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DC Networking Splunk Integrations

Monitor Your Technology Stack with Cisco Data Center Networking Applications for Splunk

Value statement

The Cisco Data Center Networking applications and add-ons for Splunk give you a flexible approach to monitoring your Cisco® data center fabrics and all other elements of your technology stack. These applications leverage Cisco's open API frameworks to collect Data Center Networking product events and health scores and inventory data to deliver centralized, real-time visibility for applications as well as for Cisco ACI® and Cisco NX-OS/VXLAN fabrics across bare-metal and virtualized environments.

Overview

Cisco Data Center Networking add-ons and applications for the Splunk Enterprise and Splunk Cloud platforms – including the new, consolidated Cisco Data Center Networking Applications for Splunk – offer a flexible approach to monitor your Cisco Data Center Networking fabrics and all other elements of your technology stack. Splunk is a scalable and versatile platform for searching, monitoring, and analyzing device data, such as logs, events, and performance and configuration metrics. Customers can use Splunk software to centrally monitor and analyze performance metrics and events in real time across their physical and virtual environments, including applications, operating systems, storage resources, and networking infrastructure, such as Cisco Nexus® switches and data-center controllers, such as Cisco Application Policy Infrastructure Controller (APIC) or the Nexus Dashboard Fabric Controller (NDFC).

These applications provide real-time and historical dashboards that provide detailed insight into system health, inventory, and faults across your entire Cisco Data Center Networking environment. They provide visibility into your Cisco ACI and NX-OS/VX-LAN fabrics by tracking key metrics, such as the health scores of all controlled entities, including – for example with a Cisco ACI fabric – the Cisco APIC, fabric, tenants, Endpoint Groups (EPGs), and applications. These applications offer visibility

Benefits of the Cisco Data Center Networking applications and add-ons for Splunk:

Reduced resolution time with accelerated root-cause analysis

- Centrally view the operational health of your entire Cisco ACI or NX-OS/VXLAN environment and underlying entities, including Cisco data-center controllers, fabrics, and applications

- In multitenant Cisco ACI environments, accelerate root-cause investigation and quickly navigate to the source of application problems using flexible per-role visibility into Cisco ACI performance

Central, proactive monitoring of Cisco data-center fabrics

- Get real-time, proactive notification of any Cisco ACI faults or Cisco NDFC alarms

with the location and affected network objects, including physical components, logical and virtual components, fabrics, tenants, applications, virtual machines, leaf notes, and ports

Operation analytics

- Optimize your network capacity and prevent service deterioration with detailed visibility into fabric-path degradation

- Meet compliance and security requirements with user analytics, including authentication-tracking reports

- Correlate data from Cisco ACI and NX-OS/VXLAN fabrics with data from storage resources, operating systems, applications, and virtual and physical infrastructure for enterprise-wide visibility

(according to administrative role and access) into faults and affected network objects, offering improved identification of problems and simplifying troubleshooting, which are especially important in complex multitenant deployments. Navigate quickly to the source of degradation with visibility into the actual cause of the problem. View fabric health and path degradation without the need to deploy traffic analyzers because the important

fabric statistics are accessible through the API. Bridge physical and virtual domains and identify the networking problems of connected virtual machines and VMware ESXi hosts. Splunk enables end-to-end visibility and correlation of machine data from Cisco data-center controllers with data across other technology tiers, such as applications, storage resources, operating systems, computing resources, and other networking elements.

Network monitoring challenges

In modern data centers, networks play a critical role in delivering end-to-end technology stacks, going beyond simply connecting endpoints or nodes. To address the ever-increasing demands of applications and devices, networks are expected to be flexible, open, and simple to manage. In addition, monitoring the network infrastructure in isolation from applications and from computing and storage resources leads to a static infrastructure that is not responsive to the dynamic demands of today's applications.

Cisco's suite of data-center networking solutions delivers resources to meet application demands. From Cisco Nexus switches to the Nexus Dashboard platform, to the Nexus Dashboard Fabric Controller (NDFC) and Cisco Application Centric Infrastructure (ACI) network controllers – Cisco offers a bevy of tools to help customers keep their data, workloads, and applications connected and secure for exceptional efficiency across their global data-center networks.

All these tools generate comprehensive network statistics directly tailored to the requirements of applications deployed across physical, virtual, and containerized infrastructure. To take advantage of these detailed statistics, IT professionals need a flexible and scalable solution that can help them understand networking systems not only in the context of application requirements, but also in the context of attached storage, computing resources, and virtualization domains.
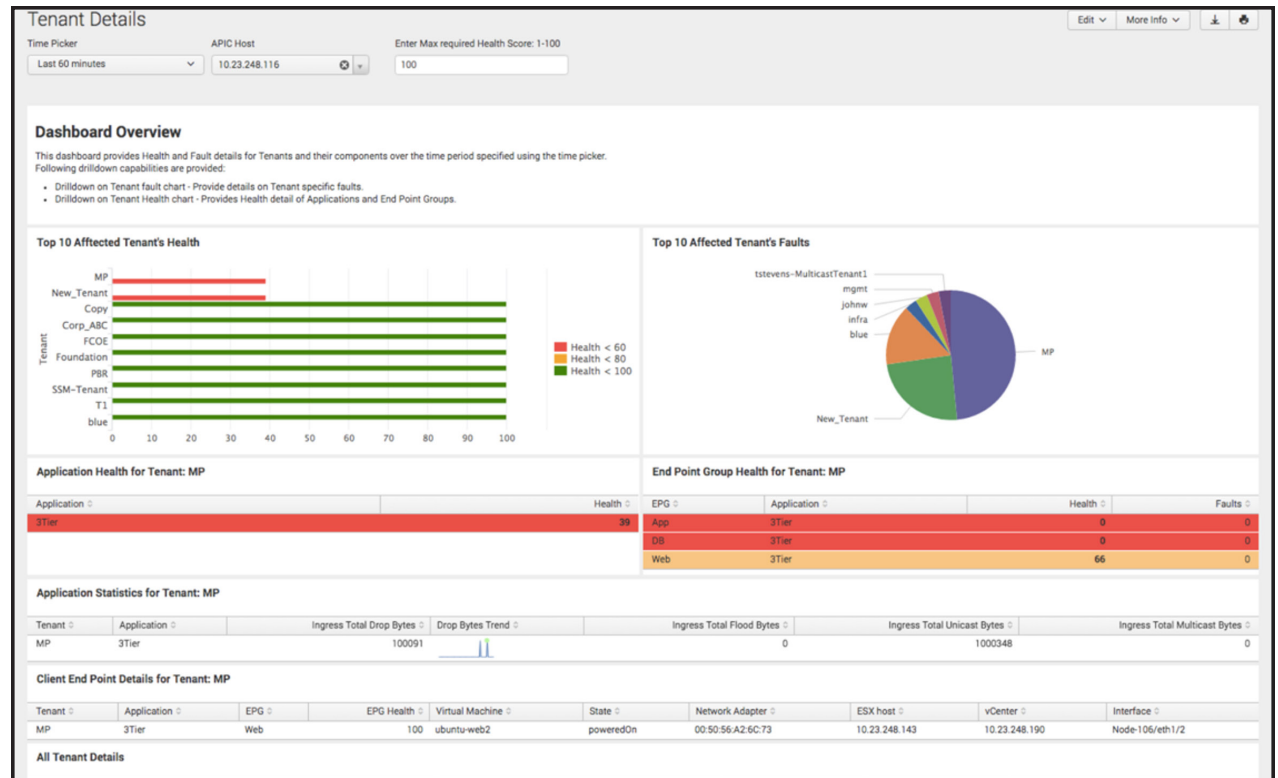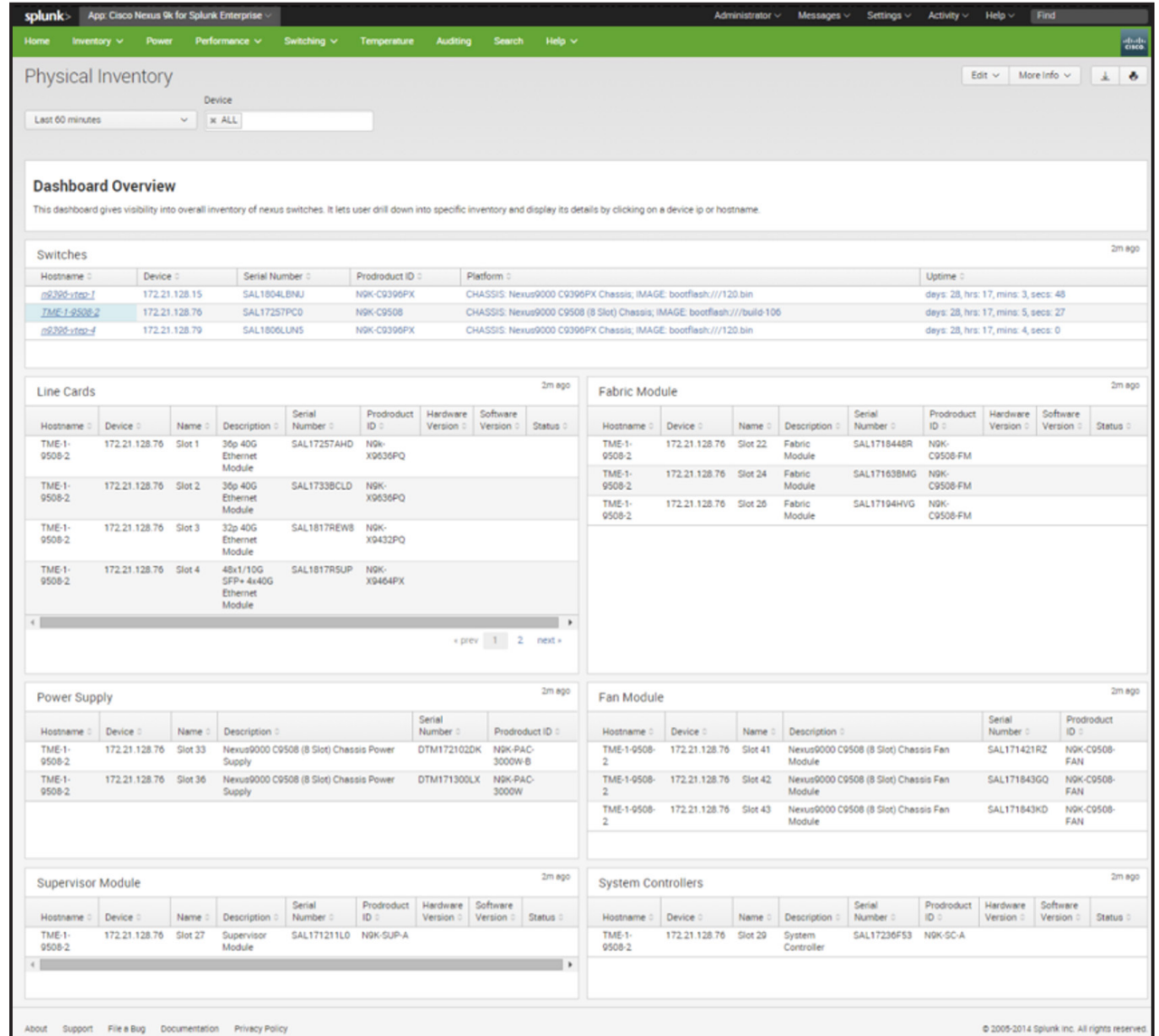

Figure 1. Cisco Data Center Networking Applications for Splunk provide Cisco ACI health and fault details for tenants and their components over time.

Solution components

Joint customers of Cisco Data Center Networking and Splunk can search and download Cisco DCN add-ons and applications from the Splunk Enterprise and Splunk Cloud platforms.

How it works

These applications, including our new, consolidated Cisco Data Center Networking Applications for Splunk, use Cisco's open API frameworks to collect events, anomalies, health scores, advisories, and inventory data from Cisco Nexus 9000 Series Switches, Cisco APIC and NDFC controllers, and Cisco's Nexus Dashboard operations platform. The Cisco Data Center Networking applications for Splunk, in turn, give customers the flexibility to create custom dashboards that provide them with centralized, real-time visibility for their applications and infrastructure across both bare metal and virtualized environments

Figure 2.   Dashboards give visibility into the overall inventory of Cisco Nexus switches.
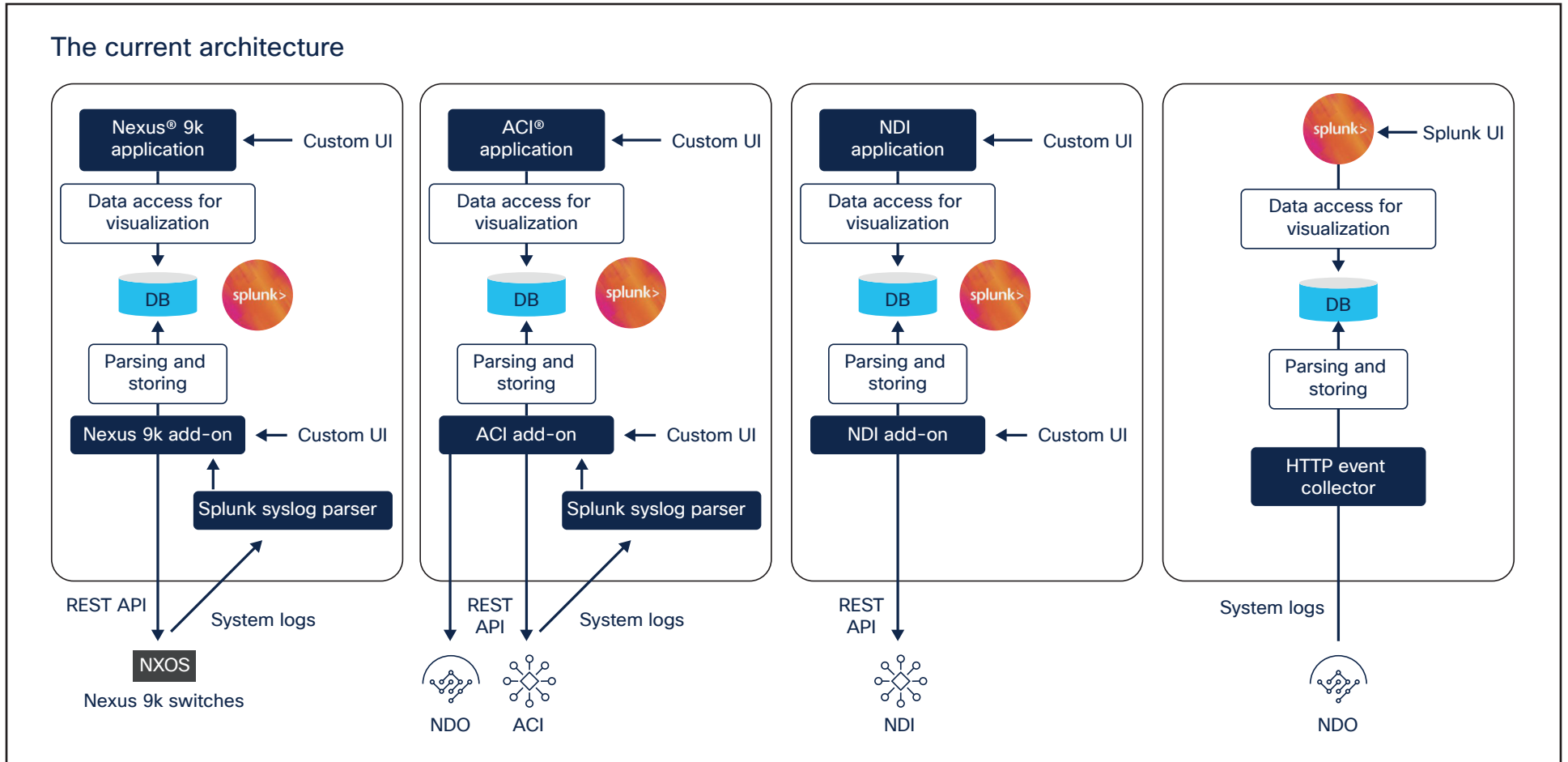
The current architecture

Figure 3.   Cisco Data Center Networking + Splunk: current architecture

Use cases

Table 1.   Integration use cases

DCN Portfolio Level	Integration Use Cases and Features
Switch-level	· Visualization of device information · Asset management · Real-time events and logs on changes · Real-time network monitoring · Historical insights
Controller-level	· Network health and asset management · Network activity metrics (events, alerts, statistics) · Real-time events and logs on changes · Historical insights · Any configuration items (through Cisco ACI APIs)
Nexus Dashboard-level	· Some configuration controller items (through Nexus Dashboard APIs) · Advisories and anomalies 　– Compliance 　– PSIRTs/bugs 　– Performance/drops 　– Configuration issues · Historical insights

Learn more

To learn more, please visit our **Cisco Data Center Networking Ecosystem Partner Collateral**