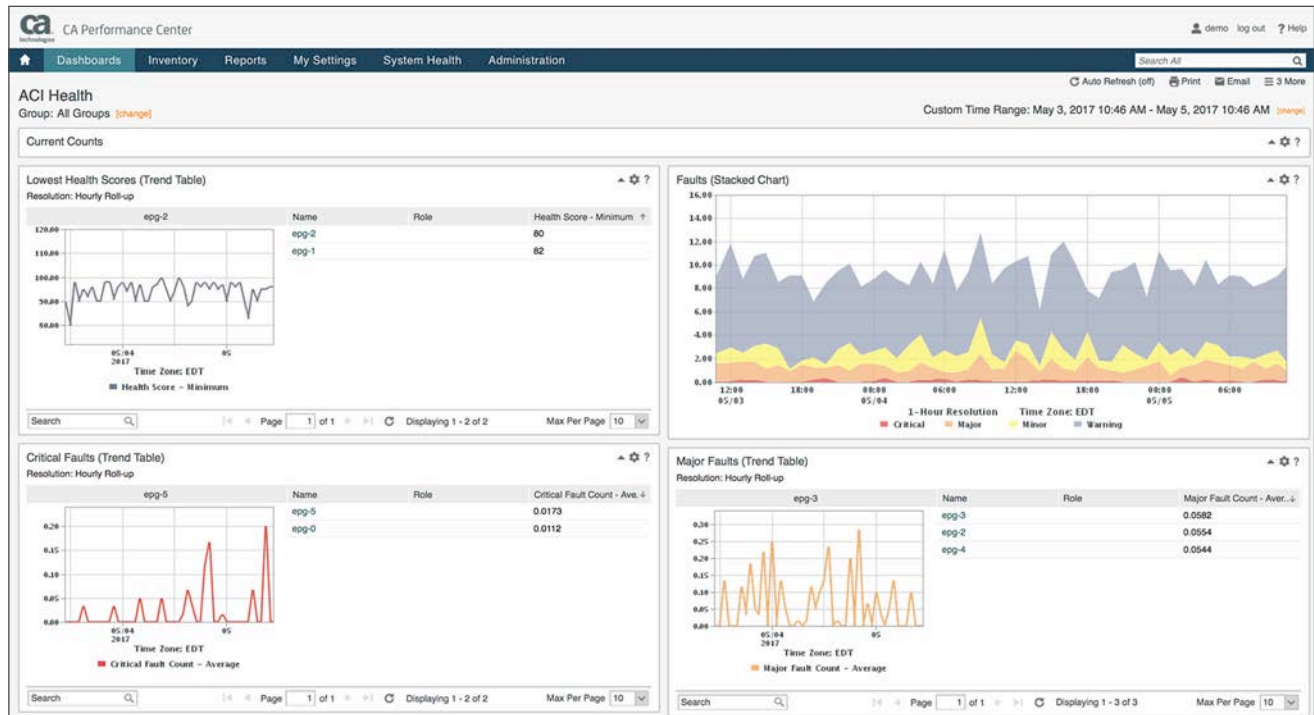
Figure 3. Visualize Relationships between Cisco ACI and Private Cloud, with Supported VIMs in a Full Stack View, Overlaid with Performance Alerts
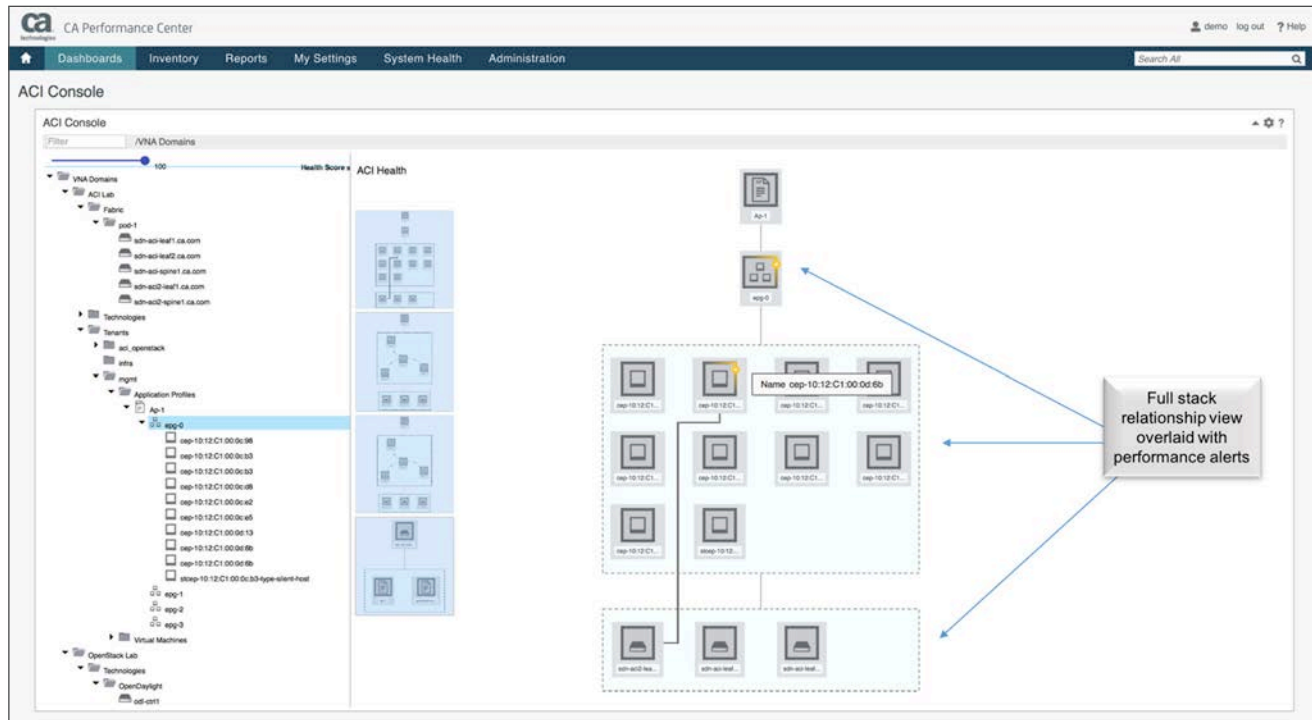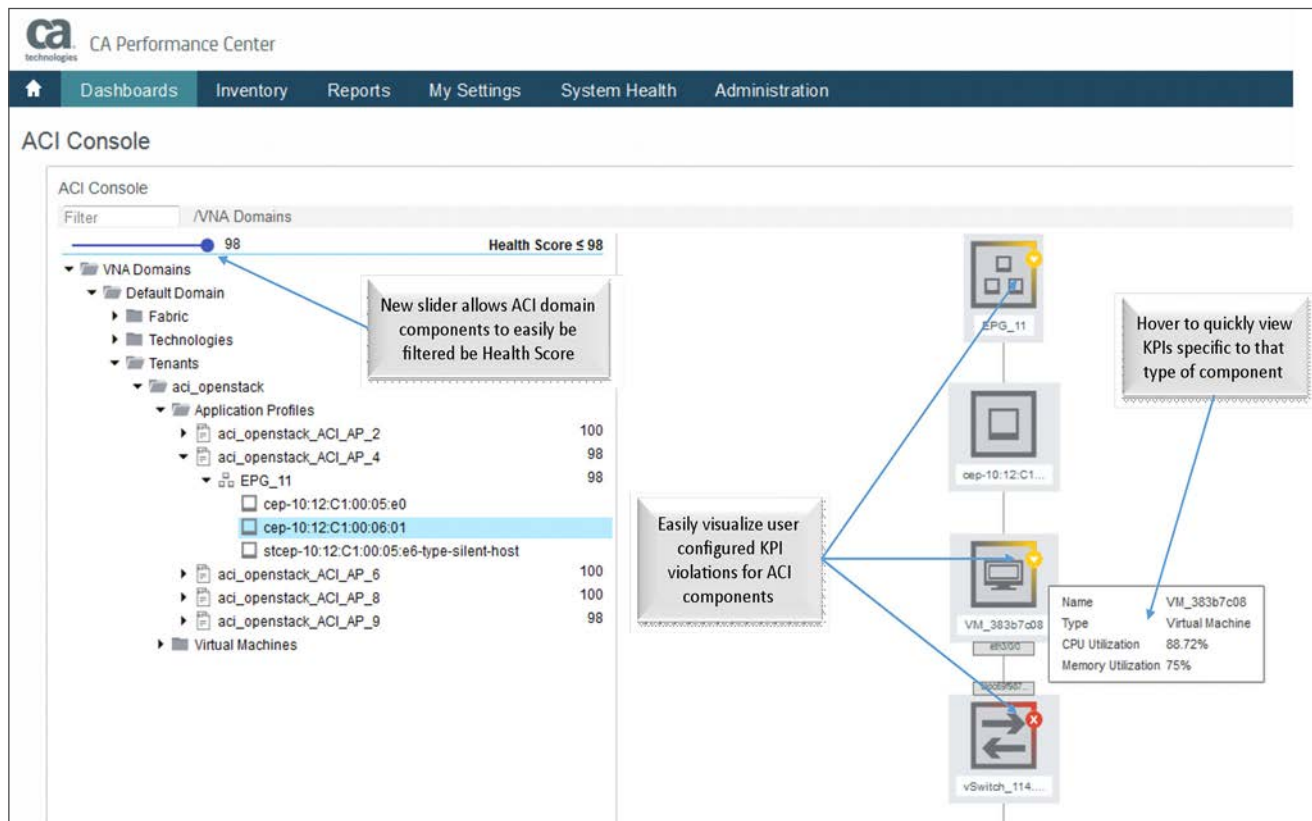

Figure 4. Visualize Cisco ACI Infrastructure (Physical and Virtual) with Overlaid Performance Alerts

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Why CA Technologies?

Network Operations and Analytics from CA Technologies provides the most scalable and comprehensive end-to-end big data and network management solution for assuring traditional and software-defined networks. The solution turns inventory, topology, network fault, device metrics, flow, and packet analysis across the greatest number of vendor and technology stacks into actionable intelligence for network operations teams to assure their business digital transformation and the customer experience.

Next Steps

For more information about successful real-world examples of this solution, visit the Network Operations and Analytics from CA Technologies solutions page.