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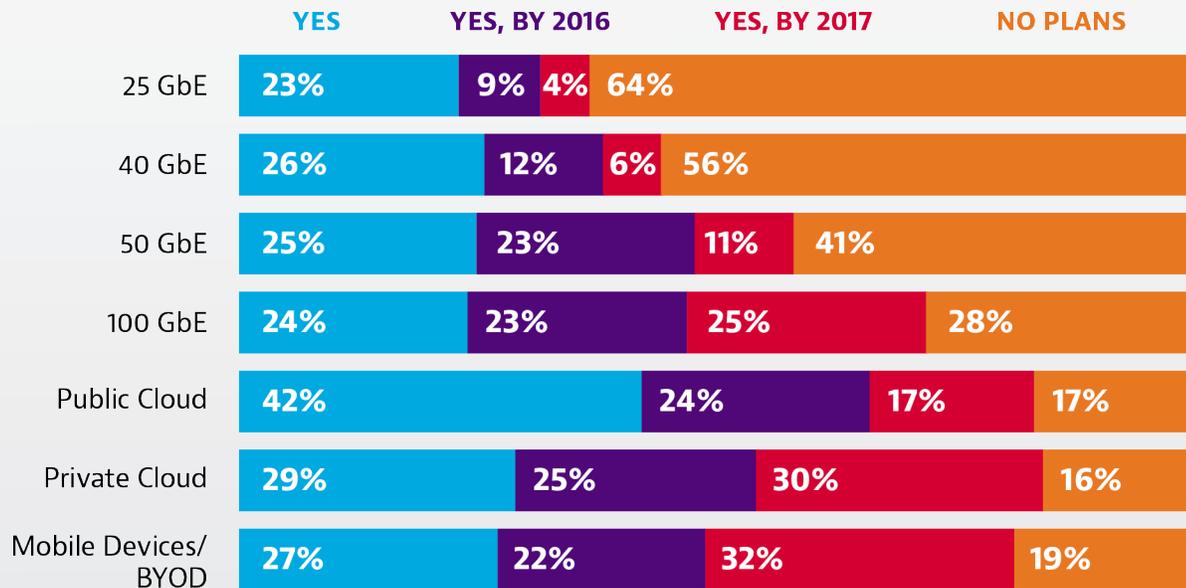pr@viavisolutions.com

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Ninth Annual "State of the Network" Global Survey from Viavi Finds Two-Thirds of Enterprises Have Deployed SDN

Full Study Results Point to Acceleration in Bandwidth Requirements and Adoption of Emerging Technologies, Including 100 GbE and Public Cloud

Milpitas, Calif., May 17, 2016 – Viavi Solutions (NASDAQ: VIAV) released the results of its ninth annual State of the Network global study today. Based on insight gathered from 740 CIOs, IT directors, and network engineers around the world, enterprises have significantly accelerated their adoption of next-generation infrastructure technologies, driven by skyrocketing bandwidth requirements. Fifty-four percent of respondents expect bandwidth requirements to grow by half in 2016, and 48 percent expect them to double by the end of 2017. Enterprises are significantly increasing deployment of 100 Gigabit Ethernet (100 GbE), public and private cloud, and software-defined networking (SDN). The study is now available for download.

"Data networks of all types, around the globe, are being strained by an explosion of traffic, from bandwidth-hungry video today to the Internet of Things tomorrow," said Oleg Khaykin, President and Chief Executive Officer, Viavi Solutions. "As our State of the Network study shows, IT teams are responding by moving faster to implement emerging technologies, giving them the cost-effective scalability and flexibility they need. Of course there will be ensuing challenges, from the unique installation and maintenance requirements of 100 GbE, to the loss of performance monitoring capabilities for networks spread across physical, virtual and cloud segments."

EMERGING TECHNOLOGY DEPLOYMENTS

	YES	YES, BY 2016	YES, BY 2017	NO PLANS
25 GbE	23%	9%	4%	64%
40 GbE	26%	12%	6%	56%
50 GbE	25%	23%	11%	41%
100 GbE	24%	23%	25%	28%
Public Cloud	42%	24%	17%	17%
Private Cloud	29%	25%	30%	16%
Mobile Devices/ BYOD	27%	22%	32%	19%

The full results of the survey also show that emerging network technologies have gained greater adoption over the past year.

Highlights include:

- **Bandwidth use expectations accelerate year over year:** Projected bandwidth growth is a clear factor driving the rollout of larger network pipes. But the rate at which bandwidth requirements are growing is also surging. In the 2015 study, 14 percent of respondents expected bandwidth to double by the end of the second year (2016); in this year's study, 48 percent expect bandwidth to double by 2017.

- **Bandwidth growth reverberates throughout the network:** Adoption of 25 GbE and 40 GbE interfaces appears to have remained consistent year over year, with roughly the same number (one in four) saying they had already deployed these speeds in 2015 and 2016. However, enterprises are signaling a shift to 100 GbE, with one in four also having implemented it, and two out of three planning to do so by 2017. Of particular note is that in 2015, 56 percent of respondents said they had no plans to deploy 100 GbE, and in 2016 that number has dropped to 28 percent.

- **SDN adoption accelerates:** two out of three respondents have already deployed some facet of SDN. In contrast, in the 2015 study, SDN adoption by the end of 2016 was projected to be 51 percent, with slightly less than half of respondents saying they had no plans at all. Thirty-five percent have implemented an SDN underlay and 27 percent are using an SDN overlay technology.

- **Enterprises increasingly turn to the cloud:** Almost 90 percent have at least one application in the cloud, and 28 percent have the majority of their applications there. By 2017, more than four out of five will be using public or private cloud, and over half will have the majority of their applications in the cloud. Also, over half of respondents said they are using two or more public cloud vendors, with 43 percent using two and 13 percent using three or more.

- **Ensuring cloud visibility and application monitoring:** the top three challenges in moving to the cloud are loss of visibility and control, tracking end user experience, and SLA enforcement. Almost nine in 10 respondents cite each of these issues as being very or somewhat challenging. For the first time in the study's nine-year history, the top challenge in application monitoring is no longer "isolating the problem to the network, system or application," but "tracking application bugs and patches" (60 percent), hinting at hurdles in moving hosting outside the internal data center.

"The rush towards software-controlled networks, the push for ever-greater bandwidth and the challenges with cloud infrastructure are all part of the 'megatrends' that we're seeing in the enterprise market," commented Shamus McGillicuddy, Senior Analyst at Enterprise Management Associates. "The network is being held to a higher level of availability and performance than ever before. At the same time, hybrid cloud networking is becoming the new normal. That represents a dual challenge to enterprises, as they need to re-tool for a new hybrid environment while finding a better way to analyze performance and manage their resources."

Key takeaways: what should IT service delivery teams do?

- Given the demands on network resources and the diverse responses available, it is more essential than ever for the traditional IT silos—including server, network, application, security, and infrastructure groups—to closely collaborate for optimal service delivery levels.

- As higher speeds up to 100 GbE are introduced, installation, monitoring and troubleshooting processes will likely need to be redesigned to maintain acceptable levels of performance visibility. For monitoring purposes, although software probes are key to ensuring visibility in virtualized

portions of the network, at 40 GbE and 100 GbE, hardware is better suited to ensure the capture of user traffic for analysis.

- Teams need to take the bull by the horns when it comes to comprehensive monitoring of an increasingly hybrid IT environment where resources can be hosted in public, private, or legacy infrastructure.

- For SDN deployments, groups must validate monitoring solutions support their technology architecture of choice including awareness into underlying communication protocols like OpenFlow and VXLAN. Otherwise visibility into control and encapsulated data plane traffic may be compromised and service levels negatively impacted.

- As organizations move from traditional to increasingly converged, virtual, and cloud-based architectures, it's important for IT teams to work closely with their performance management vendors—network performance monitoring and diagnostic (NPMD) tools, packet brokers, application performance management (APM), and network security—to navigate uncharted territory.

State of the Network Global Study Methodology

Viavi (previously Network Instruments) has conducted its State of the Network global study for nine consecutive years, drawing insight about network trends and painting a picture of the challenges faced by IT teams. Questions were designed based on interviews with network professionals as well as IT analysts. Results were compiled from the insights of 740 respondents—more than double the number of the previous study—including CIOs, IT directors and network engineers from around the world. In addition to geographic diversity, the study's sample was evenly distributed among networks and business verticals of different sizes. Responses were collected from March 10 to March 28, 2016 via online surveys.

About Viavi Solutions
Viavi (NASDAQ: VIAV) software and hardware platforms and instruments deliver end-to-end visibility across physical, virtual and hybrid networks. Precise intelligence and actionable insight from across the network ecosystem optimizes the service experience for increased customer loyalty, greater profitability and quicker transitions to next-generation technologies. Viavi is also a leader in anti-counterfeiting solutions for currency authentication and high-value optical components and instruments for diverse government and commercial applications. Learn more at www.viavisolutions.com and follow us on Viavi Perspectives, LinkedIn, Twitter, YouTube and Facebook.