

riverbed

Think fast.™

Application Performance Management

Getting IT on the C-Level's Agenda

March 2009

Bojan Simic

Executive Summary

Aberdeen surveyed 158 organizations between February and March of 2009 to examine best practices for managing application performance. The research revealed that nearly half of all respondents surveyed do not have the ability to measure the business impact of issues with application performance. This report serves as a guide to organizations looking to improve the performance of their business-critical applications.

Best-in-Class Performance

Aberdeen used three key performance criteria to distinguish Best-in-Class companies: 1) average availability of business-critical applications; 2) average year-over-year improvements in application response times; 3) average success rate in preventing issues with application performance before end-users are impacted. Best-in-Class organizations reported:

- 99.4% average application availability
- 114% average year-over-year improvement in application response times
- 83% average 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. Best-in-Class companies are:

- Nearly four-times more likely to have the ability to measure application performance from the end-users' perspective as compared to Laggards
- Nearly four-times more likely to provide executives with visibility into application performance metrics 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:

- Map business-critical applications to key business processes
- Develop capabilities for providing executives with visibility into the business impact of application performance
- Develop capabilities for identifying and eliminating application performance issues in the pre-deployment stage

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

"Originally we thought that we didn't have enough bandwidth to run an ERP application and were thinking about adding an additional T1 line. However, a technology solution that we had in place helped us realize that the root-cause of the problem was on the application side - not the network. This allowed us to avoid adding more bandwidth, but it also allowed us to be able to effectively manage application performance on an ongoing basis and address potential problems before they could impact end-users."

~ IT Director, Manufacturing Company

Table of Contents

Executive Summary.....	2
Best-in-Class Performance.....	2
Competitive Maturity Assessment.....	2
Required Actions.....	2
Chapter One: Benchmarking the Best-in-Class	4
Business Context	4
The Maturity Class Framework.....	5
The Best-in-Class PACE Model	5
The Business Side is Getting Involved.....	7
Best-in-Class Strategies.....	8
Chapter Two: Benchmarking Requirements for Success	11
Competitive Assessment.....	12
Capabilities and Enablers.....	13
Chapter Three: Required Actions	19
Laggard Steps to Success.....	19
Industry Average Steps to Success	19
Best-in-Class Steps to Success.....	20
Appendix A: Research Methodology.....	21
Appendix B: Related Aberdeen Research.....	23

Figures

Figure 1: Top Challenges for Application Performance Management.....	4
Figure 2: Top Obstacles for Evaluating the Business Impact of Issues with Application Performance.....	7
Figure 3: Business Impact of Issues with Application Performance.....	8
Figure 4: Top Strategic Actions	9
Figure 5: Top Selection Criteria for Application Performance Management Solutions.....	16

Tables

Table 1: Top Performers Earn Best-in-Class Status.....	5
Table 2: The Best-in-Class PACE Framework	5
Table 3: The Competitive Framework.....	12
Table 4: The PACE Framework Key	22
Table 5: The Competitive Framework Key	22
Table 6: The Relationship Between PACE and the Competitive Framework ...	22

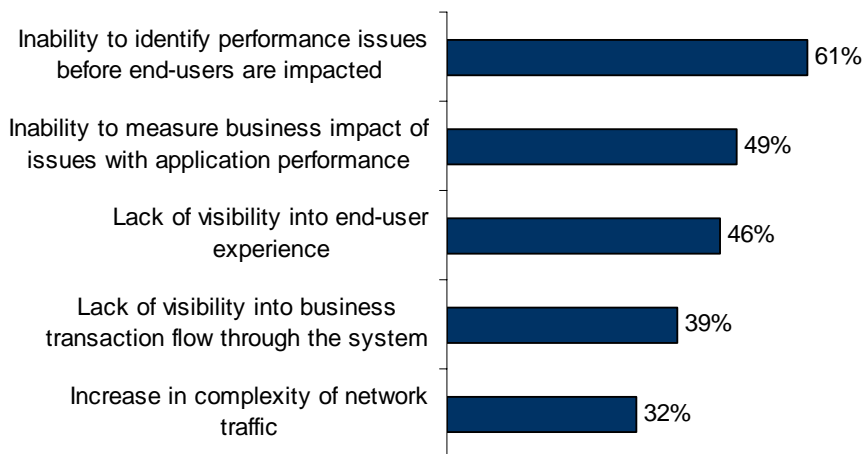
Chapter One: Benchmarking the Best-in-Class

Business Context

Aberdeen's November 2008 report, *The Performance of Web Applications: Customers are Won or Lost in One Second* revealed that business performance starts to decline when mission-critical applications reach the baseline of 5.1 seconds of response time delay. Additionally, Aberdeen's June 2008 report, *Application Performance Management: The Lifecycle Approach Brings IT and Business Together* showed that issues with application performance could impact corporate revenues by up to 9%. The research also showed that only 42% of organizations were satisfied with the performance of business-critical applications.

Figure 1 shows that the inability to prevent application performance issues before end-users are impacted is the top challenge for end-user organizations. Also, the research revealed that the inability to evaluate the business impact of performance issues is one of the top challenges for nearly half of all organizations surveyed.

Figure 1: Top Challenges for Application Performance Management



Source: Aberdeen Group, March 2009

Figure 1 shows that end-user expectations of application performance are increasing, and in order to improve end-user satisfaction it is no longer good enough to be able to address performance issues in a timely manner. Organizations are increasingly looking to be more proactive when managing application performance and their IT departments are being tasked with a new challenge: how to identify and resolve potential performance issues before they impact end-user productivity.

Fast Facts

- √ Organizations are looking to optimize only 36% of applications that they considered business-critical
- √ 65% of organizations surveyed do not have dashboards for executive level view in application performance

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 availability of business-critical applications
- Average improvements in application response times
- Average 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"> ▪ 83% average success rate in preventing issues with application performance before end-users are impacted ▪ 114% average improvements in application response times ▪ 99.4% average application availability
Industry Average: Middle 50% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 51% average success rate in preventing issues with application performance before end-users are impacted ▪ 37% average improvements in application response times ▪ 95.6% average application availability
Laggard: Bottom 30% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 15% average success rate in preventing issues with application performance before end-users are impacted ▪ 31% average improvements in application response times ▪ 91.8% average application availability

Source: Aberdeen Group, March 2009

The Best-in-Class PACE Model

Using application performance management 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 optimize infrastructure cost 	<ul style="list-style-type: none"> ▪ Improve usability of information collected about application performance 	<ul style="list-style-type: none"> ▪ Ability to monitor application response times for every business critical application ▪ Ability to measure the quality of the end-user experience 	<ul style="list-style-type: none"> ▪ Real-time alerts for issues with application performance ▪ Tools for prioritization of network traffic ▪ Tools for passive (agentless) monitoring of business-critical transactions

Pressures	Actions	Capabilities	Enablers
	<ul style="list-style-type: none"> ▪ Improve communication between groups in the organization in charge of different aspects of application performance (development, deployment, production) 	<ul style="list-style-type: none"> ▪ Ability to analyze packet flow data ▪ Ability to monitor business transaction performance across infrastructure tiers ▪ Executive level view into the business impact of application performance ▪ ITIL methodology ▪ Ability to predict the impact of network changes on application performance 	<ul style="list-style-type: none"> ▪ Tools for application load testing ▪ Tools for load balancing ▪ Tools for establishing network performance thresholds through ongoing learning ▪ Tools for predicting application performance in by using network emulation / simulation

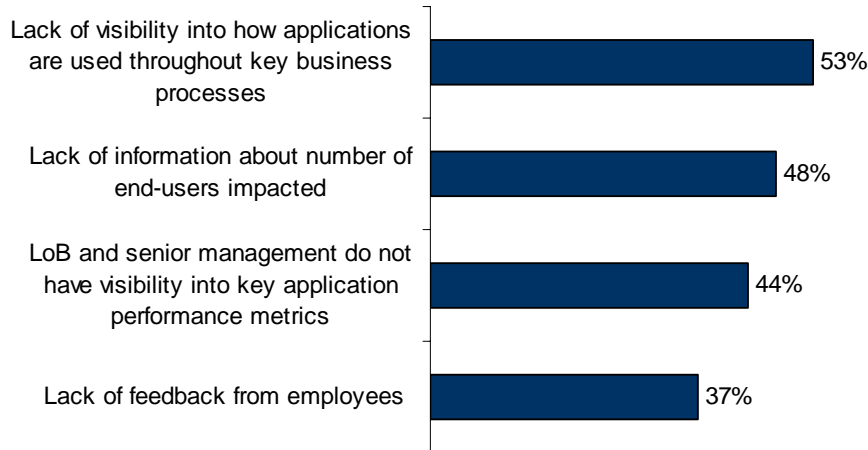
Source: Aberdeen Group, March 2009

Aberdeen's research also shows a 16% increase in the number of organizations that are satisfied with the performance of business-critical applications since March of 2008. However, the disparity among respondents is profound. Ninety-three percent (93%) of Best-in-Class organizations are satisfied with their application performance and only 48% of Industry Average and Laggard organizations show the same level of satisfaction. Even though the research shows a significant increase in the adoption of tools and services for application performance management, nearly half of organizations surveyed are still struggling when trying to find the right approach for managing the performance of business-critical applications. This comes as a result of the following trends:

- Managing application performance is no longer a problem shouldered by IT departments alone, but is becoming an issue that requires the involvement of business management
- Optimizing application performance can not be achieved solely by deploying technology solutions

Figure 2 shows that the inability to map the use of applications to the workflows of business processes that are leveraging these applications is the top obstacle for evaluating the business impact of performance issues. The research also shows that 48% of organizations do not have visibility into how many users are being impacted by performance issues.

Figure 2: Top Obstacles for Evaluating the Business Impact of Issues with Application Performance



Source: Aberdeen Group, March 2009

This creates a risk for end-user organizations to invest in solutions that would help them improve application performance, but not necessarily the business performance. The research shows that 34% of organizations surveyed increased their budgets for improving application performance. However, these organizations are looking to optimize only 36% of the applications that they considered business-critical. Since nearly half of these organizations do not have the ability to evaluate the impact of application performance on their business goals, it becomes very difficult for them to calculate the true return on application performance investments that they are making.

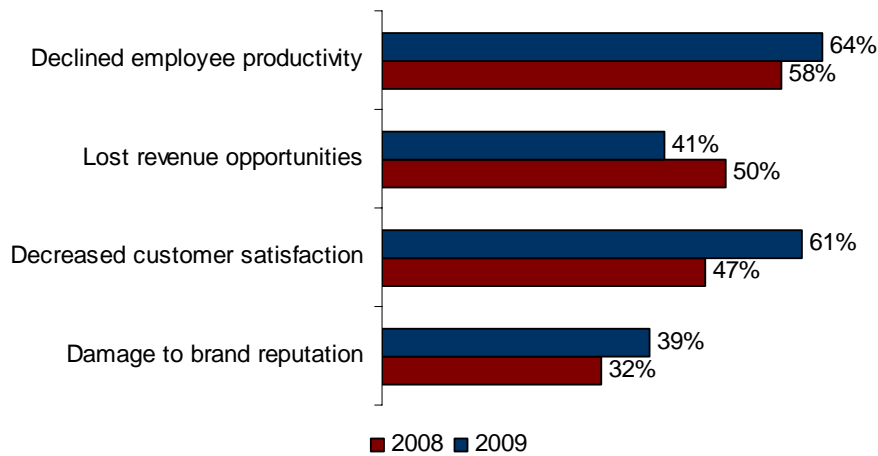
The Business Side is Getting Involved

Aberdeen's Application Performance Management (APM) research shows a significant increase in the number of business executives that are taking part in Aberdeen's surveys over the last 12 months. Forty-five percent (45%) of participants in this survey have job responsibilities that are not IT-related.

That doesn't come as a surprise as [The 2008 Aberdeen Report](#) revealed that the deployment of new enterprise applications is a top IT initiative planned for the next 12 months. As new enterprise applications are becoming the key technology enablers for achieving business goals, line-of-business owners and other business management job roles are becoming increasingly interested in how these applications are performing.

Figure 3 shows an increase in the number of organizations that are reporting that issues with application performance are causing declines in employee productivity, customer satisfaction, and brand reputation over the last 12 months.

Figure 3: Business Impact of Issues with Application Performance



Source: Aberdeen Group, March 2009

Interestingly, the research also shows a decline in the number of organizations reporting that performance issues are causing lost revenue opportunities. However, 56% of survey respondents from the business side of organizations report that performance issues are causing lost revenue opportunities as compared to 29% of respondents with IT-related responsibilities.

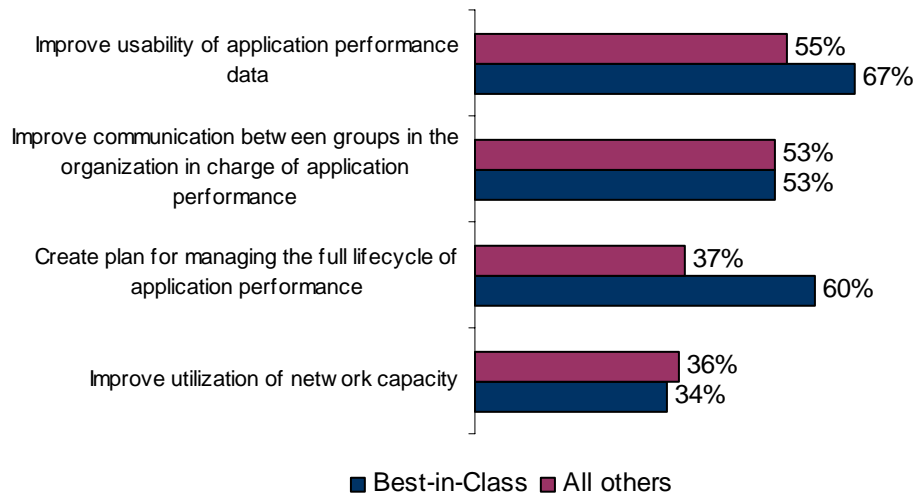
In this Aberdeen survey, respondents from the IT side of the business were 65% more likely to report that performance issues are having a significant impact on employee productivity, whereas, the business side was 93% more likely to report an impact on revenues and 30% are more likely to report an impact on operational and infrastructure cost.

This comes as a result of the lack of visibility and resulting understanding of how applications are impacting revenue generating business processes. The research shows that 65% of organizations surveyed have not implemented dashboards for executive level visibility into application performance.

Best-in-Class Strategies

Figure 4 shows that improving the usability of application performance information is the top strategic action that Best-in-Class organizations are taking to improve application performance management. Aberdeen's September 2008 report, [*The Value of Network and Application Visibility*](#) revealed that even though 85% of the organizations surveyed increased the amount of application performance data collected over the last two years, only 41% of these organizations improved their success rate in preventing performance issues before end-users were impacted.

Figure 4: Top Strategic Actions



Source: Aberdeen Group, March 2009

Additionally, even though the inability to prevent performance issues before end-users are impacted is the top challenge for managing application performance, 37% of Industry Average and Laggard organizations are still not managing application performance beyond the production stage. Testing application performance in the development and pre-deployment stages helps end-users to be more proactive and eliminate bottlenecks before applications are rolled out on the network. The research shows that Best-in-Class organizations are 62% more likely to be managing application performance beyond the production stage as compared to all others (Industry Average and Laggard companies combined). However, it should be noted that this is not the only strategy organizations need to take to mitigate the disruption of business processes due to issues with application performance. Having full visibility into how applications are performing in production allows them to optimize their networks for optimal application performance. Organizations can effectively improve the usability of application performance information, only if they can achieve the following goals:

- Deliver the right performance data to the right job roles and at the right time
- Discover performance bottlenecks before applications are rolled out on the network

Aberdeen Insights — Strategy

The research shows that 34% of organizations surveyed are looking to increase their budgets for optimizing application performance. However, 82% of organizations surveyed reported that they plan to implement new business-critical applications over the next 12 months. A closer look reveals that 48% of organizations surveyed plan to invest in new applications, but they have no plans to make additional investments to make sure that these applications are performing at the optimal level. This strategy can diminish business benefits that organizations are trying to achieve from deploying new applications and it could prove to be a more costly approach in the long run.

Organizations are reporting that issues with application performance are having a significant impact on their key business goals, but nearly half of these organizations are not able to quantify that impact. At the same time, the business management team is becoming increasingly involved in dealing with these problems, but very often they are being left in the dark because the majority of application performance management tools that are currently being used were designed to be leveraged by IT departments, not business executives. This would not be much of a problem for end-user organizations if it wasn't for the following trends:

- Due to a current economic climate, organizations are more likely to be investing in technology solutions that can make an impact on their business goals as opposed to operational goals. Therefore, IT management is increasingly being tasked with creating a clear business case for investments in technology solutions.
- End-user expectations from using enterprise applications are changing. For business users, it is no longer enough that their IT departments can resolve issues in a timely manner, but, they are expecting that these issues can be prevented before they impact key business processes.

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

Chapter Two: Benchmarking Requirements for Success

The selection of application performance management technology solutions and the integration with business intelligence and business process management systems plays a crucial role in the ability to turn these strategies into profit.

Case Study — The Entertainment Company

A European division of global audio and video equipment company develops and markets some of the most popular video games. In addition to offering a gaming console, the company offers multi-player games that can be accessed over the Internet. Hundreds of thousands of end-users are interacting through these games and the company wanted to ensure that these users are experiencing an optimal level of application performance. The company was looking to test the performance of their most popular games before they are deployed to make sure that potential performance issues are identified and resolved before end-users experience any problems.

The company deployed a solution for network emulation which allowed their developer community as a whole to catch network-related performance problems early in the lifecycle, and release complete and stable products for network gaming.

The company's Manager of Applied Technologies said, "We deployed a solution that emulates a typical Internet environment, including the real-world network and remote-end-user conditions, particularly upstream bandwidth limitations and irregular periods of high latency. Games are then played in this environment to test functionality, performance and scalability."

Through these tests developers can quickly and easily isolate and resolve any network related problems in games' code well before retail release, and assess the quality of the users' experience under real Internet conditions.

The Manager of Applied Technologies continued, "Additionally, we created a knowledge-sharing user forum for network gaming testing and we allowed all members access to our network emulation solution. Through this collaborative testing process, our game development community can ensure that the games are tested under the most accurate and true-to-life conditions possible, and deliver high quality games that are optimized for network play well before titles are released onto the market."

Fast Facts

- √ Best-in-Class companies report a 114% average improvement in application response time as compared to 31% average improvement for Laggards
- √ Best-in-Class organizations reported an 83% success rate in preventing performance issues before end-users are impacted as compared to a 15% success rate for Laggard organizations

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.** The ability to monitor application response times for every business critical application; ability to monitor business transaction performance across infrastructure tiers; ability to predict the impact of network changes on application performance
2. **Organization.** Executive level view into the business impact of application performance
3. **Knowledge management.** The ability to analyze packet flow data; ITIL methodology
4. **Technology.** The selection of appropriate tools and effective deployment of those tools
5. **Performance management.** The ability 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	Ability to monitor application response times for every business critical application		
	73%	29%	11%
	Ability to monitor business transaction performance across infrastructure tiers		
	63%	25%	16%
	Ability to predict the impact of network changes on application performance		
	40%	21%	15%
Organization	Executive level view into the business impact of application performance		
	60%	32%	16%
Knowledge	Ability to analyze packet flow data		
	67%	43%	40%
	Implemented Information Technology Infrastructure Library (ITIL) methodology		
	53%	34%	26%

	Best-in-Class	Average	Laggards
Technology	Application performance management technology currently in use		
	<ul style="list-style-type: none"> ▪ 67% real-time alerts for issues with application performance ▪ 67% tools for prioritization of network traffic ▪ 61% tools for passive (agentless) monitoring of business-critical transactions ▪ 60% tools for application load testing ▪ 60% tools for load balancing ▪ 53% tools for establishing network performance thresholds through ongoing learning ▪ 36% tools for predicting application performance in by using network emulation / simulation 	<ul style="list-style-type: none"> ▪ 29% real-time alerts for issues with application performance ▪ 54% tools for prioritization of network traffic ▪ 29% tools for passive (agentless) monitoring of business-critical transactions ▪ 32% tools for application load testing ▪ 45% tools for load balancing ▪ 31% tools for establishing network performance thresholds through ongoing learning ▪ 24 tools for predicting application performance in by using network emulation / simulation 	<ul style="list-style-type: none"> ▪ 20% real-time alerts for issues with application performance ▪ 31% tools for prioritization of network traffic ▪ 20% tools for passive (agentless) monitoring of business-critical transactions ▪ 19% tools for application load testing ▪ 32% tools for load balancing ▪ 15% tools for establishing network performance thresholds through ongoing learning ▪ 5% tools for predicting application performance in by using network emulation / simulation
Performance	Ability to measure quality of end-user experience		
	71%	20%	19%

Source: Aberdeen Group, March 2009

Capabilities and Enablers

Aberdeen's survey included questions around 35 capabilities and technology enablers that organizations are either currently using or evaluating for future deployments. Based on the findings of the Competitive Framework and interviews with end users, Aberdeen's analysis of Best-in-Class organizations identified 13 capabilities and technology enablers that are having the most significant impact on performance improvements that Best-in-Class organizations are experiencing.

Process

Table 3 shows that Best-in-Class organizations are six-times more likely to measure application response times for every business-critical application as compared to Laggards. Also, Best-in-Class organizations are nearly four-times more likely to have the ability to measure application performance across infrastructure tiers. Developing these capabilities allows organizations not only to monitor how different segments of the enterprise infrastructure are impacting application performance, but also to be able to do that for each business-critical application. Having these capabilities in place enables organizations to execute on their top two strategic actions for managing application performance - improve the usability of performance data and improve communication between different groups in organizations in charge of application performance (Figure 4). As a result of having these capabilities in place, Best-in-Class organizations are twice as likely to reduce labor costs to manage application performance (as a percentage of their total IT spending).

Additionally, Best-in-Class organizations are twice as likely to have the ability to predict the impact of network changes on application performance as compared to Laggards. One of the top strategic actions that organizations are taking for application performance management is overseeing performance beyond the production stage. The research also shows that the top challenge for application performance management is the inability to identify and resolve problems before they impact business users. As organizations are looking to rollout new applications and be more proactive about managing changes to their infrastructure, having this capability in place is becoming increasingly important. As a result of having this capability in place, Best-in-Class organizations reported an 83% success rate in preventing performance issues before end-users are impacted as compared to 15% success rate for Laggard organizations.

Aberdeen's research shows a 13% increase in the number of organizations that deployed this capability over the last 12 months with an additional 19% of organizations that reported that they plan to develop this capability before the end of 2009.

Organization

Best-in-Class organizations are nearly four-times more likely to provide executives with visibility into application performance metrics as compared to Laggards. Having this capability in place allows organizations to translate operational performance metrics - such as application availability and application and transaction response times - into business goals such as customer satisfaction, cost savings and revenue growth. Having this capability in place contributed to Best-in-Class organizations being twice as likely to improve their ability to accurately prioritize IT problems as compared to Laggards.

Interestingly, survey respondents that came from the business side of the organization were 32% more likely to report that this is a capability that

"The network emulation solution allowed us to identify performance bottlenecks in the pre-production stage and resolve them before they caused any disruptions for end-users. We conducted an internal ROI assessment for this solution and we found that the network emulation solution paid for it self five-times just in the reduction in labor costs to manage network and application performance."

~ IT Manager, Food and Beverage Company

they are interested in deploying over the next two years as compared to IT-related job roles. This shows a certain level of concern from IT staff that their business executives would be looking "over their shoulders" when it comes to managing application performance. However, Best-in-Class organizations have a completely opposite view. These organizations are providing executives with visibility into application performance to insure that the business side of an organization is aware of the business impact of performance issues. This helps their IT staff justify investments in additional capabilities for application performance management.

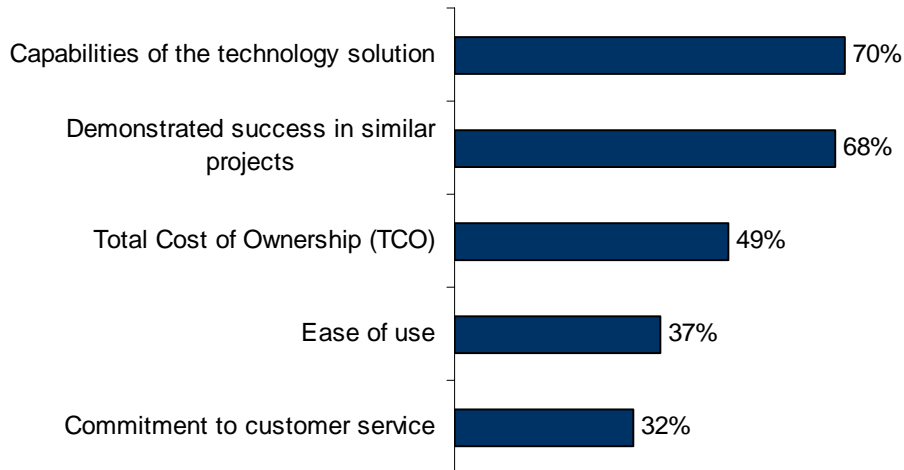
Knowledge Management

The research shows that Best-in-Class organizations are 68% more likely to have the ability to collect and analyze packet flow data as compared to Laggards. This capability allows organizations to improve visibility into the types of traffic they are experiencing on their networks and make more accurate decisions about actions they need to take when optimizing application performance. As a result of having this capability in place, Best-in-Class organizations are 83% more likely to improve visibility into network performance.

Table 3 shows that Best-in-Class organizations are twice as likely to implement the Information Technology Infrastructure Library (ITIL) methodology for application performance management as compared to Laggards. Additionally, Aberdeen's recent research shows that 89% of Best-in-Class enterprises identify ITILs value to their company as high or very high compared to 65% for Industry Average and 46% for Laggard companies. This comes as a result of Best-in-Class organizations having capabilities in place for collecting application performance data that would allow them to make their APM initiatives an integral part of their ITIL practices. Having this capability in place contributed to Best-in-Class organizations reporting 99.4% availability of business-critical applications as compared to 91.8% average availability for Laggard organizations.

Technology

Figure 5: Top Selection Criteria for Application Performance Management Solutions



Source: Aberdeen Group, March 2009

Figure 1 shows that the inability to prevent performance issues before end-users are impacted is the top pressure driving companies to focus on application performance management initiatives. In order to address this challenge, Best-in-Class organizations are deploying the following technology enablers:

- Real-time alerts for performance issues
- Tools for load testing
- Tools for defining performance baselines based on ongoing learning
- Tools for predicting application performance in by using network emulation / simulation

Tools for load testing and network emulation and simulation allow organizations to ensure that their infrastructure can handle end-user traffic before applications are rolled out. Additionally, deploying intelligent tools for defining performance thresholds and coupling these tools with real-time alerts when performance falls under these thresholds enables IT staff to identify performance issues in a timely manner and resolve them before end-users are impacted. As a result of having these capabilities in place, Best-in-Class organizations are twice as likely to reduce the number of calls to the help desk related to issues with application performance as compared to all others.

Additionally, Table 3 shows that Best-in-Class organizations are twice as likely to have tools in place for prioritizing network traffic as compared to Laggards. The research shows that, on average, 37% of network capacity has

been occupied by traffic that is not business-critical. Having this capability in place allows organizations to control the amount of recreational traffic and make sure that there is enough bandwidth capacity for business-critical applications. As a result of having this capability in place, Best-in-Class organizations are five-times more likely to report decreases in the cost of communication services (as a percentage of total IT spend) as compared to Laggard organizations.

Performance Management

Figure 1 shows that the lack of visibility into end-user experience is one of the top pressures driving application performance management investments. Also, Table 3 shows that Best-in-Class organizations are nearly four-times more likely to have the ability to measure application performance from the end-users' perspective as compared to Laggards. Having this capability allows organizations to be more effective in evaluating the business impact of application performance fluctuations and helps companies make educated decisions about actions that need to be taken to improve performance. This contributed to Best-in-Class organizations being three-times more likely to avoid missed revenue opportunities and twice as likely to report improvements in customer satisfaction.

Aberdeen Insights — Technology

The research shows that on average, organizations are using three primary toolsets for managing application performance. Thirty-nine percent (39%) of organizations surveyed report using four or more different solutions to ensure that their business-critical applications are performing at the optimal level. These solutions range from products for controlling and accelerating enterprise applications to products for monitoring and analyzing application performance and testing application performance in the pre-deployment stage. The research also shows that there is no significant difference between the number of toolsets that Best-in-Class organizations are using as compared to all others. However, there is a significant difference in the effectiveness of these toolsets. In fact, 14 technology enablers that were tested in Aberdeen's survey showed no significant differences in current levels of deployment between Best-in-Class and all others.

Aberdeen's June 2008 [Application Performance Management](#) report revealed that forward-thinking organizations were addressing application performance issues beyond the production stage which allowed them to outperform 80% of their peers. This trend continued in 2009 and Table 3 shows that capabilities, such as the ability to predict the impact of network changes and tools for load balancing, are being predominantly used by Best-in-Class organizations. What has changed since 2008 is that organizations looking to achieve a Best-in-Class level of performance are facing a new challenge: frozen or decreased IT budgets.

continued

Aberdeen Insights — Technology

This presents both good and bad news for end-user organizations. The bad news is that it will become more difficult for them to distinguish from vendors' marketing messaging and the value of technology for application performance management. The good news is that it is no longer enough to have a good understanding of what capabilities they need to implement to improve overall application performance, but how to answer that "so what" question from a business perspective. That is to say; technology enablers that can help organizations improve business performance are more likely to be given a higher priority on corporate agendas.

This type of approach will lead to a higher return-on-investment in solutions for application performance management regardless of the state of the economy.

Chapter Three: Required Actions

Whether a company is trying to move its execution in application performance management 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

- **Develop capabilities for eliminating application performance issues in the pre-deployment stage.** Aberdeen's research shows that 85% of Laggard organizations do not have capabilities for predicting the impact of network changes on application performance. Additionally, 62% of these organizations are not developing capabilities for identifying issues with application design. Deploying these capabilities would enable organizations to eliminate performance bottlenecks before applications are rolled out and help them address the top challenge for application performance management - the inability to prevent performance issues before end-users are impacted.
- **Deploy tools for prioritizing and controlling network traffic.** Sixty-nine percent (69%) of Laggard organizations do not have the ability to control how their network traffic is being used. However, only 5% of these organizations were able to decrease the cost of bandwidth services while 37% of overall network capacity has been occupied by non business-critical traffic. Having this capability in place enables organizations to ensure that their bandwidth capacity is reserved for business-critical applications.

Industry Average Steps to Success

- **Develop capabilities for providing executives with visibility into the business impact of application performance.** Aberdeen's research shows that 68% of Industry Average organizations do not have this capability in place. The inability to measure the business impact of issues with application performance is one of the top challenges of application performance management. Having this capability in place, for example by deploying a dashboard or automated alert tool, would enable organizations to translate their operational goals to business goals and provide the business management with actionable information that they can use to improve metrics such as corporate revenues, customer satisfaction, employee productivity, and cost savings.
- **Deploy tools for application load testing.** The research shows that 68% of Industry Average organizations do not have tools in place for application load testing. This capability allows organizations to ensure that their networks and applications are ready for major rollouts. On the business level, having this capability helps organizations to mitigate performance issues before key business processes are interrupted.

Fast Facts

- √ 85% of Laggard organizations do not have capabilities for predicting the impact of network changes on application performance
- √ 68% of Industry Average organizations have not provided executives with visibility into application performance

- **Measure application performance for every business-critical transaction across infrastructure tiers.** Seventy-one percent (71%) of Industry Average organizations do not have the ability to measure application response times for every transaction. Additionally, 75% of these organizations do not have the ability to monitor business transactions across infrastructure tiers. Without having these capabilities, it becomes very difficult for organizations to identify segments of their enterprise infrastructure that are causing performance issues. More importantly, these organizations are less likely to be able to justify investments in application performance solutions that would help them reach the Best-in-Class level of performance as they are not able to identify the source of delay in application and transaction response times.

Best-in-Class Steps to Success

- **Map business-critical applications to key business processes.** Even though Best-in-Class organizations are 37% less likely to report that they are challenged with visibility into how applications are used throughout key business processes as compared to Laggards, 61% of these organizations still do not have a good understanding of how applications are used to support revenue generating business processes. Having this capability in place allows organizations to establish knowledge sharing between IT and the business, and to make a connection between operational and business goals.
- **Develop capabilities for measuring application performance from the end-users' perspective.** Even though Best-in-Class organizations are nearly four -imes more likely to be able to measure the quality of end-user experience, 29% of these organizations still do not have this capability in place. Having this capability is critical for addressing some of top three challenges of application performance. More importantly, this capability allows end-user organizations to make better decisions about prioritizing their budgets by investing in solutions that can make an impact on their business goals.

"Having capabilities for monitoring end-user experience resulted in significant improvements in availability which led to increases in customer satisfaction due to improved level of compliance in service level agreements."

~ Norm Morrison, GSI
Commerce, Director and
Principle Architect of
Production Performance
Monitoring

Aberdeen Insights — Summary

IT departments are not just looking for a buy-in from business management when trying to implement capabilities for managing application performance, but they also need help with understanding what business goals they are trying to achieve when selecting these capabilities. Deployments of technology solutions can help organizations understand how many issuers are being impacted by performance issues, but the technology itself will not allow IT departments to ensure that they are taking all the right actions when helping to achieve organizational business goals. In addition to deploying the technology, they need help from their organizations' business management with mapping the use of applications with business processes and measuring the impact of performance improvements on revenue growth, customer satisfaction, cost savings and brand reputation.

Appendix A: Research Methodology

In March of 2009, Aberdeen examined the use, the experiences, and the intentions of more than 150 organizations using application performance management solutions.

Aberdeen supplemented this online survey effort with telephone interviews with select survey respondents, gathering additional on application performance management strategies, experiences, and results.

Responding enterprises included the following:

- *Job title / function:* The research sample included respondents with the following job titles: senior management (22%); line of business owner/business management (17%); network management (14%); systems management (12%); application QA/development (10%); other IT staff (13%) and other business staff (12%).
- *Industry:* The research sample included respondents from 16 industries. Some of the largest industry segments were: finance and banking (14%); high technology / software (11%); manufacturing (10%); telecommunications (9%); healthcare (8%); government (7%) and education (7%).
- *Geography:* The majority of respondents (56%) were from North America. Remaining respondents were from Europe (25%) the Asia-Pacific region (12%), and the rest of the world (7%).
- *Company size:* Thirty-three percent (33%) 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 38% of respondents were from small businesses (annual revenues of \$50 million or less).
- *Headcount:* Forty-seven percent (47%) of respondents were from large enterprises (headcount greater than 1,000 employees); 27% were from midsize enterprises (headcount between 100 and 999 employees); and 26% of respondents were from small businesses headcount between 1 and 99 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 application performance management solutions are deployed in their operations and the financial implications of the technology
- √ The structure and effectiveness of existing implementations of application performance management solutions
- √ Current and planned use of application performance management solutions to aid operational and promotional activities
- √ The benefits, if any, that have been derived from application performance management initiatives

The study aimed to identify emerging best practices for application performance management, 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, March 2009

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, March 2009

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, March 2009

Appendix B: Related Aberdeen Research

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

- [Application Performance Management: The Lifecycle Approach Brings IT and Business Together](#); June 2008
- [The Performance of Web Applications: Customers are Won or Lost in One Second](#); November 2008
- [Virtual Vigilance: Managing Application Performance in Virtual Environments](#); December 2008
- [The Value of Network and Application Visibility: Improving the Usability of Performance Data](#); September 2008
- [Optimizing Application Delivery over the WAN](#); August 2008

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

Author: Bojan Simic, Research Analyst, Network and Application Performance Management, bojan.simic@aberdeen.com

Since 1988, Aberdeen's research has been helping corporations worldwide become Best-in-Class. Having benchmarked the performance of more than 644,000 companies, Aberdeen is uniquely positioned to provide organizations with the facts that matter — the facts that enable companies to get ahead and drive results. That's why our research is relied on by more than 2.2 million readers in over 40 countries, 90% of the Fortune 1,000, and 93% of the Technology 500.

As a Harte-Hanks Company, Aberdeen plays a key role of putting content in context for the global direct and targeted marketing company. Aberdeen's analytical and independent view of the "customer optimization" process of Harte-Hanks (Information – Opportunity – Insight – Engagement – Interaction) extends the client value and accentuates the strategic role Harte-Hanks brings to the market. For additional information, visit Aberdeen <http://www.aberdeen.com> or call (617) 723-7890, or to learn more about Harte-Hanks, call (800) 456-9748 or go to <http://www.harte-hanks.com>

This document is the result of primary research performed by Aberdeen Group. Aberdeen Group's methodologies provide for objective fact-based research and represent the best analysis available at the time of publication. Unless otherwise noted, the entire contents of this publication are copyrighted by Aberdeen Group, Inc. and may not be reproduced, distributed, archived, or transmitted in any form or by any means without prior written consent by Aberdeen Group, Inc.