Successful Social Networking and User-Generated-Content Applications: What You Need to Know

Executive Summary

The explosive growth of and interest in social networking is powering a new wave of rich, personalized user-generated content. As millions of broadband-enabled consumers publish content to Web sites, companies are afforded new ad-revenue and brand-building opportunities. However, to take advantage of those opportunities, organizations must overcome some of the challenges—both business and technical—associated with delivering, storing, and managing significant amounts of unique and dynamic content, as well as supporting unprecedented levels of Web site traffic.

This white paper provides an overview of the dramatic shift in communication brought about by social networking and discusses how some companies are already capitalizing on this revolution. The paper also explains the business and technical challenges associated with running social-networking sites, and describes how Akamai's unique network and solutions allow organizations to more easily deploy profitable social-networking sites.
# Table of Contents

What Is Social Networking ........................................... 1
History 101 of Social Networking ................................. 1

The Opportunity in Social Networking ......................... 2
The Value of Social Networking for Advertising and Marketing .... 2
Turning Traffic into Revenues ................................... 3
    Triple-Digit Growth Rates .................................. 3
    Advertising Revenue Attracts Investments ................. 4

Social Networking Presents Unique Challenges .............. 5
Retention, Revenue, and ROI .................................... 5
Pressure for Fast Innovation .................................... 5
Scaling the Business while Controlling Costs ............... 5
Exercising the Right Amount of Editorial Control .......... 6

The Akamai Network: Optimized for Social-Networking Sites .... 6
High Performance Boosts Profitability ...................... 7
Retention, Revenue, and ROI: The Akamai Performance Factor .... 8
Akamai’s Flexible Platform for Fast Innovation ............. 8
    Full-featured, End-to-end Platform ..................... 8
    Accelerating Dynamic Content ....................... 8

Infrastructure On Demand—Unlimited Growth Potential with Predictable Costs .................. 9
    Delivering the Busiest Sites on the Web ................. 9
    Offering Unlimited On Demand Storage ................. 9
Closing the Review-and-Approval Loop ...................... 9
Addressing User Generated Content Concerns ............. 10

A Case Study in Social Networking:
    For Friendster, Performance Pays ...................... 10

Conclusion ....................................................... 12

About Akamai .................................................. 13
What is Social Networking?

Humans naturally form communities in the physical world around common interests, familial relationships, geographic locations, and countless other factors. People are invited into communities, seek out and join them, or stumble into them. In much the same way, social networking is fundamentally about forming communities.

On the Web, powerful new ways of communicating have allowed people to exponentially expand their potential community networks. Blogs, wikis, instant messaging (IM) and chat rooms, and video and photo sharing sites have all created an enhanced networked effect among Internet users that is changing the way people communicate, where and how they congregate, and the way they seek and share information.

Among all age groups, Internet users are increasingly visiting social networking sites—sites that promote networks of relationships around users and information—for entertainment and news, business relationships, consumer product reviews, connecting with friends, dating, and more. But they’re doing more than just visiting. Instead, as members contribute site content in the form of journal entries, photos, videos, and blogs, they become producers, artists, storytellers, and authors. In the end, the value of these sites is derived not from content provided by the site’s owners, but from the emergent relationships among users and the content they create and consume.

History 101 of Social Networking

Some may remember a startup called Geocities, which in 1995 created a site for user-generated Web pages. Envisioned as a network of Web communities, Geocities provided simple tools that enabled users to create Web pages for their personal and business sites. Geocities’ vision of user-generated content as the “killer Web app” was prescient, and perhaps ahead of its time. The Web wasn’t quite ready for the user-generated model.

To a certain extent tools like instant messenger and e-mail are early forms of user-generated content. Later on, technologies like RSS (Really Simple Syndication or Rich Site Summary) invited users to create new value through their participation on Weblogs (Blogs), consumer product review sites (such as epinions.com and C|net), and classifieds sites (like eBay and Craigslist).

Fast-forward to today, and a combination of forces has sparked a new Web revolution of rich, personalized user-generated content that has enabled sites like MySpace.com to grow exponentially over the last few years (see figure 1). On the consumer side, the proliferation of broadband to the home—along with widespread use of digital cameras, camera phones, MP3 Players and desktop media publishing tools—has given consumers an easy way to produce their own media. Web 2.0 technologies such as RSS, AJAX (Asynchronous Javascript and XML), Web services, and modern, standards-compliant browsers have filled out the picture by enabling new ways to experience dynamic rich internet content and applications.
Social networking Web sites leverage all of these factors to create what Tim O’Reilly has labeled “architectures of participation”. With social networking sites, the two-way Web has morphed into a massively interconnected Web in which value is built upon the relationships among users and the content they’ve contributed.

Successful social networking initiatives don’t just include the major destinations such as Friendster and Facebook; they also include the tools that enhance and add new content to users’ pages. Like personal syndication engines, these tools let users publish their content across Web sites, linking their photos from ImageShack into their Facebook profile, and their videos from Video Egg into their Typepad weblog. It’s all about community and connectivity.

Social-networking sites create viral distribution channels and have contributed to the enormous popularity of video-sharing sites such as YouTube. For instance, a person who emails a video to a few friends will spark a small network effect, in essence, a 1+1+1 distribution model. Now, if that same user embeds a video hosted on a video-sharing site in his or her MySpace page, the video can reach 130 friends—or 82,000 “friends”.

The Opportunity in Social Networking

According to data from industry researchers, in 2006 online social networking became the highest-traffic category of Web site. Five of the top ten fastest growing Web brands–are social networking sites. Through viral marketing and community, these sites cultivate large audiences quickly, allowing site owners to, in turn, generate revenues through online advertising and sponsorships. By definition, the power of these sites is in direct relationship to the number of contributing members.

In addition to sites built just for social networking, businesses of all kinds—including consumer packaged goods, Hollywood film and entertainment, media companies, online publishers, and financial services firms—are developing social-networking and user-generated-content communities in order to extend the reach of their content, form deeper relationships with customers, and promote brand affinity.

Forrester Research sums it up neatly when it states, “To thrive in an era of Social Computing, companies must abandon top-down management and communication tactics, weave communities into their products and services, use employees and partners as marketers, and become part of a living fabric of brand loyalists.”

The Value of Social Networking for Advertising and Marketing

Recent trends in consumer behavior have made it all the more important for companies to engage in social media. Consumers are less brand-loyal than in the past, frequently emphasizing price over brand. They’re also increasingly skeptical about the content of traditional advertisements, while trust in their own independent online research and in peer recommendations has increased.

Ad-skipping and the ongoing migration of television viewers to the Internet are eroding the audience for traditional marketing campaigns. In response, marketers and traditional media companies have quickly realized the importance of creating their own social-media communities. Social networking offers new marketing opportunities with a highly targeted audience. Members of social communities self-select into...
highly relevant groups for brand or media marketing. Advertising on popular social networking sites also provides a conduit for reaching the elusive teen demographic.

Social Web sites are providing an essential two-way channel for communication between companies and their user community. The improved dialogue between companies and their customers’ community provides deep insight into customer needs, improves the relevance of product marketing, and builds brand affinity.

“Gradually, Social Computing will impact almost every role, at every kind of company, in all parts of the world. Firms should approach Social Computing as an ongoing learning process, using some of the best practices of firms that have successfully taken the first steps.”

Ad agencies are taking notice. A new business unit launched by advertising powerhouse Interpublic Group will specialize exclusively in the practice of user-generated content, helping clients, agencies, and platform providers explore the opportunities of social networking. Advertisers and marketers are learning that, although user-generated content dominates social networking communities, like all other forms of “reality” programming, good storytelling still attracts attention and builds audiences. The following examples illustrate the myriad ways that businesses of all kinds are leveraging the features of social networking for real gains.

- **Sponsorship:** Nikon is leveraging photo-sharing site Flickr to reach a targeted niche audience passionate about posting photos online. Flickr will tie Nikon branding and product information to user-generated images taken with Nikon cameras.

- **Studio marketing:** Fox Movies set up a promotional page for X-Men: The Last Stand on MySpace. In addition to the usual movie trailers and photos, the page includes IM buddy icons based on movie characters, backgrounds that members can use to personalize their own MySpace pages, and a GoogleMaps X-Men friend finder. Over 3 million users have “friended” the X-Men site.

- **Brand affinity:** In early 2006, Coca-Cola was the unexpected subject of a social networking wildfire when video-sharing sites hosted a deluge of videos that could be called “Mr. Wizard Goes Mad”. Kids everywhere became amateur chemists when it was found that Diet Coke and Mentos mint candy, when mixed, offer some great (explosive) entertainment. While the company found itself powerless to control that phenomenon, it recognized the priceless exposure that social networking brought to Coke’s brand. In the spirit of “when you can’t beat ‘em, join ‘em”, the company is developing a dialogue with its consumers by creating its own social-networking presence. By offering specific creative challenges to aspiring producers, “The Coke Show” Web site invites visitors to create and share their own videos.

- **Retail brand marketing:** Adidas has created a presence for soccer fans on MySpace that features photos of players, blogs, and videos of Adidas ads. Links back to Adidas’ site feature prize drawings, a video competition, and other game-, product-, and brand-related content. The Adidas MySpace page added over 25,000 “friends” in a single day.

- **Media promotion:** To drive interest and promote its fall lineup, NBC made promotional clips of primetime television available on video-sharing site YouTube where they can be freely linked and shared, prompting AdAge Magazine to comment “To catch this season’s must-see TV, TVs appear to be optional.”

**Turning Traffic into Revenues**

Both established and emerging social-networking-destination sites are seeing the benefits of community in the form of vast audiences of unique users, which translates directly to revenue and advertising opportunities. Startup sites are cultivating new audiences and traditional ad-funded destination sites are adding social networking features to their sites.

Social-networking sites entice users to spend considerable time and view many page views, and many sites are seeing those numbers increase. Nielsen/NetRatings reports that users’ visits to YouTube grew in duration from about 17 minutes to 28 minutes (64%) over the first six months of 2006. Page views grew 515% during the same period. Members of communities spend hours looking up friends’ profiles and following paths of interconnected relationships. These long visits and high page views directly correlate to ad revenue.
Research firm eMarketer predicts that MySpace will earn $180 million in U.S. ad revenue this year. Much of this comes from placement of branded content by media and product companies. Ad impressions alone, however, were estimated to bring in $11.8 million in just the first six months of 2006.

Some social-networking communities focus on vertical markets with a narrowly-defined audience, such as the business-relationship site LinkedIn. For this category of sites, 2006 ad revenue is expected to exceed $20 million. Ad revenues for all other general-use social networking sites are expected to reach $35 million.

**Triple-Digit Growth Rates**

Indeed, there’s a dramatic shift happening as more and more Web traffic heads to social Web sites. Nielsen/NetRatings reports that this year, the growth of user-generated content sites is outpacing that of traditional Web sites. Of the top ten fastest growing Web brands (by unique visitor count), five are user-generated content sites.

Of the top ten fastest growing Web brands, five are user-generated content sites

(see: Nielsen/NetRatings, August 2006)

<table>
<thead>
<tr>
<th>Brand</th>
<th>Jul ‘05 UA (000)</th>
<th>Jul ‘06 UA (000)</th>
<th>% Growth</th>
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<tbody>
<tr>
<td>HSBC</td>
<td>1,290</td>
<td>6,377</td>
<td>394%</td>
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<tr>
<td>Sonic Solutions</td>
<td>1,098</td>
<td>3,740</td>
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<td>9,692</td>
<td>234%</td>
</tr>
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<td><strong>ImageShack</strong></td>
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<td>7,745</td>
<td>233%</td>
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<tr>
<td><strong>Heavy.com</strong></td>
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<td>3,021</td>
<td>213%</td>
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<td>6,346</td>
<td>201%</td>
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<td>3,219</td>
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<td>183%</td>
</tr>
<tr>
<td>Wikipedia</td>
<td>10,387</td>
<td>29,176</td>
<td>181%</td>
</tr>
</tbody>
</table>

Source: Nielsen/NetRatings, August 2006

* Fastest growing Web brands among those with a minimum unique audience of 750,000 in July 005

Even as the general social-networking sites enjoy skyrocketing growth, vertical sites like Blogger, Typepad, and Classmates are experiencing healthy growth in their online audience size, as well. Of course, the number of unique visitors gives only one view of the uptick in social networking activity. By another metric, the story is similar. Site traffic on all of these sites is growing even faster as users stay longer and do more on the sites with each visit.

This phenomenal growth cuts across all demographic lines of online users, although usage differs among online adults and youth (those aged 13 to 21). According to Forrester Research, both younger and older consumers are paying attention to their online peers: 75% of online adult consumers and 92% of online youth use one or more forms of user-generated online content, including blogs, wikis, message boards, and online classified ads.7

**Advertising Revenue Attracts Investments**

As social networking becomes a more prominent—if not dominant—feature on the Web and provides a potentially lucrative environment to advertisers, significant venture funding is flowing into the space. In the twelve months ending in June 2006, over $120 million in venture capital was invested in photo- and video-sharing sites alone. Perhaps the most significant social-networking investment news since News Corporation purchased MySpace.com in 2005 is the strategic move by Google on October 10, 2006 to purchase popular video-sharing site YouTube for $1.65 billion.

With more than 138 deals in every category—from business networking to citizen journalism to entertainment and music—and with investors ranging from Microsoft to Minnesota Public Radio (American Public Radio Group) and dozens of venture-capital firms, massive investment is enabling companies to pursue the opportunities afforded by the social-networking phenomenon.8
Social Networking Presents Unique Challenges

Along with its high potential upside, for companies entering this space, social networking presents a number of unique business challenges and associated technical issues.

Retention, Revenue, and ROI

Building and retaining an audience is critical to monetizing a site or seeing return on investment. But today's Web-savvy consumers are fickle and have lots of choices of how to spend their online time. Site performance has a direct effect on visitor retention, brand favorability, and ad revenue. For instance, improved performance increases the number of unique visitors and the number of page views per visit, which leads to more ad revenue. For sites that don’t derive revenue from advertising, such as branded destination sites, site performance is equally important as it directly reflects that brand experience.

Pressure for Fast Innovation

Each user community is somewhat unique, and the site layouts, features, and policies that drive one community to success may be different for the next. The massively interconnected nature of social networking sites is built upon Web 2.0 technologies that enhance interactivity and the responsiveness of user interfaces. These technologies enable the user-driven content model in important ways. RSS allows simple syndication of content summaries from one site to another, available to end users without server-side coding. AJAX, a technique used to update specific content within a Web page without reloading the entire page, creates Web sites that can be as instantly responsive to user activity as desktop applications, even as they draw content from other sites across the Web. These technologies and others make it possible to present dynamically updated site information, augmented by embedded photos from one site, next to headlines from another and video from a third.

These richer Web experiences and dynamic content put even more strain on site infrastructure and performance. Site owners find themselves dealing with infrastructure and capacity planning issues instead of focusing on innovation. Companies that achieve success at social networking will be the ones that can quickly bring new ideas to market without incurring huge risk. In short, ideas that fail shouldn’t cost a company a fortune, and ones that are successful need instant scalability to support the uptick in site traffic.

Scaling the Business while Controlling Costs

Social-networking sites can experience sudden, non-linear growth, making traditional capacity planning essentially impossible, not to mention costly. The combination of users’ content and their relationships online can bring exponential traffic growth literally overnight. A photo of a national news event, a video that achieves instant pop-culture status, a blog entry that earns a link from a major weblog, or a top-rated link from a social bookmarking site all can lead to the “flash crowd” phenomenon—sudden load that can take sites’ performance to unacceptable lows or even entirely offline. One popular social networking site pushes 700Mbps of sustained internet traffic, growing at 100-200 Mbps per quarter. One of the largest sites routinely exceeds 20Gbps bandwidth.

Since companies don’t know when and how quickly their sites will take off, they need to have an easy way to support fast, unplanned growth. Dealing with success can be the biggest challenge. The rapid growth of traffic and the quantity of user-generated content will make it challenging to maintain high site performance. Just when high usage makes the potential for increased revenue a reality, a quick, responsive site will be harder to achieve.

Sites with growing traffic and burgeoning user communities can incur ongoing capital expenditures for additional infrastructure that can limit their potential for innovation and scale. Infrastructure can quickly become the limiting factor to a site’s growth, leading to significant capital expense—for startups and established companies alike.
**Exercising the Right Amount of Editorial Control**

Social networking represents a significant transfer of control from site publishers to consumers, creating a number of challenges. Should companies review and approve user content? How will they store and manage the content that users upload? How can companies capture the value from user-generated content without giving up control over their online presence? There’s no single right answer to questions of governance and editorial control over a company’s social networking presence. There are three basic models for managing user-generated content on a site, each with its own place in the social networking landscape:

- **Pre-approval is required before an item appears on the site:** When Wikipedia first launched as Nupedia in March 2000, each site submission involved a seven-step review process to ensure accuracy and completeness. The result was a nearly empty site that never achieved traction. For a contest site, user expectations are different, and the same rules can work well. “The Coke Show”, a user-submitted video competition, states clearly in its Terms of Use that it will review and either approve or refuse to post all user-submitted materials.

- **Posting is immediate, but is later reviewed:** User contributions to YouTube are posted immediately to the site, but each video includes a link that allows viewers to flag it as inappropriate. Content that violates the site’s terms of use are then removed by YouTube staff. Similarly, Craigslist staff will remove any content that violates its policies, once it’s brought to their attention.

- **Moderation is handled by the community:** Craigslist also employs peer moderation, which it says allows removal of inappropriate content much more quickly than could be done by company staff. Users may “flag” content as inappropriate; enough negative flags results in automatic removal from the system. On Wikipedia, content edits and additions can be made by any user at any time. With its enormous user community, peer moderation seems to work. In a recent study, Nature magazine found Wikipedia on-par with formal encyclopedias: …among 42 entries tested, the difference in accuracy was not particularly great: the average science entry in Wikipedia contained around four inaccuracies; Britannica, about three.

**The Akamai Network: Optimized for Social-Networking Sites**

Revenue growth and return on investment are the primary business challenges for any social networking site or user-generated content project. And retaining and growing an audience is the first step to generating revenue for advertising-funded sites. Higher quality video, rich Internet application tools, and multimedia features attract site visitors and contribute to a higher quality user experience, which increases the frequency and duration of user visits, and in turn, ad revenues. But as sites get richer and more dynamic, performance becomes an even greater challenge. Fast-loading pages boost both customer retention and page view counts, which translate directly into longer visits and increased revenue.

**The Social-Networking Difference: Distribution and Delivery**

Traditional sites typically serve the same chunks of content—for example, news stories—to nearly every reader. Social-networking sites challenge this assumption in a fundamental way: millions of pieces of content are uploaded by millions of users.

The traditional content delivery network is designed to track its own “top 10” (or top 1000) “hot” content assets, which it propagates to the edge caches as needed and expire as it grows “cold”. For traditional sites, the reuse rate of the cached content is very high, and the traditional content delivery network is designed around this model.

When it comes to social-networking sites, the old algorithms of hot versus cold no longer apply as the “top 10” becomes the “top 10,000,000”, and it becomes necessary to edge-cache lots of colder content to ensure great all-around site performance.

Akamai has deep experience in reliable and quick delivery of this type of content on a large scale and caches these “hot” media assets to the edges of the network, close to the viewer—read more to see how Akamai’s network is also optimized to handle delivery of new and/or seldom viewed content.
High Performance Boosts Profitability

Akamai’s extensive experience with social networking and user-generated content has influenced the design of its delivery network around the specific challenges these kinds of sites present. Akamai views the network as more than a data delivery system. Heavy investments in R&D targeted at developing core logic and algorithms have created an adaptable, intelligent and programmable delivery infrastructure. Depending on the needs of a site, Akamai can configure its network to achieve optimal performance.

For example, social-networking sites, with large quantities of new and/or seldom-viewed content, create unique demands on edge delivery networks. Akamai’s unique solution employs algorithms that allow its network to act as a single cohesive platform. When Web users request content, they are sent to an optimal server based on network conditions and content request patterns. If need be, that particular server can intelligently communicate with other servers in the network to obtain the content. For social networking sites with a large content footprint, this means the network intelligently minimizes the spread of the content, fitting more content footprint into the cache to achieve great performance and origin offload results. When the large platform works well together, it is not the case that every server needs to have a complete repository of all the content. Storage is distributed across many locations, which helps in two ways—it speeds delivery and it makes the network more redundant and resilient against failure. This intelligent tiered network allows Akamai to efficiently offload the customer origin while still leveraging its globally deployed network (see Figure 5).

Platform Innovation Colder Content

The Social Networking Difference: Dynamic Site Delivery

Dynamic pages—such as search results pages loaded with thumbnails or highly personalized home pages on social sites—present a special challenge to edge-caching networks, since every page load contains different content. Web 2.0 technologies such as AJAX exacerbate the issue, since the contents of a single page increasingly consist of individual content snippets, some of which results in additional http requests.

Making matters worse, in many cases, the content of the page is material that’s not popular enough to be edge-cached. This can increase page load times, since the browser has to return to the origin server to load images and other uncached page elements. What’s more, Web user interfaces that employ AJAX aim for the nimble responsiveness of a desktop application—which requires network performance that can deliver content in an instant.
Compelling Results for Delivery of User-Generated Content

The “cache-hit ratio” is the measure of how many times files requested by the user are served from the edge cache rather than from the origin server. Akamai’s cache hit ratios for social networking sites approaches the theoretical maximum attainable.

- 87% cache-hit rate for an image-sharing site with 50 TB of storage containing 1.3 billion files
- Reached 94% for site with 4 million media files using 12TB of storage

Retention, Revenue, and ROI: The Akamai Performance Factor

If there’s one key metric that defines superb delivery performance in the CDN business, it’s the cache-hit ratio (see sidebar). It’s the factor that makes for quick-loading pages and an excellent customer experience. In practice, Akamai’s cache-hit ratios are very close to the theoretical maximum for origin offload performance on social networking sites. A good cache-hit ratio equates with fast page performance on Web sites, which dramatically reduces costs and required infrastructure while accelerating performance leading to increased ad revenue.

Akamai also has edge servers located in over 100 major university data centers, which makes delivery to the college audience very fast. Furthermore, Akamai traffic to and from these academic locations does not impact the institutions’ Internet bandwidth. This means that Akamai traffic is exempt from bandwidth limiting or blocking that network administrators sometimes employ at the gateway to control their hosting costs.

Akamai’s Flexible Platform for Fast Innovation

Social-networking sites are built entirely on enabling network effects among users. Finding the right formula for success requires that companies constantly sense and respond to user behavior. The stakes for innovation are high and successful sites must be able to add rich, interactive content such as video as well as tools and functionality quickly and economically without being held back by the potential of runaway success or long purchasing cycles.

Full-featured, End-to-end Platform

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.
Successful Social Networking and User-Generated-Content Applications

Infrastructure On Demand—Unlimited Growth Potential with Predictable Costs

Social-networking sites have the potential for explosive growth, with significant impact on both the cost and revenue sides of profitability. By definition, sites that are built upon user-generated content aren’t in charge of how much content gets uploaded to the system. The storage needs can be astronomical, and can change quickly as a site’s popularity grows. Accordingly, content storage can quickly become a significant business problem. Having a quickly growing library of user-generated content is, of course, the social-networking company’s dream. But it can be the system administrator’s and the financial officer’s nightmare as infrastructure growth becomes the most critical limitation to the company’s health.

Akamai’s delivery and storage infrastructure frees companies from the need for expensive infrastructure and scales as audience grows so organizations can focus on strategy, not infrastructure.

Delivering the Busiest Sites on the Web

Akamai powers between 10-20% of daily Internet traffic, giving the Akamai network unparalleled dormant capacity that can ebb and flow with the needs of Web sites. Last year, Akamai helped deliver more than a billion songs for the iTunes store, as well as major online events such as March Madness, The Oscars, and video on demand content like The Daily Show.

Offering Unlimited On Demand Storage

Akamai’s NetStorage service provides geographically distributed, on demand storage for user-generated content. NetStorage can mirror a company’s origin servers or it can provide origin storage, completely eliminating the need for a company to maintain its own storage infrastructure. Expensive capital expenditures for storage simply go away. What’s more, as the sites become successful and prosper, the availability of unlimited storage removes barriers to growth.

Closing the Review-and-Approval Loop

Because social-networking sites invite consumers to directly participate in the dialogue or story by uploading their own content to the site, user-generated content is changing the traditional paradigm. In addition to review and approval, social-networking and user-generated-content sites need solutions that can receive terabytes of user-generated content, store that content, and make it instantly available to other members.
Addressing User-Generated Content Concerns

Akamai’s comprehensive platform for delivery and storage of media provides the entire infrastructure for handling user uploaded content. Upload performance is as critical as download performance, especially since many home internet connections have less throughput available for uploading than for downloading. Akamai’s adaptable delivery network operates just as efficiently when running content upstream from the edges as when it is delivering content downstream.

Akamai’s model is unique because the user-generated content never has to be sent through the site’s origin server. Users can upload content directly to Akamai NetStorage, completely offloading the origin site. Eighty-five percent of US internet users are within “one hop” of an Akamai node, from which uploaded content is immediately routed to Akamai’s storage network. Content is rapidly replicated and becomes available across the network immediately.

A Case Study in Social Networking:
For Friendster, Performance Pays

Friendster Increases Performance, Page Views, and Revenues Using Akamai Solution

The Situation

Founded in 2002, Friendster—which ranks as one of the top 40 sites on the Internet*—is the leading online community for making new friends, communicating with existing friends, sharing information, organizing activities, finding dates, and re-connecting with lost friends. With more than 31+ million members and growing, Friendster is benefiting from the meteoric rise of social networking on the Web. Committed to fully exploiting the potential of this new way of connecting, Friendster is constantly developing and adding technologies to help its 16 million unique global users find new ways to interact and express themselves.

The Challenge

With the growing popularity of social networking sites, Friendster realized the potential for spikes in site traffic. At the same time, it was well aware of the negative impacts of poor site performance—it could discourage site visitors, which would in turn cut into advertising revenues. The company knew it would need to add infrastructure on an on-going basis to support its anticipated growth and yet it did not want to incur the associated costs and management overhead.
Goals
Friendster needed to meet three key requirements to support its brand and objectives:

- **Reduced infrastructure needs**—Friendster wanted to support any number of members without incurring additional co-location and web server costs.
- **Support peak traffic load**—The company’s site needed to scale to support peak traffic that could potentially overload its existing infrastructure.
- **Serve media-rich content**—Friendster needed to support members’ use and sharing of more media-rich content.

“Akamai’s services were a primary factor in our ability to steadily increase overall daily page views in March. Our sales team seized on the opportunity to monetize this additional traffic, and the result was increased revenue in a short period of time.” —Aaron Barnes, VP Sales, Friendster

Why Akamai

**Increasing Membership without Adding Infrastructure**
Due to the large and varied nature of its membership, Friendster must store and deliver a considerable number of small files which are not requested very frequently. Fortunately, Akamai’s network provides the intelligence and processing flexibility to handle content with such traffic patterns. Since implementing Akamai’s solution, Friendster has offloaded a significant percentage of the total traffic from its origin servers. In fact, it realized about a 50% decrease in load on the servers that host photos and avoided the need to purchase additional, costly infrastructure. “Leveraging the market leader in content delivery allows us to ensure that as demand for our site grows, we can handle it and continue to expand our services,” said Chander Sarna, VP Engineering and Operations.

**More Page Views Means More Revenues**
After implementing Akamai global content delivery and managed storage services, the images on Friendster’s site load faster, which in turn means that the entire page renders more quickly. According to Sarna, “We had a seamless integration onto the Akamai platform—literally plug and play within minutes—and immediately saw a 33% percent improvement in the overall page loading times.”

As an advertising-supported site, increased performance enables Friendster to serve more page views and generate more revenue. In fact, Friendster tripled page views in about one month, to more than 27.5 million page views.

**Satisfying Member Demands**
As a growing number of social network members become content creators and publishers, Friendster faces the increasingly difficult task of planning, provisioning, maintaining, securing, and scaling its systems to meet member demands. This problem is compounded by the increased utilization and sharing of more media-rich content.

Friendster plans to use Akamai’s streaming solution to offer users the ability to add streaming audio and video to their online profiles. Using Akamai’s turnkey solutions, Friendster can focus on core functionality and applications, while dramatically decreasing time-to-market.
Conclusion

Social networking and user-generated content are becoming essential components of a successful Web communications strategy, and are behind the fastest-growing category of Web site. Companies in every industry are using social-networking techniques to build brand affinity, reach customers and potential customers with highly targeted advertising, develop dialog with their user communities, and build awareness around media content.

To take advantage of the enormous opportunities presented by social networking, organizations must address several unique business and technical challenges. Akamai provides a comprehensive solution to address these issues.

Akamai’s edge delivery network and NetStorage services eliminate the need for companies to build expensive infrastructure while providing unlimited capacity on demand. Akamai’s intelligent global delivery network can optimally deliver content that is spread out among many users. Moreover, Akamai has dynamic site solutions that can help accelerate even the most complicated, personalized Web 2.0 applications and content. Better performance translates to increased page views, more ad impressions and increased revenue.

Akamai’s flexible platform even lets social-networking sites experiment with and roll out new capabilities and functionality without worrying about scale, performance, and reliability. The risk and cost of experimentation is low, allowing companies to focus on the innovations that will maximize the value of their sites.

Akamai’s upload service provides the entire infrastructure for the delivery and management of lots of heavy content uploaded by users. And Akamai’s adaptable delivery network ensures the content is delivered upstream in the most optimal manner possible.

Since the early days of the user-generated Web, Akamai has been working on the unique challenges social networking presents, watching the industry evolve, and preparing its network for the present day. Social networking has introduced a new era in communications, and Akamai’s network and solutions allow users and companies alike to participate in the revolution. By taking advantage of the advanced capabilities offered by Akamai, any company can reap the unique benefits afforded by the fast-growing social-networking market opportunity.
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.”

Let Akamai help you with your Social Networking and User Generated Content strategy, call us at 1.888.340.4252

2. Forrester Reasearch, Social Computing: How Networks Erode Institutional Power, And What to Do About It; by Chris Charron, Jaap Favier, Charlene Li
3. Ibid
4. IPG Forms User-Generated Content Group; AdWeek; Brian Morrissey; June 20, 2006; http://www.adweek.com/aw/national/article_display.jsp?vnu_content_id=1002690837
7. Forrester Research, April 7, 2006; User-Generated Content Ambushes The Media Biz: Usage Is High, But Trust In Peers Varies Widely Among Youth And Adults; Brian Haven
8. PaidContent.org: Social Media Deals Report (H2 2005 and H1 2006); Rafat Ali

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