

The Value of Network and Application Visibility

Improving the Usability of Performance Data

September 2008

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~ Underwritten, in Part, by ~



Executive Summary

In September of 2008, Aberdeen surveyed 167 organizations to examine best practices for improving visibility into network and application performance. These findings serve as guidelines to organizations looking to achieve their operational and business goals for network and application performance management.

Best-in-Class Performance

Aberdeen used three key performance criteria to distinguish Best-in-Class companies: 1) average improvements in application availability; 2) average decreases in mean-time-to-repair network and application performance issues; and 3) success rate in preventing issues with application performance before end-users are impacted. Best-in-Class organizations reported:

- 120% average improvement in application availability
- 54% average improvement in Mean Time To Repair (MTTR) application performance issues
- 85% success rate in preventing issues with application performance before end-users are impacted

Competitive Maturity Assessment

Survey results show that the firms enjoying Best-in-Class performance shared several common characteristics:

- Twice as likely to have real-time view of packet streams as compared to Laggards
- Six-times more likely to be deploying tools for establishing performance thresholds through active / ongoing learning as compared to Laggards
- Nearly four-times more likely to be deploying tools for network anomaly detection as compared to Laggards
- Twice as likely to have the ability to filter the network traffic that is being monitored as compared to Laggards

Required Actions

In addition to the specific recommendations in Chapter Three of this report, to achieve Best-in-Class performance, companies must:

- Use network and application performance data to create a long-term plan for managing application performance
- Develop capabilities for visibility into network performance beyond monitoring network hardware
- Develop capabilities for measuring the quality of the end-user experience

Research Benchmark

Aberdeen's Research Benchmarks provide an in-depth and comprehensive look into process, procedure, methodologies, and technologies with best practice identification and actionable recommendations



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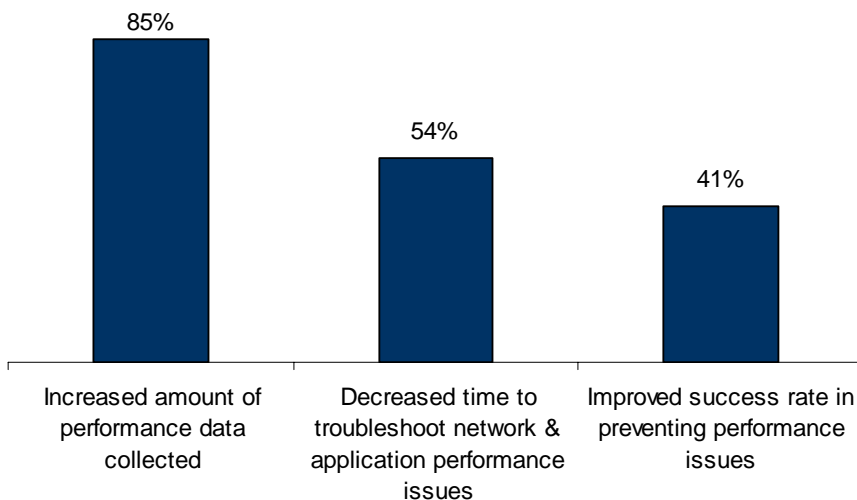
Chapter One: Benchmarking the Best-in-Class

Business Context

Aberdeen's June 2008 Benchmark Report, *Application Performance Management: The Lifecycle Approach Brings IT and Business Together*, reveals that a lack of visibility into network and application performance is one of the top concerns of end-user organizations over the next 12 months. Additionally, the report shows that organizations are currently using six applications that are considered business-critical and are looking to rollout four new applications over the next two years. As more business-critical applications are being deployed, organizations are increasingly looking to gain visibility into network and application performance and, more importantly, improve the usability of this information.

The research also shows that even though 85% of organizations surveyed reported that the amount of network and application performance data collected increased over the last two years, only 54% of these organizations improved their ability to resolve issues with network and application performance in a timely manner over the same period of time (Figure 1).

Figure 1: Only Actionable Performance Data Helps to Improve Performance



Source: Aberdeen Group, September 2008

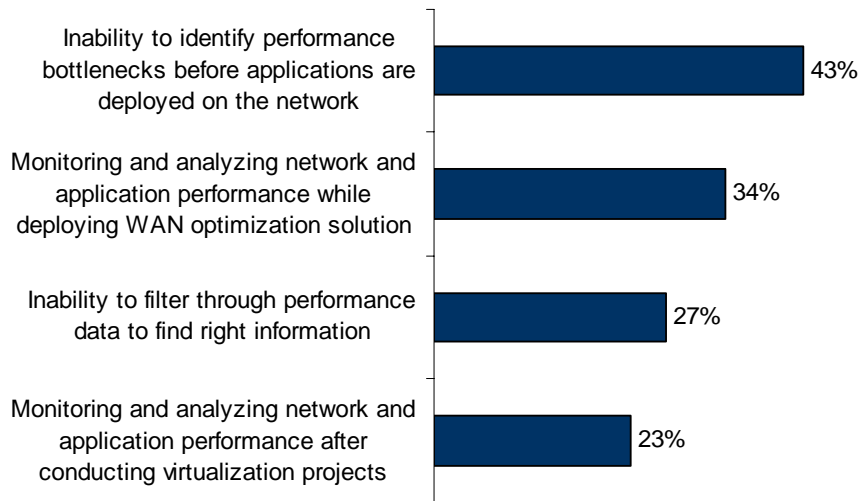
Aberdeen's June report, *Application Performance Management*, revealed that the inability to prevent performance issues before they impact end-users is the top challenge for managing application performance. Aberdeen's research also reveals that the top obstacle for achieving full visibility into network and application performance that organizations are currently

Fast Facts

- ✓ 85% of organizations surveyed reported that the amount of network and application performance data collected increased over the last two years
- ✓ 44% of organizations that increased the amount of data collected on network and application performance over the last two years experienced no improvements in their ability to prevent performance issues

experiencing is a lack of the ability to identify and eliminate performance bottlenecks before applications are rolled out on the network (Figure 2).

Figure 2: Top Obstacles to Achieving Full Visibility into Network and Application Performance



Source: Aberdeen Group, September 2008

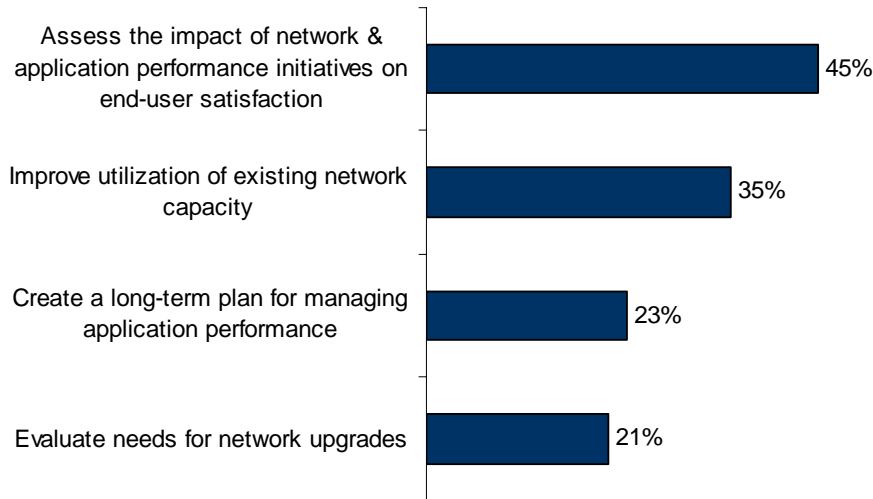
As organizations are looking to be more proactive when managing network and application performance, they are increasingly realizing the need to start gaining visibility into performance related issues before conducting new technology rollouts. Additionally, organizations are becoming increasingly concerned about the impact that their WAN optimization and virtualization initiatives are having on the ability to achieve full visibility into network and application performance. Both of these technology initiatives are causing new sets of challenges for visibility into network and application performance.

Aberdeen's research also shows that the top business pressures driving the adoption of application performance management solutions are:

- The need to mitigate disruption of business processes (68% of all organizations that participated in the survey)
- The need to optimize networking spend (46%)
- The need to improve employee productivity (32%)

In order to address these pressures, organizations are taking the following actions shown in Figure 3.

Figure 3: Top Strategic Actions Taken



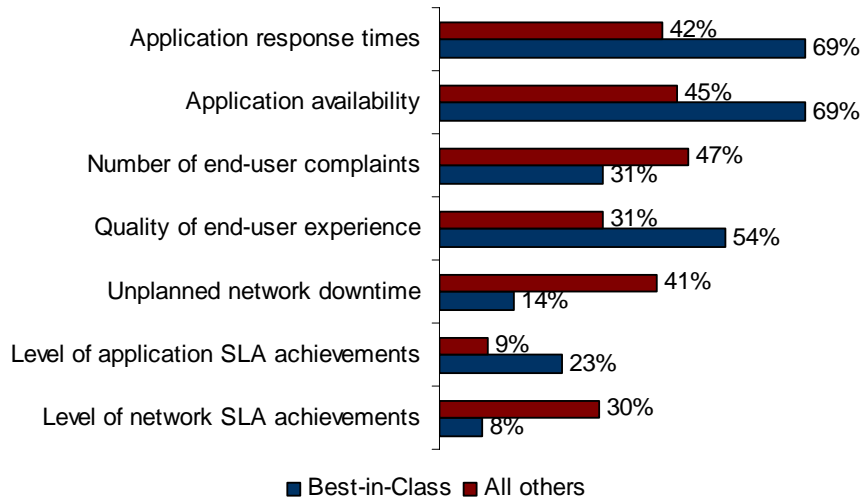
Source: Aberdeen Group, September 2008

Organizations surveyed reported that improving the ability to understand the impact of their network and application performance management initiatives on the quality of end-user experience is the top action they are taking for network and application visibility. It is apparent that organizations are increasingly looking to evaluate their success in managing network and application performance from the perspective of business end-users. Additionally, nearly one-fourth of organizations reported that they are looking to improve network and application visibility to support their long-term plans for managing application performance. These organizations are looking to gather actionable information on network and application performance so they can make educated decisions about optimizing their networks for new technology rollouts and changes to the network design that they plan to conduct in the future.

The Quality of End-User Experience is Becoming Increasingly Important

Figure 4 shows that Best-in-Class organizations are more likely to use application response times, application availability, quality of end-user experience, and application SLAs when evaluating their network and application visibility initiatives. On the other hand, Industry Average and Laggard organizations are more likely to use the number of end-user complaints, unplanned network downtime and network SLAs as the Key Performance Indicators (KPIs) for network and application performance management.

Figure 4: Top Performance Indicators



Source: Aberdeen Group, September 2008

Aberdeen's [Application Performance Management](#) report revealed that only 42% of organizations are satisfied with the performance of business-critical applications. The report also showed that 65% of these organizations didn't have capabilities for measuring and analyzing application response times. As organizations are looking to evaluate the impact of their network performance initiatives, forward-thinking organizations are becoming increasingly concerned about the quality of the end-user experience from using business-critical applications, while Industry Average and Laggard organizations are more interested in reducing downtime and the number of complaints.

The Maturity Class Framework

Aberdeen used three key performance criteria to distinguish the Best-in-Class from Industry Average and Laggard organizations. These Key Performance Indicators (KPIs) are:

- Average improvements in application availability
- Average decreases in mean-time-to-repair network and application performance issues
- Success rate in preventing issues with application performance before end-users are impacted

Table 1: Top Performers Earn Best-in-Class Status

Definition of Maturity Class	Mean Class Performance
Best-in-Class: Top 20% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 120% average improvement in application availability ▪ 54% average improvement in Mean-Time-To-Repair (MTTR) application performance issues ▪ 85% success rate in preventing issues with application performance before end-users are impacted
Industry Average: Middle 50% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 62% average improvement in application availability ▪ 23% average improvement in MTTR application performance issues ▪ 43% success rate in preventing issues with application performance before end-users are impacted
Laggard: Bottom 30% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 19% average improvement in application availability ▪ 3% average improvement in MTTR application performance issues ▪ 13% success rate in preventing issues with application performance before end-users are impacted

Source: Aberdeen Group, September 2008

The Best-in-Class PACE Model

Deploying network and application visibility solutions to achieve corporate goals requires a combination of strategic actions, organizational capabilities, and enabling technologies that can be summarized as shown in Table 2.

Table 2: The Best-in-Class PACE Framework

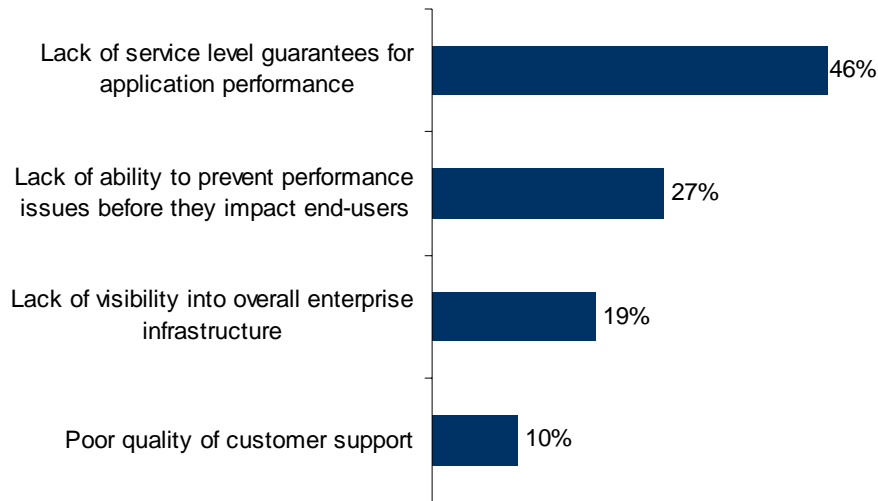
Pressures	Actions	Capabilities	Enablers
<ul style="list-style-type: none"> ▪ The need to mitigate disruption of business processes 	<ul style="list-style-type: none"> ▪ Assess the impact of network and application performance initiatives on end-user satisfaction ▪ Improve utilization of existing network capacity 	<ul style="list-style-type: none"> ▪ Ability to filter the network traffic that is being monitored ▪ Real-time view of packet streams ▪ Ability to monitor overall enterprise infrastructure from a single location ▪ Cross-functional teams for coordinating application performance management initiatives across different IT groups ▪ Ability to recreate or reproduce network behavior 	<ul style="list-style-type: none"> ▪ Tools for establishing performance thresholds through active/ongoing learning ▪ Unified platform for monitoring physical and virtualized infrastructure ▪ Tools for network anomaly detection ▪ Lab environment to emulate / simulate network performance ▪ Distributed traffic capture system ▪ Tools for deep packet inspection

Source: Aberdeen Group, September 2008

Best-in-Class Strategies

Aberdeen's research shows that 32% of organizations surveyed are outsourcing management of their network and application visibility initiatives to third-party service providers. Aberdeen's May 2008 Benchmark report, *Managed Network Services: Beyond Cost Savings and Uptime* revealed that only 54% of organizations are currently satisfied with the quality of managed network services they are using. Figure 5 shows that the lack of SLAs for application performance is the top challenge for deploying managed services around network and application visibility.

Figure 5: Top Challenges of Outsourcing Network and Application Visibility Initiatives



Source: Aberdeen Group, September 2008

As organizations are increasingly using application response times, application availability and the quality of the end-user experience as the top performance metrics for evaluating network performance, the lack of a service providers' ability to provide SLAs for application performance causes nearly half of these organizations not to be satisfied with the quality of services.

Aberdeen Insights — Strategy

Aberdeen's December 2007 Benchmark report, [*The Real Value of Network Visibility*](#), revealed that Best-in-Class organizations are on average experiencing 152 minutes less in network downtime annually as compared to all other companies. This is mostly due to the fact that Best-in-Class organizations were more likely to be selecting the right combination of internally developed processes and technology solutions that would allow them to improve visibility into network and application performance.

However, 44% of organizations that increased the amount of data collected on network and application performance over the last two years experienced no improvements in their ability to prevent performance issues.

This poses the question: Is a basic ability to monitor and analyze network and applications associated with any operational and business benefits for end-user organizations? The answer is: Not necessarily. As the complexity of managing network performance is increasing, the key for gaining benefits from achieving full visibility into network and application performance is not in the quantity of performance data collected, but in developing capabilities that would allow organizations to improve the usability of this information.

In the next chapter, we will see what the top performers are doing to achieve these gains.

Chapter Two: Benchmarking Requirements for Success

The selection of network and application visibility solution and integration with organizational capabilities and business process management systems plays a crucial role in the ability to turn these strategies into profit.

Case Study — Large Food and Beverage Company

A central IT organization of a large international food and beverage company is supporting more than 150,000 end-users in more than 200 countries. The company is using hundreds of business-critical applications and was facing a challenge of how to roll out new applications in a seamless way so these deployments would not cause a disruption of key business processes. In order to effectively address this challenge, the company deployed network emulation solutions and has been using them for five years now. This type of solution allows organizations to test application performance in an emulated network environment prior to an actual rollout across the network.

The company's IT Manager explained, "The main reasons for deploying solutions for network emulation were to enable ourselves to make better decisions about site updates and manage expectations for application performance. We were looking to improve visibility into application performance, especially at the network layer. In addition to this solution, we are using solutions for monitoring application performance in production. The network emulation solution allowed us to identify performance bottlenecks in pre-production stage and resolve them before they cause any disruptions for end-users."

The IT Manager continued, "We conducted an internal ROI assessment for this solution and we found that network emulation solution paid for itself five times just in reduction in labor costs to manage network and application performance. The ability to manage application performance in pre-deployment stage significantly reduced frequency of performance issues which allowed us to manage more end-users with fewer staff. The accuracy of the solution is very high and results that the model provides are within 5% of results in production."

Competitive Assessment

Aberdeen Group analyzed the aggregated metrics of surveyed companies to determine whether their performance ranked as Best-in-Class, Industry Average, or Laggard. In addition to having common performance levels, each class also shared characteristics in five key categories: (1) **process** (real-time view of packet streams; ability to monitor overall enterprise infrastructure from a single location); (2) **organization** (cross-functional teams for coordinating application performance management initiatives across different IT groups); (3) **knowledge management** (ability to filter the network traffic that is being monitored; ability to recreate or reproduce network behavior); (4) **technology** (the selection of appropriate tools and effective

Fast Facts

- √ The Best-in-Class are spending \$107 less per user annually on labor cost to manage network and application performance
- √ Best-in-Class organizations are twice as likely to have the ability to filter network traffic that is being monitored as compared to all others

deployment of those tools); and (5) **performance management** (the ability of the organization to measure quality of end-user experience). These characteristics (identified in Table 3) serve as a guideline for best practices, and correlate directly with Best-in-Class performance across the key metrics.

Table 3: The Competitive Framework

	Best-in-Class	Average	Laggards
Process	Real-time view of packet streams		
	77%	56%	36%
	Ability to monitor overall enterprise infrastructure from a single location		
	64%	54%	17%
Organization	Cross-functional teams for coordinating application performance management initiatives across different IT groups		
	54%	34%	13%
Knowledge	Ability to filter the network traffic that is being monitored		
	84%	54%	36%
	Ability to recreate or reproduce network behavior		
	42%	31%	21%
Technology	Network and application visibility technology currently in use:		
	<ul style="list-style-type: none"> ▪ 85% tools for establishing performance thresholds through active/ongoing learning ▪ 67% tools for network anomaly detection ▪ 67% tools for deep packet inspection ▪ 62% distributed traffic capture system ▪ 61% lab environment to emulate/simulate network performance ▪ 46% unified platform for monitoring physical and virtualized infrastructure 	<ul style="list-style-type: none"> ▪ 37% tools for establishing performance thresholds through active/ongoing learning ▪ 57% tools for network anomaly detection ▪ 56% tools for deep packet inspection ▪ 41% distributed traffic capture system ▪ 40% lab environment to emulate/simulate network performance ▪ 26% unified platform for monitoring physical and virtualized infrastructure 	<ul style="list-style-type: none"> ▪ 13% tools for establishing performance thresholds through active/ongoing learning ▪ 18% tools for network anomaly detection ▪ 30% tools for deep packet inspection ▪ 14% distributed traffic capture system ▪ 27% lab environment to emulate/simulate network performance ▪ 4% unified platform for monitoring physical and virtualized infrastructure

	Best-in-Class	Average	Laggards
Performance	Ability to measure the quality of end-user experience		
	46%	35%	11%

Source: Aberdeen Group, September 2008

Capabilities and Enablers

In this study, end-users were asked about the impact of 29 capabilities and technology enablers on the effectiveness of their network and application visibility strategies. After comparing adoption rates of these capabilities between Best-in-Class, Industry Average, and Laggards, Aberdeen identified 10 capabilities that when compared to their peers, Best-in-Class organizations are from nearly two- to 11-times more likely to have in place.

Process

Aberdeen's research shows that Best-in-Class organizations are three-times more likely to have the ability to monitor overall enterprise infrastructure from a single location as compared to Laggard organizations. Additionally, Best-in-Class organizations are four-times more likely to have a distributed traffic capture system. These capabilities allow end-users to have a holistic view of multiple networks and to understand how different components of enterprise infrastructure are impacting network performance. It also enables organizations to improve productivity of IT staff and optimize labor cost to manage the network. Additionally, Best-in-Class organizations are twice as likely to have a real-time view of packet streams. As a result of having these two capabilities in place, Best-in-Class organizations reported 53% average improvement in reducing mean-time-to-repair network and application performance issues as compared to 3% average improvement for Laggard organizations. The research also shows that Best-in-Class organizations are three-times more likely to improve productivity of IT staff as compared to Laggards.

Organization

As compared to Laggards, Best-in-Class organizations are four-times more likely to have cross-functional teams for coordinating application performance management initiatives across application development, network and systems management groups within IT departments. Having this capability in place allows organizations to be more proactive about resolving potential issues with application performance by addressing different aspects of application performance management (application, network, server / systems management) through a coordinated initiative that enables knowledge sharing and creates synergies across different groups within IT departments. As a result of having this capability in place, Best-in-Class organizations reported an average 85% success rate in preventing issues with network and application performance as compared to 13% success rate for Laggard organizations.

"I make sure that on a monthly basis I am looking at the trending of individual circuits: utilization and availability. I ensure that I am aware of new applications that are being planned for the network and that testing has been done to verify any impact that may have."

~ IT Manager,
 Professional Services

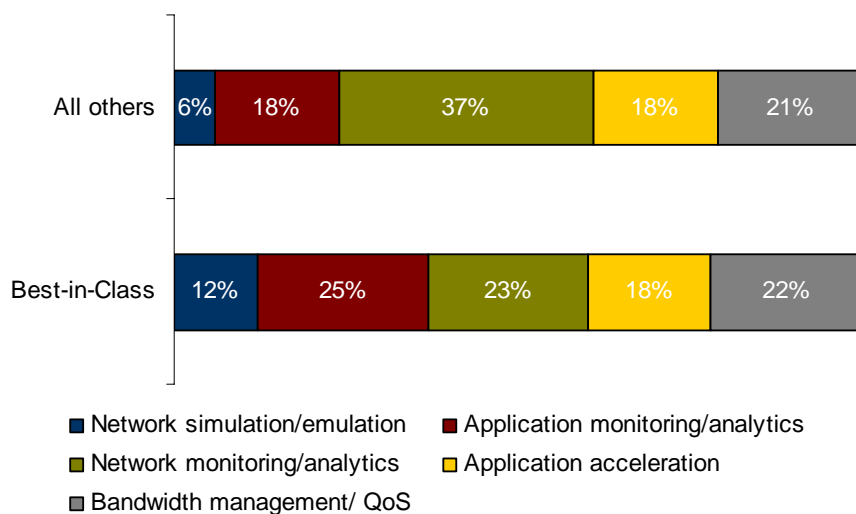
Knowledge Management

Table 3 shows that Best-in-Class organizations are twice as likely to have the ability to filter network traffic that is being monitored as compared to all others. Having this capability in place allows organizations to improve the usability of performance data by enabling IT staff to sort through thousands of data points collected and find the information needed for preventing and resolving performance issues in a timely manner. As a result of having this capability in place, Best-in-Class organizations are 83% more likely to reduce the time needed to troubleshoot network performance issues and 75% more likely to reduce the time needed to troubleshoot application performance issues as compared to all others. The research also shows that for Best-in-Class organizations the labor cost to manage the network is 15% of overall networking spend, while all other organizations are allocating 24% of their overall networking spend on labor cost.

Technology

Aberdeen's research shows that Best-in-Class organizations are six-times more likely to have tools for establishing performance baselines through active learning and nearly four-times more likely to be using tools for network anomaly detection as compared to Laggards. These capabilities allow end-user organizations to have full control over network and application performance in an automated way and further improve the productivity of IT staff and labor cost to manage network and application performance. The research shows that Best-in-Class organizations are, on average, spending \$146 per user annually on labor cost to manage network and application performance while all other organizations are spending \$253 per user annually.

Figure 6: How Network and Application Management Budgets are Being Allocated



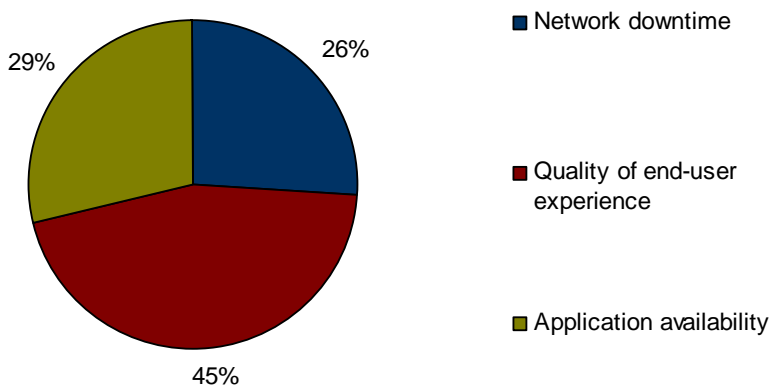
Source: Aberdeen Group, September 2008

Figure 6 shows that when it comes to investing in network and application performance solutions, Best-in-Class organizations are more likely to be allocating larger portions of their budgets for solutions that monitor and analyze application performance and solutions for network simulation and emulation as compared to all other organizations surveyed. The research also shows that even though both Best-in-Class and all other organizations surveyed are investing a significant part of their IT budgets in solutions for network and application visibility (network monitoring and analytics, application monitoring and analytics, and network simulation and emulation), Best-in-Class organizations are more likely to focus on visibility into application performance in the production and pre-production stages. That doesn't come as a surprise, as Figure 4 shows that these organizations are also more likely to be evaluating their network performance initiatives by performance improvements measured by application response times, application availability and quality of end-user experience.

Performance Management

Figure 7 shows that the majority of end-user calls to the help-desk are related to the quality of end-user experience due to issues with application performance. However, only 31% of organizations surveyed have the ability to measure and quantify the quality of the end-user experience from using enterprise applications. Table 3 shows that Best-in-Class organizations are five-times more likely to have this capability in place as compared to Laggards. As a result of having this capability in place, Best-in-Class organizations are twice as likely to decrease the number of calls to the help-desk due to issues with network and application performance as compared to Laggards.

Figure 7: Performance Issues Causing End-User Complaints to the Help-Desk



Source: Aberdeen Group, September 2008

Aberdeen Insights — Technology

The research shows that there is no significant difference between Best-in-Class, Industry Average and Laggard organizations in the percentages of network and application performance management budgets that are being allocated to network and application visibility solutions (Figure 6). However, Best-in-Class organizations are able to save \$107 annually on labor cost to manage network and application performance while having an 85% success rate in preventing performance issues, as compared to a 32% success rate for all others. What is making the difference between Best-in-Class performance and that of all others is a set of characteristics that Best-in-Class organizations incorporated in their network and application visibility strategies. These characteristics can be summarized as the following:

- Deployment of technology capabilities that allow not only an increase in the amount of performance information collected, but also the improvement in usability of this information
- Strong focus on visibility into application performance
- Ability to measure network and application performance from an end-users' perspective

Chapter Three: Required Actions

Whether a company is trying to move its performance in network and application visibility from Laggard to Industry Average, or Industry Average to Best-in-Class, the following actions will help spur the necessary performance improvements:

Laggard Steps to Success

- **Deploy tools for network anomaly detection.** Table 3 shows that 82% of Laggard organizations do not have capabilities for network anomaly detection. Development of this capability enables organizations to discover security threats and performance issues in an automated way and reduce time to identify and resolve network performance issues, while improving productivity of IT staff and reducing labor cost to manage the network.
- **Develop capabilities for filtering the network traffic that is being monitored.** Aberdeen's research shows that 71% of Laggard organizations experienced increases in the amount of network and application performance data of the last two years while only 25% of these organizations reported improvements in their ability to prevent performance issues over the same period of time. This is a call to action for these organizations to not only increase the amount of performance data collected, but also to improve the usability of this information. Interestingly, 64% of Laggard organizations do not have the ability to filter network traffic that is being monitored. Having this capability in place would allow Laggard organizations to improve the usability of performance data by being able to access actionable performance information in a timely manner.
- **Deploy tools for establishing performance thresholds through active learning.** Aberdeen's research shows that Laggard organizations are three-times less likely to report improvements in productivity of IT staff as compared to Best-in-Class organizations. One the reasons for this is that 87% of Laggard organizations are not deploying visibility solutions that are enabling establishing performance baselines based on active learning. This capability allows organizations to automate the process of using historic performance data for defining thresholds for normal network and application performance and identify when performance falls below these baselines.

Industry Average Steps to Success

- **Create an emulated lab environment for testing application performance in the pre-deployment stages.** The top obstacle to achieving full visibility into network and application

Fast Facts

- √ Develop capabilities for visibility into network performance beyond monitoring network hardware
- √ Use network and application performance data to create a long-term plan for managing application performance

performance that Industry Average organizations reported was an inability to identify performance bottlenecks before applications are rolled out over the network. However, 60% of these organizations are still not using an emulated network environment for testing application performance in the development and pre-production stages. Having this capability in place enables organizations to identify potential performance bottlenecks before applications are deployed and prevent performance issues before they impact end-users.

- **Develop capabilities for visibility into network performance beyond monitoring network hardware.** Industry Average organizations are more likely to be investing in solutions that would allow them to have visibility into the performance and uptime of network hardware than in solutions for visibility into application performance. Additionally, these organizations are more likely to be using network uptime and network-specific SLAs as the key performance indicators for evaluating network performance. However, the top strategic action that Industry Average organizations are taking is evaluating the impact of their network and application performance initiatives on end-user satisfaction. In order to effectively execute on this action, these organizations need to monitor and analyze the response times of business-critical applications and the quality of end-users experience from using these applications. More importantly, Industry Average organizations need to develop capabilities for application performance management to be able to understand what components of their infrastructure (server, application, network, end-user platform, etc.) are causing issues with response times and end-user experience.

Best-in-Class Steps to Success

- **Develop capabilities for measuring the quality of the end-user experience.** Even though Best-in-Class organizations are 64% more likely to have the ability to measure the quality of the end-user experience from using enterprise applications, 54% of these organizations still do not have this capability. It should be noted that there is still no industry accepted metric to quantify the level of application performance from the end-user perspective. Aberdeen's research shows that application response times remain the top performance metric that end-user organizations are currently using to measure the quality of end-user experience. Interestingly, even though 94% of Best-in-Class organizations have the ability to measure response times for business-critical applications, only 46% of these organizations reported that they have the ability to measure quality of end-user experience. The combination of application response times and end-users satisfaction indexes would allow Best-in-Class organizations to improve visibility into application performance from an end-user perspective.

- **Use network and application performance data to create a long-term plan for managing application performance.**
Aberdeen's report, [Application Performance Management: The Lifecycle Approach Brings IT and Business Together](#) revealed that there are organizations that are increasingly concerned about the potential decrease in application visibility and increased consumption of network capacity that rollouts of new applications could cause. Additionally, [The 2008 Aberdeen Report](#) revealed that rollouts of new enterprise applications are the top IT initiative for 2008. As organizations are looking to deploy more applications across the network, the need to create a strategic, long-term plan that would allow seamless rollouts of these applications becomes imperative. Aberdeen's research shows that 64% of Best-in-Class organizations do not have this type of strategy in place and that is the area that these organizations need to address to ensure that the high levels of performance they are currently experiencing can be maintained in the future.

Aberdeen Insights — Summary

Aberdeen's report, [Application Performance Management](#) revealed that organizations could lose up to 9% of their overall revenues due to issues with application performance. The report also showed that these issues could significantly impact some of the other key business metrics such as employee productivity, customer satisfaction, and brand reputation. As application performance issues are increasingly impacting business users organizations are increasingly looking to understand what their level of application performance is as seen from the end-users' perspective. For some time, application response time has been seen as the best metric for quantifying the quality of the end-user experience, but the research shows that even though 94% of the Best-in-Class have the ability to measure response times, only 46% of these organizations reported that they have the ability to measure the quality of the end-user experience.

Currently, there are several different indexes for quantifying application performance from the end-user experience. Some are vendor-specific, others are specific for a group of vendors, but none became an industry accepted standard. Still, the deployment of these metrics for evaluating quality of end-user experience helps with bridging the gap between IT and finance and enables IT departments to support their organizations in achieving the top business goals.

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Appendix A: Research Methodology

In September of 2008, Aberdeen examined the use, the experiences, and the intentions of more than 160 enterprises using network and application visibility solutions in a diverse set of enterprises.

Aberdeen supplemented this online survey effort with interviews with select survey respondents, gathering additional information on network and application visibility strategies, experiences, and results.

Responding enterprises included the following:

- *Job title / function:* The research sample included respondents with the following job titles: network manager / architect (24%); IT manager (20%); senior management (16%); IT director (14%); other IT staff (14%); other business management / staff (12%).
- *Industry:* The research sample included respondents from 15 industries. Some of the largest industry segments were: finance (13%); telecommunications (11%); high technology / software (10%); and government / public sector (9%).
- *Geography:* The majority of respondents (49%) were from North America. Remaining respondents were from Europe (23%), the Asia-Pacific region (16%) and the rest of the world (12%).
- *Company size:* Thirty-seven percent (37%) of respondents were from large enterprises (annual revenues above US \$1 billion); 29% were from midsize enterprises (annual revenues between \$50 million and \$1 billion); and 34% of respondents were from small businesses (annual revenues of \$50 million or less).
- *Headcount:* Fifty-one percent (51%) of respondents were from large enterprises (headcount greater than 1,000 employees); 28% were from midsize enterprises (headcount between 100 and 999 employees); and 31% of respondents were from small businesses (headcount between 1 and 999 employees).

Solution providers recognized as sponsors were solicited after the fact and had no substantive influence on the direction of this report. Their sponsorship has made it possible for Aberdeen Group to make these findings available to readers at no charge.

Study Focus

Responding executives completed an online survey that included questions designed to determine the following:

- √ The degree to which network and application visibility solutions are deployed in their operations and the financial implications of the technology
- √ The structure and effectiveness of existing network and application visibility implementations
- √ Current and planned use of network and application visibility solutions to aid operational and promotional activities
- √ The benefits, if any, that have been derived from network and application visibility initiatives

The study aimed to identify emerging best practices for deployments of network and application visibility solutions, and to provide a framework by which readers could assess their own management capabilities.

Table 4: The PACE Framework Key

Overview
<p>Aberdeen applies a methodology to benchmark research that evaluates the business pressures, actions, capabilities, and enablers (PACE) that indicate corporate behavior in specific business processes. These terms are defined as follows:</p> <p>Pressures — external forces that impact an organization’s market position, competitiveness, or business operations (e.g., economic, political and regulatory, technology, changing customer preferences, competitive)</p> <p>Actions — the strategic approaches that an organization takes in response to industry pressures (e.g., align the corporate business model to leverage industry opportunities, such as product / service strategy, target markets, financial strategy, go-to-market, and sales strategy)</p> <p>Capabilities — the business process competencies required to execute corporate strategy (e.g., skilled people, brand, market positioning, viable products / services, ecosystem partners, financing)</p> <p>Enablers — the key functionality of technology solutions required to support the organization’s enabling business practices (e.g., development platform, applications, network connectivity, user interface, training and support, partner interfaces, data cleansing, and management)</p>

Source: Aberdeen Group, September 2008

Table 5: The Competitive Framework Key

Overview	
<p>The Aberdeen Competitive Framework defines enterprises as falling into one of the following three levels of practices and performance:</p> <p>Best-in-Class (20%) — Practices that are the best currently being employed and are significantly superior to the Industry Average, and result in the top industry performance.</p> <p>Industry Average (50%) — Practices that represent the average or norm, and result in average industry performance.</p> <p>Laggards (30%) — Practices that are significantly behind the average of the industry, and result in below average performance.</p>	<p>In the following categories:</p> <p>Process — What is the scope of process standardization? What is the efficiency and effectiveness of this process?</p> <p>Organization — How is your company currently organized to manage and optimize this particular process?</p> <p>Knowledge — What visibility do you have into key data and intelligence required to manage this process?</p> <p>Technology — What level of automation have you used to support this process? How is this automation integrated and aligned?</p> <p>Performance — What do you measure? How frequently? What’s your actual performance?</p>

Source: Aberdeen Group, September 2008

Table 6: The Relationship Between PACE and the Competitive Framework

PACE and the Competitive Framework – How They Interact
<p>Aberdeen research indicates that companies that identify the most influential pressures and take the most transformational and effective actions are most likely to achieve superior performance. The level of competitive performance that a company achieves is strongly determined by the PACE choices that they make and how well they execute those decisions.</p>

Source: Aberdeen Group, September 2008

Appendix B: Related Aberdeen Research

Related Aberdeen research that forms a companion or reference to this report include:

- [Application Performance Management: The Lifecycle Approach Brings IT and Business Together](#); June 2008
- [The Real Value of Network Visibility](#); December 2007
- [Optimizing Application Delivery over the WAN](#); August 2008
- [Managed Network Services: Beyond Cost Savings and Uptime](#); June 2007

Information on these and any other Aberdeen publications can be found at www.Aberdeen.com.

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