Monitor SDN with IBM SevOne

Maximize the performance and value of a Cisco ACI infrastructure

Organizations of all kinds are transitioning to software-defined networking (SDN), including the Cisco Application Centric Infrastructure (ACI) solution, for its flexibility and efficiency. Benefits can include virtualized data centers, smoother network scaling, policy-driven provisioning and reduced operating costs. SDN delivers these benefits by automating and centralizing IT and network operations tasks that teams used to perform manually. With software handling those tasks, IT and NetOps team members can focus on more important projects.

To gain all of SDN's compelling benefits and maximize the value of solutions such as Cisco ACI, organizations need to address and overcome the operational challenges that come with this technology. One of these is handling the new network performance monitoring requirements that SDN creates with its speed, complexity and dynamic functions. Another challenge is achieving unified network monitoring when this next-generation technology is added to a network that still has traditional segments. Then there's the need to keep performance monitoring on par as the network environment grows and evolves over time.

These issues have delayed the progress of many organizations' SDN projects or put them on hold indefinitely. But now IBM offers enterprises, managed services providers (MSPs) and communications service providers (CSPs) a way to get past these roadblocks and accelerate their SDN initiatives. Customers gain support for Cisco ACI built into IBM® SevOne®.

Network performance monitoring that encompasses SDN

Support for monitoring Cisco ACI-based software-defined networks (SDNs) is built into IBM SevOne. The technology complements and extends the Cisco ACI built-in control layer with performance management insight into both the software overlay and Nexus switch-based underlay network. This insight further extends to include multifabric views that add entirely new dimensions of performance monitoring functionality across the entire Cisco ACI deployment.

With IBM SevOne, IT and NetOps teams no longer have to use multiple performance monitoring tools to watch over the varied segments of their network environments. They don't have to spend time gathering performance data from their networks' varied segments and cobbling it together to produce useful reports and dashboards.

IBM SevOne automates those time-consuming tasks and delivers the integrated results on a single pane of glass. IT and NetOps teams benefit from access to the key performance indicators (KPIs) of the overlay and underlay networks in the data center without having to directly interact with the Cisco ACI controller and management system user interface. IBM SevOne integrates with those systems automatically, promoting short time to value by including several out-of-the-box reports and dashboards.

IBM SevOne delivers superior speed, flexibility and scalability, producing complete and unified visibility of mixed traditional and next-gen network environments. It's a new and smart way to collect, process and analyze performance data from varied environments that now include segments driven by Cisco ACI. It's an effective way to "democratize" performance data, generating more business value by making it more accessible, understandable and useful for more individuals and teams across organizations.

Key features and capabilities

IBM SevOne makes it easier for technical and business users to instantly see and understand the performance status and overall health of a specific part of a network or an entire networking environment. Following are some of the IBM SevOne key features and capabilities:

Multifabric performance monitoring. IBM SevOne delivers unique insights into both the virtual and physical components of a Cisco ACI-based infrastructure along with the relationships between them. IBM SevOne provides broad coverage, deriving baselining and trending intelligence from all types of network segments—old and new—and stores that data to enable subsequent real-time and historical analysis. These unique multifabric views make it faster and easier for teams to spot and fix performance issues. They also yield insights about how to optimize network resources and deployments that are valuable for business continuity, capacity planning and other operational functions.

Automated KPI monitoring. IBM SevOne integrates directly with the ACI control layer and the underlying physical infrastructure for complete visibility into all the entities comprising a Cisco ACI-based deployment. This integration enables operations and engineering teams to visualize and understand the health and performance of both the virtual (overlay) and physical (underlay) components of an infrastructure and the relationships between them. Following are some important Cisco ACI components monitored by IBM SevOne:

– ACI contract
– APIC status
– Application profile
– Bridge domain
– Capacity
– Controller memory
– Controller CPU
– Controller interface
– Endpoint
– Endpoint group
– Fabric
– Fabric group reference
– Fan tray
– Hypervisor NIC
– Leaf/spine CPU
– Leaf/spine memory
– Management NIC
– Physical interface
– Power supply
– Private network
– Sensor
– Storage
– Supervisor card
– Switch capacity
– Tenant
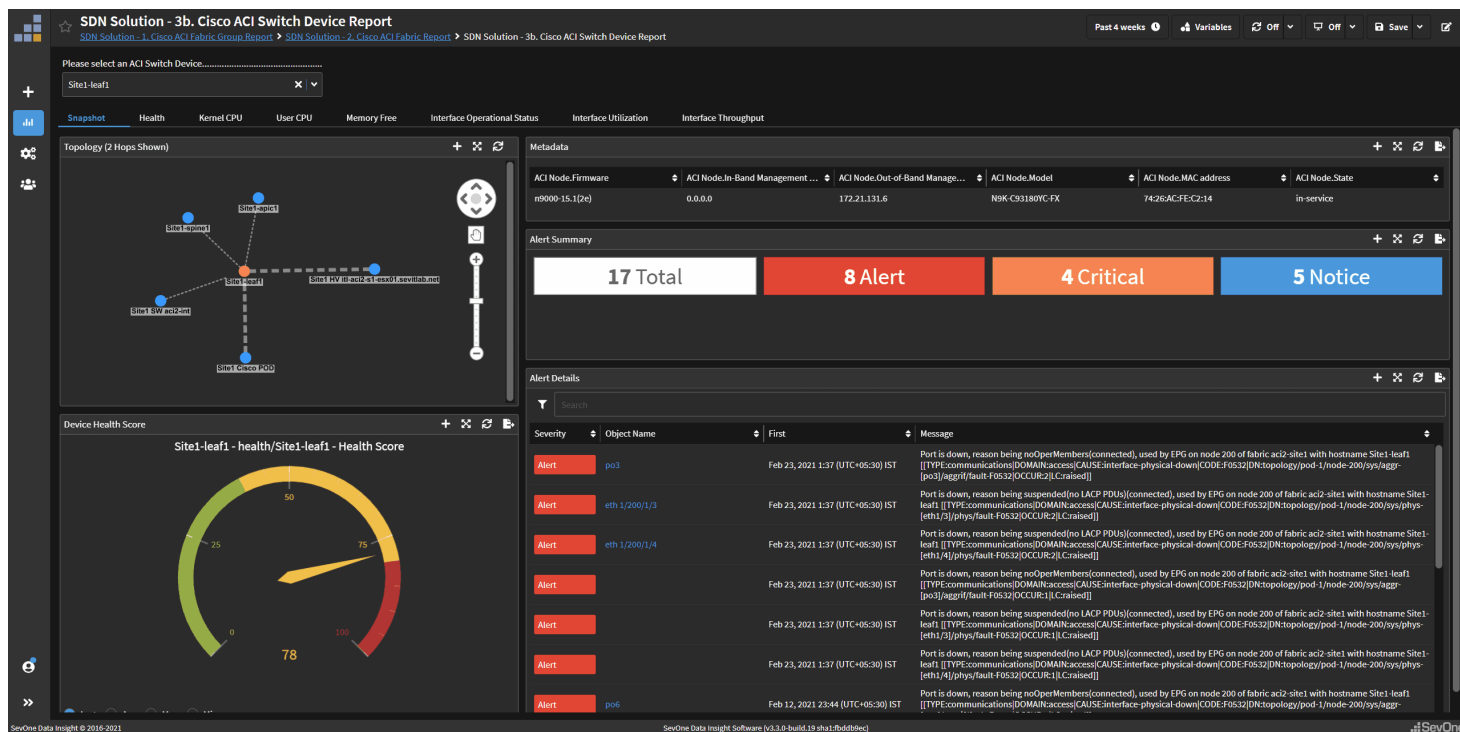
IBM SevOne helps users understand
how their Cisco ACI deployment is
performing in context with the rest
of their network.

Broader, deeper views of Cisco ACI, plus more context

Network operators get a single fabric view within the Cisco ACI embedded management tools. Although this is useful, it's even more useful when presented in the broader context of a full network environment. IBM SevOne delivers multifabric views by folding Cisco ACI data into its multivendor common data model. This incorporates Cisco ACI performance insights with those from the rest of the network—firewalls, servers, load balancers, campus routing and switching, software-defined wide area network (SD-WAN), wifi, branch offices and more.

IBM SevOne includes enhanced Cisco ACI fabric and switch capacity analysis dashboards for at-a-glance visibility into resource consumption information. It automatically collects and updates metadata related to Cisco ACI components, including the recognition of ACI contract objects. This collection provides important configuration-related details within reports and dashboards, and provides additional metadata for enhanced reporting.
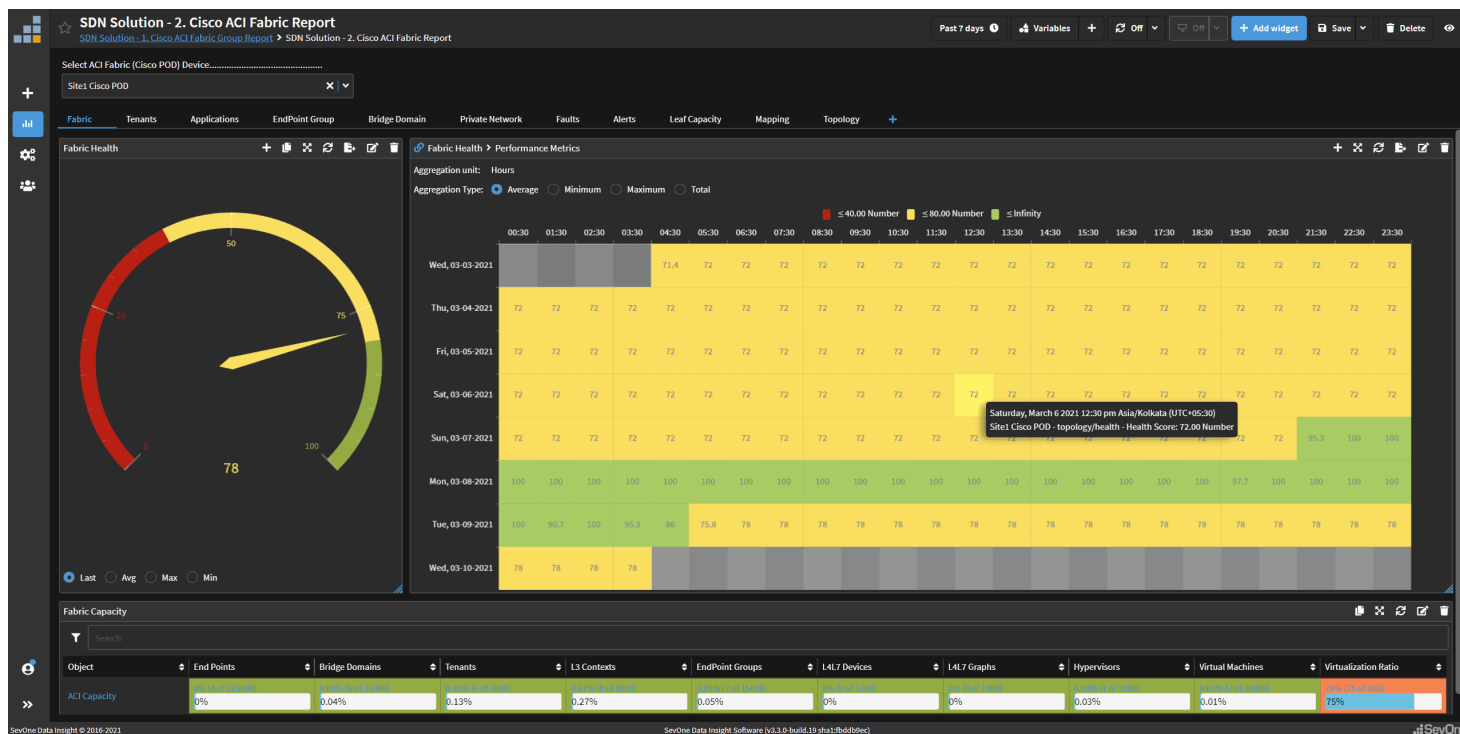
IBM SevOne makes it easier for users to visualize and troubleshoot their Cisco ACI network performance with interactive dashboards.

Interactive dashboards

IBM SevOne technology's intuitive and interactive dashboards make it easier for networking and engineering teams to visualize and work with all types of network performance data. These prebuilt dashboards are designed to communicate the health and performance of everything from a single device or object up to an entire infrastructure. They show teams, at a glance, how network performance is affecting their applications and services. They also ease transitions to Cisco ACI by providing unified views to help teams monitor both traditional and new ACI segments on one screen. IBM SevOne automatically starts to monitor Cisco ACI infrastructure as soon as it is deployed.
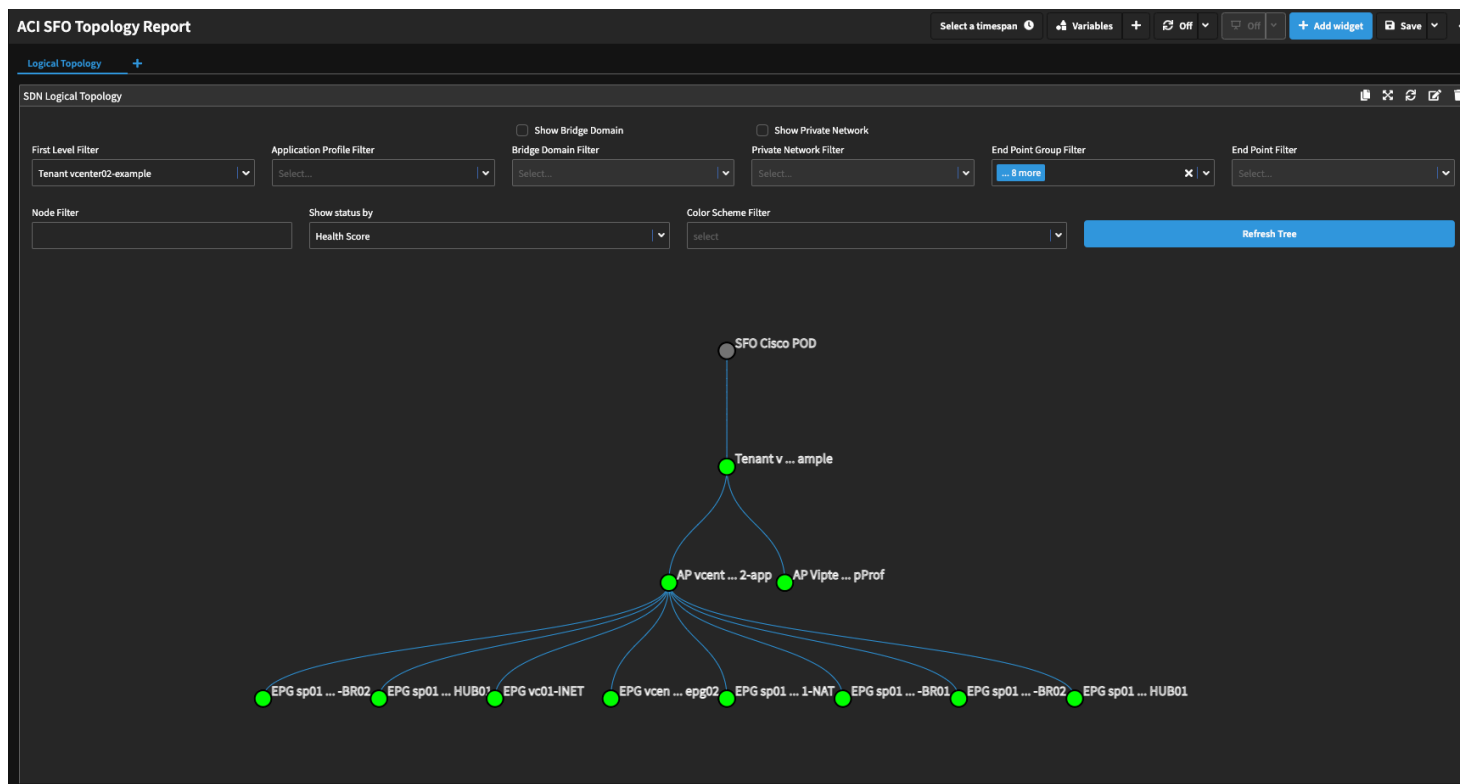
IBM SevOne helps users quickly understand physical and logical relationships in their Cisco ACI network.

Automated logical-to-physical mapping

One of the most daunting challenges for networking teams as they transition to SDN, especially while troubleshooting, is identifying a resource's location. It's different from the case of traditional network architectures, where IT and NetOps people could use IP and MAC addresses to track back to a bare metal server or even a virtual machine (VM) server.

With SDN, changes to physical and logical relationships can be much more fluid and difficult to track. That makes it very difficult for networking staff to pinpoint the location of a particular resource and its relationships to other resources at a particular point in time. And of course, it makes incident response, troubleshooting and basically all network operations tasks much more difficult in these next-gen environments.

IBM SevOne helps eliminate this problem. It enables users to quickly map, filter and search on the logical and physical relationships of any network resource. This includes the relationships among tenants, application profiles, endpoint groups, addresses, operating system revisions, domains, controllers, virtual local area networks (VLANs), pods, and switches' names and ports. IBM SevOne uses this information and report linking to produce visualizations of real-time and historical performance.

Professional services, support and training

IBM offers a complete set of services designed to help organizations using IBM SevOne ensure a successful transition to a Cisco ACI. For customers that have already made the move, the services are geared toward helping them maximize their Cisco ACI investment. These service offerings include:

– Quick start program
– Post-implementation services
– Customized integrations
– Customer training

Conclusion

Organizations' networking and connectivity needs have changed dramatically in recent years and will undoubtedly continue to evolve. Transitioning to SDN solutions such as Cisco ACI can be a great way to meet those needs in a cost-effective and agile way. IBM SevOne helps eliminate management complexity. With IBM SevOne, your organization and team gain the next-generation monitoring capabilities they need to support their connectivity requirements now and into the future.

Why IBM?

IBM SevOne delivers a comprehensive view of what's happening in the hybrid cloud network and how that performance affects the applications driving modern businesses. IBM SevOne can automate tool integrations and network actions based on ML observations, reduce repetitive tasks, and ensure coverage and compliance.

Learn more about IBM SevOne and how it can help your organization meet the agility, reliability and business efficiency needs of modernized organizations with application-centric insights and automation to optimize a modern network.