

The APM Lifecycle

Improving End-User Experience with a Holistic Approach to Application
Performance Management

February 2010

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Executive Summary

Aberdeen surveyed over 100 organizations between December 2009 and February of 2010 to identify the best practices enterprises are using that improve application performance management solutions' impact on end-user productivity and the business benefits of a "lifecycle" approach to application performance management. The research results reveal that Best-in-Class enterprises focus on a holistic approach to application performance management to reduce the time to identify and resolve critical application performance issues. The research also reveals that increases in the speed to identify and resolve problems raises application availability and delivers a clear return-on-investment for application performance management solutions.

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

Best-in-Class Performance

Aberdeen used the following three key performance criteria to distinguish Best-in-Class companies:

- 2.57 hours mean time to repair critical situations in application performance
- 71% improvement in mean time to repair critical situations in application performance
- 98% availability of critical business applications

Competitive Maturity Assessment

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

- Faster identification of root causes for issues related to critical application performance events
- More performance issues reported by application performance management tools versus end-users

"Application performance management tools provided a better insight into our application availability witnessed from an end user perspective, helping to identify and rectify areas causing outages and thus affecting overall ability."

~ IT Executive

Required Actions

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

- Focus application performance monitoring on critical business applications to improve availability and response times to end-users
- Improve proactive monitoring, automating the comparison of real-time performance against defined services levels

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Chapter One: Benchmarking the Best-in-Class

Business Context

Business end-users demand applications with valuable features and lightning fast performance. Applications must increase loyalty among external stakeholders and challenge the competition. When IT delivers an application that effectively accomplishes these goals, the enterprise enjoys increased profits and employee productivity gains. Top performing companies integrate people, processes, and technology solutions to provide:

- Increased revenue
- Increased IT responsiveness and decreased time to resolve application performance problems
- Increased knowledge of the impact to business application owners, end-users, and customers
- Improved value of application performance information collected, stored, and communicated among functional groups
- Executive visibility into the business impact of application performance improvements

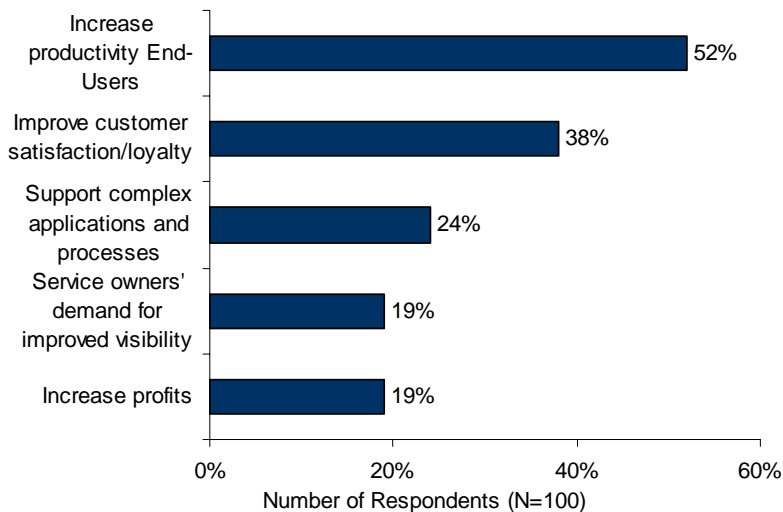
Fast Facts

- ✓ **70%** of Best-in-Class companies perform root cause analysis on critical events
- ✓ **61%** of Best-in-Class companies have defined baselines for acceptable application performance

Pressures Driving Application Performance Improvements

Aberdeen's survey respondents communicated that their top two pressures are to increase the productivity and satisfaction of their business application end-users.

Figure 1: Drivers for Application Performance Improvement



Source: Aberdeen Group, February 2010

These findings are compared to top pressures found in Aberdeen's June 2009 report [Monitoring the End-User Experience: Improving Business Performance through Application Management](#). In 2008, Aberdeen reported that 54% of respondents selected employee productivity as the top pressure. In June 2009, the pressure switched to improving end-user satisfaction, at 55%. Our 2010 results show that end-user satisfaction remains the top pressure.

“Currently we still rely on isolated performance counters, like web servers, application servers and database servers, and researching for integrated and affordable Application Performance Management products.”

~ IT Analyst

Software Industry

Table 1: Comparing Pressures Driving Application Performance Improvements

February 2010	June 2009	June 2008
<ul style="list-style-type: none"> 52% increase end-user productivity 	<ul style="list-style-type: none"> 55% improve end-user satisfaction 	<ul style="list-style-type: none"> 54% improve employee productivity
<ul style="list-style-type: none"> 38% improve end-user satisfaction 	<ul style="list-style-type: none"> 49% mitigate disruption of key business processes 	<ul style="list-style-type: none"> 53% improve responsiveness to external customers

Source: Aberdeen Group, February 2010

Enterprises are implementing solutions such as virtualization, expanding globally distributed applications, and assessing the impact of cloud based applications that result in reduced IT costs and improved return on investment for the enterprise. The third pressure, the need to support complex applications and processes, indicates that respondents are concerned about supporting their applications and business processes in this increasingly challenging technology environment and business climate.

The Maturity Class Framework

Aberdeen used three key performance criteria to distinguish the Best-in-Class from Industry Average and Laggard organizations.

Table 2: Top Performers Earn Best-in-Class Status

Definition of Maturity Class	Mean Class Performance
<p>Best-in-Class: Top 20% of aggregate performance scorers</p>	<ul style="list-style-type: none"> 2.57 hours mean time to repair critical situations in application performance 71% improvement in mean time to repair critical situations in application performance 98% availability of critical business applications
<p>Industry Average: Middle 50% of aggregate performance scorers</p>	<ul style="list-style-type: none"> 7.45 hours mean time to repair critical situations in application performance 20% improvement in mean time to repair critical situations in application performance 98% availability of critical business applications

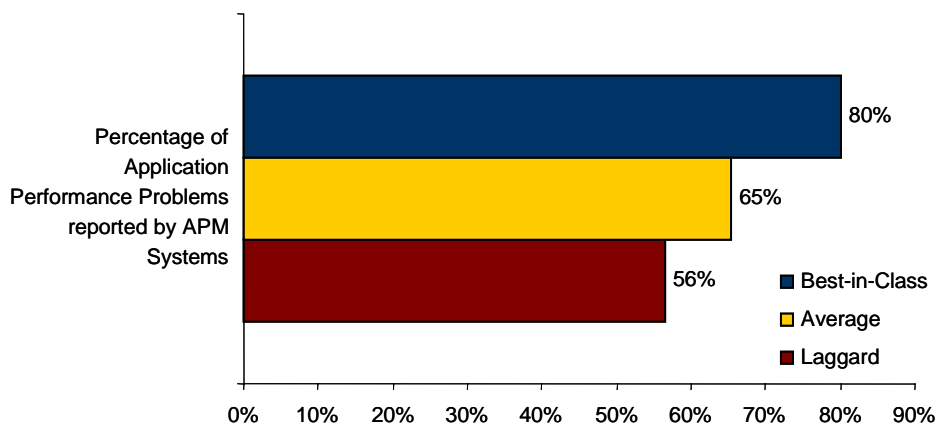
Definition of Maturity Class	Mean Class Performance
<p>Laggard: Bottom 30% of aggregate performance scorers</p>	<ul style="list-style-type: none"> ▪ 45 hours mean time to repair critical situations in application performance ▪ 11% decline in mean time to repair critical situations in application performance ▪ 85% availability of critical business applications

Source: Aberdeen Group, February 2010

Application Performance Management Reduces Impact on End Users

Best-in-Class implementations of technology capabilities and enablers result in a clear improvement in overall performance. Figure 2, shows one of the most important findings in this study. Only 20% of end-users in the Best-in-Class group report problems before they are identified by IT or by the application performance management system, compared to over twice that for the Laggard group.

Figure 2: Percentage of Problems Identified by APM Systems



Source: Aberdeen Group, February 2010

Application Performance Management Reduces Business Disruptions

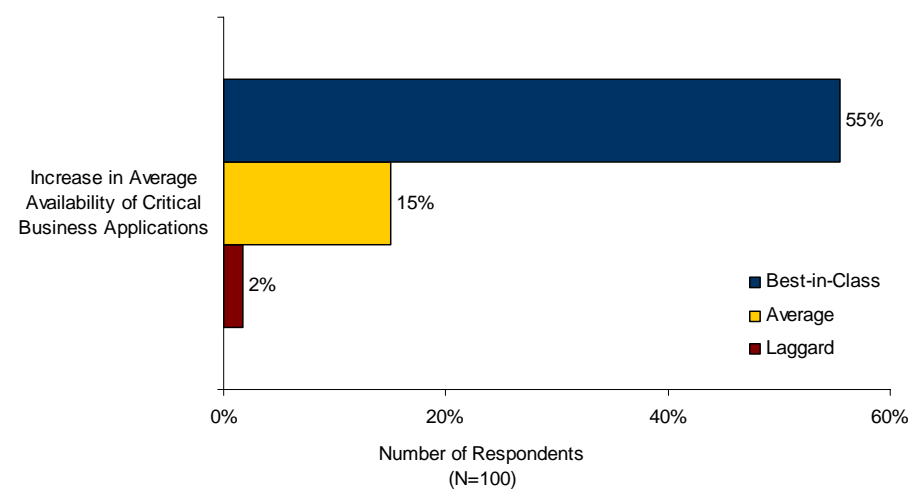
One aspect of increased end-user productivity is facilitated by decreasing or eliminating business process disruptions. To achieve this, Best-in-Class companies delivered higher availability as a result of their application performance management implementations.

Results focusing on enterprise average availability changes over the last 12 months reflected a significant gap in the performance of achievements between the Best-in-Class, Industry Average, and Laggard companies.

The companies in the Best-in-Class category improved availability by 55%, Industry Average only improved 15% and Laggard posted only a 2% improvement. This suggests that Laggards will likely continue to have

challenges with end-user satisfaction, productivity, revenue losses, and potentially negative impact to their brands.

Figure 3: Best-in-Class Availability Improvements

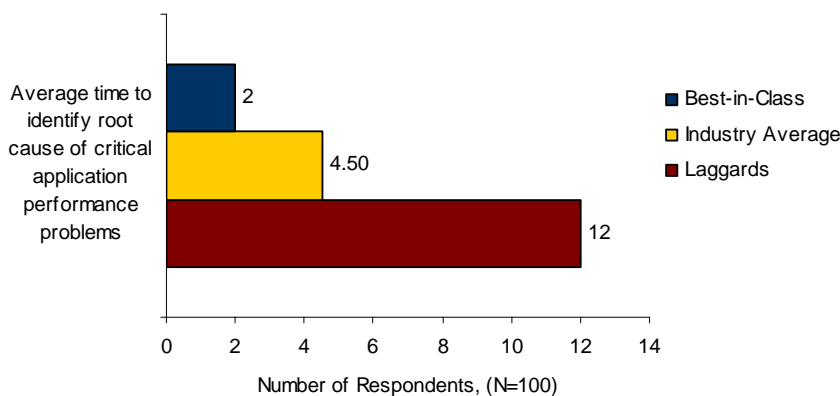


Source: Aberdeen Group, February 2010

Identifying Root Cause Faster Impacts End-Users and Services

IT operations groups that are focused on monitoring the environment keep abreast of numerous indicators of infrastructure systems and application performance and availability. This study separated the tasks of identifying a root cause as a component of problem solving and the time respondents indicated that it took to repair an application performance issue. The results show that Best-in-Class companies identify the root cause of application performance problems faster than their Industry Average and Laggard counterparts. Identifying the root cause of an issue helps the organization to eliminate that problem from impacting the business service in the future.

Figure 4: Average Time to Identify Root Cause (Hours)

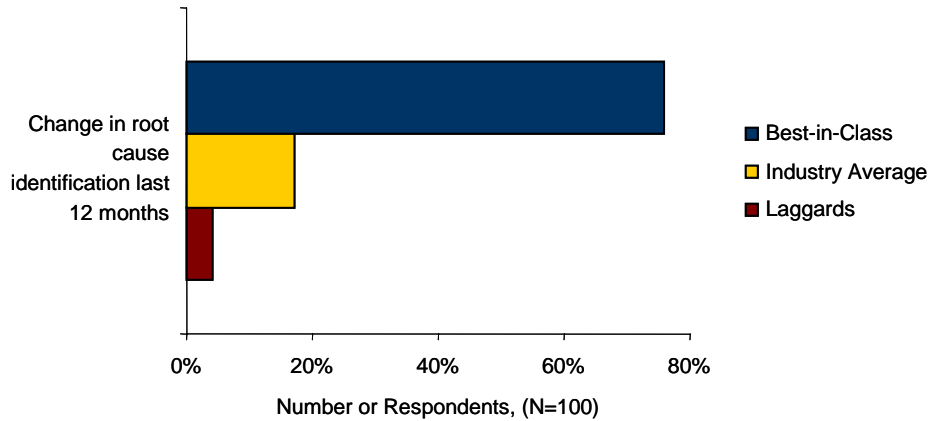


Source: Aberdeen Group, February 2010

A Widening Gap for Laggard Performers.

Figure 4 shows that the Best-in-Class are able to identify the root cause of an application performance issue in two hours. The Best-in-Class are twice as fast as the Industry Average and approximately six times as fast as Laggards in identifying the root cause of application performance problems.

Figure 5: Laggard Root Cause Improvements are Insignificant



Source: Aberdeen Group, February 2010

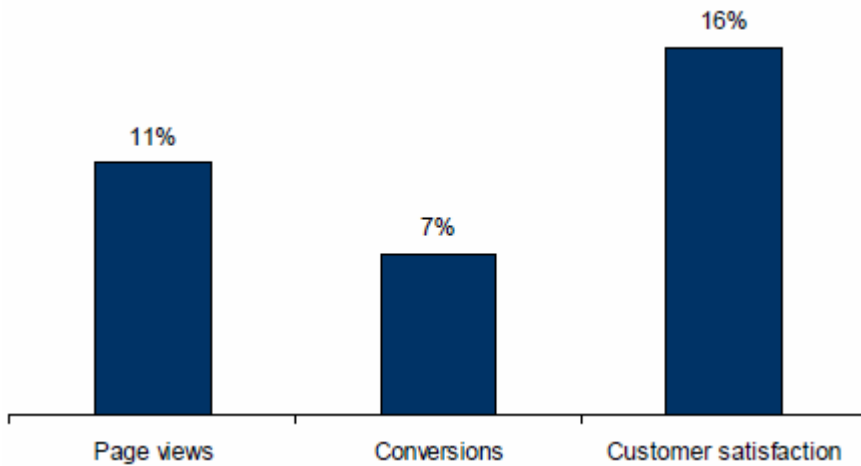
The results in Figure 5 indicate that Laggards show little change in the last 12 months in improving their capability to identify the root causes of application performance issues, reporting a mere 2% improvement over last year. Laggard companies have significant problems improving their ability to resolve their application performance issues while the Best-in-Class are delivering striking improvements over time.

As companies are challenged with new infrastructure implementations, reorganization and consolidation of data center facilities, critical applications, complex protocols, and global distribution requirements, Laggards will not improve without major changes in strategy. Laggard companies must focus on implementing more effective application performance management capabilities in their environments, or risk continued problems with application performance and the associated ripple effects on the organization.

Linking Increased Applications Performance to Value

Aberdeen's November 2008 report [*The Performance of Web Applications: Customers are Lost in One Second*](#), pointed out that end-user expectations are continually rising. It is the responsibility of IT to improve overall performance and it is important to monitor applications from the end-user perspective.

Figure 6: Impact of a One Second Delay in Response Time



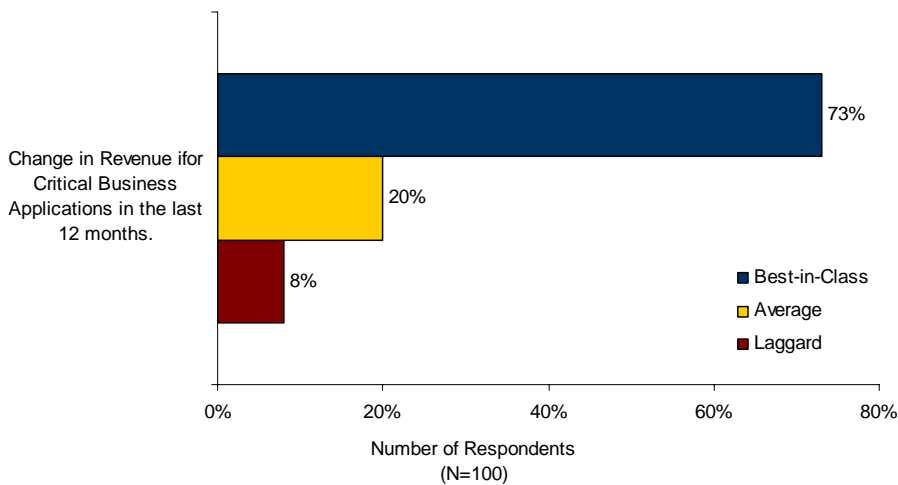
Source: Aberdeen Group, November 2008

Figure 6 shows the impact of response time delays on web performance indicating that a one second delay in response time for web applications can:

- reduce end-user satisfaction by 16%
- decrease page views by 11%
- decrease transaction conversions by 7%

Results from this current research show that the Best-in-Class significantly improved revenue from business critical applications in the last 12 months, linking the results of application performance management to real value for these companies.

Figure 7: Best-in-Class Revenue Increases are Nine-times that of Laggard Companies



Source: Aberdeen Group, February 2010

The Best-in-Class PACE Model

Using a holistic approach to application performance management, focusing on end-user satisfaction, and achieving corporate goals requires a combination of strategic actions, organizational capabilities, and enabling technologies that is summarized in Table 3. Additional information about the Best-in-Class PACE Framework can be found in Appendix A.

Table 3: The Best-in-Class PACE Framework

Pressures	Actions	Capabilities	Enablers
<ul style="list-style-type: none"> ▪ Increase productivity of end-users 	<ul style="list-style-type: none"> ▪ Monitor critical transactions ▪ Define quantifiable service levels for business critical applications ▪ Achieve total inventory visibility ▪ Reduce resources required triage and resolve critical events ▪ Implement quality of end-user experience improvement program 	<ul style="list-style-type: none"> ▪ Ability to capture end-user experience data ▪ Ability to perform root-cause analysis on critical events ▪ On-demand experts available for critical events ▪ Formal application lifecycle management process ▪ Dedicated application optimization team ▪ Application dependency map is developed and maintained 	<ul style="list-style-type: none"> ▪ Prioritized events based on criticality ▪ Ability to deep dive into individual service areas, network, server, application, transactions ▪ Real user monitoring ▪ Application health in context of infrastructure ▪ Hop-by-hop application flow monitoring tools ▪ Executive dashboards ▪ Customizable, role related views ▪ Service quality by infrastructure / impact ▪ Service quality by transaction / performance

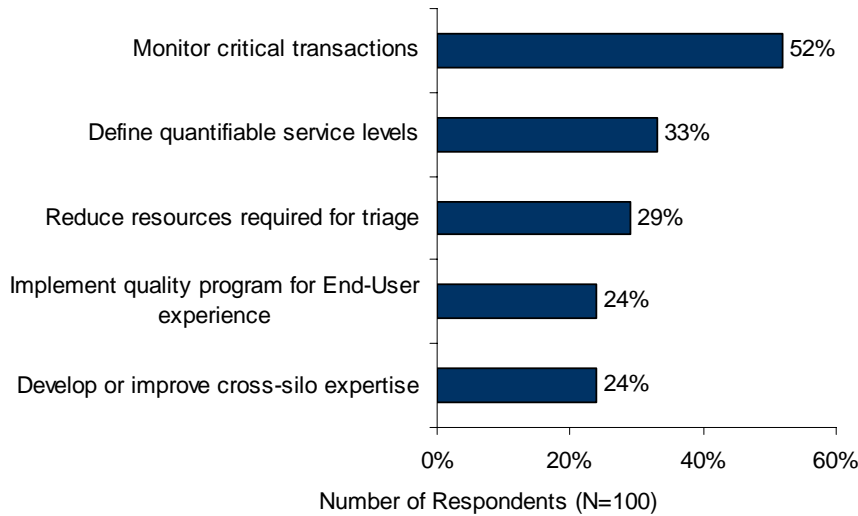
Source: Aberdeen Group, February 2010

Best-in-Class Strategies

Organizations are focusing on several strategic approaches to address the business pressures associated with increasing end-user productivity and satisfaction with production applications. The research shows that 52% of companies focus on improving performance monitoring of critical transactions. Increasing visibility into transaction details provides application developers with substantial data about end-user behavior and the performance of the applications.

Additionally, 33% of respondents reported that they are focused on defining quantifiable service levels. Enterprises can increase the availability of critical applications that have well-defined services levels for application performance. Connecting service levels to specific performance requirements for underlying infrastructure (such as server systems, network infrastructure, and transaction response times) is part of an integrated process improves the value of the application performance management solution.

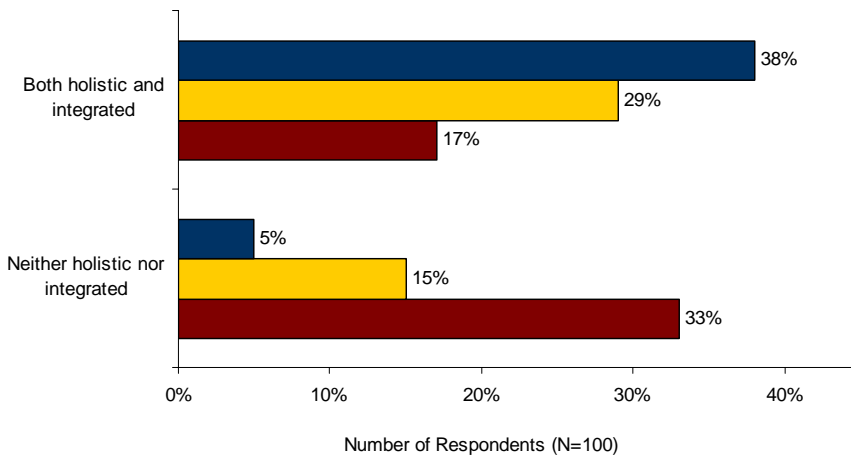
Figure 8: Strategic Approaches to Addressing Business Pressures



Source: Aberdeen Group, February 2010

Business service owners also want more visibility into the performance of their applications. This pressure is validated by the research results showing that Best-in-Class organizations have holistic, integrated application performance management solutions in place to deliver visibility into critical performance and systems details.

Figure 9: Application Performance Management Approaches



Source: Aberdeen Group, February 2010

"Application performance management tools definitely increased end user productivity, especially where the tools have the capability to assist with measuring the amount of work an individual is pushing though on a daily basis."

~ IT Manager,
IT Services Company

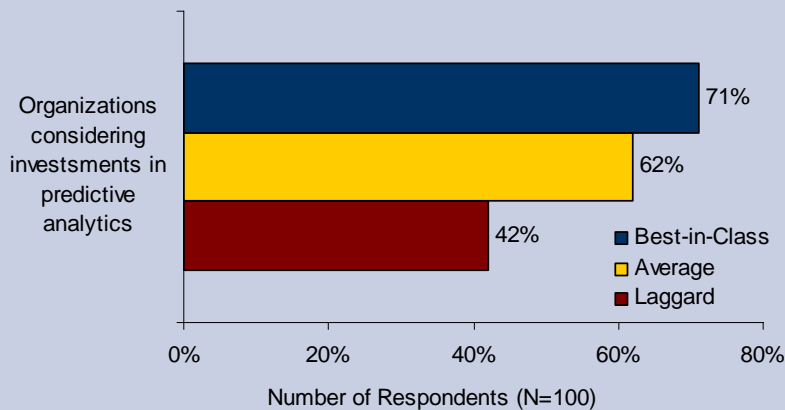
The research results reveal that 38% of Best-in-Class companies focus on implementing a holistic approach to application performance management that enables end-to-end visibility, event detection, and management from the business service level to infrastructure system inclusively. Additionally, Best-in-Class companies deploy application performance management

solutions that are open and provide capabilities to integrate with external monitoring systems. The Best-in-Class reveal that implementing both a holistic and integrated approach creates a common platform for delivering visibility into the performance of applications and underlying systems to business, technical, and operational stakeholders, across functional groups.

Aberdeen Insights — Strategy

The research found that enterprises are investing in predictive analytics solutions to derive improved application performance. While 71% of Best-in-Class and 62% of Industry Average companies are considering investments in this capability to drive improved results, less than half of Laggards are considering making an investment in predictive tools as part of a holistic approach to application performance management.

Figure 10: Strategic Investments for Predictive Analytics



Source: Aberdeen Group, February 2010

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 application performance management solutions and systems plays a crucial role in the ability to turn these strategies into profit.

Case Study — Telecom Services Provider

Take for example the case of the following telecom services provider which operates Information and Communication Technology (ICT) for multinational corporations and public institutions. This firm, and its 56,000 employees, combine industry expertise and ICT innovations to add noticeable value to its customers' core businesses all over the world. This firm delivers customers end-to-end IT and telecommunications solutions and provides a single point of contact for corporate voice and data networks to full-spectrum IT solutions and business process outsourcing.

This firm's clients utilize Business Process Management (BPM) workflows for insurance applications. It wanted improved visibility to quantify the number of claims logged by a specific claims clerk, or the number of new policies created based on the number of transaction executions per team. "As nobody wanted to be on the bottom area of productivity when performance reviews happen, we saw a big upward swing in the number of transactions executed," said the IT manager at the telecom services provider.

The main issue at hand with this firm was the need to improve insight into actual response times from a client perspective, how to reduce or eliminate time-wasting finger-pointing, and to enable this telecom services provider to have accurate history for SLA input.

Application performance management tools "improved application response time [by] identifying the problem transactions. This allowed us to highlight it to development and technical areas that again drove further optimization of the transaction configuration," said the IT manager.

According to the IT manager, some of the key lessons learned included ensuring that IT knows what needs to be measured, and to obtain requirements and approval to ensure there is buy-in from the business community. "Ensure that you have someone assigned to the responsibility of analyzing the information supplied and ensure that the necessary feedback and recommendations are delivered to business and IT areas that benefit," said the IT manager.

Fast Facts

- ✓ **83%** of the Best-in-Class are able to measure application response times
- ✓ **56%** associate application transactions with business processes

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 approaches they take to execute daily operations); (2) **organization** (corporate focus and collaboration among stakeholders); (3) **knowledge management** (contextualizing data and exposing it to key stakeholders); (4) **technology** (the selection of the appropriate tools and the effective deployment of those tools); and (5) **performance management** (the ability of the organization to measure its results to improve its business). These characteristics (identified in Table 4) serve as a guideline for best practices, and correlate directly with Best-in-Class performance across the key metrics.

Table 4: The Competitive Framework

	Best-in-Class	Average	Laggards
Process	Ability to perform root-cause analysis on critical events		
	70%	47%	24%
Organization	On-demand experts available for critical events		
	58%	43%	45%
Knowledge	Ability to compare benchmarked 'normal' behavior to a critical event		
	63%	31%	6%
	Full capture of end-user experience data		
	42%	37%	23%
Technology	Application performance management technology currently in use:		
	<ul style="list-style-type: none"> ▪ 53% deep visibility into individual service areas, end-user, network, server, application, transactions ▪ 50% application health in context of infrastructure ▪ 47% Hop-by-hop application flow monitoring tools 	<ul style="list-style-type: none"> ▪ 31% deep visibility into individual service areas, end-user, network, server, application, transactions ▪ 28% application health in context of infrastructure ▪ 25% Hop-by-hop application flow monitoring tools 	<ul style="list-style-type: none"> ▪ 10% deep visibility into individual service areas, end-user, network, server, application, transactions ▪ 10% application health in context of infrastructure ▪ 16% Hop-by-hop application flow monitoring tools

	Best-in-Class	Average	Laggards
Performance	Performance measurement capabilities:		
	<ul style="list-style-type: none"> ▪ 83% ability to measure application response times ▪ 63% compare benchmarked 'normal' behavior to a critical event ▪ 61% Defined baselines for acceptable performance 	<ul style="list-style-type: none"> ▪ 58% ability to measure application response times ▪ 31% compare benchmarked 'normal' behavior to a critical event ▪ 48% Defined baselines for acceptable performance 	<ul style="list-style-type: none"> ▪ 45% ability to measure application response times ▪ 6% compare benchmarked 'normal' behavior to a critical event ▪ 25% Defined baselines for acceptable performance

Source: Aberdeen Group, February 2010

Capabilities and Enablers

Based on the findings of the Competitive Framework and interviews with end users, Aberdeen’s analysis of the Best-in-Class reveals that they implement a range of capabilities and technology enablers that create an end-to-end solution connecting the end-users, business stakeholders, applications owners, and systems infrastructure teams. The Best-in-Class deliver higher performance by implementing these solutions in both holistic and integrated approaches.

Process

While 70% of the Best-in-Class perform root cause analysis on critical application events today, the remaining 30% of Best-in-Class companies indicated that they plan to implement root cause analysis on critical application events in the next 12 months. This indicates that 100% of Best-in-Class companies will implement root cause analysis process while Industry Average and Laggard companies play catch up.

Enterprises struggle with complex environments where business services and applications are built on a diverse set of technologies at the web, application, and database layers. Enterprises are deploying applications across the globe in locations demanding complicated solutions for connectivity, multiple service providers, and large interdepartmental silos. Its not only *where*, but *what* that is the issue; is it server hardware, is it issues in application code, or can it be a network issue within a service provider network that connects a critical remote sales office? Best-in-Class organizations have found that implementing technology solutions along with effective processes allow their IT teams to isolate a problem and quickly pinpoint the specific issue. Organizations gain higher levels of success when they have the capability to efficiently identify the root cause of a problem within this complex environment, while minimizing or eliminating finger pointing between IT service delivery teams. The research indicates that only

"Application performance management tools provided a better insight into our application availability witnessed from an end user perspective, helping to identify and rectify areas causing outages and thus affecting overall ability."

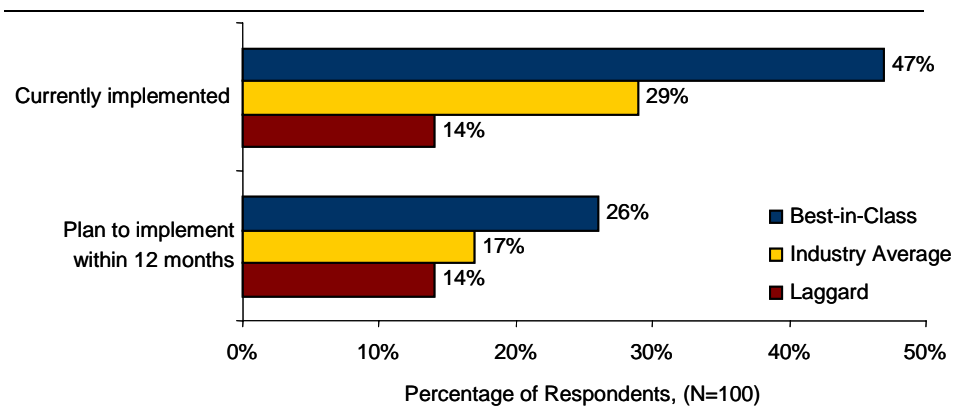
~ IT Executive,
Telecommunications Service
Provider

30% of Industry Average and Laggard organizations plan to implement root cause analysis processes in the next 12 months.

Organization

The way to reduce the time it takes to resolve application issues that impact systems or end-users is to have the correct resources engaged to resolve an issue when it is identified. It is extremely important for organizations to ensure that as many problems as possible be resolved at the first point of contact, such as at the service desk. Research results show that 47% of Best-in-Class companies dedicate resources to application optimization efforts, while only 14% of Laggards focus expertise in this area. In addition, Figure 11 shows that another 26% of the Best-in-Class acknowledge the value of this expertise and will also dedicate resources and expertise in the next 12 months.

Figure 11: Dedicated Application Optimization Team



Source: Aberdeen Group, February 2010

The IT organization must engage expert resources that have both the depth and breadth of knowledge of an application or system component to reduce the time to repair critical application performance problems. Application performance management solutions enhance IT efficiency, help companies more effectively utilize high-cost technical experts, and generally run a leaner IT support team. Balancing proactive monitoring, effective problem identification, and sending automated escalations to the correct experts, based on service levels aligned with business services, improves the ability of IT to respond to end-user service impacting events.

Knowledge Management

Solutions that can consolidate and effectively correlate real-time performance data increase IT knowledge. Sifting through many data streams from numerous applications, transactions and systems that identify performance anomalies and accurately prioritize results help to facilitate process improvements and decision making. Sixty-three percent (63%) of the Best-in-Class have adopted solutions that provide detailed analytics to

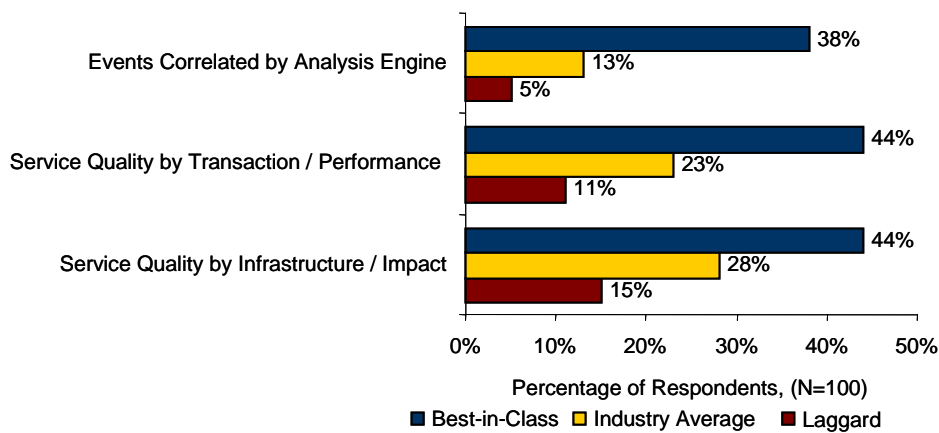
help the organization more effectively baseline and benchmark performance over time. The solutions implemented also work across system and application components, and provide deep analysis that focuses on end-user experience, including individual use characteristics, performance data, and transaction history.

Technology

A continuous improvement approach focuses on monitoring end-user-specific transactions, capturing specific key performance data, while enabling IT to measure, re-play, and optimize performance of the application at each step of the transaction. This increases the ability of IT to continuously and effectively manage applications. Several key capabilities in place are enabling the Best-in-Class to achieve definite performance gains compared to Industry Average and Laggard companies.

It is important that application performance solutions deliver effective diagnostic tools that improve the capability of IT to analyze data and connect the results of the analysis to the performance of applications. Best-in-Class companies are implementing these diagnostic tools.

Figure 12: Diagnostic Tools that Deliver Improved Performance



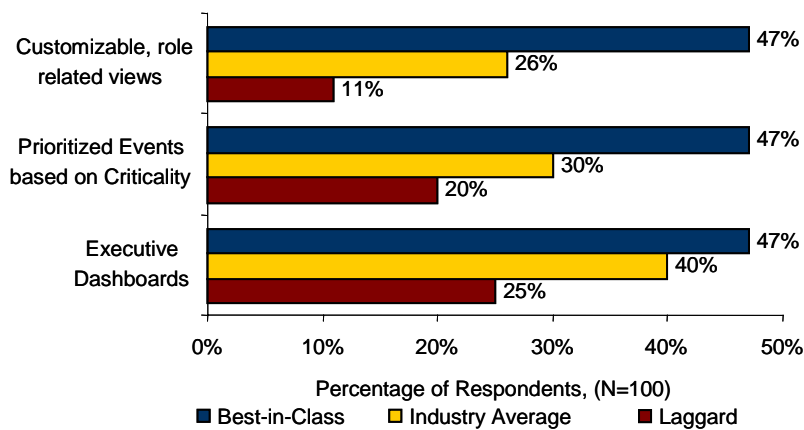
Source: Aberdeen Group, February 2010

The research reveals that 38% of Best-in-Class companies have implemented event correlation as part of their application performance management solutions, compared to 5% of Laggard companies. The Best-in-Class also utilize diagnostic tools that deliver service quality information, connecting service quality to infrastructure and transaction performance. Forty-four percent (44%) of Best-in-Class companies implemented service quality diagnostic tools compared to approximately one fourth of Laggard companies. Industry Average companies still have work to do to improve their implementations of service quality diagnostics.

Collecting diagnostic details provides IT with critical information to effectively handle application performance challenges. Delivering information

to the appropriate resources increases operational efficiency, increases knowledge, and improves the capability of IT to provide important performance information to the correct resources. Forty-seven percent (47%) of respondents deliver reports that focus on customizable, role-based views that enable flexible reports to be delivered and accessed by specific stakeholders. Reports that classify events based on priority ensure that the most critical problems are addressed first. Executive dashboards deliver high-level business service information to service managers or other key stakeholders.

Figure 13: Reporting Tools that Deliver Improved Performance

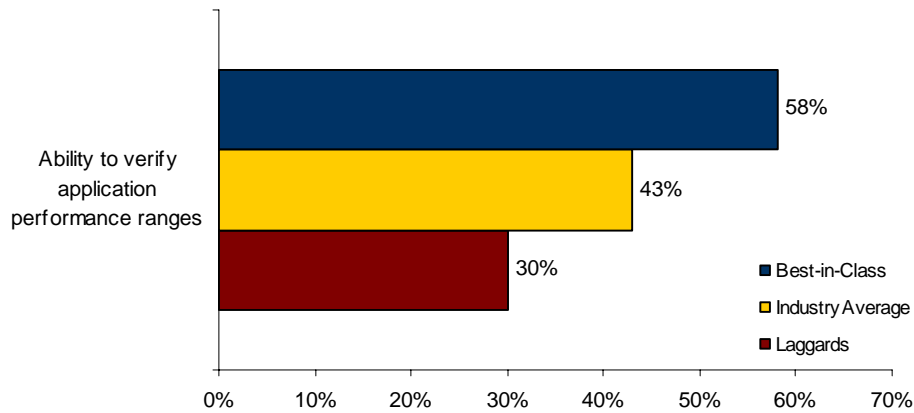


Source: Aberdeen Group, February 2010

Performance Management

Gathering performance data is fundamental to developing baselines that IT can utilize to improve availability and performance. Whether end-user experience-related, application response time, or information that provides another service-based key performance indicator to capture important performance trends, baselines and benchmarks are important to defining realistic service levels. Through effective monitoring, IT can determine production performance and compare it to pre-production results. Additionally, utilizing application performance tools to identify or create production baselines helps the organization track current performance and compare it with historic performance of the application or specific transactions. Research results show that 58% Best-in-Class companies have the ability to verify application performance ranges. Collecting baseline information over time enables IT to understand the ranges of performance for an application or underlying transactions. When performance falls outside of these ranges, IT is able to investigate and determine what potential problems might exist. It is important to make this information available in the operations center or service desk, enabling those stakeholders to have results of both types of performance around the clock.

Figure 14: Performance Capability that Delivers Improved Performance



Source: Aberdeen Group, February 2010

Aberdeen Insights — Technology

The research shows that Best-in-Class companies are succeeding as a result of implementing application performance management solutions. The Best-in-Class focus on a holistic approach to application performance that connects end-users and their important business applications with monitoring, systems support, frontline service desk, and business service owners. Each stakeholder has responsibility to ensure that critical business services are available and they deliver optimum performance to end-users. This research reveals that Best-in-Class organizations connect a business service or application at the highest level and delivers successive levels of performance or transaction details to multiple stakeholders.

It is critical that IT increases its understanding of application flows in the environment. Enabling hop-by-hop systems visibility into the infrastructure that a transaction traverses fulfills this need. Forty-seven percent (47%) of Best-in-Class companies implement capabilities that enable this detailed level of visibility. Delivering performance statistics at each hop in the transaction chain provides a level of detail that can be integrated into rules-based fault identification.

CIOs and business service owners improve their knowledge of business information (such as revenues, critical transaction volumes, and service availability) as a result of visibility into business services. Service quality indicators unify technical performance details from multiple sources, summarizing it into meaningful information for the executive. Dashboards provide quick access to this information and can be made available for the wide variety of access methods enabling specific views and real-time updates that allow an executive or service owner to keep the pulse on both positive and negative service performance trends.

continued

Aberdeen Insights — Technology

IT application developers, systems administrators, and network administrators gain access to detailed system and transactional information. Real-time and historic data, combined with automation tools, drive improvements in performance. Defining effective thresholds that generate alerts proactively, indicating changes in performance that need to be addressed, can be configured to notify IT support well before the system component degrades to the point that business services are disrupted.

Take into consideration the following factors when calculating the ROI for application performance management:

- Reduced costs associated with productivity losses for end-users
- Increased availability of critical applications infrastructure systems and components driving increased revenue
- More efficient utilization of expensive resources such as application developers, architects, and consultants
- Reduced resources involved in troubleshooting and repair efforts

“Users need to understand the relationship between poor performance and systems. IT needs to be able to translate poor response time into hard dollars to get funding.”

~ Director of Information
Technology

Seafood Business

Chapter Three: Required Actions

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

- **Improve proactive problem identification, focusing on end-users.** Laggard companies need to improve their ability to proactively identify problems that cause business service disruptions. Laggard companies indicated that 34% of their application problems were reported by end-users. This indicates that Laggards have much to improve in areas such as capturing end-user experience information, improving their ability to reduce mean time to repair, and effectively deploying and utilizing monitoring and reporting tools.
- **Effectively utilize tools to reduce mean time to repair.** Laggards are at a disadvantage when it comes to identifying root causes and then resolving the problems quickly. Tools that Best-in-Class companies implement to reduce downtime include prioritized events (47%), deep visibility into network, application and server systems (53%), and unified views across IT functions (38%). Developing and implementing application performance solutions that effectively reduce delay, increase accuracy, and pinpoint the root causes of events delivers a high impact in production operations. Effectively executing this strategic objective frees up technical resources and reduces finger pointing.
- **Improve visibility with application performance solutions in place.** Laggards need to get clarity and determine if they are focusing their application performance improvement efforts in areas having the highest impact on application availability. This research shows that Laggards are not effectively reporting based on critical events, quality of services by transaction type, or infrastructure status. While Laggards may be producing reports for individual functional groups, 90% of Laggards aren't producing reports based on integrated data that provides contextual information on the impact of systems on application performance.

Industry Average Steps to Success

- **Improve the ability to measure and optimize transactions.** Industry Average companies have room to improve their approaches to end-user experience monitoring. Forty-seven percent (47%) of Industry Average companies indicated they have the ability to capture transactions and replay them for analysis. Slightly more, 53% indicated that they measure the performance for each

Fast Facts

- √ **50%** of the Best-in-Class understand application health in the context of infrastructure performance compared to only 28% of Industry Average, and 10% of Laggard companies
- √ **47%** of Best-in-Class companies have a dedicated application performance optimization team compared to 14% of Laggard and 29% of Industry Average companies

transaction step. However, Industry Average (27%) and Laggards (20%) are much closer when it comes to taking steps to optimize the performance for each step within a transaction. Industry Average enterprises have the data and should identify and address organizational expertise, knowledge, or process gaps to take advantage of the available information. Taking advantage of these available resources leads to optimized transactions or systems that will improve performance and increase the availability of applications.

- **Effectively utilize tools to reduce mean time to repair.** Industry Average companies are not effectively reducing the time it takes to resolve application performance issues. Only 31% of Industry Average companies reported that they possess capabilities to provide effective levels of detail across systems involved in delivering the application. Only 28% of Industry Average companies are able to determine the health of the application in the context of the infrastructure. Improving proactive monitoring that is based on connecting system performance details in the context of business applications can be an effective means to identify application performance problems well ahead of an impact to the end-user and to determine the most effective approaches for long-term corrective action.
- **Improve capabilities to measure application response times.** Fifty-eight percent (58%) of Industry Average companies measure application response times, compared to 83% of Best-in-Class companies. Industry Average companies should consider the benefits and impact of capturing this key performance information. Connecting real-time results of applications and transaction responsiveness through the infrastructure and end-user perspective will create realistic baselines, compare the baselines with current performance and effectively determine service levels. Rules can then be crafted within the application performance monitoring systems that help identify application or transaction response time problems proactively.

Best-in-Class Steps to Success

- **Expand critical transaction monitoring.** Best-in-Class companies clearly improved the availability and performance for critical applications. The Best-in-Class delivered a 56% increase in the availability of their critical transactions. Implementing a full suite of capabilities that focus on capturing end-user data, systems data, and developing baselines that connect systems to application performance helped the Best-in-Class improve availability and deliver shorter mean time to repair results. Where possible, the Best-in-Class need to identify additional applications within their environment that can gain similar benefits and implement effective monitoring, baselines, and proactive problem identification to

“End users encountered serious delays with application response time in executing trial balances within our accounting application. They hit enter and went to lunch. Others could not access the report at all.”

~ Director of Information
Technology
Seafood Business

increase availability and performance for that next tier of business applications.

- **Increase root cause identification efficiency.** While 70% of Best-in-Class companies indicated that they have the capability to perform root-cause analysis on critical events, 30% can improve their capabilities in this area. Best-in-Class companies clearly have effective application performance management systems deployed. It is an important next step for these companies to increase the value of their application performance monitoring solutions and production applications by focusing on improving efficiency by identifying root-causes of application performance problems as quickly as possible.

Aberdeen Insights — Summary

In an increasingly complex environment where applications are deployed, IT is responsible for improving performance, and ensuring that applications deliver the desired information within seconds. Information needs to be accurate and deliver value to the end-user by being available around the clock. When enterprises fail to deliver expected availability and performance, significant impacts result for end-users that depend on the applications. The applications deployed in an enterprise are inextricably linked to both business performance and the individual's ability to perform important daily work.

As application performance management continues to mature and adapt to requirements to improve visibility, reduce reactive problem solving, and increase proactive management, survey respondents indicate that they will be focusing on unifying visibility, improving capabilities to report on business service performance and quality, and connecting that visibility to detailed underlying systems performance in the next 12 months.

Forty-three percent (43%) of respondents indicated that it was important for them to focus on delivering performance views of business service quality. These types of consolidated reports are derived by integrating multiple types of detail at the application and systems infrastructure levels to accurately represent the overall status of a business service.

Forty-two percent (42%) of respondents indicate that they will be implementing unified views of application performance across multiple IT functions. Enabling this level of visibility helps to promote a common understanding of applications and their component systems and infrastructure.

Thirty-nine percent (39%) of respondents indicate that they are focusing on improving their capability to implement and maintain application dependency maps. Application performance management solutions deliver visibility into all applications that comprise an important business service, and connect key performance indicators, and deep visibility into systems, applications, and transaction flows across the components of the business service.

Appendix A: Research Methodology

Between December 2009 and February 2010, Aberdeen examined the use, the experiences, and the intentions of more than 100 enterprises using or planning to adopt application performance management solutions in a diverse set of enterprises.

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

Responding enterprises included the following:

- *Job title:* The research sample included respondents with the following job titles: CEO / President (16%); EVP / SVP / VP (5%); Director (13%); Manager (44%); and Consultant (23%);
- *Department / function:* The research sample included respondents from the following departments or functions: Senior Management (22%); IT manager or staff (22%); Sales and Marketing Staff (9%); and Customer Service (7%); and other (9%).
- *Industry:* The research sample included respondents exclusively a wide variety of industries. IT Services was the largest segment with (31%) of the sample, followed by Software providers (13%), Telecommunication Services (13%), and Financial Services (10%).
- *Geography:* The majority of respondents (50%) were from North America. Remaining respondents were from the Asia-Pacific region (20%); Europe (22%); and Middle East and Africa (8%).
- *Company size:* Thirty-two percent (32%) of respondents were from large enterprises (annual revenues above US \$1 billion); 36% were from midsize enterprises (annual revenues between \$50 million and \$1 billion); and 32% of respondents were from small businesses (annual revenues of \$50 million or less).
- *Headcount:* Forty-five percent (45%) of respondents were from large enterprises (headcount greater than 1,000 employees); 26% were from midsize enterprises (headcount between 100 and 999 employees); and 29% of respondents were from small businesses (headcount between 1 and 99 employees).

Study Focus

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

- √ Assess the impact of application performance management on end-user productivity
- √ Identify the business benefits of a lifecycle approach to application performance management
- √ Expose best practices and technology enablers that contribute to top performance
- √ Use the performance of Best-in-Class application performance management as a roadmap for the rest

Table 5: 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, February 2010

Table 6: 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, February 2010

Table 7: 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, February 2010

Appendix B: Related Aberdeen Research

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

- [Monitoring the End-User Experience: Improving Business Performance through Application Management](#); June 2009
- [Application Performance Management: Getting IT on the C-Level's Agenda](#); March 2009
- [The Performance of Web Applications: Customers are Lost in One Second](#); November 2008
- [Application Performance Management: The Lifecycle Approach Brings IT and Business Together](#); June 2008
- [Optimizing the Performance of Web Applications: Direction for Improvement](#) October 2009

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

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