

## From the First Mile to the Last Ten Feet: Successfully Delivering Internet Television

### Executive Summary

New content is arriving in living rooms all over the world. Increasingly on-demand and streamed content is being delivered over the Internet to the television in response to consumer demand for access to all types of content on a range of digital devices. According to a recent poll by Accenture, “consumer taste is already being influenced by Internet video services, as they [consumers] express a strong desire to download what they are seeing on the Internet to their TV sets.”<sup>1</sup>

To date, IPTV—in other words, the delivery of television content over IP technologies by Internet service providers to their subscribers – has received much attention. Today, content owners and distributors and IPTV service providers alike should also consider Internet Television (ITV). Internet Television is a proven method of delivering audio and video content over the public Internet to the TV set, offering exciting new ways to generate revenues and reach wider audiences. Companies ranging from emerging players like ITVN and Instant Media to established premium movie service providers like Starz Entertainment are already seizing on these opportunities. By leveraging this new distribution medium and the benefits of Internet delivery, savvy companies are providing consumers with more choice, and in turn generating new revenue streams. And as new devices emerge to bridge the last ten feet—the distance between the TV set and the sofa—this opportunity will only grow.

While nobody knows exactly what the future holds, it’s fair to assume that an increasing amount of Internet-based content will be played on television sets in the coming years. Content distributors and service providers cannot afford to sit back to see how the market shapes up—the digital economy is moving forward.

As companies define their strategy, they should understand how content will be delivered over the Internet to multimedia devices like televisions. They should also be aware of the types of content that are the best fit for delivery over the Internet to the television. Content distributors and service providers must also consider the different options for monetizing this content and how this may impact distribution agreements. Businesses should plan to address the quality and accessibility concerns of consumers. And finally, they need to determine how to contain infrastructure costs while ensuring high-quality delivery of content over the Internet.

This paper addresses these issues and helps businesses formulate a plan for success to capitalize on alternative online distribution channels.

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The annual value of consumer video delivered over Internet Protocol networks will grow to \$4.6 billion by 2008.<sup>2</sup>

#### Advantages of Internet Television

- Immediate opportunity
- Instantaneous global reach
- Low cost of distribution
- Flexible consumer choice
- Infinite number of channels
- Instant on-demand delivery

## Introduction

Over the past couple of years, there has been a shift in the way people consume media, driven by the explosion in broadband adoption and the rapid proliferation of multimedia devices. Access to high-speed, always-on Internet connections and portable devices has heightened the expectations of consumers, who now desire living-room quality experiences, no matter where they are or what digital device they're using. Today's savvy consumers want the freedom to watch movies, videos, and other content from anywhere—whether that means in their living room or on their computer. But for a number of reasons, the TV set will remain the main media and entertainment device of choice for some time. It offers a high-quality viewing and auditory experience and a simple remote control capability. And the comfort and conviviality afforded by the living room is hard to match. For these reasons, the real industry growth is poised to happen once it becomes easy and seamless for consumers to download content from the Internet for viewing on their television sets.

Fortunately, numerous technologies are available to bridge the gap between computers and the TV set (see The Missing Link: Connecting the PC and TV section of this paper for more). And to fill the pipeline, a growing number of businesses are delivering content over the Internet for ultimate use on television sets. Two distribution methods are enabling this shift in content consumption: IPTV and Internet TV.

IPTV—or Internet Protocol Television—is a new means of delivering and viewing television programming using an IP network and high-speed broadband connection. This type of distribution typically occurs over a private network – in other words, delivered by a telecommunications provider—and includes access to a defined library of video-on-demand and live content, typically via a device such as a set-top box.

Internet TV also considers the Internet Protocol as a viable means for delivering audio and video content to consumers. This model leverages fast broadband connections to deliver live and video-on-demand content to a set-top box or to a computer connected to a TV set. The main difference is that Internet TV is not limited to one network; instead, it leverages the public Internet to deliver content to the living room. As a consequence, content providers can target both local and global consumers, rather than being limited to the subscribers of a single network.

While many disagree about the definition of IPTV and Internet TV, consumers may not care about the definition as much as the possibilities. The reality is that these methods offer an opportunity for content distributors, producers, and aggregators to generate new revenue streams by reaching niche audiences and repurposing content. In fact, industry analysts predict \$10 billion in IPTV revenues by 2010, with the U.S. expected to represent the second-largest IPTV market by that time.<sup>3</sup> (It's quite likely that telecom service providers will incorporate Internet TV as part of their own offerings.) The winners will develop solutions that deliver the diversity and depth of content available on the Internet to the television set, with a level of quality acceptable to a wide audience of television viewers.

To take advantage of this digital media revolution, companies must first answer the following questions:

- How will content be delivered over the Internet to multimedia devices like televisions?
- What type of content delivered over the Internet is appropriate for television?
- In what ways can companies monetize Internet content delivered to the Television?
- What content distribution agreements can be struck?
- What does the consumer expect when it comes to the quality and accessibility of content?
- How can infrastructure costs be contained while ensuring high-performance delivery of content?

## How Will Content Be Delivered to the Television?

Whether content distributors deliver content to a set-top box or to a PC, Internet distribution of television content changes concepts about the living room experience. Whereas traditional broadcast television delivers the same content to all consumers' homes, IPTV and Internet TV afford consumers an unprecedented level of flexibility to view custom content whenever and wherever they like.

But how will content delivered over the Internet reach the TV set? And what type of content will prove popular in this paradigm?

## The Missing Link: Connecting the PC and TV

A key requirement for viewing Internet content on a television is an installed base of devices that enable quality and content control. This type of device typically falls into one of four categories:

- A standard computer running a Microsoft® Windows Media™, Apple® QuickTime™, or Adobe Flash® player, possibly leveraged in a media environment such as Windows Media Center.
- A download application, such as those provided by Starz Vongo, Instant Media, or Apple iTunes®.
- Set-top boxes, including Digital Video Recorders that connect to the TV and run a variation of MPEG4 decoders (for example, those based on H264 or VC-1), and/or a player like Windows Media, QuickTime, or Flash, such as the ones provided by TiVo and ITVN.
- Game consoles such as Xbox 360™, Nintendo® Wii™, or Sony PlayStation®.

While the transfer of Internet content to the television is not as simple as some would like, the path is being paved for mainstream consumer adoption. Consumers already have a choice of such devices, and leading consumer electronics manufacturers are delivering additional compelling products. For instance, Sling Media's SlingCatcher set-top box accepts video content downloaded from the Internet and displays it on a television screen. Similarly, Microsoft plans to add features to the Xbox 360 that will allow consumers to watch video from the Internet on their TV screens. Sony will be enabling most of its new televisions, including high-definition flat screens, to play video from the Internet. Netgear has unveiled its Digital Entertainer HD, a WiFi-enabled set-top box for streaming media from the PC to the television. Apple recently announced AppleTV, a product that will allow consumers to access iTunes content on their televisions. And Starz Entertainment is teaming with Microsoft to bring its Vongo video download service to the TV via Windows Vista-based PCs and the Xbox 360 game platform.

As these devices become more prevalent, consumers will increasingly view Internet content on their televisions. Clearly the stage is set for the widespread adoption of entertainment delivered to the television over the Internet.

## A Different Kind of Content is King

The content that is desirable over IPTV or Internet TV is typically not widely available on television. In addition to traditional standard-length programming, consumers are interested in viewing content they cannot normally access via standard television broadcasts. Much of this content already exists—it just needs to be packaged and delivered to consumers. The following is just a sampling of the categories of content that are ripe for distribution:

- Expanded TV content, such as several live channels covering multiple perspectives of a reality show
- Additional views of an event—such as a major sporting event or a Hollywood award show—that are not shown in the original program
- Content not available in certain areas, such as U.S. football in Europe and soccer in the U.S.
- “Long tail”—or specialized or niche—content, such as lacrosse matches, sailing races or cult favorites.
- Time-shifted content, such as late-night shows or a popular miniseries
- Archived content packaged per event, for instance, highlights of Brad Pitt interviews during the Oscars® or of Peyton Manning post-game interviews during the NFL playoffs
- Short-form content, such as comedy sketches
- Instructional content such as cooking shows and do-it-yourself tutorials
- Low-cost-production, specialized content, such as court cases, public readings, and surgeries
- Movies, including both blockbusters and independently produced films
- User-generated content, such as the type seen on YouTube or MySpace

Fulfilling the desire for this type of content opens up new market possibilities for content distributors and service providers.

*“Consumers are developing an appetite for accessing digital content whenever and wherever they want. One of the key challenges to widespread adoption of video downloads is bridging the gap between the PC and—the most important element in the home entertainment experience—the TV.”<sup>4</sup>*

—Michael Goodman, Program Manager, Digital Entertainment, Yankee Group

## Capture Wallet Share

In the IPTV model, the service provider usually owns the delivery and shares revenue with the content producer or rights owner. When it comes to Internet TV, all types of revenue models are possible. This is largely due to the fact that many opportunities exist when it comes to deriving revenues from content that is not widely available anywhere else.

Companies developing business strategies for this marketplace are aware that consumers have already displayed a willingness to pay for content delivered over the Internet, such as paying for movie rentals and popular TV shows via iTunes.

Likewise, the subscription and pay-per-view models that have already proven successful in the cable and satellite television world are translating into success for Internet TV. For example, Instant Media—an emerging Internet TV player—boasts an install-base of more than 700,000 users, a number of whom subscribe on a monthly basis. The Starz Entertainment Group has similarly realized success with its Starz Vongo movie download service, which provides access to more than 1,000 movies and 2,500 total video selections, as well as a live stream of the Starz TV channel. Consumers access this content for either a monthly fee for unlimited downloads or transactionally on a pay-per-view basis. In fact, eMarketer forecasts that U.S. consumer spending on movies and TV will approach \$3 billion in 2010 (see figure 1).<sup>5</sup>

**Figure 1**  
U.S. Consumers Will Spend Almost \$3 Billion on Digital Movies and Online TV by 2010

<b>Digital Music, TV and Movie Content Spending in the US, 2005-2010 (millions)</b>						
	2005	2006	2007	2008	2009	2010
Digital music*	\$1,104	\$1,924	\$2,738	\$3,635	\$4,317	\$4,950
Online TV**	\$199	\$432	\$774	\$1,170	\$1,691	\$2,191
Digital movies***	\$11	\$35	\$114	\$245	\$447	\$651
<b>Total</b>	<b>\$1,314</b>	<b>\$2,391</b>	<b>\$3,626</b>	<b>\$5,050</b>	<b>\$6,455</b>	<b>\$7,792</b>

*Note: \*includes digital downloads, subscriptions and mobile music; \*\*eMarketer calculations based on September 2006 data from Veronis Suhler; \*\*\*includes non-adult online and mobile content, in digital download or streaming format*  
Source: eMarketer, January 2007

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And according to Forrester Research, instead of cannibalizing existing revenue streams, broadcast networks “stand to make significant incremental revenue” by allowing downloads of their hit TV shows for viewing on televisions (see figure 2).<sup>6</sup> Apparently the broadcast networks are beginning to realize this. TiVo will be delivering broadband content—including the CBS Interactive network—to the television via its TiVoCast service. According to the President of CBS Interactive, “This represents a great opportunity for CBS to showcase its growing online content on the television platform...TiVo’s TiVoCast service allows us to extend our reach, join other content innovators, and ultimately learn more about our audience...”<sup>7</sup>

**Figure 2**  
Broadcast Networks Can Generate Significant Incremental Revenues via Downloads of Hit TV Shows

	Network TV model	Scenario 1: Time-shifting	Scenario 2: Catch-up TV
	Each episode can only be viewed when broadcast	20% of audience substitutes viewing the download for viewing the broadcast	An additional 5% of audience downloads an episode
Broadcast audience	25 million viewers	20 million viewers	25 million viewers
Download audience	0 downloads	5.0 million downloads	1.3 million downloads
Advertising revenue	\$11.3M	\$7.1M	\$11.3M
Download revenue (at \$1.20 per person)	+ \$0	+ \$6.0M	+ \$1.5M
Gross revenue to ABC	\$11.3M	\$13.1M	\$12.8M
Revenue difference vs. network TV model		+ \$1.8M	+ \$1.5M
% difference vs. network TV model		+ 16%	+ 13%

Source: Forrester Research, Inc.

Interesting new revenue streams are made possible by this revolutionary media consumption model. For instance, consumers could potentially purchase products seen in a movie or TV show directly from their TV sets. And this active interaction between consumers and programming content might be just what is needed to circumvent the growing consumer preference for advertising-free programming.

In the meantime, a few factors bolster the position of content distributors. First, control over the set-top box makes it difficult for consumers to skip ads. Second, 'just-in-time' streaming delivery of media content prohibits recording. Third, content distributors can gain insights via Internet TV that are not possible via traditional broadcasting. Deeper consumer intelligence will be critical for supporting the niche programming that will likely dominate the PC-to-TV airwaves for the foreseeable future. Forrester Research expects "a vibrant market to develop in ad-supported niche programming with audiences too small to get TV carriage," and also feels that "pay-per-view programming of all kinds could also work because its online business model doesn't give up any carriage fees as ad-supported programming does."<sup>8</sup> Advertising-supported programming is already translating well when it comes to Internet TV. For instance, Instant Media counts top-tier brands including Chrysler, FedEx, and GE among its advertisers.

In addition to the traditional content producers such as Hollywood studios, anyone can contribute content in the Internet TV model. This ultimately provides more choice for the consumer. For instance, BiggyTV—another emerging Internet TV player—solicits creative content directly from content creators in a revenue-sharing model.

## The Right to Distribute

When content is easy to monetize, rights negotiations should be fairly straightforward. And the unique content that is appealing for distribution over the Internet to the TV set lends itself to monetization. Take the example of offering highlights of a certain movie actor's interviews during the Oscars® or of a football player's post-game interviews during the NFL playoffs. This content could easily be offered on a pay-per-view basis. And when it comes to user-generated content, content distributors and service providers have a chance to gain exclusive distribution rights.

By demonstrating an ability to monetize and protect content, content distributors and service providers can pave the way for a successful business model.

## Maximizing Revenues

Producing movies and television shows is an expensive undertaking, and similar to the music labels, movie studios and television networks naturally desire to realize as much revenue as possible out of their content library. These companies also recognize the mass shift in the way that consumers are accessing and viewing content. Whether it is movies going from the studio directly to DVD, cable channels working with portals such as Google Video, or networks making shows such as *Desperate Housewives* and *Law & Order* available for download on iTunes, content producers and owners are determined to maximize the value of their proprietary content. And that bodes well for those businesses that want to strike deals to distribute the content or create their own direct-to-consumer distribution channels.

By offering premium, exclusive content in addition to free content, content owners can maximize the value of their customer base and generate additional revenues. The combination of free and premium content (also known as "freemium") has proven highly successful on the Web and can be reproduced in a new media space where there is no limitation on the number of TV channels.

## Protecting Rights

Beyond negotiating the percentage of revenue share and offering the typical advances and guarantees, content distributors and aggregators need to assure the networks and studios that distribution rights will be enforced and content will be adequately protected.

Take the example of a TV broadcast—for instance, sports broadcasts—being licensed only for a certain period of time and for broadcast in a specific geography. Similarly, television series can be governed by such parameters. For example, ABC broadcasts the popular TV show *Lost* in the U.S., while Sky One has the rights to broadcast the show in the U.K. Negotiating the licensing rights for Internet TV will likely require an agreement about blackout zones and partial content exclusivity.

When it comes to distributing content via the Internet, content distributors and service providers can ascertain the geographic location of a consumer with a high level of certainty. This is in contrast to terrestrial and satellite TV distribution, where television viewers living on a country's border can sometimes access programming not intended for their consumption. Because the Internet affords this unprecedented ability to control content distribution, content distributors and service providers are more easily able to strike exclusive content distribution deals.

In addition, today's technologies—such as digital rights management (DRM) – enable content distributors to protect content and control its distribution. Through DRM, content distributors can determine what type of device the content can be played on, such as a personal media player or a connected TV. Used in conjunction with technology that enforces geographic content distribution restrictions, DRM helps address piracy and content rights violation concerns.

## Meeting Consumer Expectations

When it comes to bridging the gap between the PC and the living room, what do consumers find acceptable from a quality standpoint? While the success of Internet TV ultimately depends on widespread consumer adoption, content distributors and service providers should feel assured that technology exists today to make this happen. Delivering an experience that closely mirrors television viewing is made possible by desirable content, along with the following:

- Quality encoding
- Sufficient last-mile connection speed
- Quality delivery

### Quality Encoding

With proper encoding and the use of today's compression technologies, content distributors and service providers can serve content at bit rates ranging from 700 kbps to 1.2 Mbps. While these rates do not enable high definition by broadcast standards, and the quality might not always be as high as that experienced on TV (especially in fast-action scenes), they enable a high quality experience accepted by today's consumers.

### Sufficient Last-mile Connection Speed

When accessing live streaming, consumers have shown little patience for delays and hiccups. Traditionally, businesses choose to strike a balance between quality and fast accessibility, frequently streaming at 400 kbps over the Internet. However, content distributors can now tap into the growing market of consumers on high-speed broadband connections of 1 Mbps and more. In the U.S. alone, broadband penetration grew to 78.45% in December 2006.<sup>9</sup> If content providers properly encode their content and ensure reliable, fast delivery, they can deliver a quality experience to consumers.

### Quality Delivery

Internet content distributors often talk about delivering a TV-like experience. What consumers expect is immediate start-up times, 100% availability (with no rebuffering), and an experience that is constant over time. In reality, even a fast last-mile connection does not guarantee perfect delivery, since the Internet is plagued by bottlenecks. IPTV solutions address this issue by controlling the end-to-end delivery of content. In the Internet TV model, this problem is solved by deploying servers close to the Internet edge, thereby increasing the effective bit rate available between the server and the consumer. Techniques such as fast-cache and bursting enable content distributors to send as much data as the connection supports and weather sudden drops along the last mile.

Whatever path a content distributor takes, quality is critical. Though it might be difficult to mirror broadcast quality today, consumer adoption shows that it is not a requirement as long as they can access the content they want and have an overall experience that satisfies their requirements.

## The Akamai Platform: Enabling the Next Generation of Content

*“...companies need to develop agile and adaptable partnerships that enable them to extend their capabilities at scale and speed...And, crucially, they will need to plan for long-term operational efficiency. From a technical infrastructure perspective, they will therefore have to consider architectures and business decisions that bring down core technical operation costs over time.”<sup>10</sup>*

—Accenture,  
Media Content Study 2006

As the popularity of Internet TV grows, companies must maintain a nimble core infrastructure that allows them to rapidly adapt to change and be prepared to take advantage of promising revenue-generating opportunities. Many leading companies already rely on Akamai to help them deliver Internet content to the television.

### Akamai Media Delivery for Internet TV

The Akamai Media Delivery solution provides a world-class delivery infrastructure with advanced features and tools that let companies quickly monetize, secure, control, and deliver their media assets. Akamai’s worldwide network and patented technology guarantees a consistent, high-quality experience for both local and global audiences. Akamai can even accommodate companies that want to deliver higher bit rates in a specific market.

The solution is built on Akamai’s EdgePlatform, a massive network of over 20,000 servers in more than 70 countries, enabling content distributors and producers to quickly and reliably deliver large on-demand and streaming files from Web sites to digital devices. The additional use of connection and path optimization techniques that dynamically avoid problem spots on the Internet helps further improve performance.

Akamai provides the necessary worldwide network with advanced features to ensure high performance, secure digital assets, and an always-available Web site to help companies reduce costs, enhance the consumer experience, and increase revenues. With Akamai Media Delivery, companies can do the following with their Internet TV content:

- Store and manage
- Protect
- Deliver
- Understand
- Innovate

#### Store and Manage

As part of the Akamai Media Delivery solution, companies have access to globally distributed, replicated storage for digital media libraries. Appropriate for storage of infrequently changing content such as on-demand streaming files, images, software, documents, and other digital objects, Akamai NetStorage increases the level of performance, availability, and scalability benefits that are achieved via Akamai Media Delivery. NetStorage also enables companies to reduce the costs associated with storage of large digital media files while ensuring redundancy. Content distributors and service providers can choose in which parts of the world they would like their content stored. And because the content is cached locally, companies can limit storage to two locations globally.

#### Protect

With Akamai Media Delivery, companies can protect and control the distribution of their content. Built on standard Windows Media DRM technology—one of the most comprehensive, proven, and popularly available DRM models in the market—Akamai License Delivery is an integrated service for securing, delivering, and monetizing valuable content. With this solution, content distributors and service providers can assign rights to consumers, based upon a variety of parameters. For instance, they can allow a sporting event to be broadcast only to a certain region of the U.S. or to another country.

Akamai License Delivery for Windows Media DRM provides companies more flexibility for monetizing Windows Media-based content and protecting digital assets from misuse and misappropriation. It also offers the scalability needed to support the growing demand for digital media and entertainment content. Companies can also take advantage of Akamai Content Targeting to ensure that content is not delivered to restricted geographies or to unauthorized users.



Many content distributors and service providers shy away from streaming delivery because of quality concerns. But Akamai alleviates those issues, ensuring high-performance delivery of streaming files. This allows companies to take advantage of the fact that streaming offers a first layer of security without the need for additional protection technologies. The very nature of streaming means that files are not stored in the local cache of a set-top box or computer after they're viewed. It also prevents consumers from skipping over advertisements, thereby enforcing the business model of the content provider and the distributor.

Finally, Akamai customers retain control over their content, even when it is located in Akamai caches around the world. Access control options allow content distributors and service providers to determine who has access to each file.

### **Deliver**

The Akamai Platform reliably transfers high-quality streams and large file downloads quickly and reliably across the Internet to content consumers anywhere in the world. The distributed architecture of the Akamai Platform can deliver streams at a higher bit rate—1 Mbps and higher—than is possible via a centralized architecture. Similarly, the unique routing capabilities of the Akamai Platform reduce the number of hops required to deliver content, which in turn decreases the likelihood of delivery bottlenecks. Akamai can circumvent Border Gateway Protocol (BGP) to choose the ideal and most available networks at any given time.

Akamai Media Delivery supports the delivery of files in real time or through scheduled downloads, and is available for streaming all leading media formats including Apple QuickTime, Microsoft Windows Media, RealSystem G2, and Adobe Flash Streaming. Unique partial object caching capabilities ensure that large files, such as movies, start without delay. Akamai caches the beginning of the file and then retrieves the rest of the file in the background to deliver the best of caching without the need to cache files in every Akamai server around the world.

While some CDN providers partition their network, assigning certain servers to different sets of customers, the entire globally distributed Akamai Platform is available to all Akamai customers. This shared infrastructure provides a level of scalability that is difficult—if not impossible—to match.

### **Understand**

Akamai Media Delivery offers fast, accurate, and secure reporting and analytics tools so companies can measure their digital media businesses. Through a set of infrastructure management, monitoring, and reporting modules, companies can optimize and report on their content, digital assets, and streams. Via this window into their online businesses, companies can confirm successful delivery of content, view traffic patterns and geographic dispersions, as well as intelligence on audience composition. Akamai Stream and Download Intelligence reporting modules provide insight into how download assets and streams are performing. Companies can determine which assets are most popular and in what regions. Metrics like download completion rates and average play time provide insight into content performance and ROI. Fast, intuitive filter and sorting capabilities make it easy to drill down on the specific assets for maximum understanding.

### **Innovate**

Akamai is committed to keeping pace with the latest standards and content delivery trends, ensuring customers can continually innovate in their own offerings. With Akamai, content distributors and service providers have the freedom to deliver any type of content over the Internet. So whether it's Apple QuickTime, Microsoft Windows Media, RealSystem G2, Adobe Flash, or progressive download files, businesses can deliver high-quality files without investing in specialized hardware or software.

Additionally, the Akamai Platform is compatible with both H.264 and VC-1, two popular codec standards used in formats such as Apple QuickTime and Windows Media and in a number of set-top boxes. This support means content distributors and service providers do not have to worry about their encoding choices. Companies are free to use any type of codec for their streaming files and can encode their downloadable files in any way.

*“The only thing worse than failure in online video is success; you must be prepared for unexpected surges of traffic. Sites should work with content distribution networks (CDNs) like Akamai that will guarantee they can handle the traffic.”*

—Forrester Research, *The Real Potential of Internet Video*

## Why Savvy Companies Choose Akamai

Akamai enables the successful online media distribution initiatives of a number of innovative companies such as TiVO, CNET TV, France 24, Starz Entertainment, Instant Media, BiggyTV, and GlobalTec (Wizetrade TV) to name a few. The following case studies are just four examples of the many Akamai customers that have realized success via the Akamai network and Akamai Media Delivery solution.

Akamai provides a truly flexible 'on demand' infrastructure and feature-rich platform that makes it easy for companies to rapidly innovate by adding rich content such as streaming video in Windows Media, Adobe Flash, Apple Quicktime or Real formats, rich applications and online advertising. Akamai's cost-effective social-networking infrastructure—a high-speed delivery network, unlimited storage on demand, and end-to-end file upload management—keeps the costs and the risks of experimentation low. Concerns about traffic growth, large amounts of user-generated content, and capital expenditures on infrastructure are eliminated.

### Accelerating Dynamic Content

For rich dynamic content, Akamai's Dynamic Site Accelerator (DSA) provides significantly faster load times for pages that are customized per user and per view. DSA leverages the processing power built into Akamai's network to read and parse the HTML of each customized page as it traverses the network on the way to the user. Images and other media that appear in the page are retrieved from their origin servers and begin their trip to the edge cache even before the page has loaded in the user's browser.

DSA speeds delivery of pages and page elements in another unique way—by intelligently routing end-to-end traffic across Akamai's own network rather than across public Internet nodes. Internet routing sends packets from node to node without regard to congestion, high load, or packet loss. Clearly it works, but Quality of Service (QoS) is not a consideration on the public Internet backbone. On the other hand, Akamai's network takes into account numerous QoS measures to speed traffic along the optimal path. This can be especially important for international traffic, where border crossings can introduce service delays.

## Starz Entertainment

### *Situation*

In January 2006, Starz Entertainment (Starz)—one of the largest providers of premium movie services in the United States—launched Vongo, a subscription service that lets members download Hollywood movies and other video content. Vongo subscribers have access to more than 1,000 movies and 2,500 total video selections, as well as a live stream of the Starz TV channel, all of which can be played on PCs, laptops, select portable media devices, and televisions.

### *Challenge*

Starz needed to support the anticipated large volumes of Vongo subscriber requests for its library of feature-length films and videos. Serving movie files as large 1.5GB to consumers would require a robust solution. The solution also needed to allow Starz to control the geographic distribution of movies and videos per the company's distribution rights.

### *Solution*

Starz relies on the Akamai Media Delivery service as the underlying video delivery platform for its Vongo service. Leveraging Akamai's global digital media delivery platform, Vongo users experience fast and reliable downloads, as well as the high-quality video that they have come to expect from an entertainment leader such as Starz. In addition, Starz is able to ensure that downloads do not fall into the wrong hands. "Many of these movies are digitally rich and have incredible special effects, requiring a robust global platform like Akamai's to support high demand. The thing about Akamai is that you know they'll deliver," says Bob Greene, executive vice president of advanced services, Starz.

## France 24

### *Situation*

France 24, launched in December 2006, is the first France-based international news channel to broadcast on a 24/7 basis. While the network broadcasts via satellite, cable, ADSL, and the Internet, the Internet is at the core of its strategy to deliver a French perspective on world news, business, sports, and culture to opinion leaders around the world. With the potential to reach a global, targeted audience of millions in countries worldwide via a variety of means, France 24 is sending a strong signal that there are no longer boundaries between the worlds of television broadcasts and the Internet.

### *Challenge*

France 24 recognizes that consumers increasingly demand the freedom to consume news and information wherever they are and whenever they want, from any device. With that in mind, it offers its broadcasts for access over the Internet as both video-on-demand and live streaming. To take advantage of the interactivity afforded by the Internet, it offers site visitors the ability to comment on articles and personalize their pages. France 24 knew it needed a robust solution to support the global distribution of its content.

### *Solution*

France 24 was quite familiar with Akamai since one of its parent companies—France Televisions Interactive—has been an Akamai customer since 2003. The company knew that Akamai had helped France Televisions successfully deliver a high volume of on-demand video to viewers around the world, all while ensuring content was only distributed to authorized regions.

## BiggyTV

### *Situation*

In December 2006, BiggyTV.com was launched by L.A. Ideas, Inc., an affiliate of the Hollywood advertising and marketing agency Shoolery Design, Inc. BiggyTV.com Web is one of the first to syndicate quality original programming and distribute archival material to global affiliates. By first quarter 2007, BiggyTV will have a projected audience through its affiliates of over 17 million people worldwide, with another projected 50 million by mid-year. The company encodes its content at an 850 Kbps to ensure high-quality Flash content, and offers a small download player for the desktop that downloads files progressively, as well as a Macromedia Flash player for viewing content at a high-quality 720 x 480 resolution.

### *Challenge*

With the goal of delivering the best Internet TV experience possible, BiggyTV wanted to ensure that viewers could access content with no delays. The company knew it needed redundancy and a network capable of delivering large files quickly. While BiggyTV was aware of peer-to-peer companies, it did not consider those a dependable option.

### *Solution*

BiggyTV turned to Akamai to ensure reliable global delivery of its content. By being able to pre-cache its content on the Akamai network in anticipation of extremely popular content, BiggyTV alleviates the potential stress on its servers, and avoids delays or refusals when viewers request content. "We knew that Akamai has the largest globally-distributed computing platform in the world, with servers in more ISP networks than any other CDN. Because Akamai serves content locally, everyone consuming BiggyTV content is assured of the best possible entertainment experience," says Kyle Borg, President and CEO of BiggyTV.

By choosing Akamai Media Delivery as the enabling platform for the delivery of broadband entertainment over the Internet, content distributors and service providers bridge the last 10 feet of the living room.

**Contact Akamai today to find out how you can deliver a high-quality experience that consumers expect as you deliver content from the Internet to the TV set.**

## About Akamai

Akamai® is the leading global service provider for accelerating content and business processes online. Thousands of organizations have formed trusted relationships with Akamai, improving their revenue and reducing costs by maximizing the performance of their online businesses. Leveraging the Akamai EdgePlatform, these organizations gain business advantage today, and have the foundation for the emerging Web solutions of tomorrow. Akamai is “The Trusted Choice for Online Business.”

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