Charting the Path to Network Automation & Disaggregation: Carrier SDN Survey Analysis

EXECUTIVE SUMMARY

Since 2012, Heavy Reading has researched the application of software-defined networking (SDN) in carrier networks through global network operator surveys, one-on-one service provider interviews, and countless discussions and briefings with SDN software and hardware suppliers. With initial industry exuberance so high, it was inevitable that SDN would fail to live up to lofty expectations. In that context, today's environment of disenchantment – particularly for network functions virtualization (NFV), but also affecting SDN – should not be surprising.

But the SDN disenchantment storyline masks a timeline of true progress, evolution, and continued standardization. For one, the percentage of network operators reporting commercial SDN network implementations has doubled over the past 18 months. And, while SDN was inextricably coupled with NFV initiatives early on, we are now seeing SDN deployments accelerate independent of virtualization and NFV. Historically, major networking technology adoption trends have evolved over roughly ten years' time. Many believed that SDN would prove an exception and hit the mainstream faster, but perhaps not.
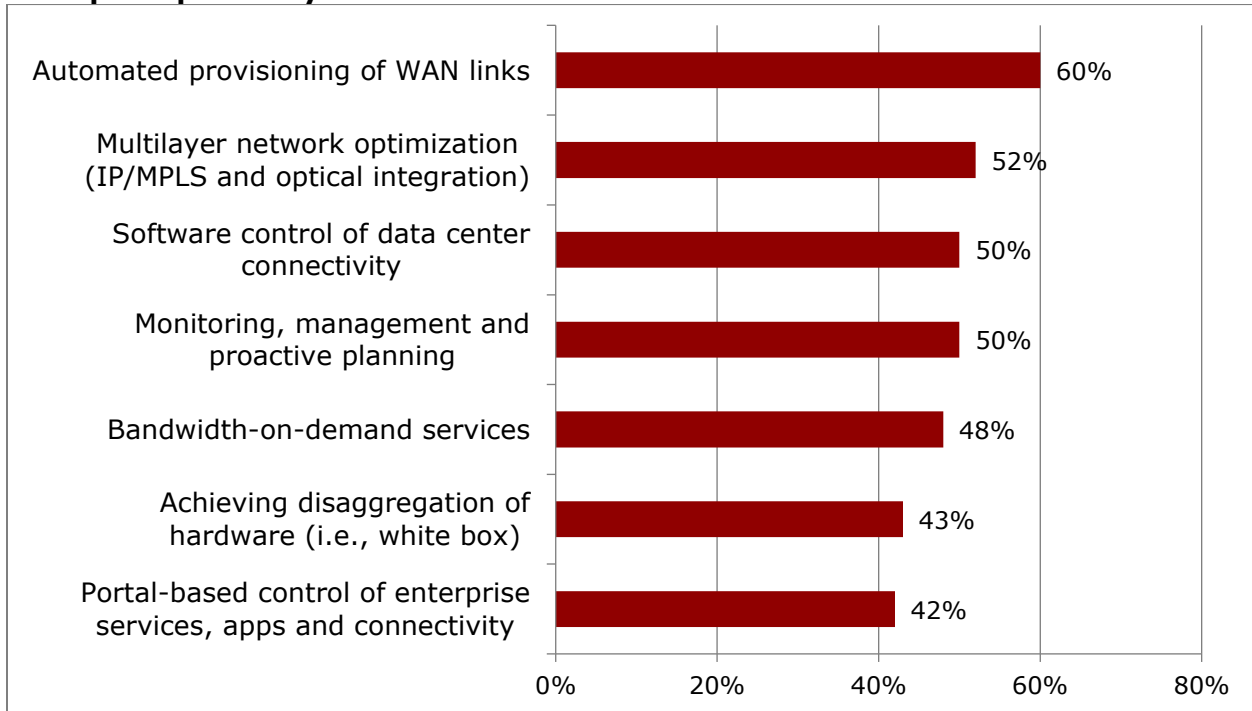
Charting the Path to Network Automation & Disaggregation: Carrier SDN Survey Analysis assesses the evolution of SDN in carrier networks through an in-depth survey of network operators around the globe. The survey-based project builds on an unparalleled wealth of operator data and insights gained from six years of extensive Heavy Reading primary research in this area. Building on our knowledge base and past survey work, we focus this SDN study on two critical areas: disaggregation in packet-optical networks and automation in the carrier wide-area network (WAN).

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This research project is based on a Web-based survey of network operators worldwide, conducted in September 2017. Respondents were drawn from the network operator list of the Light Reading readership database. More than 180 people completed the survey; of that total, 142 were deemed qualified participants and were counted in the results. To qualify, respondents had to work for a verifiable network operator that generated at least $50 million in annual revenue.

In our survey, we wanted to understand why operators are deploying, or planning to deploy, SDN in their networks. The excerpt below shows SDN use cases according to the percentage that selected each as "high priority." We asked respondents to identify use case priorities in the next one- to three-year timeframe. Results show that many SDN use cases have high priorities, and automation is a key theme among them – whether it's across the WAN, across layers (such as IP and optical integration) or within the data center.

Excerpt: Top-Priority SDN Use Cases

Use Case	Percentage
Automated provisioning of WAN links	60%
Multilayer network optimization (IP/MPLS and optical integration)	52%
Software control of data center connectivity	50%
Monitoring, management and proactive planning	50%
Bandwidth-on-demand services	48%
Achieving disaggregation of hardware (i.e., white box)	43%
Portal-based control of enterprise services, apps and connectivity	42%

N=137

Charting the Path to Network Automation & Disaggregation: Carrier SDN Survey Analysis is published in PDF format.