Three Things to Follow to Optimize Digital Content Delivery

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Executive Summary

Between January and February of 2009, Aberdeen surveyed 107 organizations to examine best practices for improving the delivery of digital content. These findings serve as guidelines to organizations looking to achieve optimal performance of live streaming video, on-demand streaming video, transfers of large digital files, streaming audio and software downloads.

Best-in-Class Performance

Aberdeen used three key performance criteria to distinguish the Best-in-Class from Industry Average and Laggard organizations: 1) average improvements in connect times; 2) average improvements in bandwidth utilization; and 3) average improvements in user session abandonment rate. Best-in-Class organizations reported:

- 31% average improvements in connect times
- 45% average improvements in bandwidth utilization
- 11% average decline in user session abandonment rate

Competitive Maturity Assessment

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

- Nearly seven-times more likely to have capabilities for end-to-end visibility into transfers of digital files as compared to Laggards
- Eight-times more likely to have the ability to adjust the delivery method to bandwidth requirements of end-users as compared to Laggards
- Twice as likely to be using a single platform for managing the delivery of multiple media formats 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:

- Develop capabilities for adjusting their delivery method to the bandwidth requirements of end-users
- Develop capabilities for end-to-end visibility into transfer of digital files
- Deploy tools for managing the geographical distribution of content demands
- Deploy a single platform for managing the delivery of multiple media formats

"Once you combine voice, video, and data on the same network, the bandwidth consumption will explode. You need to have the right set of tools in place to ensure that your network will be able to handle that."

~ Network Architect, Financial Services

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Chapter One:
# Benchmarking the Best-in-Class

Business Context

Aberdeen's research found that the delivery of digital content is one of the top challenges for application performance management. The research also shows that the top business pressures driving the adoption of technologies for optimizing delivery of digital content include:

- The need to improve customer satisfaction (57% all organizations that participated in the survey)

- The need to create new business opportunities (48%)

- The need to improve knowledge sharing within the organization (48%)

Organizations are looking to address these pressures by deploying digital content to improve responsiveness to market changes, differentiate from competitors, and improve the effectiveness of employee training initiatives while trying to reduce infrastructure cost and cost of bandwidth services (Figure 1). Streaming media, on-demand video, and digital file transfers are bandwidth intensive applications and organizations are looking not only to improve the quality of end-user experience, but also to optimize the cost of enterprise infrastructure.

Fast Facts
√ Increase in bandwidth requirements is the top challenge for delivering digital content
√ 59% of organizations survey increased deployments of digital content in customer facing environments over the last 12 months

Figure 1: Top Strategic Actions Taken

Optimize infrastructure cost — 52%
Improve organizational responsiveness to market changes — 42%
Use rich media applications to differentiate from competitors — 38%
Improve effectiveness of employee training initiatives — 36%
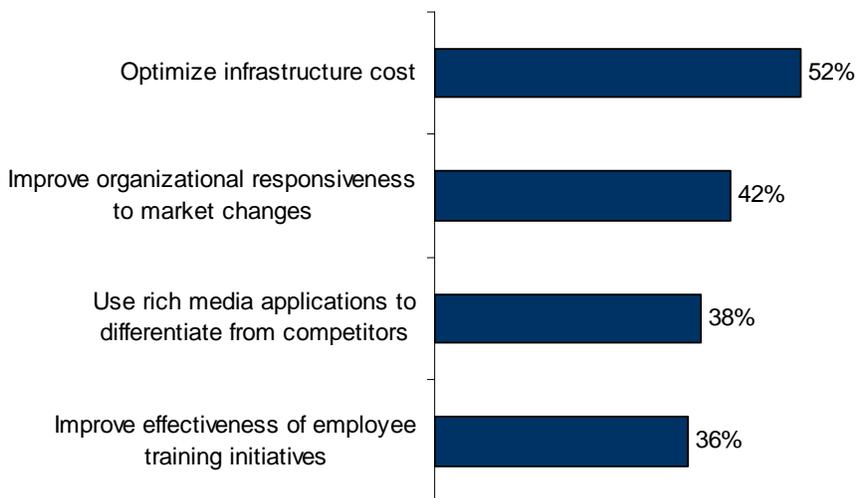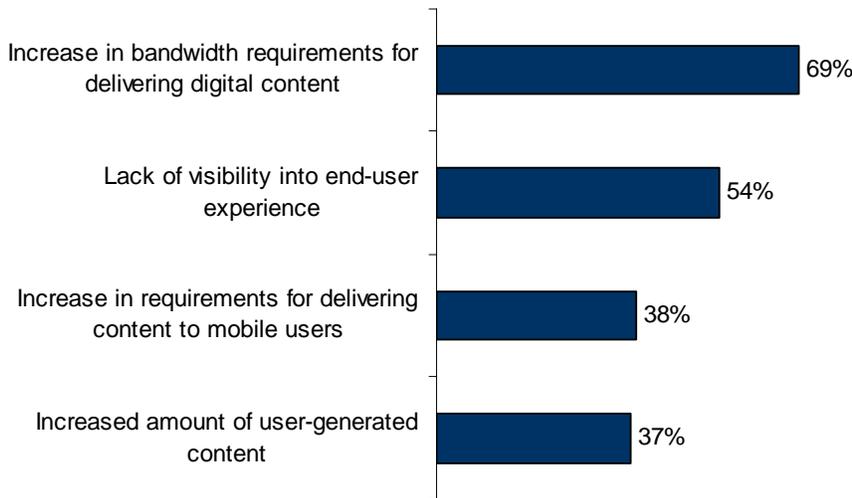
Source: Aberdeen Group, February 2009

The top challenge in delivering digital content is an increase in bandwidth requirements, as shown in Figure 2. Aberdeen's report, *The Roadmap to the Next Generation Branch Office Networks* revealed that organizations expected

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their total bandwidth capacity to increase by an average of 108% over the next 12 months. The research also showed that 47% of organizations that increased their bandwidth capacity experienced no improvements in the performance of business critical applications.

Figure 2: Top Challenges for Delivering Digital Content

Increase in bandwidth requirements for delivering digital content — 69%

Lack of visibility into end-user experience — 54%

Increase in requirements for delivering content to mobile users — 38%

Increased amount of user-generated content — 37%

Source: Aberdeen Group, February 2009

Aberdeen's August 2008 report, *Optimizing Application Delivery over the WAN* revealed that there is no significant difference in total annual spend per users on improving the delivery of business critical information to remote users between Best-in-Class and all other organizations. However, Best-in-Class organizations were more likely to invest in solutions for optimizing application delivery while Industry Average and Laggard organizations are investing more in increasing bandwidth capacity That shows that increases in network capacity are not an effective way to support bandwidth intensive applications such as streaming video, transfers of digital files, and software downloads. As organizations are reducing their budgets due to a current economic climate, they are looking to maximize their return on investment. The research shows that technology solutions that would allow them to experience improvements in end-user experience without adding more bandwidth capacity would resonate with their needs.

The Maturity Class Framework

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

- Average improvements in connect times
- Average improvements in bandwidth utilization
- Average improvements in user session abandonment rate

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	▪ 31% average improvements in connect times ▪ 45% average improvements in bandwidth utilization ▪ 11% average **decline** in user session abandonment rate
Industry Average: **Middle 50%** of aggregate performance scorers	▪ 6% average improvements in connect times ▪ 10% average improvements in bandwidth utilization ▪ 4% average **decline** in user session abandonment rate
Laggard: **Bottom 30%** of aggregate performance scorers	▪ 1% average improvements in connect times ▪ 2% average improvements in bandwidth utilization ▪ 3% average **increase** in user session abandonment rate

Source: Aberdeen Group, February 2009

The Best-in-Class PACE Model

Using a digital content delivery solution 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
▪ The need to improve customer satisfaction	▪ Optimize infrastructure cost ▪ Improve organizational responsiveness to market changes	▪ End-to-end visibility into transfer of digital files ▪ Ability to adjust delivery method to bandwidth requirements of end-users ▪ Ability to measure quality of end-user experience for multimedia content ▪ Policy-based network traffic control ▪ Centralized management of digital content delivery ▪ Ability to customize publishing and content management capabilities for different groups within the organization	▪ Tools for preventing unauthorized access to digital content ▪ Tools for enabling digital signage ▪ Tools for trend analysis of end-user activity ▪ Tools for managing geographical distribution of content demands ▪ Single platform for managing delivery of multiple media formats

Source: Aberdeen Group, February 2009

Deployments of Digital Content are Increasing

Figure 3 shows that more that 30% of organizations that participated in Aberdeen's survey increased their deployments of digital content for areas such as communications with customers and prospects, product distribution (i.e., digital books, images, etc.) and revenue generating applications over the last 12 months.

Figure 3: Digital Content Deployments that Increased Over the Last 12 Months
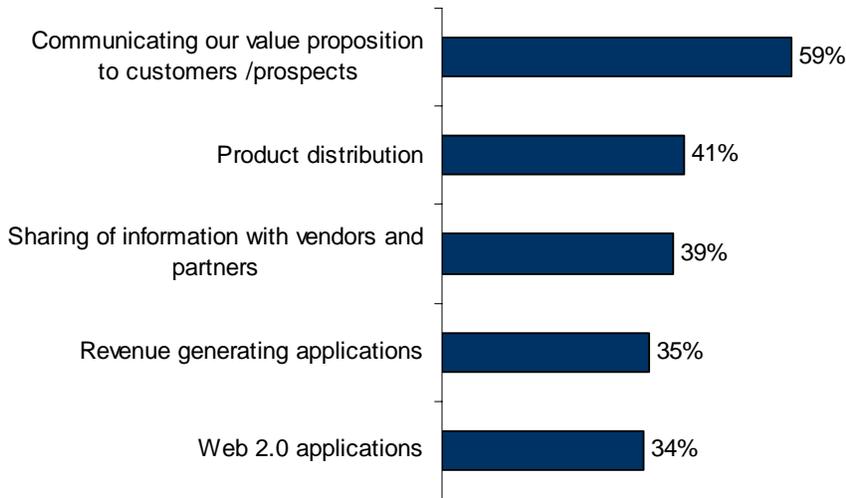
Source: Aberdeen Group, February 2009

The research shows that organizations are using digital content to improve their business performance across the value chain. These initiatives go beyond improvements in connect times and bandwidth utilization, and are impacting areas that are top of mind for end-users such as customer satisfaction, cost savings, and the ability to create new revenue opportunities.

Aberdeen Insights — Strategy

Aberdeen's research shows that issues with download completion rates can impact corporate revenues by up to 9% and the quality of streaming video could impact revenues by up to 7%. As organizations are increasing deployments of digital content to achieve efficiencies along their value chains, managing the performance of these applications is becoming increasingly important.

Streaming video, transfers of digital files, and software downloads are becoming more business critical within industry sectors that are not traditional users of this type of content. Traditionally, industries such as media and entertainment and retail have been deploying these types of solutions, but Aberdeen's research shows that digital content is increasingly becoming more of a mission critical technology in business-to-employee and business-to-business environments. That is to say that this type of technology allows organizations to not only to support their customers and prospects, but also to improve communication with employees, partners, and suppliers.

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 digital content delivery technology solutions and 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 Vermont Teddy Bear Co.

The Vermont Teddy Bear Co. is a retail company that has three different brands: Vermont Teddy Bear, Pajamagram, and Calyx Flowers. Vermont Teddy Bear is one of their top brands, but it is also a seasonal business and the website is experiencing fluctuations in page views that range from 30,000 per day to more than 800,000 during the holidays. The website is also using a significant amount of Flash content which put an additional burden on their infrastructure.

The company was looking to reduce latency that their customers from the West Coast were experiencing, while reducing the cost of supporting an increasing number of site visitors. The company is using an ASP.NET platform which allows them to publish web content directly from a desktop. It was important that they deploy a solution that would allow them to keep this process in place.

The company evaluated offerings from several Content Delivery Network (CDN) vendors and they used the following selection criteria to make the decision: performance improvements, cost and ability to maintain their existing processes for publishing digital and other web content. Some vendors were eliminated in the selection process due to the price point of their solutions and others due to their requirement to move from ASP.NET to SP3 platform. Ultimately, the company deployed a solution that allowed them to achieve all three goals and they experienced significant operational and business benefits.

Bill Cronin, the company's eCommerce Director had this to said, "Since deploying this CDN solution we experienced a significant increase in conversion rates while page load times for our customers on the West Coast dropped by more than a full second. What was ever more impressive about this CDN solution is that it took no more than eight hours from a sales call that we had with the vendor until the solution was in production. Performance improvements that we experienced from deploying this solution and a timely deployment, allowed us to mitigate lost revenue opportunities and improve customer satisfaction."

Fast Facts

√ Best-in-Class organizations are twice as likely to be using a single platform for managing delivery of multiple media formats as compared to Laggards

√ Best-in-Class organizations are four times more likely to be deploying tools for managing geographical distribution of content demands as compared to all others

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** (end-to-end visibility into transfer of digital files, ability to adjust delivery method to

bandwidth requirements of end-users); (2) **organization** (ability to customize publishing and content management capabilities for different groups within the organization); (3) **knowledge management** (policy-based network traffic control, centralized management of digital content delivery); (4) **technology** (the selection of appropriate tools and effective deployment of those tools); and (5) **performance management** (ability to measure quality of end-user experience for multimedia content). 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	End-to-end visibility into transfer of digital files		
	82%	17%	12%
	Ability to adjust delivery method to bandwidth requirements of end-users		
	50%	16%	6%
Organization	Ability to customize publishing and content management capabilities for different groups within the organization		
	33%	30%	19%
Knowledge	Policy-based network traffic control		
	41%	35%	19%
	Centralized management of digital content delivery		
	40%	22%	15%
Technology	Digital content delivery technology currently in use:		
	▪ 79% tools for preventing unauthorized access to digital content ▪ 48% tools for enabling digital signage ▪ 41% tools for trend analysis of end-user activity ▪ 41% tools for managing geographical distribution of content demands ▪ 40% single platform for managing delivery of multiple media formats	▪ 29% tools for preventing unauthorized access to digital content ▪ 19% tools for enabling digital signage ▪ 21% tools for trend analysis of end-user activity ▪ 12% tools for managing geographical distribution of content demands ▪ 21% single platform for managing delivery of multiple media formats	▪ 18% tools for preventing unauthorized access to digital content ▪ 17% tools for enabling digital signage ▪ 18% tools for trend analysis of end-user activity ▪ 6% tools for managing geographical distribution of content demands ▪ 17% single platform for managing delivery of multiple media formats
Performance	Ability to measure quality of end-user experience for multimedia content		
	45%	12%	8%

Source: Aberdeen Group, February 2009

Capabilities and Enablers

Based on the findings of the Competitive Framework and interviews with end users, Aberdeen's analysis of the Best-in-Class identified 11 capabilities and technology enablers that are having the most significant impact on performance improvements that Best-in-Class organizations are experiencing.

Process

Two-thirds of organizations that participated in Aberdeen's survey reported they are looking to optimize transfers of large digital files. Table 3 shows that Best-in-Class organizations are nearly seven-times more likely to have capabilities for end-to-end visibility into transfers of digital files as compared to Laggards. This type of capability allows organizations to optimize usage of available bandwidth capacity and decrease the time needed to transfer large digital files across the network. Having this type of capability in place contributed to Best-in-Class organizations being nearly twice as likely to report improvements in document transfer times as compared to Laggard organizations. Additionally these organizations are 58% more likely to reduce the cost of distribution of digital content as compared to Laggards.

Table 3 also shows that Best-in-Class organizations are eight-times more likely to have an ability to adjust their delivery method to the bandwidth requirements of end-users as compared to Laggards. Regardless of media formats and codecs, the quality of streaming media might suffer due to the type of connection that end-users have. This capability allows organizations to recognize the bandwidth requirements of the end-user, and adjust the delivery method to those requirements. As a result of having this capability in place, Best-in-Class organizations are twice as likely to improve the quality of end-user experience as compared to Laggard organizations.

Organization

The research shows that Best-in-Class organizations are 74% more likely to have the ability to customize publishing and content management capabilities for different groups within the organization as compared to Laggards. Figure 4 shows significant increases in the amount of digital content that different departments within organizations have been leveraging over the last 12 months. However, the needs and goals of these departments are different and therefore require a certain level of flexibility and customization when leveraging digital content. Having this type of capability in place contributed to Best-in-Class organizations being 67% more likely to improve the effectiveness of digital content distribution by department as compared to Laggards.

"When you're trying to figure out a problem, it helps tremendously to be able to see that the real traffic in an application is normal without having to scan through logs or mess with services on 50 different boxes."

~ IT Manager, E-commerce Company

Figure 4: Increases in Deployments of Digital Content by Department over the Last 12 Months

Source: Aberdeen Group, February 2009

Technology

Aberdeen's research shows that 77% of organizations surveyed are using two or more media formats (e.g., Windows Media Player, Adobe Flash Player, Microsoft Silverlight, RealPlayer). The research also shows that Best-in-Class organizations are twice as likely to be using a single platform for managing the delivery of multiple media formats as compared to Laggards. This type of capability allows organizations to optimize video of digital content regardless of media formats that end-users are employing. As a result of having this type of capability in place, Best-in-Class organizations are seven-times more likely to reduce buffer times as compared to Laggards.

Even though only 21% of organizations in Aberdeen's survey are located in Europe and 15% in the Asia-Pacific region, 52% and 44% of these organizations respectively have needs for delivering digital content to these two geographies. As organizations are expanding their presence to different geographies, it is becoming increasingly important to be able to deliver digital content to end-users in seamless and cost effective ways regardless of their geographical location. The research shows that Best-in-Class organizations are four-times more likely to be deploying tools for managing the geographical distribution of content demands as compared to all others. Having this type of capability in place contributed to Best-in-Class organizations being twice as likely to improve bandwidth utilization.

Figure 3 shows that over the last 12 months, 59% of organizations surveyed increased the deployment of digital content to communicate their value proposition to customers and prospects. Digital signage is one of emerging technologies that enables organizations to grow revenues and improve

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customer satisfaction by using digital content. Table 3 shows that Best-in-Class organizations are twice as likely to be using tools for enabling digital signage as compared to Laggards. Having this type of capability resulted in Best-in-Class organizations being twice as likely to improve their ability to monetize digital assets. Additionally, Best-in-Class organizations are twice as likely to improve customer satisfaction.

Performance Management

Figure 2 shows that a lack of visibility into the quality of end-user experience is one of the top challenges for seamless delivery of digital content. Aberdeen's research revels that Best-in-Class organizations are five-times more likely to have the ability to measure the quality of end-user experience for multimedia content as compared to Laggards. This type of capability allows organizations to measure the effectiveness of their digital content delivery initiatives from the end-user perspective as opposed to the perspective of their IT departments. It also allows them to identify performance issues and resolve them in a timely manner so end-users will not be impacted. As a result of having this type of capability in place, Best-in-Class organizations are three-times more likely to report improvements in user session abandonment rate as compared to Laggards.

Aberdeen Insights — Technology

It is apparent that organizations are increasingly leveraging digital content across different departments and different areas of deployment (e.g., product distribution, communicating with customers, employees, prospects and partners, building Web 2.0 communities). Deployments of digital content in the enterprise could span into several different areas and could include delivery of live streaming video, on-demand streaming video, streaming audio, transfers of digital files and software downloads. In order to optimize each of these applications, organizations need to deploy capabilities that would allow them to achieve the following:

- Achieve optimal level of end-user experience while mitigating bandwidth upgrades
- Support different media formats
- Enable seamless delivery of digital content to end-users regardless of their geographic location and bandwidth requirements

It should be noted that the toolsets that are being used to optimize the quality of streaming media are very different from solutions for transferring large digital files. However, 53% of organizations surveyed are looking to optimize both the quality of streaming media and the speed and cost effectiveness of transferring digital files. That shows that even though deployments of each of capabilities and technology enablers highlighted in Table 3 are associated with measurable performance improvements, Best-in-Class performance can not be achieved by deploying only one of these capabilities.

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Chapter Three:
Required Actions

Whether a company is trying to move its performance in digital content delivery 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 adjusting the delivery method to the bandwidth requirements of end-users.** Ninety-four percent (94%) of Laggard organizations do not have this capability in place. This type of capability allows end-users to recognize the type of connection that is being used and to adjust the delivery method to the bandwidth capacity of end-users. Deploying this type of capability would allow end-users to provide an optimal level of quality of end-user experience regardless of the type of connection that is being used.

- **Deploy capabilities for measuring the quality of end-user experience for delivery of digital content.** Ninety-two percent (92%) of Laggard organizations surveyed do not have ability to measure the quality of end-user experience. Best-in-Class organizations are five-times more likely to have this capability in place and, therefore, these organizations are three-times more likely to report improvements in user session abandonment rate as compared to Laggards.

Industry Average Steps to Success

- **Develop capabilities for end-to-end visibility into the transfer of digital files.** Sixty-four percent (64%) of Industry Average organizations reported that they are looking to optimize transfers of large digital files. However, 83% of these organizations do not have capabilities for the end-to-end management of transfer of digital files. The research also shows that Best-in-Class organizations are nearly five-times more likely to have this type of capability as compared to the Industry Average.

- **Deploy tools for managing the geographical distribution of content demands.** The research shows that 71% of Industry Average organizations have presence in more that two geographic regions However, 88% of these organizations do not have capabilities for managing geographical distribution of content demands. As a result of having this capability in place, Best-in-Class organizations are twice as likely to improve bandwidth utilization as compared to Industry Average and Laggard organizations.

Best-in-Class Steps to Success

- **Deploy a single platform for managing the delivery of multiple media formats.** Seventy-three percent (73%) of Best-in-Class organizations are using two or more media formats for delivery of digital content. However, 60% of these organizations do not have capabilities for managing different media formats through a single platform. Having this type of capability in place allows end-users to be able to manage more end-users with fewer resources.

- **Develop capabilities for customizing publishing and content management capabilities for different groups within the organization.** Sixty-seven percent (67%) of Best-in-Class organizations do not have this type of capability in place. This capability allows organizations to improve the effectiveness of distribution of digital content across different departments with the organization.

Aberdeen Insights — Summary

Aberdeen's research shows that only 37% of organizations surveyed are conducting network assessments prior to deploying streaming video. Additionally, early findings from *The 2009 Aberdeen Report* show that on average, organizations are deploying 15 business critical applications. Also, Aberdeen's March 2008 report, *Benchmarking VoIP Performance Management* revealed that 48% of end-points have been IP enabled. As organizations are converging their networks and using the same bandwidth capacity to deliver voice, video and data, managing the performance of these applications is becoming increasingly complex.

Organizations are also increasingly deploying Quality-of-Service (QoS) capabilities to ensure that the network capacity is being utilized in an optimal way. However, Aberdeen's June 2008 report, *Application Performance Management* revealed that 37% of organizations do not have the capabilities to measure bandwidth consumption per application. As network traffic is becoming more complex, visibility into applications that are consuming network capacity is becoming increasingly important.

Appendix A:
Research Methodology

Between January and February 2009, Aberdeen examined the use, the experiences, and the intentions of more than 100 enterprises using technology solutions for optimizing delivery of digital content in a diverse set of organizations.

Aberdeen supplemented this online survey effort with interviews with select survey respondents, gathering additional information on digital content delivery strategies, experiences, and results.

Responding enterprises included the following:

- *Job title / function:* The research sample included respondents with the following job titles: IT Director (21%); IT Manager (19%); senior management (17%); IT Consultant (14%); other IT staff/management (16%); other business staff / management (13%)

- *Industry:* The research sample included respondents from 11 industries. Some of the largest industry segments were: media and entertainment (13%); high technology / software (10%); retail (9%); government / public sector (8%) and telecommunications (7%)

- *Geography:* The majority of respondents (59%) were from North America. Remaining respondents were from Europe (21%), the Asia-Pacific region (15%) and the rest of the world (5%).

- *Company size:* Twenty-eight percent (28%) of respondents were from large enterprises (annual revenues above US $1 billion); 31% were from midsize enterprises (annual revenues between $50 million and $1 billion); and 41% of respondents were from small businesses (annual revenues of $50 million or less).

- *Headcount:* Thirty-four percent (34%) of respondents were from large enterprises (headcount greater than 1,000 employees); 30% were from midsize enterprises (headcount between 100 and 999 employees); and 36% 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 digital content delivery technology is deployed in their operations and the financial implications of the technology

√ The structure and effectiveness of existing digital content delivery implementations

√ Current and planned use of digital content delivery technology to aid operational and promotional activities

√ The benefits, if any, that have been derived from digital content delivery initiatives

The study aimed to identify emerging best practices for digital content delivery usage, and to provide a framework by which readers could assess their own management capabilities.

Table 4: The PACE Framework Key

Overview
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: **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) **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) **Capabilities —** the business process competencies required to execute corporate strategy (e.g., skilled people, brand, market positioning, viable products / services, ecosystem partners, financing) **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)

Source: Aberdeen Group, February 2009

Table 5: The Competitive Framework Key

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

Source: Aberdeen Group, February 2009

Table 6: The Relationship Between PACE and the Competitive Framework

PACE and the Competitive Framework – How They Interact
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.

Source: Aberdeen Group, February 2009

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Appendix B:
Related Aberdeen Research

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

- *The Performance of Web Applications: Customers are Won or Lost in One Second*; November 2008

- *Being in Two Places at Once: Telepresence versus Videoconferencing in the Enterprise*; November 2008

- *Benchmarking VoIP Performance Management*; March 2008

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

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