

# BUILDING NEXT-GENERATION BROADBAND NETWORKS

Sandvine gives communications service providers more choice in broadband network designs, boosting their agility and competitiveness



Communications

Canada

## Business needs

To help its global customers deliver fast and reliable broadband services to hundreds of millions of subscribers and manage rapidly increasing requirements, Sandvine wanted to offer its network-policy-control software on turnkey appliances based on open standards and commercial off-the-shelf hardware.

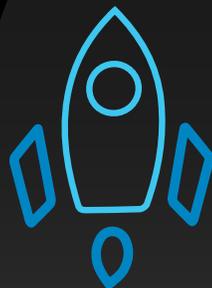
## Solutions at a glance

- [OEM Solutions](#)

## Business results

- Facilitates next-generation services
- Supports growth with highly scalable, multi-terabit solutions
- Maintains consistent branding and minimizes costs

Boosts competitiveness with best-in-class solutions



Increases business agility and technology choice



As hundreds of millions of subscribers flood broadband networks with increasing internet traffic, communications service providers (CSPs) are beginning to take advantage of the benefits of network virtualization by adopting network functions virtualization (NFV) and software-defined networking (SDN). That's because CSPs need NFV and SDN to keep up with increasing traffic volumes and at the same time add new services, improve subscriber experience, reduce network costs and boost revenue. Sandvine is helping service providers gain a competitive edge with NFV and SDN. Collaborating with Dell OEM Solutions and Intel, Sandvine offers the fastest virtualized, network-policy-control solution available today.

Sandvine's end-to-end, network-policy-control offerings add intelligence to fixed, mobile, and converged networks so that CSPs can quickly and flexibly deliver innovative, reliable digital services to customers. In real time, its products secure and analyze internet traffic at a detailed level, classify it and then enforce traffic policies. In addition, CSPs depend on Sandvine's solutions to gain actionable business insight and boost engagement through context-sensitive communications with subscribers and by facilitating new services for consumers and businesses.

In the past, CSPs had typically deployed Sandvine's network-policy-control solutions on its purpose-built hardware. However, as these organizations began to revamp their networks in anticipation of virtual open-standards technologies such as NFV and SDN, Sandvine began to work with third-party vendors that could provide highly scalable, carrier-grade hardware as needed. Chris Frederick, director of technology partnerships at Sandvine, explains, "We wanted to tell our customers, 'You can deploy any of our solutions on the platform you choose, whether that happens to be purpose-built by Sandvine, or on a pretested, best-of-breed, commercial-off-the-shelf system.'"

## Boosts competitiveness and agility

Because its policy-control solutions are deployed in more than 300 networks in over 100 countries, Sandvine looked at vendors with a similar global reach to help create a turnkey offering. Based on reputation, research and previous vendor experiences, Sandvine decided to collaborate with Dell EMC and Intel. Nicolas St-Pierre, vice president of the Office of the CTO at Sandvine, says, "One thing that we like about working with Dell EMC is that it's developing technologies for the carrier space, which means it understands our customers. In addition, the OEM service model works very well within Dell EMC. It's very flexible in allowing us to build servers to our specifications."

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## Supports growth with multi-terabit speeds

In late 2015, there was a lot of industry buzz about NFV but no company had demonstrated a solution that was ready for production. Sandvine, along with Dell EMC and Intel, changed that with an innovative platform that provides its industry-leading policy control solution along with a virtual network function (VNF). Created in under a month, the platform set the NFV performance benchmark. It included Sandvine’s Policy Traffic Switch Virtual Series software running on Dell EMC PowerEdge servers, Intel® Xeon® processors and the Intel Data Plane Development Kit (DPDK). “We were the first in the industry to achieve a 1-terabit-per-second data plane VNF,” explains Frederick. “We did so using a Dell EMC PowerEdge M1000e and Intel technologies. Today, more than a year later, no one in our industry has published a faster NFV benchmark. This proof of performance is an immense differentiator for Sandvine and our customers.”

## Maintains consistent branding and minimizes costs

Today, Sandvine works with Dell OEM Solutions to offer a variety of preconfigured appliances based on Dell EMC servers. Options include control plane products such as a TCP Accelerator, which runs on PowerEdge R630 servers with Intel Xeon processors. Each device features a custom BIOS and a Sandvine-branded panel, documentation and splash screen (which displays at boot-up). “We realize some cost efficiency by working with Dell OEM Solutions,” St-Pierre says. “We also save time when we create an appliance with a Dell EMC server, because we don’t have to manage the hardware’s lifecycle, and we have visibility into the next-generation technology, which helps with planning.”

## Increases choice for Sandvine and its customers

By leveraging the massive scope of Dell OEM Solutions, Sandvine's clients can also save time and money. "Some of our customers purchase bigger volumes of Dell EMC systems than we do," explains St-Pierre. "So if they prefer, customers can buy our appliances directly from Dell EMC instead of through us."

## Reduces risk and facilitates next-generation services

Historically, operators must overprovision infrastructure so they have resources both for future network growth and for managing unpredictable traffic demands. To help its customers spur agility, reduce idle resources and boost the ROI of IT investments, Sandvine is collaborating with Dell EMC and Intel on a new highly flexible, rack-scale solution. "Carriers can deploy a hyper-converged system — one based on the Dell EMC DSS 9000 and Intel's DPDK — and use it dynamically, for the purpose du jour," St-Pierre says. "And they can configure the compute, storage and networking using an API such as OpenStack or Redfish."

So, for example, if a provider's network-response times are slowing, engineers can immediately allocate 150 compute nodes to support TCP acceleration. Or, if a provider detects a DDoS attack, it can repurpose the appliance for a security role in seconds.

"As our products evolve and get even more advanced, there's always a platform from Dell EMC that matches our new requirements for throughput, scalability and elasticity in an increasingly flexible way," says St-Pierre. "This new initiative we're working on with Dell EMC and Intel is a great example of what's possible when solutions and messaging are in lockstep with each other."

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