

Why enterprise is talking about software-defined networking

The IT industry has successfully virtualised the data centre, including storage, servers and the data centre local area network. Now it's time to virtualise the wide area network (WAN), still a significant infrastructure investment that simply isn't keeping up with the technology demands of today's dynamic enterprises. Those demands all centre around bandwidth - now required at volumes unsuited to the static architecture of typical networks.

It is bandwidth that enables the vast number of mobile devices on any corporate premises to operate without crashing the company network. Bandwidth supports access to geographically-dispersed data and services in the cloud. Without bandwidth, enterprises can't process the massive amount of information that is 'big data' without risking the performance of their network.

Bandwidth expansion

"Enterprises reliant on current networking paradigms will find themselves increasingly constrained, unable to take advantage of exciting computing trends like software as a service and bring your own device," says Greg Montjoie, executive: connectivity at Internet Solutions.

"A physical network cannot support bandwidth expansion demanded by the cloud and other virtualised technologies in a way that is agile, scalable and still economically practical."

Simply put, software-defined networking (SDN) separates physical data network hardware from the people who configure and manage the network. This means that turning up and turning down bandwidth requirements is done more responsively, as demand dictates, from a single network console.

Instead of manually accessing and adjusting expensive network devices that are bundled with proprietary firmware, administrators use a software interface to aggregate several different connections so they function like one virtual, overlapping network. This enables programmatic control and automation of path selection and traffic engineering as data traffic rules can be adjusted almost instantly. Most importantly, SDN connects clouds, applications and network devices in a manner that is dynamic, cost-effective and infinitely adaptable.

Montjoie is quick to acknowledge that network hook-up and breakdown operations can still be done manually – for now. "As our mantra and end-goal is increasingly 'do more with less', the demand for cost efficiency and flexibility, as well as shortened project timelines will require IT departments to configure networks more efficiently," he says.

Early days

It's early days for software-defined networking. Recognisable industry players like Cisco, IBM, Citrix, Dell, Google, Verizon and others are all exploring how SDN will save on network infrastructure costs while improving network performance. In South Africa, Internet Solutions is currently piloting the country's first elastic wide area network, or e-WAN, built on SDN principles.

"We're seeing interesting use cases in retail and construction verticals, and in companies that have various offices or branches where synchronised communication is important," says Montjoie.

"SDN is maturing rapidly and it is time for enterprises to keep an eye on industry developments in this area so they can assess when SDN should appear on their IT roadmap."

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