

Network Instruments Seventh Annual State of the Network Global Study

EXECUTIVE SUMMARY

When it comes to the endless snarl of today's networking highways, it's easy enough to get lost. Released in May, the Seventh Annual State of the Network Global Study by Network Instruments® has captured some interesting trends among IT professionals that suggest a definitive need for more input. Over 240 respondents called out Software-Defined Networks (SDN) and 40 Gb as growing areas of focus, while interest in Unified Communications (UC) remains high. However, most notable is the fact that for the seventh straight year, survey results indicate that the top troubleshooting concern is still determining whether problems originate in the network, system, or application. With the constant and accelerated changes in the networking landscape, it is no surprise that many feel like travelers without a map.

KEY TECHNOLOGY STATISTICS

SDN

- More than 1 in 5 will have deployed SDN in 2014. This number will grow to 1 in 3 by the end of 2015 - an impressive increase for a new technology that remains relatively immature by industry standards.
- Interest in SDN is driven by the desire to make IT infrastructure more responsive to today's competitive landscape. The ability to dynamically adjust resources in response to business demand and introduce new services faster is key to making organizations more agile.

UC

- Videoconferencing continues its steady growth within the enterprise. Its 63% adoption rate is quickly closing in on VoIP, which holds steady at just over 70%. This technology should now be comfortably considered a mainstream service.
- And while network teams are having fewer problems with measuring User Experience (53% compared to last year's 69%), the inability to assess the impact of UC on other applications rose from 29% to nearly 38%. Quantifying UC health and its impact on the rest of the network has remained somewhat elusive.

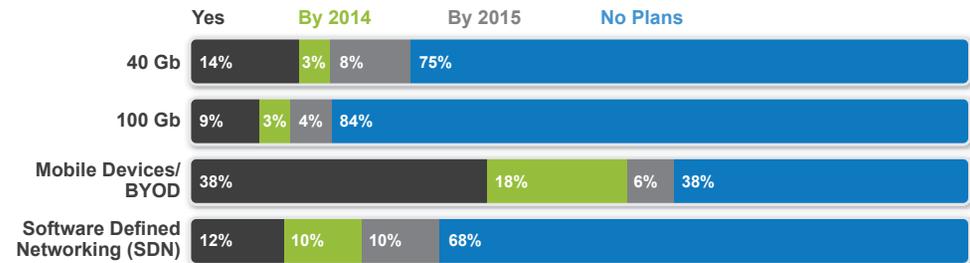
Application & Network Performance Monitoring

- By far the biggest challenge however, is isolating issues to the network, system, or application. Nearly three-fourths of respondents reported this problem.
- That same number of respondents reported that their organization's bandwidth needs would increase up to 50% in the coming year. Another 15% expected it to double. As bandwidth-intensive applications become more and more prevalent, expect this trend to continue.

EMERGING TECHNOLOGIES

This year's State of the Network Study confirmed a strategic shift in how IT resources are delivered and consumed. A number of new technologies, including SDN, 40/100 Gb, and mobile devices, promise long-term changes in how traffic is routed through the network and the method by which end users connect. The results show for 2014 a surprising interest in SDN with 22% expressing plans to deploy by the end of this year, while 56% highlight plans for Bring Your Own Device (BYOD) policies. Even 40 and 100 Gb networking, often viewed as exotic by organizations outside the carriers and the very largest enterprises, is marked by an emerging demand. Fourteen percent had already deployed 40 Gb, while 9% opted for 100 Gb. This is likely being driven by network teams preparing for tomorrow's massive data volumes.

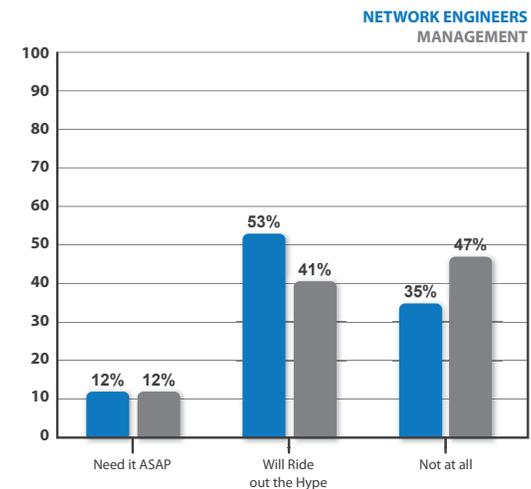
EMERGING TECHNOLOGY DEPLOYMENTS



SDN

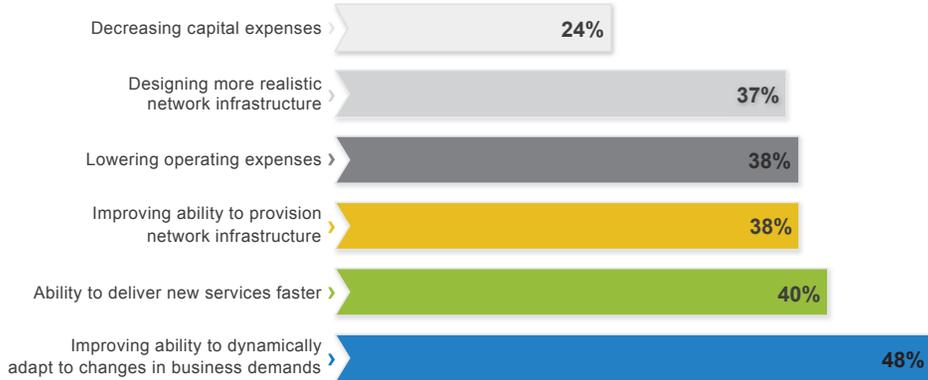
Survey results show that SDN is in an early adoption phase, with a skeptical majority of respondents waiting to see how the technology evolves. Twelve percent of responses would be classified as SDN enthusiasts who view the technology as a necessity. Over half of network engineers see the value of SDN, but have decided to take a wait-and-see approach. In contrast, almost half of management has no plans to implement this technology.

ADOPTION FORECAST FOR SDN



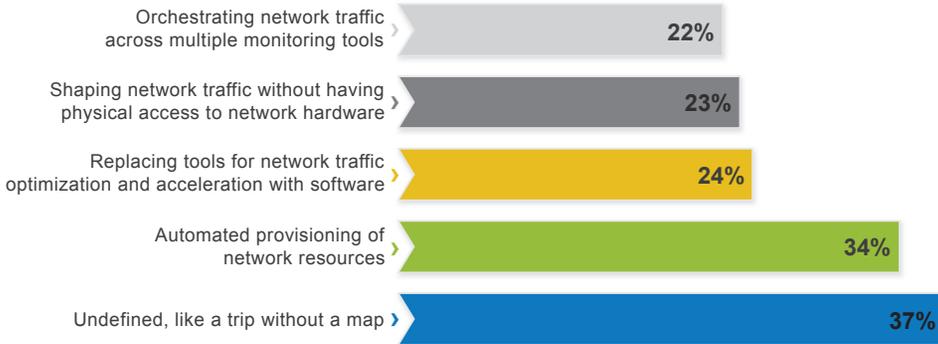
Other questions related to SDN offer seemingly contradictory findings on the surface, but ultimately point to the typical lag between a technology's promise and translating that into tangible attributes. Respondents were asked to select their primary reasons for adopting SDN. The top three answers speak to themes tied to IT resource agility. With the massive pressures placed on infrastructure by initiatives like cloud, virtualization, BYOD, and big data, network teams will need a credible technology to help them keep up. The current belief in the industry is that SDN is that technology.

JUSTIFYING THE SDN INVESTMENT



Finally, respondents were asked to define SDN, a task that proved difficult and in some cases impossible. The majority of respondents conceded that SDN is undefined, like a trip without a roadmap. Given the industry's relative infancy, it is expected that the uncertainty will decrease as the technology becomes established, shows its value, and is utilized by more businesses.

WHAT IS SDN?



UC

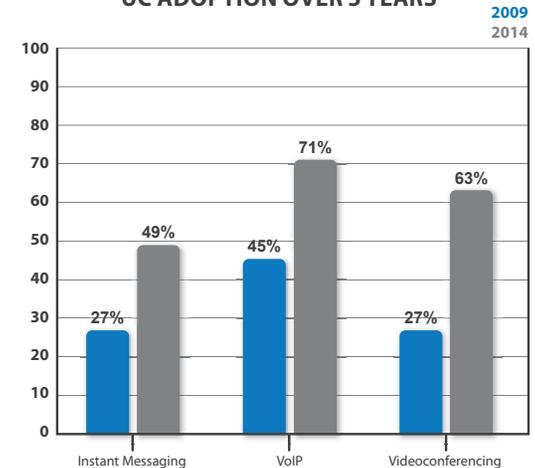
This year's survey didn't yield any unexpected results regarding UC. It did, yet again, demonstrate that businesses depend on UC with more than 71% saying they have rolled out VoIP, an impressive 63% utilized videoconferencing, and nearly half have deployed IM.

BUSINESSES EMBRACE UC



Most compelling perhaps is the speed with which videoconferencing has gone mainstream, compared to VoIP in the previous decade. This occurred in spite of the fact that there is often a tenfold increase in bandwidth requirements in moving to video. To illustrate this, consider adoption results from 2009, when the question was first asked compared to 2014's results. In the intervening 5 years, video implementations have more than doubled from roughly 25% to more than 60%. Though videoconferencing has yet to overtake VoIP, its upward trajectory suggests that within a couple of years the two should be fairly matched.

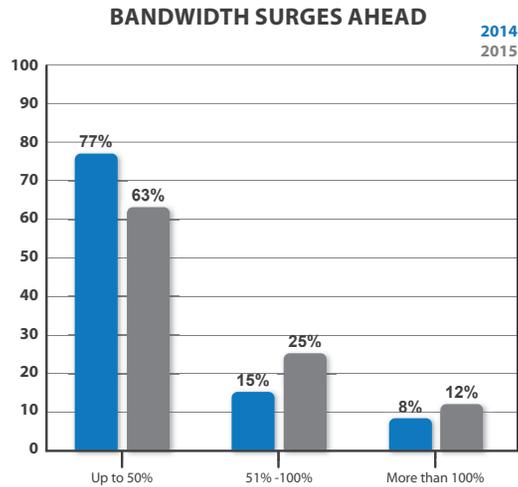
UC ADOPTION OVER 5 YEARS



APPLICATION & NETWORK PERFORMANCE MONITORING

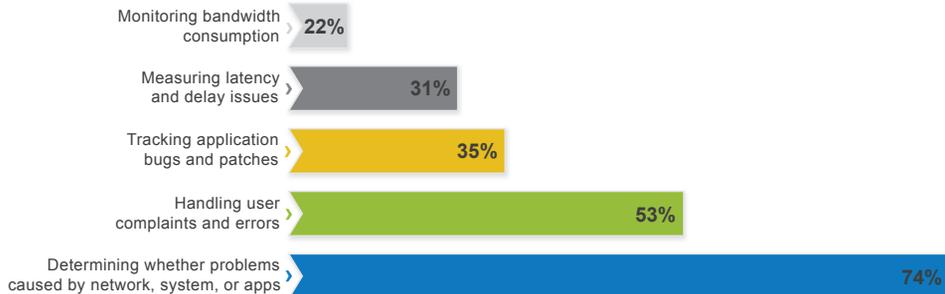
Other than the reoccurring reality of constant technology change and innovation, only two things have remained constant since the first State of the Network Study in 2008. The first is the need for larger pipes to handle all the network data, and the second is the struggle to make sense of application traffic when problems arise.

Modern services, applications, and flexible hosting architectures will, given sufficient time, consume more and more of the available network bandwidth. This rapid growth is vividly displayed in the survey results with 77% of respondents expecting increases of up to 50% this year. More impressive is the observation that next year's growth rates actually show acceleration of bandwidth utilization expansion with a quarter of individuals predicting up to a 100% surge.



The dominant troubleshooting issue primarily remains tied to determining whether the problem is caused by the network, system, or application with 74% of users citing it. This is an increase over 2013 results and may be an indicator that performance monitoring tools are struggling to maintain effective visibility with the many new technologies that are being introduced. Whatever the cause, the opportunity exists for performance monitoring vendors to aid in this effort by providing more automated, easier-to-use, and feature-enhanced solutions.

APPLICATION TROUBLESHOOTING ANXIETY



SUMMARY

The 2014 State of the Network study findings offer a pulse check on the technology and trends concerning IT professionals today. Noteworthy is the continued pressure on network teams to maintain high levels of satisfactory service delivery in a constantly-evolving environment. As the rapid growth of video and its inherent bandwidth consumption levels off, a number of new technologies like SDN, big data, and BYOD initiatives offer a fresh challenge. The most effective strategy is to stay informed and chart a course to success.

RESEARCH AND METHODOLOGY

Study questions were designed based upon interviews with network professionals and IT analysts. Results were compiled from the insights of 241 respondents, including network engineers, IT directors, and CIOs from around the world. In addition to geographic diversity, the study population was evenly distributed among networks and business verticals of different sizes. Responses were collected from January 10, 2014 to March 7, 2014 via online surveys.

For more information about the study's methodology or the results, contact Stephen Brown at sbrown@networkinstruments.com.

