

## WHITE PAPER

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# Prepare to Scale Your Web Infrastructure to Meet Imminent Growth in Cloud and Mobility

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## IN THIS WHITE PAPER

Businesses have become reliant on the Internet for virtually everything, from email communications and customer self-service to executing sales orders and supply chain management (SCM). With the rise in the number of Web applications as well as in cloud adoption, we are fast approaching a major inflection point, which will put greater pressure on IT departments to rethink their Web delivery strategy. According to IDC's *Asia/Pacific Web Application Delivery Survey 2010*, the proportion of Web applications delivered over the cloud will surge by 40% over the next 12 months and will drive IT managers to further improve the performance of their Web infrastructures. The Akamai-sponsored survey found that 26% of the organizations polled have experienced productivity issues due to poor access to Web applications. This IDC White Paper draws on the findings of this survey and highlights the key trends impacting Web application delivery as well as the challenges that lie ahead for organizations in the Asia/Pacific region.

## SITUATION OVERVIEW

### *The Asia/Pacific Century*

Asia/Pacific economies continue to set the pace in 2010. According to the International Monetary Fund (IMF), Asia/Pacific is leading the global recovery and the region's contribution will continue to exceed that of the other regions in the next two years. In its latest Regional Economic Outlook for Asia/Pacific, the IMF revised its growth forecast for Asia/Pacific upward to 7.1% for 2010, 1.25 percentage points higher than projected in October 2009, and expects growth to maintain pace in 2011. There is also a general sentiment among business industry watchers that this is the decade of the Asia/Pacific multinational company (MNC), as the global economic balance of power irreversibly shifts toward this region, making Asia/Pacific the epicenter of economic growth and activity. Many commentators have described this as the "Asia/Pacific Century." Despite the global uncertainties, from the sovereign debt crisis in Europe to an increasingly likely double-dip recession in the housing market in the United States, there is a mood of confidence in the region, and Asia/Pacific enterprises are beginning to display a swagger, with many planning to embark on their next leg of expansion. This Asia/Pacific Century will lead to greater pressures on the business Internet, as today's Asia/Pacific organizations increasingly rely on the Web to run and grow their business – an imminent reality we cannot ignore.

In IDC's *Asia/Pacific Web Application Delivery Survey*, we asked organizations about their business expansion plans as well as utilization of the Internet and cloud-based computing for business functions. Initial findings bear out the incredible growth of the

Asia/Pacific Century – about 32% of the 423 organizations polled across Asia/Pacific (Australia, Hong Kong, India, Korea, Malaysia, New Zealand, Singapore, and Taiwan) plan to set up branch offices over the next 12 months. Compared with this regional average, India and Hong Kong have more aggressive business expansion plans with 51% and 40% of respondents, respectively, citing plans to set up new branch offices in the next 12 months. Such business expansion will change the nature and complexion of the workforce. We also expect increased mobility, as more employees travel regularly to pursue new business and the pool of virtual/remote workers grows. Moreover, Asia/Pacific-based organizations are increasingly seeking business agility, the ability to quickly and cost-effectively expand their business in response to changes in the business environment. Many strive to build a virtual borderless network that links their ecosystem of partners and suppliers, otherwise known as the extended enterprise.

The growth in extended enterprises will also contribute to the rise of the borderless world as traditional office boundaries disappear and make way for greater collaborative relationships and inter-organizational cooperation. IDC believes that the resultant impact will be a surge in Web application adoption as businesses turn to digital technologies to improve communications, productivity, customer satisfaction and retention. When this takes hold, one of the most challenging tasks that IT managers will face is ensuring they deliver acceptable levels of application performance to their remote workers, branch offices, virtual employees as well as partners within the extended enterprise ecosystem.

With the setting up of more branch offices and more employees located outside of the head office, IT departments will see an increased use of Web applications. This will no doubt put pressure on them to improve the user experience and performance of Web applications. IDC believes this challenge will become more acute and vital, as the adoption of cloud services becomes pervasive. In addition to performance and user experience, IT departments also see a greater need to control access and security as well as monitor user experience.

## **A PARADIGM SHIFT: ORGANIZATIONS GRAVITATING TOWARD WEB APPLICATIONS**

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### **The Paradigm Shift to the Web in Asia/Pacific**

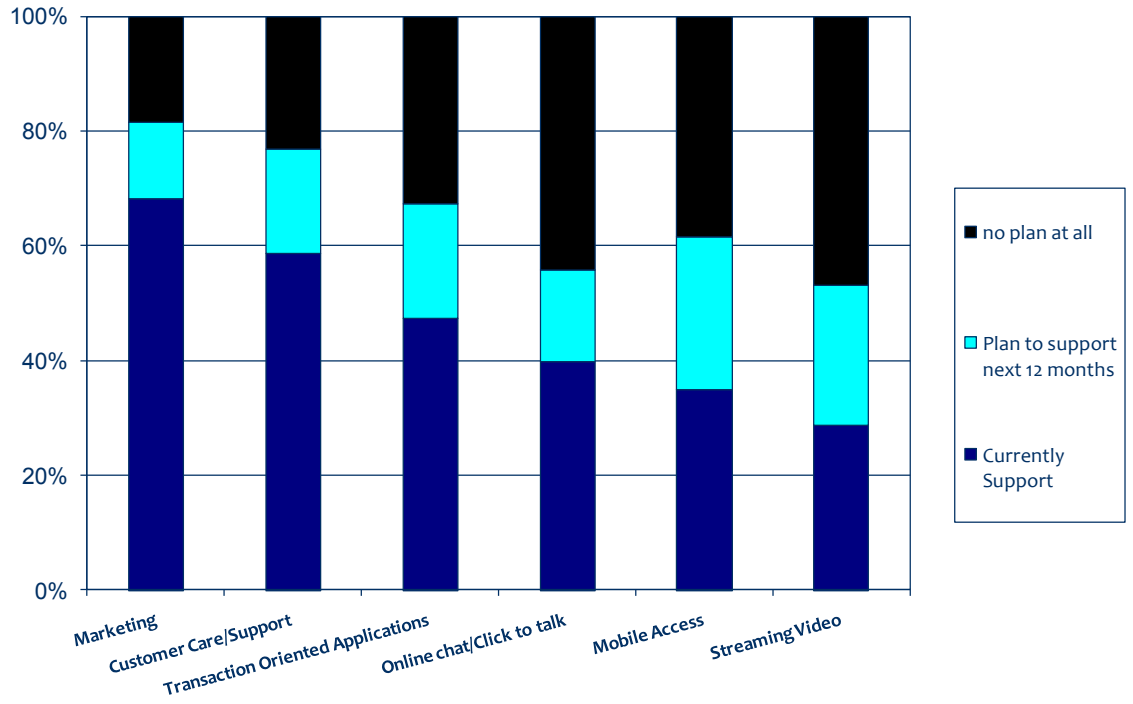
IDC believes that the momentum toward Web-based applications is unstoppable. Figure 1 shows the type of Web-based applications that organizations currently support or plan to support on their public Web site over the next 12 months. As expected, organizations have caught on to using the Web to market their products and services. However, what is interesting is that more than 50% are currently conducting online transactions, and the big growth areas over the next 12 months will be mobile access and streaming video. Table 1 gives a country-level view of their intentions to support Web access and video streaming applications on the public Web. At least two-thirds of organizations in Australia/New Zealand, Hong Kong and Malaysia either currently support or plan to support streaming video over the next 12 months. For mobile access, organizations in Singapore, Hong Kong, and Malaysia are leading the region, with up to 86% of those in Malaysia expected to have mobile access to Web applications over the next 12 months.

IDC's survey also revealed the ambitious plans of some 20% of organizations across the region to give employees mobile access and support bandwidth-heavy streaming video applications over the next 12 months. Their CTOs are also tasked and held accountable for this new challenge, and are also required to identify and resolve potential application issues before the end users experience it. However, most IT managers have only rudimentary tools to monitor application performance with; they rarely know which applications consume the majority of the bandwidth.

**FIGURE 1**

**Hosting Outlook**

Q. *What applications does your organization's public Web site support or plan to support over the next 12 months?*



n = 423

Source: IDC's Asia/Pacific Application Delivery Survey 2010, Sponsored by Akamai

**TABLE 1**

**Web-Based Applications Over the Public Internet by Country, 2010 (%)**

Intentions	ANZ	Hong Kong	India	Korea	Malaysia	Singapore	Taiwan	
Streaming video	Currently support	40	37	13	27	40	27	20
	Plan to support next 12 months	27	33	23	33	30	10	13
	No plan at all	33	30	65	40	30	63	67
Mobile access	Currently support	37	33	16	30	53	43	33
	Plan to support next 12 months	20	43	29	30	33	20	10
	No plan at all	43	23	55	40	13	37	57

Source: IDC's Asia/Pacific Web Application Delivery Survey 2010, Sponsored by Akamai

## Extended Enterprise and Mobility Drive Usage of Applications

One of the key reasons organizations invest heavily in Web applications is to empower their employees and to build an extended enterprise. As mentioned in the earlier section, increased mobility means that organizations have to think about providing employees easy access to corporate applications, regardless of their location. As expected, Web email is pervasive, but what is interesting is that enterprise applications – accounting (50%) and customer relationship management or CRM (50%) – are almost as pervasive as VPN access (61%), as shown in Table 2. This suggests there are few barriers in the way of having applications placed on the Web. Indeed, globalization of markets, productivity pressures, and scarce resources have led organizations to build extended enterprises that expand the boundaries of the traditional enterprise and bring partners, suppliers, investors, and customers within the entire ecosystem closer.

**TABLE 2**

Web-Based Applications Access by Employees (%)

Email	VPN	ERP	Accounting	CRM	UC/ Collaboration applications	Content management	SCM
89	61	50	50	50	42	38	32

Note: UC refers to unified communications while SCM pertains to SCM.

Source: IDC's *Asia/Pacific Web Application Delivery Survey 2010*, Sponsored by Akamai

Table 3 shows the types of Web applications that organizations allow their extended enterprises to have access to over the Internet. In terms of the regional average, 48% of respondents have created Web portals for their partner ecosystems. Organizations in Malaysia, Korea, and Hong Kong are most aggressive – more than half of the respondents in these countries said they have set up such portals. Surprisingly, respondents in Australia/New Zealand as well as India were laggards in building up partner and customer portals. A further 34% have Web-based CRM (Malaysia and Korea being leaders) and 28% provide access to their enterprise resource planning (ERP) applications. eLearning, content management, and product life-cycle management (PLM) drew a comparatively lukewarm response than the other applications listed, which did not come as a total surprise considering the lower adoption rates of these applications. However, more importantly, organizations are placing emphasis on applications that enhance customer intelligence and cooperation between all parties in the extended enterprise.

**TABLE 3****Web-Based Applications Access by Extended Enterprise Ecosystem (%)**

	ANZ	Hong Kong	India	Korea	Malaysia	Singapore	Taiwan	AP
Partner/ Customer portals	43.3	63.3	22.6	50.0	66.7	43.3	46.7	48.0
CRM	26.7	36.7	19.4	56.7	50.0	30.0	16.7	34.0
ERP	23.3	46.7	16.1	40.0	16.7	26.7	30.0	28.0
SCM	36.7	20.0	19.4	23.3	33.3	23.3	10.0	24.0
eLearning	30.0	26.7	9.7	26.7	6.7	33.3	30.0	23.0
CMS	30.0	20.0	12.9	36.7	23.3	23.3	6.7	22.0
PLM	6.7	10.0	0.0	20.0	3.3	20.0	13.3	10.0

Source: IDC's *Asia/Pacific Web Application Delivery Survey 2010*, Sponsored by Akamai

### Catching the Rising Mobility Wave

Greater workforce mobility, the growing adoption of mobile technology for business use, and the recent improvements in centralized visibility, management, and control of mobile costs have rendered mobility an inexpensive but important strategic asset for many organizations. The business benefits for MNCs include ensuring business continuity, as workers continue to function adequately while on the move; enhancing employee productivity; and facilitating collaboration between workers, suppliers, and customers. One of the key factors driving the growth in enterprise mobility is the proliferation of smart devices, which give employees ubiquitous access to business applications. In the region, IDC expects smartphone penetration in the mature markets to reach 100% by 2015, while emerging markets will require a further two to three years.

At the very heart of any organization's mobility strategy is allowing employees unfettered access to corporate applications via the Web on their smartphones and mobile devices. This enhances the way employees collaborate and interact with each other globally. Across the region, approximately 37% of organizations give their employees access to corporate applications via mobile devices. Organizations in Hong Kong are the most progressive, with almost 50% of respondents having mobile access. They were followed by Korea and Malaysia with 43% each, as shown in Table 4. IDC expects this proportion to rise significantly over the next 12–24 months, which will add an extra layer of complexity as organizations currently face challenges on several fronts, including the successful transfer of large files, poor display of content and images, security issues, and the headaches of supporting multiple mobile platforms.

With the expected rising wave of mobile workers, organizations will be pressed to provide the same level of application performance to both mobile workers as well as those in the central office.

**TABLE 4**

## Accessibility of Corporate Applications on Mobile Devices (%)

Country	ANZ	Hong Kong	India	Korea	Malaysia	Singapore	Taiwan	A/P
Yes	40	50	23	43	43	17	40	37
No	60	50	77	57	57	83	60	64

Source: IDC's *Asia/Pacific Web Application Delivery Survey 2010*, Sponsored by Akamai

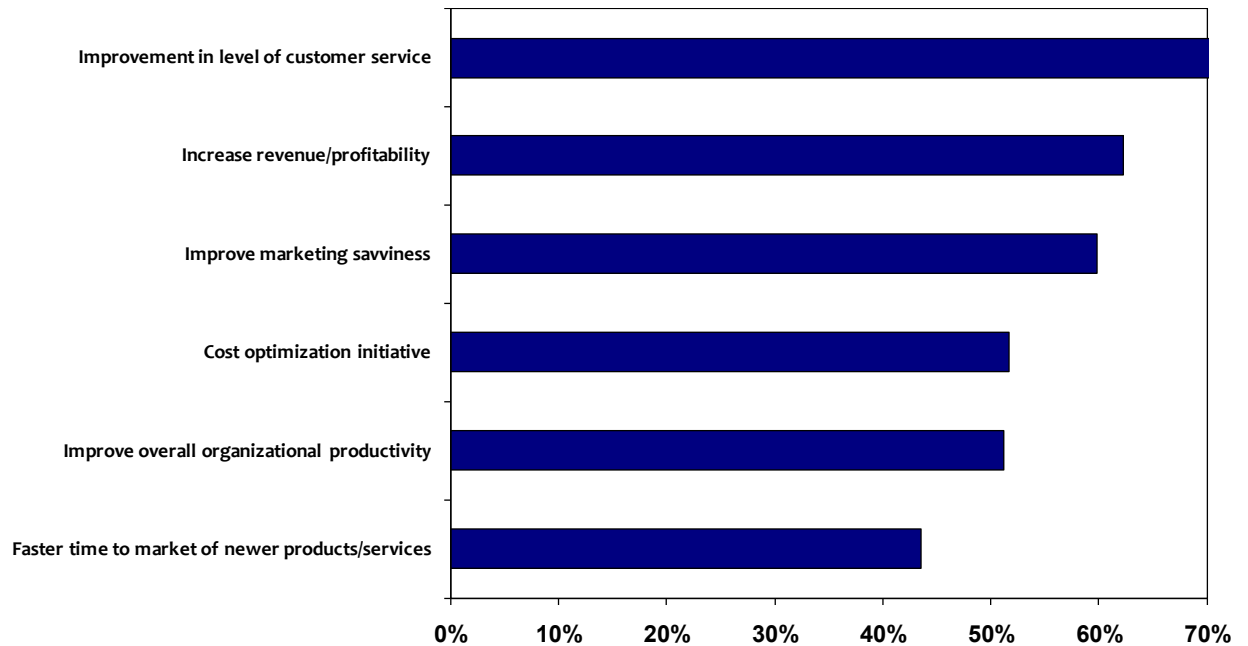
**Strategic Importance of Web Applications**

Organizations are stepping up their Web activities for several reasons, but one of the key drivers is the Web as an integral part of any large customer-centric, revenue-generating corporate initiative, as illustrated in Figure 2. Asia/Pacific organizations realize that customer service should be an intrinsic part of any marketing strategy to increase customer stickiness and wallet share. According to the regional average, approximately 70% of respondents cited improvement in customer service as the number 1 reason for investing in Web applications. Singapore is the only exception, where 80% believe that Web applications are critical to increasing revenue and profitability. Online transactions are popular among consumers in Asia/Pacific these days, and the opportunity to "increase revenue and profitability" stood out as the second most-important factor (62%), further underscoring the role of Web applications in helping generate revenue. Improving the overall savviness of marketing efforts was cited as the overall third most-important reason for supporting Web applications.

**FIGURE 2**

**Reasons for Supporting Web-Based Applications**

Q. What are the reasons for supporting these Web-based applications?



n = 423

Source: IDC's Asia/Pacific Web Application Delivery Survey 2010, Sponsored by Akamai

**The Future is in the Cloud**

Cloud services has been one of the most-discussed technologies over the last 12–24 months. IDC believes that the momentum toward cloud services is irreversible, as organizations strive to own as little ICT infrastructure as possible and yet build an environment that is largely scalable and agile. Private and public cloud environments serve both objectives, and IDC believes that with no definitive time frame, almost everything could be delivered over the cloud. Today, cloud is no longer a fringe technology and it has moved into the mainstream: Organizations have either deployed, are piloting, or have plans to adopt cloud computing in the next 12 months. The number of applications that will be delivered via the cloud is expected to increase by 40% over the next 12 months, although from a low base.

Although the rate of migration to the cloud will be gradual, the momentum is unstoppable. In the survey, 7% of respondents said that their corporate applications are currently delivered over the cloud; and this proportion is expected to rise to close to 10% in the next 12 months. Each country is at a different stage of the cloud evolution. The biggest groups of respondents who indicated that corporate applications are delivered over the cloud today were from ANZ (21%) and Singapore (15%). It is interesting to note that countries like India and Taiwan are expected to experience doubled cloud adoption, with the proportion of applications being delivered over the cloud expected to surge by 100% and 150%, respectively, over the next 12 months.

IDC believes collaborative and business process applications will be the early movers to a cloud delivery model, with more sensitive or critical enterprise applications migrating in the later stages. Table 5 shows the proportion of applications that are currently delivered or will be delivered over the cloud in the next 12 months.

**TABLE 5**

Proportion of Applications Delivered Over the Cloud (%)

	ANZ	Hong Kong	India	Korea	Malaysia	Singapore	Taiwan	Total
Present	21	5	4	3	7	15	2	7
Next 12 months	23	6	8	5	9	19	5	10
Percent of change	10	20	100	67	29	27	150	43

Source: IDC's *Asia/Pacific Web Application Delivery Survey 2010*, Sponsored by Akamai

The chief goal of cloud services is a significant improvement in the cost-effective, elastic provisioning of IT services, which will provide agility and allow any organization to fully optimize its ICT infrastructure. Two key characteristics of private cloud computing are the further consolidation of servers into centralized data centers and the virtualization of those servers. From a public cloud perspective, it is about abdicating ownership of ICT infrastructure and drawing on the virtualized environment of a third party. Because of the consolidation and virtualization of servers, the deployment of cloud computing results in a tremendous increase in application traffic transiting the WAN. Virtualized environments today – and in the future era of pervasive cloud adoption – provide one of the largest (if not the largest and most complex) challenges to any organization. How do they ensure excellent application performance without the need for massive, expensive bandwidth upgrades? This is the constant dilemma.

Organizations are thus looking for application delivery solutions designed with productivity, cost reduction, and simplicity in mind, allowing them to migrate smoothly into a cloud environment without faltering in application performance. Organizations realize that this is a tough balancing act; despite the benefits of cloud, they do not want to sacrifice application availability in the process. For end users, productivity increases as application performance reliably improves. The era of pervasive cloud is coming, and for some organizations, it will be in the immediate future. Organizations that are actively building up a private cloud environment or adopting public cloud should be aware of the importance and benefits of application acceleration solutions.

## CHALLENGES IN SCALING AND GLOBALIZATION OF WEB APPLICATIONS

The age of globalization of Web applications is clearly on us, and this has compounded the challenge of achieving optimal Web application delivery more than ever. Migrating from client-server to Web-based applications can be a quick process but paired with caution as organizations wrestle with security concerns. The other main challenge lies in delivering consistent performances that match what users have come to expect over their WANs or LANs. Slow or poor Web application response could potentially translate to loss of revenue, customer dissatisfaction, and delayed response to critical business decisions.

Table 6 shows the top issues faced by organizations in relation to Web-based applications and these are also explained in detail.

- ☒ **Organizations are obsessed with security.** As expected, security concerns continue to dominate. More than 22% of respondents cited this as their top concern, as more data-sensitive applications are made available online. More importantly, security teams often find it challenging to keep up with the increase in security vulnerability, as more applications are added onto the Web. The issue of security was particularly important in Korea, Taiwan, and Malaysia, where a higher-than-average proportion of organizations cited it as important. On the other hand, organizations in ANZ have fewer issues with security and are more concerned with delays in rolling out rich media content, which was their top concern.
  
- ☒ **Concerns over Web application performance are real.** Poor application performance was second only to security, as cited by 15% (this was the top issue in Singapore), followed by an inability to access rich media applications and delays in rolling out rich content applications (this proportion was much higher in ANZ and Hong Kong), which were cited by 12% of respondents. Since these issues can potentially impact employee productivity, customer responsiveness, and a company's image, they continue to drive organizations' commitment to invest in Web-based applications and improve their performance.

**TABLE 6****Top 2 Issues Faced by Organizations with Web-Based Applications (%)**

	ANZ	HK	IN	KR	MY	SG	TW	AP
General security	12	19	15	32	26	21	28	22
Poor performance in Web-based applications	20	12	15	11	21	22	6	15
Delays in rolling out rich content applications like video	22	17	12	12	7	4	8	12
Inability to access rich media applications	10	8	18	7	10	8	9	10
Poor usability/problems with business continuity (BC)	7	12	4	7	14	11	8	9
Unable to share files efficiently	5	10	12	11	6	10	3	8
Lack of IT support to trouble shoot	7	10	5	8	5	10	12	8
Mean time to repair application performance issues	3	9	11	7	3	4	9	6
Unable to access certain application's features that impacts	4	3	8	6	7	6	4	5
Others	10	0	0	0	2	6	13	4

Source: IDC's *Asia/Pacific Web Application Delivery Survey 2010*, Sponsored by Akamai

## IMPACT OF THE POOR PERFORMANCE OF WEB APPLICATIONS

IDC also wanted to understand if respondents experienced difficulties accessing Web applications. As shown in Table 7, 26% of organizations in the region had experienced productivity issues due to poor access to Web applications. The top 3 countries that indicated so were Korea, Hong Kong, and India. IDC believes that the potential negative impact on work performance resulting from poor Web application access is one of the key reasons why ensuring application performance has shifted to the forefront of many IT managers' agenda.

**TABLE 7****Problems or Difficulties in Accessing Corporate Web-Based Enterprise Applications That Have Impacted Work Performance (%)**

	ANZ	Hong Kong	India	Korea	Malaysia	Singapore	Taiwan	Total
Yes	23	33	28	47	23	13	13	26
No	77	63	59	53	63	83	87	69
Don't know/Not sure	0	3	13	0	13	3	0	5

Source: IDC's *Asia/Pacific Web Application Delivery Survey 2010*, Sponsored by Akamai

## **THE BIG SQUEEZE: TRENDS IMPACTING APPLICATION PERFORMANCE**

There are several irreversible trends in the marketplace that are creating application performance challenges for businesses today. For example, IT consolidation and centralization is happening at a frantic pace. Enterprises seeking to cut costs and improve manageability are virtualizing servers and transforming their datacenters. However, datacenter consolidation and server centralization can lead to an increase in latency, as applications have to travel a much longer distance. Reducing the server footprint may also lead to poor end-user experience as a result of poor Web application performance, further driving bandwidth demand. If left unaddressed, poor application performance can have direct negative impact on both business and IT, such as lower customer satisfaction, loss in revenue, and business productivity. As applications migrate to the Web, it is no longer simply about the networks but about Web performance and application delivery as well.

### ***Road Warriors on the Rise***

In IDC's survey, 37% of respondents are able to access their corporate applications via their mobile devices. Today's workforce is increasingly mobile and the number of employees with mobile application access is expected to increase. Accompanying the rise in mobility is the demand by mobile users to experience the same response time and application performance on their smart mobile devices.

### ***Rise of Social Media/Socialytic Applications in the Enterprise***

Enterprises are exploiting bandwidth-heavy social media for several reasons, including improving customer service and increasing marketing activity. According to the regional average, over half of respondents (54%) use social media for at least two hours a week, with 41% of respondents expecting bandwidth traffic driven by social media to increase over the next 12 months.

Moreover, the introduction of corporate socialytic applications into the marketplace over the last three months has been well received. Socialytic applications are corporate social media portals that include traditional consumer social media features, such as Facebook and Twitter, as well as UC applications (mainly video and chat) and enterprise applications like SCM and CRM. Vendors are also discussing the possibility of introducing business analytics applications into these portals. IDC expects a surge in deployment of these socialytic applications in the corporate environment over the next two to three years.

## FUTURE OUTLOOK

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### **Edge of a Cloud Revolution**

IDC believes that the application delivery market will experience another year of innovation and market expansion. Organizations will expand the use of the technology to build new branch platforms, as they become more comfortable with server virtualization and continue to centralize and consolidate IT assets. IDC also believes that successful strategies will include features such as visibility, optimization, and quality of service (QoS) to better support mission-critical applications deployed on the Web. The growth and expansion of cloud services and mobility will also place new pressures on the application delivery platform to demonstrate business value. IDC offers essential guidance for organizations looking to deploy more applications on the Web and to help prepare them for the era of pervasive cloud.

#### ***Essential Guidance***

- ☒ **Understand the Web application road map for the next three years.** A successful Web application delivery strategy requires a good understanding of the company's Web application deployment road map and datacenter plans for the next three years. Organizations need to realize how big their mobility plans are, what kind of cloud migration they are expecting, and what additional applications they intend to put over the Internet (both for their employees and for their extended enterprise ecosystem). Will there be further datacenter consolidation and centralization with deployment of full virtualization technologies? It is almost impossible to have a successful Web application delivery strategy without completely understanding these key areas.
  
- ☒ **Develop performance and availability targets in datacenters.** IDC's survey shows that the majority of organizations are using Web-based applications to support several key corporate objectives, but less than 50% of respondents have invested in the tools to monitor the availability and performance of their Web-based applications in their datacenters. Table 8 shows that 48% of organizations have availability targets in their datacenters, with Korea, Malaysia, and Hong Kong organizations ahead of the game here. On the opposite end of the spectrum is Singapore, with less than 27% of respondents stating that they have invested in these tools. As organizations slowly reach the tipping point where the Web becomes their exclusive channel, it is almost essential to set performance targets for the datacenter.

**TABLE 8****Performance or Availability Targets for Your Web Applications Inside the Datacenter (%)**

	ANZ	Hong Kong	India	Korea	Malaysia	Singapore	Taiwan	Total
Yes	43.3	50.0	38.7	70.0	66.7	26.7	43.3	48.3
No	46.7	40.0	38.7	23.3	33.3	70.0	53.3	43.6
Not sure/ Don't know	10.0	10.0	22.6	6.7	0.0	3.3	3.3	8.1

Source: IDC's *Asia/Pacific Web Application Delivery Survey 2010*, Sponsored by Akamai

- ☒ **Monitoring the end-user experience.** If Web-based applications are increasingly deployed to increase revenue and enhance customer satisfaction, there should be tools to adequately measure the end-user experience. Similarly, less than half of the organizations surveyed have these monitoring tools in place. Given the current ICT investment climate, where the CTO or CIO has been tasked to align IT investments closer to business processes, measuring the end-user experience and linking this to revenue growth will be a key consideration for future investments in Web application delivery solutions. Table 9 shows how many organizations have performance and availability targets for their end users. Across the region, 44% of respondents said they have targets, with organizations in Malaysia, New Zealand, and Australia being the leaders here. IDC believes that unless organizations develop and invest in capabilities to identify potential bottlenecks in application delivery and performance, it will be difficult for them to achieve significant improvements in application performance, especially since only 34% have tools to measure performance and availability targets for their Web-based applications for end users. India lags behind with less than 4% of India organizations having the tools to do so. This is alarming, and there is a clear gap between the desire to have excellent application delivery and the ability to measure it in the region. Poor end-user experience can affect not only employee work performance but customer experience and customer loyalty – or worse, the company's bottom line.

**TABLE 9**

Performance or Availability Targets for Your Web Applications to End Users Across the Internet (%)

	ANZ	HK	IN	KR	MY	SG	TW	Total
Yes	46.7	43.3	45.2	46.7	66.7	26.7	30.0	43.6
No	46.7	50.0	38.7	50.0	30.0	66.7	66.7	49.8
Not sure/ Don't know	6.7	6.7	16.1	3.3	3.3	6.7	3.3	6.6

Source: IDC's *Asia/Pacific Web Application Delivery Survey 2010*, Sponsored by Akamai

**TABLE 10**

Analytical Tools to Measure the Availability/Performance of Your Web-Based Enterprise Applications for End Users (%)

	ANZ	Hong Kong	India	Korea	Malaysia	Singapore	Taiwan	Total
Yes	33.3	50.0	3.2	33.3	63.3	33.3	20.0	33.6
No	53.3	43.3	83.9	60.0	33.3	60.0	76.7	58.8
Not sure/Don't know	13.3	6.7	12.9	6.7	3.3	6.7	3.3	7.6

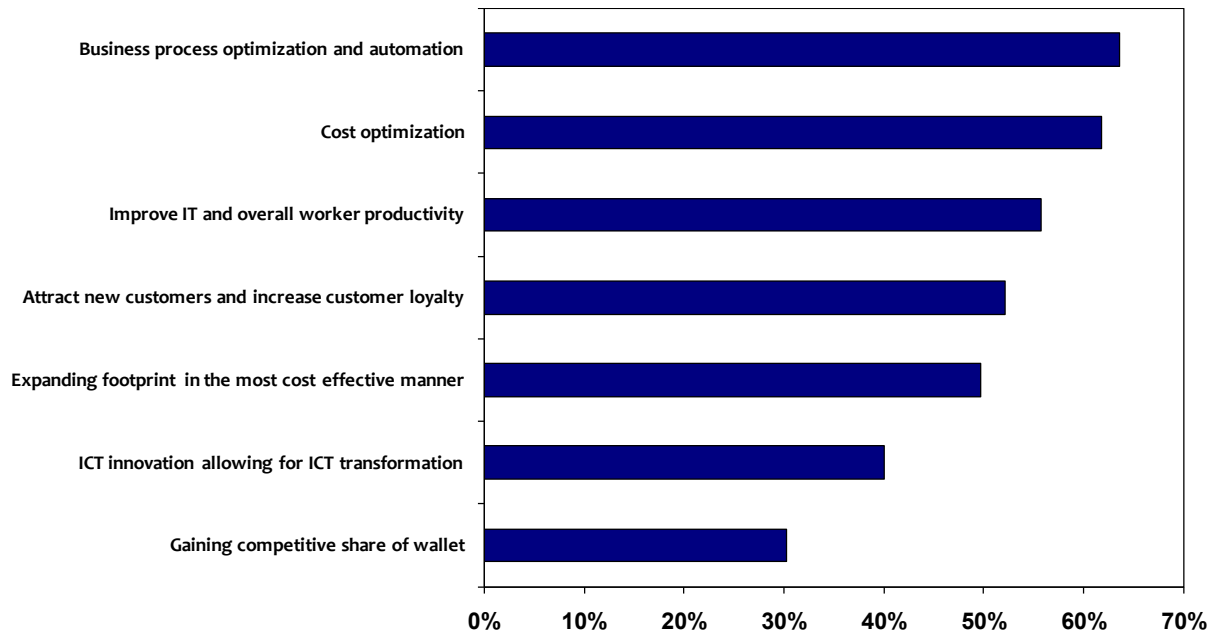
Source: IDC's *Asia/Pacific Web Application Delivery Survey 2010*, Sponsored by Akamai

- ☒ **A tool to drive business process improvement.** Figure 3 reveals the perception of application delivery solutions among the survey respondents. Almost 65% of respondents described it as a tool for business process optimization and automation, outstripping cost optimization as the number 1 factor. With CTOs/CIOs being tasked to align ICT closer to business processes, application delivery is becoming more strategic than ever to organizations. Cost optimization was ranked second, showing that respondents view application delivery as a tool to prevent costly network bandwidth upgrades. The third and fourth factors were improving overall IT productivity and increasing customer loyalty, both factors that were cited by more than 50% of organizations. Organizations should look for solution providers that can effectively demonstrate these tangible benefits, which will make it easier to build and sell the business case internally.

**FIGURE 3**

**How Organizations Value Application Delivery Solutions**

Q. *What does "application delivery solutions" mean to your organization?*



n = 423

Source: IDC's *Asia/Pacific Web Application Delivery Survey 2010*, Sponsored by Akamai

☒ **Partnering is key.** Choosing the right vendor or partner for application delivery is vital to success. It is not surprising that Asia/Pacific organizations placed security credentials as their number 1 factor, given the key security concerns highlighted consistently throughout the survey. Organizations must be prepared to ask the tough security questions, especially those surrounding their key corporate initiatives over the next 12 months. Although cloud and social media capabilities were ranked among the bottom 2 criteria, security is a major aspect and concern for any cloud and social media objective. Asia/Pacific organizations also placed a huge emphasis on industry leadership and reputation, which suggests that they would select only market leaders in the field. Given that Web applications are key to delivering excellent customer service and improving business processes, organizations are placing heavy weight on both factors and are looking for solutions that can demonstrate improvements on both factors. Organizations should be looking at the total cost of ownership (TCO) or return on investment (ROI) as they make their investment decisions, which are the best ways to pick the right partner.

**TABLE 11****Vendor Selection Criteria (%)**

Factors	
Security credentials	66.8
Industry leader/reputation	54.0
Demonstrate customer service improvement	53.1
Strong partner network	47.4
Demonstrate business process improvement	47.4
Current providers	46.4
Strong capabilities around traffic and bandwidth management	42.7
Demonstrate lower TCO & higher ROI	40.8
Strong capabilities around communication and enterprise applications	36.5
Referrals from channel/partner	31.8
Strong digital media capabilities	29.4
Cloud-based strategy/road map	20.4

Source: IDC's *Asia/Pacific Web Application Delivery Survey 2010*, Sponsored by Akamai

- Get internal "buy in" from all vested parties.** For any ICT project to have long-term success, one needs the "buy in" from all vested parties. This typically involves all parties from the entire application lifecycle including application testers, network managers, development teams, and even lines of business (LOB), which are the bigger users of these applications. This ensures that the various organizational groups can see the real tangible benefits of an application delivery solution and will make it an easier sell internally.

### **Role of Akamai in Web Application Delivery**

Akamai Technologies, one of the pioneers in content and application delivery, has more than 3,000 customers globally and handles billions of Web transactions daily. Its four largest customer verticals include digital media, online commerce, manufacturing and financial services. In order to support its large, extensive base of global customers, Akamai has assembled a distributed computing platform of over 70,000 servers in over 1,000 datacenters spread across the globe that dynamically direct its customers' Web traffic quickly and reliably.

Founded in 1998 to overcome the problem of Internet flash crowds, Akamai moved from Web site delivery to application delivery with the launch of Web Application Accelerator in May 2005. This new technology goes beyond caching to actually speed up the transmission of dynamic transactions across the public Internet, enabling enterprises to deliver mission-critical dynamic Web applications with high performance and availability worldwide.

Akamai's solution footprint has continued to increase, in response to organizations' increasingly sophisticated challenges in delivering applications over the Internet. The company has added traffic management, Web site intelligence, performance monitoring, application security, and mobile optimization capabilities. Akamai has expanded its capabilities systematically over time through organic engineering efforts and acquisitions. Since 2006, it has acquired companies that have bolstered its customer base and enhanced its breadth of technologies related to rich media delivery, application acceleration, peer-to-peer networking, and online advertising – all of which are expected to see significant growth over the next few years. In its most recent acquisition, Akamai acquired the assets of Velocitude in June 2010 to further bolster Akamai's strategic position in the mobile market.

Akamai's services include:

- ☒ **Dynamic Site Solutions (for business-to-consumer).** This ensures that users, regardless of their location, have fast and reliable access to dynamic, personalized content from any device. This allows companies to deliver a rich, interactive, personalized user experience without slowing page downloads or causing site abandonment. This enables companies to deliver the features that encourage consumers to browse, form a favorable brand impression, and buy. New mobile optimization capabilities adapt site content on the fly to ensure an optimal experience for thousands of mobile devices without coding mobile-specific or device-specific sites or applications. Unlike traditional datacenter-focused Web infrastructure, Dynamic Site Solutions address the shortcomings of the Internet itself to reduce site abandonment rates and increase completed transactions.
  
- ☒ **Application Performance Solutions or APS (for business-to-business).** This provides companies with Web-enabled applications reaching a global user base of employees, customers, or suppliers with a global managed service ensuring the secure, reliable, and responsive delivery of their applications to end users. This allows companies to consolidate infrastructure without compromising performance or productivity of end users that may be farther from a centralized datacenter. As a managed service, APS does not require heavy capital expenditure of infrastructure investment and enables corporations to have greater business agility as they expand into new markets.

- ☒ **Digital Asset Solution.** Companies ranging from broadcasters and social networks, to software and game developers have turned to the Web as the primary channel for on-demand delivery of large video files, games, and software to reduce costs and broaden distribution. The Akamai's Digital Asset Solution line include Electronic Software Delivery and Akamai Media Delivery services, which enable customers to leverage the online channel to distribute, manage, and monetize their digital assets, without adding or maintaining infrastructure:
  - ☐ **Electronic Software Delivery** is Akamai's next-generation software downloads solution that addresses the quality of experience, scale, workflow, and analytics requirements of large software vendors for electronic software delivery. The solution provides a predictable, reliable platform to deliver both small and large software downloads effectively to customers and provide the visibility to monitor the entire download process through server and client-side reporting. Online software distribution has enabled end users to meet their software needs with the click of a mouse, while allowing software companies to employ various download strategies to drive sales and maximize revenue.
  - ☐ **Akamai Media Delivery Solutions (for video delivery).** This solution is designed to enable large-scale broadcasters and film distributors to increase audience engagement and expand revenues by complementing traditional media such as TV and DVD with the Internet. A global streaming platform extends companies' reach instantly, enables them to bypass traditional server and bandwidth limitations, and handle peak traffic conditions and large file sizes without requiring additional infrastructure. Akamai Media Delivery enables the secure delivery of innovative rich media experiences — from video sharing to high-definition video online.
- ☒ **Advertising Decision Solution.** Akamai's most recently launched advertising decision solution (with limited availability) enables more relevant online advertising. Using predictive modeling based on shopping data, predictive segments – part of Akamai's Advertising Decision Solution – helps customers reach in-market online consumers with display advertising in real time and at scale.

In order to help customers migrate to cloud more effectively, Akamai says the company is focused on helping its clients realize the full potential of cloud computing. Its cloud optimization services include Cloud Business Continuity Services, Cloud Security Services, Cloud Application, and Data Storage Services.

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## Challenges and Opportunities

There is every reason to believe that Akamai is well positioned to meet the needs of the Asia/Pacific region. The catalysts for the company's growth include mobile and HD video, mobility, social media, and even cloud services are gaining significant interest and traction. However, there are still some significant challenges facing Akamai.

- ☒ **Network approach versus a service solution.** Some of the big networking giants in the industry are positioning application performance delivery as part of their box solutions, usually either as a standalone product or part of a module to a switch or router product. Some network managers will have a higher comfort level with this approach because of their familiarity with these networking vendors and as a trusted brand. Akamai needs to articulate the value proposition of their managed service approach compared with a solution that is capital intensive, or customer-premises equipment. More importantly, application delivery is still very much a loosely defined term, and there is a range of vendors offering a variety of technology solutions.
  
- ☒ **A tough sell no more, but needs to fulfill promised guarantee assurances.** IDC believes that application performance is now a strong, immediate priority for many organizations, as the IDC survey has shown. Getting organizations to buy Web delivery solutions is no longer the "hard sell" it once was five years ago. However, as the Web becomes business critical to many organizations, their expectations in terms of performance will rise as well. Akamai's new set of challenges is to move beyond performance and availability guarantees and provide guarantees on business impact – in terms of increased revenue, decreased operational costs, increased productivity, and business process improvement.
  
- ☒ **Technology evolving at lightning speed.** Today, cloud, social media and mobility are high on the list of technology buzzwords. Although Akamai has moved with the times and, in many ways, stayed ahead of the game, it has to continuously evolve its products to ensure its technology and capabilities meet the needs of its customers.

## CONCLUSION

Organizations in the Asia/Pacific are, more than ever before, relying on Web applications to drive day-to-day operations and to support their employees, customers, and the entire ecosystem of partners and suppliers. To meet the challenges and take advantage of the opportunities that will flow with this Asia/Pacific Century, organizations must be prepared with a strategy and commitment to deliver higher levels of application performance to the expanding branch offices and growing pool of mobile or remote workers. With the era of the pervasive cloud upon us, it is time for organizations in the Asia/Pacific region to wake up to the imminent reality that further adoption of cloud services, mobility, video, and social media will place greater pressure on Web infrastructures. However, there is no better time than now to have a concrete, strategic plan and road map for Web application delivery. One of the lasting legacies of the recent recession is the focus on cash flow or liquidity management. Organizations have moved from a capex to an opex model, making the managed services approach to delivering Web applications an efficient way to drive better cash flow. In addition, partnering right with these managed service providers will help ease some of the challenges that organizations are facing with their Web applications. Issues include security, faster time to market of newer products and services, and productivity-driven performance of applications. A growing number of vendors and service providers are offering their blend of application delivery solutions, both managed and on premise. The right approach begins with asking the tough questions and picking a technology partner who will see you through this journey. IT managers should start planning ahead by first understanding their company's three-year mobile, Web and cloud technology road maps, and make an informed decision after reviewing the different solutions in the marketplace.

## METHODOLOGY

This IDC White Paper discusses the trends driving the demand for Web applications and the challenges that IT departments face as they strive to improve application performance and the end-user experience. This paper draws on the results of IDC's *Asia/Pacific Web Application Delivery Survey 2010*, as well as on IDC's ongoing research on the industry. The Akamai-sponsored survey was administered between May and July 2010. Phone interviews were conducted with 423 respondents (consisting of both IT and LOB executives) across the Asia/Pacific region. The survey covered Australia, Hong Kong, India, Korea, Malaysia, New Zealand, Singapore, and Taiwan.

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## Appendix

This section summarizes the highlights of the markets covered in IDC's *Asia/Pacific Web Application Delivery Survey 2010*.

- ☒ **Australia/New Zealand.** Organizations in Australia and New Zealand were one of the most progressive in terms of their current status or preparedness to migrate to Web-based applications. Compared with the rest of the region, this market featured some of the highest adoption rates for cloud delivery, mobile access, and video streaming applications on public Web sites. A lower than average 23% of organizations had experienced difficulties in accessing Web-based applications, which impacted their work performance. This suggests that more organizations in Australia/New Zealand are generally well prepared in terms of having an application delivery strategy or solution in place.
- ☒ **Hong Kong.** A higher than average 33% of organizations in Hong Kong had experienced difficulties in accessing Web-based applications, which impacted their work performance. Hong Kong organizations also appeared behind the curve in terms of adoption of cloud and mobile access. About 40% of Hong Kong organizations said they expect to set up new branch offices in the next 12 months. If no long-term Web application delivery strategy is put in place, their business expansion plans could place greater pressure on the delivery infrastructure and compound application performance issues.
- ☒ **India.** Although India is currently a laggard in terms of Web migration, we can expect dramatic growth in Web application adoption especially for cloud delivery. Currently an alarming few India organizations (3%) have analytical tools to measure the Web-based performance of applications for their end users, which could impact customer service or customer satisfaction. Fewer India organizations compared with the rest of the region have performance and availability targets for their datacenters and Web-based applications for end users. With an expected surge in Web-based applications and traffic over the next 12 months, India organizations will have to speed up their application delivery solution awareness and investments.
- ☒ **Korea.** The high proportion of Korea organizations that have analytical tools to measure end-user application performance as well as availability and performance targets for datacenters and customers suggests that Korea organizations view the Web as a strategic tool to enhance customer experience. These organizations place huge emphasis on delivering good customer satisfaction as a driver for supporting Web applications.
- ☒ **Malaysia.** Adoption of Web-based applications is generally high in Malaysia, be it for internal use or the extended enterprise. A high proportion of Malaysia organizations have mobile access to corporate applications, support video streaming online as well as high usage of social media within the enterprise. Malaysia organizations also show strong tendencies to have performance and availability targets for the datacenters as well as end users.
- ☒ **Singapore.** A relatively low percentage of respondents indicated that they had experienced difficulties in accessing Web-based applications, which impacted their work performance. This could indicate a high level of adoption of application delivery solutions but, at the same time, Singapore organizations have a

lower-than-average adoption of Web-based applications across most categories including mobile access and applications for the extended enterprises. Higher adoption of cloud and future growth in Singapore could pose greater Web support challenges in the future.

- ☒ **Taiwan.** Organizations in Taiwan, currently reporting a very low adoption base for cloud services, are expected to show the strongest growth in the region. Taiwan organizations are viewed as laggards in terms of using Web-based applications to their advantage. Overall, there is a lower-than-average number of organizations that have performance and availability targets for both their datacenters and end users. Generally, IDC believes there is a low level of awareness for Web delivery solutions among Taiwan organizations.

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