

THE POWER OF END-TO-END NETWORK INTELLIGENCE

The Networking World is Changing

In today's networking world, service providers are faced with relentless pressure to deliver new service offerings that keep pace with the ever-changing end-user demand for mobile applications. Huge quantities of data are no longer stored locally, but are kept remotely, where mobile users can access them anytime, anywhere, via any mechanism.

The need for ubiquitous, always-on access to content drives enterprises to store data in a distributed fashion within the cloud without adversely affecting the performance of any application through the network. With this in mind, network providers need more control over their network for making changes to bandwidth profiles based on specific demand or offering levels of service that meet end-user requirements. Additionally, they want a network that can rapidly adapt to problems, outages, maintenance issues, and other changes that might adversely affect network performance and reliability.

Security and privacy are paramount concerns for today's service providers—particularly their government and business clients. In submarine networks, it is typical that in-band signaling (where the control commands are sent in the same channel as

the customer data) is not supported; therefore secure out-of-band signaling is required.

Bandwidth-on-demand capability and latency awareness are critical to meeting Service Level Agreements (SLAs) and ensuring reliability during normal operations and any subsequent restorations. Service providers can sell differentiated services to meet the needs of different types of customers.

The need for Optical Virtual Private Network (O-VPN) service is a growing trend to give service providers the means to leverage their installed switching base and make secure portions of the optical network available to end-users.

Ron Kline, Principal Analyst at Ovum, recently observed:

Automated control plane-based optical networks have been operating for years in the core of the network with great success. Extending control plane functionality to the network edge and adding policy-based programming control substantially increases an operator's ability to differentiate and create new services to monetize network assets. Therefore, we anticipate growing interest in such features.¹

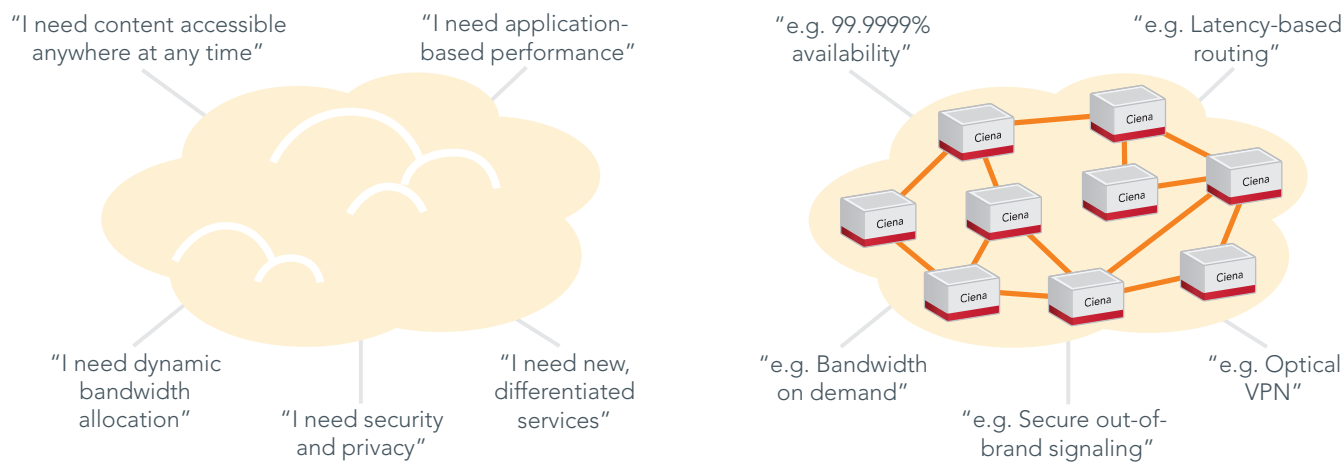


Figure 1. Network differentiation

¹ <http://www.ciena.com/corporate/news-events/press-releases/Ciena-Unveils-Next-Generation-Intelligent-Control-Plane-Software.html>