Aberdeen Group
A Harte-Hanks Company

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Application Performance: Finger-Pointing Hurts Your Business

Aberdeen's October 2007 benchmark report *Optimizing WAN for Application Acceleration* shows that on average organizations taking a Best-in-Class approach to WAN optimization were able to get 11.5-times more improvement in application response times than Laggard organizations. Interestingly, 72% of organizations in Aberdeen's survey did not have the ability to identify the source of the delay in application response times.

This Aberdeen Research Brief compares the performance of two groups of organizations from Aberdeen's survey: those who have the ability to segment application response times into server, network, and application delays and those who do not.

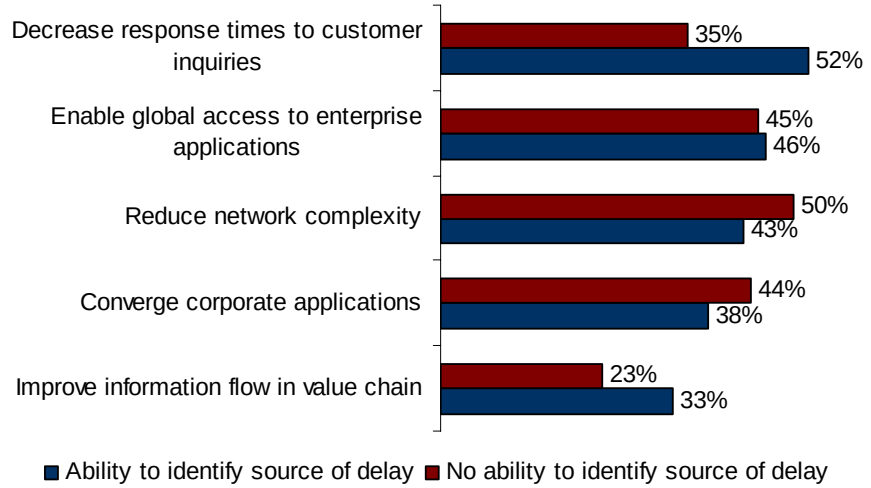
Research Brief

Aberdeen's Research Briefs provide a synopsis of the principal findings derived from primary research, including key performance indicators, Best-in-Class insight, and vendor insight

Don't Wait For End-Users to Call

When comparing these two groups of organizations, it is clear that organizations that have the ability to identify the source of the delay are more likely to focus on improving the quality of customer service and flow of information in a value chain, in comparison to their peers who do not have this capability(Figure 1). These organizations understand that their responsiveness to customers, partners, and prospects depends largely on their ability to access business critical information in a timely manner. Therefore they have developed capabilities to ensure seamless and prompt access to enterprise applications.

Figure 1: Top Strategic Actions Taken

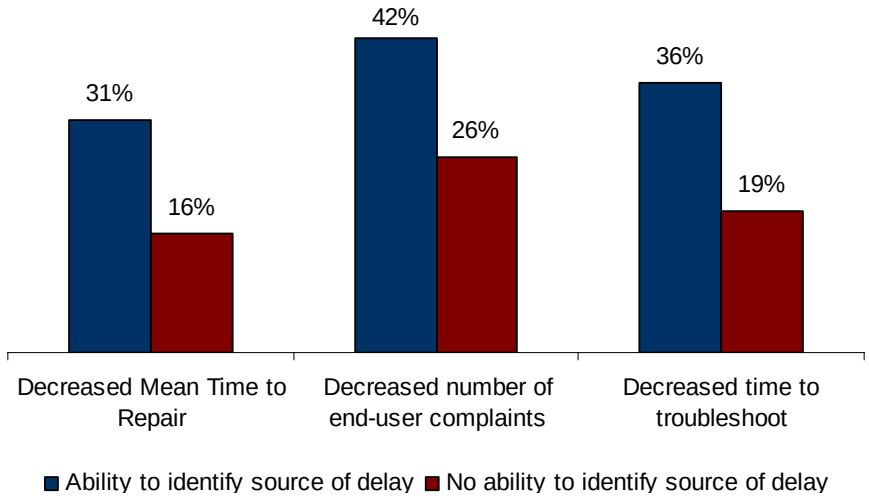


Source: Aberdeen Group, October 2007

Visibility into the source of the delay in application response times allows organizations to achieve several operational objectives, such as reducing the time required to troubleshoot issues with application performance, improving productivity of IT staff, preventing issues with application performance before they impact end-users, and taking a more proactive approach to managing the overall enterprise infrastructure.

Aberdeen's research shows that organizations that have the ability to segment delays in application response times into server, network, and application delays are more likely to reduce the mean time to repair (per incident) and the time required to troubleshoot issues with application performance (Figure 2). As a result, these organizations are 61% more likely to decrease the number of end-user complaints due to poor application performance. Additionally, these organizations are able to avoid finger-pointing and loss of productive time between database administrators and network management staff.

Figure 2: Network Management Made Easier



Source: Aberdeen Group, October 2007

While IT Is Pointing Fingers Customers Will Not Wait

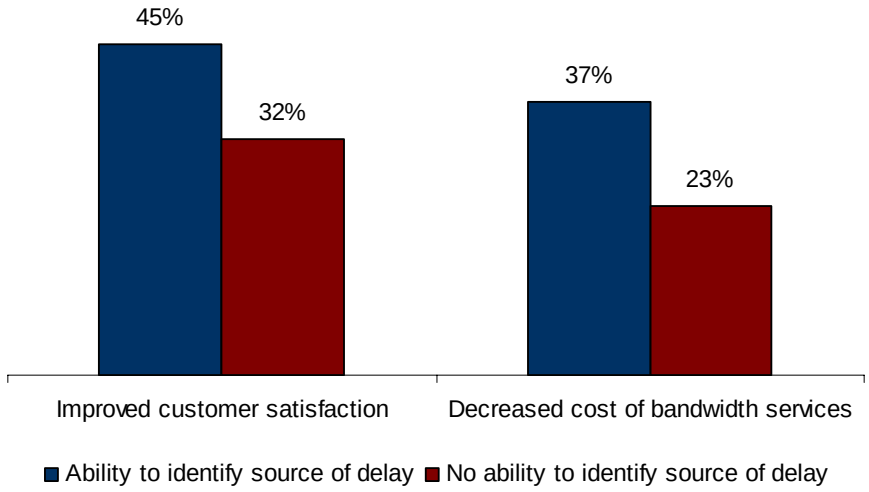
The fact that organizations that have the ability to identify the source of delays are achieving better performance, as measured by the metrics displayed in Figure 2, is certainly important. However, the ultimate goal for these organizations for network management is not to improve their performance as measured by the ability to identify and resolve issues with application performance in a timely manner. As we know, these organizations are deploying technology solutions for network visibility predominantly to be able to serve their customers better. So, are organizations that are investing resources in developing this capability getting their money's worth?

"We found that having visibility into network performance and bandwidth consumption is associated with some measurable business benefits. Firstly, it was very important to be able to separate the delay in application response times into server, network, and application. Originally, we thought that we didn't have enough bandwidth to run an ERP application and were thinking about adding an additional T1 line. A technology solution that we had in place helped us realize that the root-cause of the problem was on the application, not the network side."

~ Manufacturing, IT Director

Figure 3 shows that organizations that are deploying automated tools for discovering the source of application delays are more likely to improve customer satisfaction and decrease the cost of bandwidth services (measured as a percentage of total IT spend). It is difficult to draw a direct correlation between a single feature of network performance technology and a strategic, enterprise-wide business metric such as customer satisfaction. However, it is apparent that organizations that do have tools in place for identifying the source of delays are more likely to decrease the mean time to repair issues with application performance, and identify and resolve potential problems before they impact end-users.

Figure 2: Impact of Network Visibility on Business Performance



Source: Aberdeen Group, October 2007

Additionally, it is evident that organizations that allow their customer-facing employees to have seamless and timely access to business critical information are more likely to have a higher level of customer satisfaction.

Also, Aberdeen's research shows that 64% of organizations that do not have the capabilities to identify the source of application delays reported that improving overall visibility into network performance has high or very high priority on their IT departments' agendas. So why haven't these organizations developed this particular capability?

Aberdeen's research reveals that 73% of these organizations are planning to add capabilities for identifying the source of application delays in the near future. Even though these organizations are lacking this basic competency in managing application performance, they are realizing that going blindly into solving issues with network behavior is not the most effective approach.

"With respect to network performance and troubleshooting, I would recommend the selection of one of the tools that provides visibility of traffic by protocol and by well known application. Most useful is a tool that will indicate graphically transaction times divided into network time, platform (server) time, and application time. If such a tool is adopted by support teams responsible for these different areas, incident and problem related downtime can be reduced. Such tools are, of course, expensive. A business case needs to be built based on the value of improved uptime."

~ Network Manager, Professional Services

Solution Snapshot

Table 1 provides a partial list of solution providers in this space.

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Table 1: Solution Landscape

Company	Solution
Fluke Networks www.flukenetworks.com	Visual Performance Manager is a unified system that provides visibility and in-depth analysis for end-to-end application, VoIP, and network performance management. Additionally, Fluke Networks resells NetQoS's SuperAgent as a part of its Network SuperVision product suite.
Lancope www.lancope.com	StealthWatch allows organizations to set application baselines and performance analysis. The solution provides network managers information needed for faster troubleshooting and resolving application performance issues.
Mazu Networks www.mazunetworks.com	Mazu Profiler allows network managers to proactively manage application and network performance and security. Solution features include job role based access levels to network performance data and the ability to understand dependencies between users, applications, and systems.
Network Instruments www.networkinstruments.com	Observer allows organizations to analyze application performance, track communication patterns and routes, and identify the source of the application response time delays through expert analysis.
NetQoS www.netqos.com	NetQoS SuperAgent analyzes end-to-end application response time without endpoint agents; isolating response time delays to the network, server, or application; and launching automatic investigations into problems.
NetScout www.netscout.com	nGenius combines passive and active methods for application response time analysis. It allows organizations to monitor and analyze response times and have visibility into overall network traffic through a single interface.
OPNET www.opnet.com	The ACE product family enables organizations to identify the source of the delay for application response times and display diagrams for visualizing application behavior. Additionally, it provides forecasts of application response times in virtualized environments. The product suite also encompasses detailed diagnosis of application-related performance problems.
Packeteer www.packeteer.com	Packeteer provides real-time response time monitoring statistics – passive and active for all applications including voice and video MOS – as part of its application performance monitoring and optimization suite. These capabilities are centrally reported and monitored through IntelligenceCenter.
Shunra www.shunra.com	Shunra Virtual Enterprise is a network simulation solution that creates a virtual environment for each phase of the Application Development Lifecycle. Users involved with WAN acceleration selection, Datacenter Relocation and VoIP rollouts can accurately predict and understand the real-world network performance impact on applications, prior to deployment
Solera Networks www.soleranetworks.com	Solera Networks DS appliances capture and stream-to-storage every packet that crosses a network, making all network traffic available for analysis (off-line or in real-time), which enables organizations to identify root-cause of issues with application response times.
WildPackets www.wildpackets.com	OmniPeek provides a combination of in-depth application response time analysis and end-user application performance satisfaction measurements (through Apdex methodology). It allows network managers to evaluate the performance of every application based on the users' satisfaction level and use analytical tools to isolate and troubleshoot performance issues.

Source: Aberdeen Group, December 2007

Key Insights

It is important to emphasize that some of the organizations that do not have tools in place to identify the source of the delay are investing in technologies for optimizing and controlling network traffic. Thirty-nine percent (39%) of these organizations have capabilities for compression of network traffic and 37% have tools for link load balancing in place. Even though these organizations are investing in technology solutions for acceleration of WAN traffic, 25% of them reported **increases** in the number of end-user complaints due to issues with application response times. Additionally 27% of these organizations reported **increases** in the cost of bandwidth services.

The deployment of tools for accelerating and shaping network traffic could be highly beneficial for end-user organizations. Aberdeen's report, *Optimizing WAN for Application Acceleration,* reveals that Best-in-Class organizations are two-times more likely to have application-specific compression tools and four-times more likely to have TCP acceleration tools in place as compared to Laggards. However, Best-in-Class organizations were able to achieve superior performance predominantly because they established end-to-end control over their network performance. End-user organizations need to start taking the lifecycle approach of network performance management by gaining a better understanding of how their network is performing, and the interdependencies between elements of their enterprise infrastructure. This would enable them to make more educated decisions about the next steps that need to be taken in order to achieve end-to-end control of their network performance.

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

Related Research	
Optimizing WAN for Application Acceleration; October 2007 OPNET Moves Closer to a Complete Network Visibility; November 2007	NetScout Acquires Network General; Expands Network Troubleshooting Capabilities; October 2007 Network Transformations: Managing Transitions for Growth; May 2007
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