VISIBILITY, AUTOMATION AND ANALYSIS: A WINNING COMBO FOR RELIABLE NETWORKS

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Report Highlights

In this report, we'll look at the challenges that businesses are facing when it comes to understanding network and application performance, and how the lack of network information can lead to bad performance, low user satisfaction, compliance issues and costly downtime. We'll also investigate how leading organizations in network performance and management get deep visibility into issues, implement improved and automated configuration and management processes for their networks and applications, and ensure that network issues and performance problems are addressed before they impact end-users.

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2

In the modern network, new technologies are changing the performance needs, uptime requirements, and user expectations of network and application performance.

Building a network infrastructure that ensures high performance and reliability is more important than ever for modern businesses. Today's users have very low tolerance for poor performance, and they expect their business applications and services to run as well as the consumer services they use in their everyday life. Combine these expectations with an increasingly complex IT infrastructure, and companies that are more distributed across locations than ever before, and you have a tough environment for managing network performance, where understanding how the network is used, and preventing downtime events is more critical than ever.

But these challenges aren't insurmountable. Aberdeen research has shown that successful organizations are able to break through these barriers and build network infrastructures that are reliable, responsive and high performance. These leading businesses do this by breaking away from the limited tools of the past and embracing technologies that give them deep visibility into their network and applications, the ability to quickly detect and respond to potential problems, and dynamic environments that are flexible and highly reliable. With these technologies, leaders are building their way to the next generation of network and application infrastructures.

The Rising Challenge of Network and Application Performance in the Modern Enterprise

Managing the performance of networks and the applications that ran on them used to be a fairly simple (though expensive) proposition. Figure out what your application and user infrastructure needed to run well, double that number, and then buy a whole bunch of hardware to meet those requirements. However, while that may have worked ten years ago, today it's a recipe for failure (and a costly one at that).

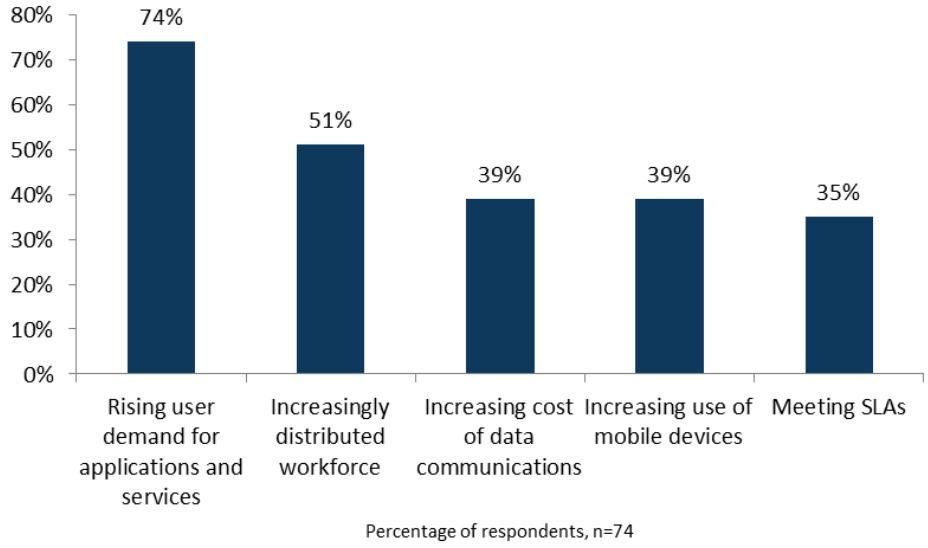
3

In the modern business network infrastructure, new technologies are constantly changing the performance needs, uptime requirements, and user expectations of network and application performance. The rise of cloud and virtual environments has altered how applications are delivered, managed and optimized. Increasing utilization of mobile devices and applications makes it harder to understand usage patterns and performance requirements using the tools of the past. And modern end-users, who, at home, have access to cutting edge consumer applications, high-end mobile devices and super-fast broadband connections, have very little tolerance for poor performance or downtime in the services they use at work. For today's organization, these demands are increasing the need for new approaches to understanding and optimizing network and application performance. In Figure 1 below, we look at the top challenges that companies report when it comes to building and managing high performance networks.

Fast Facts

- 43% of businesses have seen an increase in Total Cost of Ownership for networking solutions over last year
- 51% of companies expect to see an increase in their network performance budget in the next year
- 33% of businesses said that application downtime or sluggishness decreases employee productivity
- Respondents are seeing a 32% average increase in network

Figure 1: Top Challenges to High Performing Networks



Source: Aberdeen Group, December 2013

4

Looking at this data, we can see that organizations are increasingly stressed by rising user demand (which is likely being made on mobile devices), and meeting these demands is impacted by rising costs for network services. Also, these modern businesses are addressing these challenges across multiple locations and offices. In our research, we found that:

- 28% of businesses are supporting thirty or more locations
- 19% of businesses have seen a 25% or more increase in the number of supported remote locations

In this world, organizations can't afford to wing it when it comes to network configuration, and they can't pass on visibility into how things are actually used and how this affects performance. Because when problems occur, they can be costly, both in end-user satisfaction and in hard cash.

The Costs of Poor Performance

Everyone knows that downtime is bad, but many organizations may not realize the full costs when core infrastructure systems and applications go down. In research from our report *Preventing Virtual Application Downtime*, we found that the costs for an hour of downtime can be very significant.

As you can see in Table 1, across all companies, the average cost of an hour of downtime is over $160,000. And for large companies, this skyrockets to over $680,000. While these numbers show the average for an hour of downtime, it's easy to see how even shorter events can be very costly, especially if they occur frequently.

Table I: Cost Per Hour of Downtime

Organization Size	Average cost per hour of downtime
All Respondents	$163,674
Small Companies (Under $50 million annual revenue)	$8,580
Medium Companies (Between $50 million and $1 billion annual revenue)	$215,637
Large Companies (Over $1 billion annual revenue)	$686,250

Source: Aberdeen Group, May 2014

And the costs for downtime aren't just monetary. Our research into application performance has shown that 25% of users abandon a web or mobile application after just three seconds of delay. This is a disaster for customer-facing applications and a source of lost productivity for employees.

Top End-user Complaints about Performance

- 76% Poor application response time
- 53% Poor application usability
- 53% Poor service
- 29% Poor online video and voice quality

Building a High Performance Network Platform

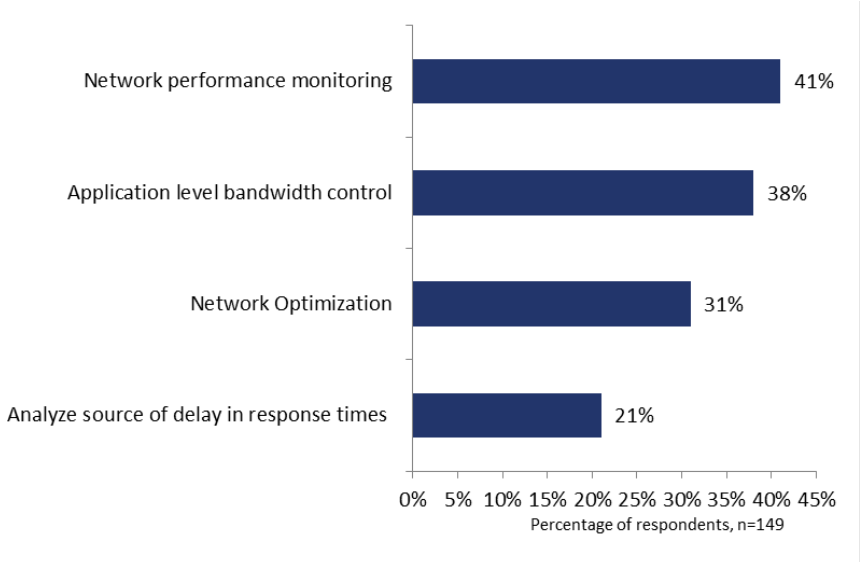
In Aberdeen Group's research into network infrastructures, organizations identified as Best-in-Class achieved a high level of success in overall network and application performance, reliability and user satisfaction. To get to this level, these businesses weren't afraid to rethink their network performance strategies and implement new technologies and processes. But they were also able to utilize processes that can seem pretty obvious.

Namely, they ensure that they have the baseline visibility into their network and application usage needed to put the proper

configurations in place and build for high performance and reliability. This detailed knowledge ensures that they are implementing the processes and technologies needed for high performance. It also makes it possible to more effectively enact compliance policies, and enables the reporting capabilities to answer any questions about the network. Additionally, this visibility and real-time automation makes it possible to detect potential problems before they impact end-users, ensuring high availability and keeping end-users satisfied and productive.

Over the course of our research into how organizations build, deploy, and manage networks, we've found that leaders in network performance and reliability are those that are able to identify and leverage new ways of thinking and get past traditional processes.

Figure 2: Best-in-Class Network Performance Management



Source: Aberdeen Group, December 2013

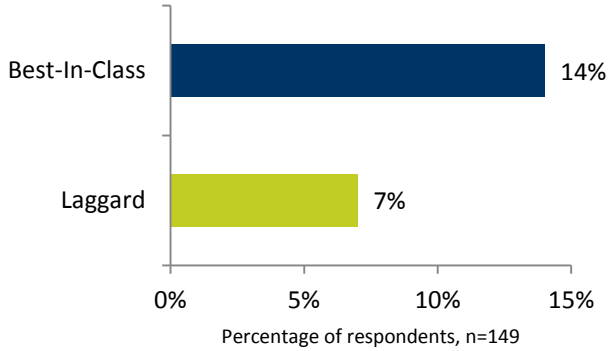
As shown in Figure 2, organizations that are Best-in-Class in reliable and high performance networks monitor their network performance, control how much bandwidth applications can

consume, work to optimize network and WAN performance, and make sure that they can find the cause of problems in their network quickly.

Best-in-Class networking organizations are able to put in place high-performance networking systems that create very or extremely happy end-users. Specifically, these leading firms achieve an average of 32% of their end-users reported as very or extremely satisfied, compared to only 14% of Laggard organizations.

When an organization rethinks their network performance management, it isn't about simply following the cool new technology. These organizations gain tangible benefits on their new and improved network performance strategy. In Figure 3, we asked businesses to list whether their network performance was optimal, and impressively enough, twice as many of the Best-in-Class found their network performance to be optimal compared to Laggards.

Figure 3: Optimizing Network Performance



Source: Aberdeen Group, December 2013

And when looking at Table 2, we see that these leaders in network performance gain a number of critical benefits

through their improved network configuration, monitoring and management capabilities.

Table 2: Benefits of Best-in-Class Performance

Key Performance Metric	Performance Leaders	Performance Followers
99.99% or better availability of critical business applications	22% reached this high level of availability	Only 10% reached this level
90% or better percentage of error-free transactions	28% achieved high levels of error free transactions	11% were able to meet this performance level
50% or more decrease in Mean Time To Repair (MTTR) of Application Issues	17% achieved this top-line MTTR reduction	Only 6% able to reach 50% drop in MTTR
90% or better transaction Completion Rate	58%	40%
End-users extremely or very satisfied with network performance	32%	14%

Leading organizations regularly work toward understanding and improving their overall networking architecture. These businesses have been able to improve reliability and boost overall network and application performance through the adoption of improved processes and strategies. As shown in Table 2, leading networking companies have high application availability and error-free transactions, and have significantly reduced Mean Time to Repair (MTTR). Most importantly, these Best-in-Class networking firms are able to provide high-performance network capabilities that result in very or extremely satisfied network users, with Leaders having 32% of end-users rated as very or extremely satisfied, compared to only 14% of

end-users satisfied for other businesses. This is a direct result of being able to find and remove potential problems before they impact users.

Recommended Steps

Your network is vital to your business. It's the road on which your applications, content and data travel. If it's full of pot holes and not friendly to travel, then users will take a different route that can leave your business broken down and forgotten. But some organizations seem to take their networks for granted and don't put in place the tools and processes that will enable them to have a high-speed and reliable path for the business to travel on. Organizations that are leaders in network performance realize the importance of knowing how their network is performing and how it should be configured to succeed. And they implement the tools and processes that will ensure that their networks and applications perform well and that end-users are productive and happy. To be a leader in network and application performance:

- **Understand your network infrastructure**. A key first step to improving performance is understanding your current situation. Best-in-Class businesses know where their network is succeeding and where it is coming up short.
- **Respond quickly**. The longer a performance problem lasts, the bigger its impact on user satisfaction and a company's bottom line. Effectively implemented network and application performance management systems are able to both increase visibility into problems, and decrease the time needed to identify the root cause of an issue and repair it.
- **Get deep in visibility, monitoring and reporting**: A deep understanding of network and application performance, as well as user experience, helps to build a high

performance environment. Best-in-Class businesses find and fix potential problems before they impact end-users.

- **Prepare for disruptions**: Applications today are more dynamic and use more cutting edge technology. Being prepared for the performance hurdles these changes bring will help prevent future problems. Aberdeen research has shown that businesses that invest in monitoring and managing application usage see significant returns, with the Best-in-Class seeing improvements in overall end-user experience.

11

For more information on this or other research topics, please visit www.aberdeen.com.

Related Research

Best-in-Class Performance for Business Critical Applications; July 2014

Big Data in Network and Application Monitoring: The All-Knowing Approach to IT Management; May 2014

Preventing Virtual Application Downtime; June 2014

Network on a Wire Update: Real-Time Live Network Data Boosts Performance and Network Satisfaction; January 2014

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