Hewlett Packard Enterprise

UBM Tech connects with HPE SDN

Manageability, flexibility, scalability; HPE delivers on OpenFlow promise with low-risk, production-ready SDN platform

Objective
Improve security, manageability and flexibility of the networking environment that powers the prestigious network technology trade show, Interop

Approach
Implement a software defined networking (SDN)platform

IT Matters
• Implemented SDN in less than three weeks

• Implementation of SDN delivers security in ways not previously possible

• Network device changes and configuration can be managed from central software console, reducing need for device-level, manual tasks

Business Matters
• UBM is better able to view and manage network devices with holistic, end-to-end visibility into SDN and legacy network services

• SDN manageability and flexibility removes barriers to adding new network capabilities and capacity

• Improved network security protects Interop from security breaches that could harm its brand or impede trade show activitiess
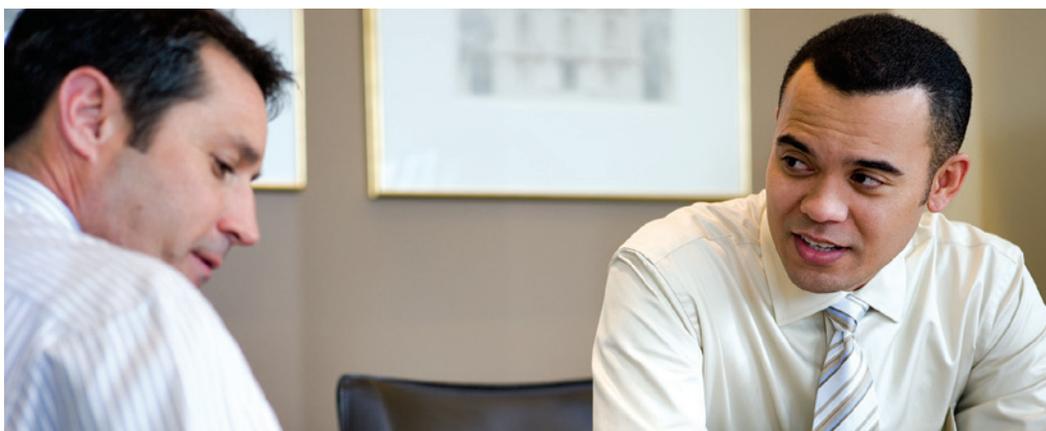
For years, UBM Tech, the global media company that runs the prestigious Interop networking technology trade show, has been watching as software defined networking (SDN) evolved from concept toward potentially production-ready solutions. The company's interest was more than academic: it hoped to one day leverage SDN for its own network, InteropNet. Now that day has come. UBM selected HPE Technology Services Consulting to deploy HPE SDN on InteropNet, which delivered immediate benefits in improved manageability, flexibility, and security.

There are networks, and then there's InteropNet: the network infrastructure that powers Interop, UBM Tech's flagship IT trade show.

Like any enterprise network, InteropNet must be fast, reliable, and flexible. It also presents challenges that place it in a class by itself. InteropNet is a quasi-public platform;

it's intended, in part, to enable the kind of experimentation that most enterprises strive to control (if not prevent entirely). As a result, UBM has little control over how users interact with its network. Network usage can fluctuate highly, and can be difficult to predict. InteropNet's visibility makes it a juicy target for hackers and mischief-makers. Interop is watched closely by technology and business media. Any network glitches will be noticed, mentioned—and possibly become the topic of news reports or media analyses.

If that's not enough, InteropNet is a mobile environment: typically, UBM has only four days to set up the network at an event location.

As UBM considered these factors in searching for technology solutions, SDN emerged as a technology enabler. UBM turned to Hewlett Packard Enterprise (HPE) to become its SDN partner.

> "HPE's SDN solution doesn't add overhead in terms of power, space, or gear. HPE overlaid its SDN architecture across the existing legacy network architecture without a redesign of the legacy environment."

— Glenn Evans, lead architect for InteropNet, UBM Tech

HPE validates SDN solution is production-ready

Interop is a prestigious and highly visible event. Held in major cities around the world, including Las Vegas, Tokyo, and London, Interop draws approximately 10,000-15,000 attendees and exhibitors per show. Network vendors use the show to launch and showcase their products and services. Businesses attend to explore network solutions that may deliver value to their IT infrastructures.

As a network solutions provider, HPE has long participated in Interop as an exhibitor; each year, it demonstrates upcoming HPE Networking technologies to interested attendees.

Some years ago, HPE began including its SDN solutions in its booth demonstrations. In 2014, HPE's SDN demo moved beyond the booth demonstrations to the InteropNet production network. HPE showed that it could deploy SDN for trade show attendees and the SDN lab vendors in under three weeks. They also showed that they could geographically distribute their SDN architecture across the country—3,000 miles. HPE also supported its own corporate booth via the HPE SDN network during the show, a measure of the company's trust in the technology.

> "HPE was comfortable enough with their software defined networking solutions that they were willing to demo them in a public forum, in a live environment."

– Glenn Evans, lead architect for InteropNet, UBM Tech

As the trade show organizer, UBM watched HPE's SDN accomplishments with growing interest. "We pay attention to vendor demonstrations for the same reasons our attendees do," explains Glenn Evans, lead architect for InteropNet, UBM. "We're interested in what's new and exciting—what hasn't been done before. But with SDN, our interest went further. We were on the lookout for production-ready SDN technology that we could implement in our own infrastructure. In 2014, we began to suspect that HPE's SDN solutions had reached that point."

App-based functionality, minimal risk

Convinced that SDN technology had reached sufficient maturity, UBM issued an RFP to formalize its evaluation of available SDN solutions. The company considered responses from a number of vendors; it determined that HPE was best positioned to implement an end-to-end, production-caliber SDN architecture. "Several companies we looked at have done good development work," Evans

notes. "But HPE's SDN solution was the only one that is ready for a transport, end user-type environment."

Another important advantage HPE offers is that it has taken an "app"-based approach to its SDN services offerings. "HPE designed its SDN to offer easy access to SDN applications through an SDN app store," Evans explains. "We can pick and choose the applications we want to solve specific business problems. It's an approach we like very much."

Implementing HPE's SDN was also attractive to UBM because it introduced zero risk to the underlying physical network. "If the HPE SDN architecture were to fail, it wouldn't impact production traffic," says Evans. "It can be disabled, if needed, without affecting network users."

HPE Technology Services Consulting supports fast, smooth deployment

The two companies then went to work to design and implement an HPE SDN architecture for InteropNet. No additional hardware was required for the deployment, Evans notes. "We were able to do this without adding equipment costs," he says. "HPE's SDN solution doesn't add overhead in terms of power, space, or gear." HPE overlaid its SDN architecture across the existing legacy network architecture without   a redesign of the legacy environment.

The solution leverages HPE IMC Virtual Application Networking (VAN) Resource Automation Manager Software, an Intelligent Management Center (IMC) management solution that provides a dashboard for executing SDN functions.

"The HPE IMC platform lets us look at our traditional network and SDN from a single pane of glass. That is a very powerful capability"

 – Glenn Evans, lead architect for InteropNet, UBM Tech

Because one of UBM's primary business needs is protecting InteropNet from malware and hackers, it selected the HPE Network Protector SDN app.

The implementation timeframe was extremely aggressive: the team had a window of under 21 days to go from SDN design to production. HPE therefore brought in consultants from the HPE Technology Services Consulting group to support the implementation process. "HPE provided about five engineers, each with expertise in a specific area," Evans says. "They worked in parallel, and coordinated their work so that we'd arrive at a single point at the end state. It was a very positive experience for us."

One of the critical services the HPE consultants provided was load testing the SDN architecture. "HPE used test equipment to simulate the kinds of live video sessions we'd be running over the network," says Evans. "They looked at the effect the traffic had on network performance and put policies in place to help ensure critical traffic would get through."

The support from HPE Technology Services Consulting also compressed the development times to meet UBM's requirements. "We had a five-day build/test cycle, and then implemented the HPE SDN production environment in another two days," says Evans. "We finished well within the timetable we set."

Holistic view, flexible and efficient management

With the HPE SDN solution deployed, UBM has achieved new levels of security, control over, and management of, its InteropNet network.

The HPE IMC dashboard, for example, enables UBM to more effectively monitor InteropNet activity—both SDN and traditional networking. It has better visibility into what devices are on the network as well as issues that are affecting network performance and responsiveness.

The HPE SDN solution also enables a more holistic view of network services, because it enables UBM to view services across the network, server farm, and applications.

Customer at a glance

Software
- HPE Virtual Application Network (VAN) SDN controller
- HPE Network Protector SDN application
- HPE Network Optimizer SDN application
- HPE IMC Virtual Application Networking (VAN) Resource Automation Manager Software

HPE Services
- HPE Technology Services Consulting

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It allows for more flexible and efficient network management. If UBM network administrators want to make changes to the network, they can do so by executing from the HPE IMC dashboard. It's no longer necessary to make changes, such as switch upgrades, via manual changes at the device level. "The promise of SDN is that it enables networks to separate data transport from network control," says Evans. "Our HPE SDN architecture delivers on this promise, using the OpenFlow communications protocol." The HPE SDN solution also helps protect InteropNet from security issues: the HPE Network Protector SDN app distributes a portion of the intrusion protection function across the network, which automates application-level security with inbound and outbound DNS inspection capabilities. "HPE's SDN implementation helps protect us from a number of different scenarios," says Evans. "Like any well-known event, Interop attracts people who see penetrating our network as a challenge. We also need to protect the network from its legitimate users—for example, by protecting people from inadvertently introducing viruses. HPE Network Protector SDN application gives us another tool to do that, in areas of the network not possible before."

Delivering on SDN promise—today

UBM is considering ways it can further leverage HPE's SDN products and services in the future. "One of the challenges of managing InteropNet is that it is a mobile environment," says Evans. "You are constantly building it, taking it down, and building it again—and every time you do, it's different than the last time. SDN helps us manage that by automating and centralizing configuration tasks that were once executed at the device level. This changes the decision-making process we go through when we consider adding network capabilities. It removes a constraint."

> "HPE is at the forefront of software defined networking solutions."
>
> – Glenn Evans, lead architect for InteropNet, UBM Tech

For example, it would be easier for UBM to deploy Microsoft Lync communications software on its InteropNet platform, by using HPE's SDN Network Optimizer application to prioritize Lync traffic. UBM is also considering other services to support attendees' ability to communicate or set up ad hoc meetings on the show floor, or to offer sessions remotely.

> "Working with HPE Technology Services Consulting was a very positive experience. We explained what we wanted to do, and they took that and delivered what we needed in a very compressed timeframe."
>
> – Glenn Evans, lead architect for InteropNet, UBM Tech

HPE's SDN implementation delivers a platform for new possibilities in flexibility and manageability of UBM's next Interop shows, likely through just downloading an SDN app. "With HPE's SDN architecture, we'll shorten our InteropNet install times. We're better able to address changes to on-site network requirements," says Evans. "When HPE designed its SDN platform, they not only thought about the underlying technology, but how to manage and integrate it with both legacy and new hardware and applications, including 3rd party. We've been watching SDN for quite a few years now, and HPE's SDN architecture is delivering on everything we knew SDN could be."

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