

Yankee Group Anywhere Scorecard: Content Delivery Networks, 2009



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The Bottom Line:

Although challenging market economics, the introduction of new services, fierce competition and the encroachment of communications service providers have created tumult in the content delivery network (CDN) space during the past year, Akamai remains at the top of the heap . . . for now. This report introduces the Anywhere Scorecard for the content delivery network market, rating the 10 most compelling players in the market and providing a prism through which customers can evaluate them.

Executive Summary

Chaos and confusion are rampant within the content delivery network (CDN) market. Challenging market dynamics coupled with increased demand for content delivery solutions means that a diverse array of players are keeping a close watch on the space and the relevant players within it. For this reason, Yankee Group has developed an Anywhere Scorecard for the CDN market that assesses the relative strengths and weaknesses of the key global providers from the perspective of potential customers. This scorecard takes an objective look at how a provider's vision and ability to transform in the market influence the strength of its offering and how these dynamics should inform customer buying decisions. To do this, we look at attributes such as brand strength, financial viability, available services, architectural design, sales strategy, pricing and other key variables. While this market is overburdened with 30 to 40 players that provide some flavor of content delivery services, we have included 10 companies that represent those players that are most significant in this market and/or represent the most transformative trends affecting the CDN space. These include longtime market incumbents such as Akamai, Limelight Networks and Mirror Image Internet, innovative challengers such as EdgeCast Networks, CDNetworks and BitGravity, and IP-centric players with the potential to reorient the market such as AT&T, Level 3 Communications, Highwinds and Internap Network Services.

Exhibit I on the next page shows the top-line results of the Anywhere Scorecard for the CDN market. An appendix at the end of the report provides additional information on how this top-line data was determined and weighted, as well as complete details on the methodology of the scorecard and the criteria for scoring.

As evidenced in Exhibit I, poor differentiation remains one of the hallmarks of this market. Even among the most visible players, the similarity of core services and impending commoditization create a cluster effect, both in the scorecard and in the market itself. However, deeper analysis of the results reveals that these players are all positioned quite differently for future success or failure, and customers ought to pay particular attention to value-added services, additional bundling strategies and indirect sales channels for hints as to who will survive the forthcoming upheaval in the market and who they should turn to for particular content delivery needs.

This report provides a deep assessment of the key trends in the CDN market, outlines how Yankee Group compiled the Anywhere Scorecard and discusses in detail the results for each player. Finally, this report provides some key takeaways for purchasers of CDN services in light of the results, including the following:

- **While much has been made about Akamai's competition in this market and the effect that pricing declines have had, Akamai remains the market leader, both in reality and in terms of attractiveness to customers.** Limelight Networks has significantly narrowed the gap at the top, but Akamai's shift of focus to value-added, cloud-based services is in line with customer needs and is what will pave the way for continued success.

- **Players coming from the wholesale realm such as AT&T, Level 3 Communications, Highwinds and Internap have a distinct story to tell in a market where differentiation is hard.** The combination of a strong wholesale bundle, significant scale and a different cost-to-revenue equation means that the importance of these players (and many of their peers) cannot be minimized. That said, the content delivery solutions are typically not quite up to par with their stand-alone CDN brethren in terms of technology and functionality, and there is a great deal of internal development and partnering activity that must still be done.

- **The challenges for the smaller players that were outlined in last year’s version of this Anywhere Scorecard are still highly relevant** (see the July 2008 Yankee Group Report “Making Sense of the CDN Market: Introducing the Yankee Group CDN Scorecard”). Although technology innovation has begun to accelerate, with more players offering ancillary services and novel architectural strategies, customers still express frustration about the number of similar players and thus approach RFPs in a haphazard fashion. This picture is set to change though as carrier entrants begin to reshape the market and vendor consolidation takes hold. The next 12 months in this market will be defined by constant evolution and upheaval, and as a result, the landscape will likely be markedly different by the time of next year’s Anywhere Scorecard.

Exhibit I.
Akamai and Limelight Stand at the Top of the CDN Heap for 2009

Source: Anywhere Scorecard: Content Delivery Networks, 2009

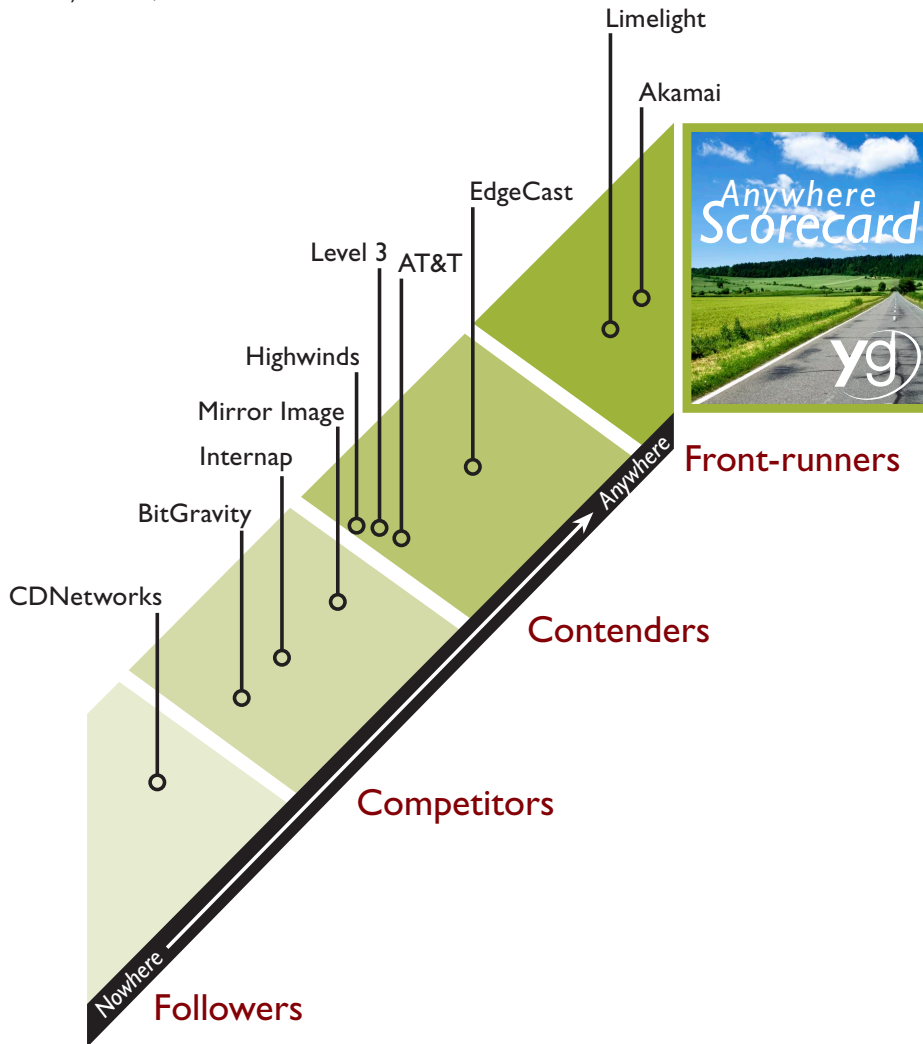


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I. How the CDN Market Is Evolving

There are a number of macro- and microtrends that are converging and reshaping the content delivery network market. Architectural debates about distributed and centralized server deployments continue to emanate from CTOs' offices. Customer content needs continue to stratify and demand dedicated solutions for private CDNs, mobile-specific solutions, HD video delivery, streaming-only content, etc. Related technologies such as peer-to-peer (P2P) file distribution garner press and marketing attention as providers look to carve out a specific niche, cut costs and drive standards maturity in the Internet Engineering Task Force (IETF). Patent litigation still looms over the market, affecting both the future prospects of some companies and the broad perception of poor technology differentiation across competitors. There are numerous others, many of which are reflected in the scorecard. However, there are four critical trends that are formative (and transformative) in the CDN space, and of which all players on the supply and demand sides of the market must be cognizant:

1. Pricing pressure and commoditization: The lack of technology differentiation, expansion of the competitive landscape, presence of players from the IP world and the increase in overall traffic volumes purchased have created a gradual but noticeable decline in pricing during the last 18 to 24 months. Left unchecked, this commoditization threatens to choke off the core revenue of the CDN providers and pressure them to diversify portfolios.

2. The importance of ancillary services: Due in large part to this pricing pressure, CDN providers must look up the stack for ways to broaden their offerings and incorporate ancillary services that are not under the threat of commoditization.

As is borne out in the scoring below, these elements are increasingly important on the supply side to maintain margins and differentiation in a challenging market, and increasingly important on the demand side to create the most effective content experience for end-users (for further information, see the February 2009 Yankee Group Report, "[Internet Video Sends CMSs and Enterprise Architectures on a Collision Course](#)").

3. The polarized competitive landscape: The number of players offering CDN services has ballooned to 30 to 40 different companies, but for a sizeable portion of potential customers, the number of relevant players is significantly less. Most major content publishers are familiar with Akamai and perhaps Limelight Networks, but after that there is a significant drop-off in market visibility. This creates significant problems around both actual differentiation and perceived differentiation.

4. Carrier encroachment: The movement of traditional communications service providers into the content delivery space will rebalance the market to a greater degree than any of the other trends discussed here. As carriers look to maximize their own assets, bundle additional services with existing wholesale offerings to enterprise customers and better handle the growing traffic volumes (caused by video, in particular) on their IP backbones, they are turning to CDN in rapidly increasing numbers (for further information, see the January 2009 Yankee Group Report "[Carrier Encroachment Into the CDN Marketplace](#)").

For a more detailed analysis of the key trends in the CDN market that inform this Anywhere Scorecard and how CDNs must respond to them, see the companion Yankee Group Report "[The Fate of the CDNs](#)."

The Role of the Anywhere Scorecard

When considering the viability of creating an Anywhere Scorecard for a market segment, one of the first questions Yankee Group asks is whether the market requires significant customer education due to a lack of clarity or misconceptions on the part of existing and potential customers. In the case of the CDN market, the answer to this is an unequivocal “yes.” Once customers get past the top two to three stand-alone players, there is poor differentiation and a lack of understanding about the relative merits of each player and the nuances of their offerings. The CDNs themselves have not helped this cause because the similarities exist on both the technology and marketing fronts. In terms of technology, most CDNs (with a few exceptions, such as BitGravity) rely on similar proxy-cache models where content is cached and served from local servers rather than an origin, and customers alter their domain name system (DNS) to appropriately direct content to these servers. On the marketing side, the messages of all the players are remarkably similar. It’s all about dynamic content. It’s all about video. It’s all about increased business flexibility. It’s all about better monetization of assets through better delivery. It’s all about the same. With indistinct messages coming from all players, it is not surprising that content owners often just turn to the name they know. By arming customers with a wealth of information that differentiates CDNs based on what services they have, what content they can best serve, the health of the business, its future directions and a number of other criteria, the Anywhere Scorecard aims to introduce a measure of clarity into a cloudy marketplace and combat this “vendor selection by inertia.”

II. Anywhere Scorecard Methodology

Research Process

The Yankee Group Anywhere Scorecard relies heavily on primary research conducted during a three-month period with the relevant CDN providers. The first step of the process was to identify the most relevant global content delivery networks, encompassing both the market leaders as well as the most innovative and compelling newer players. We then fielded an extensive questionnaire that covers a wide range of issues from pricing to services to architecture to future strategy to all the players included in the scorecard. We augmented this proprietary information with publicly available data on all the players through financial filings, customer references and public statements. To

follow up on the questionnaire, Yankee Group conducted primary interviews with eight of the 10 players to discuss broader market trends and competitive positioning.

This primary research with the CDN providers is supported by ongoing conversations with existing and prospective customers of CDN services in enterprise verticals such as media and entertainment, social networking, online gaming, financial services, e-commerce, manufacturing and others. These conversations inform not only the scoring of the individual players, but also the structure of the Anywhere Scorecard and decisions around what elements to include in the scoring. These conversations occur year-round, and combined with discussions with investors in the market, potential partners and tangential market players, culminate in the findings of the scorecard.

Vision

The Anywhere Scorecard is comprised of two broad categories that roll up to create a competitor’s final score. The first category is Vision. This examines the core assets and strategic direction of the player in question, as measured against its alignment with Yankee Group’s concept of Anywhere. Anywhere is our understanding of how the emergence of ubiquitous connectivity will transform consumers, enterprises and the world we live in. It is contingent upon the constant availability of high-quality content, services and applications at broadband speeds to a globally dispersed set of consumers. To fulfill this vision, there are a number of concepts that providers of any service or product should strive toward. For the purpose of this scorecard, participants must strive toward a vision that includes a wide geographic reach, strong ancillary services to serve all types of content and an innovative spirit with regard to new distribution models, among other elements.

Attributes of Vision: Capacity, Openness, Usability, Network Centricity, Innovation, Convergence

Ability to Transform

The second broad category of assessment within the Anywhere Scorecard is the competitor’s Ability to Transform within the market in question. Vision and technology are never the whole story in terms of success in a market or attractiveness to customers, and often they are not even the most important factors. Put another way, “who you are” can be just as important to your customers as “what you have” or “what you’ve planned.”

Oftentimes, market winners are crowned not within the CTO's office, but rather built through efforts emanating from the CEO, CMO, CFO or head of sales. Financial strength, brand weight, pricing points, channel strategy, customer stability and other core business metrics are critical (and often determinative) factors in how a market shakes out and who customers should approach with their business. This category seeks to uncover the strengths and weaknesses of the players across these dimensions.

Attributes of Ability to Transform: Ecosystem, Portfolio/R&D, Management, Customer Base, Brand Reputation, Pricing, Financial Viability

For a detailed explanation of the methodology, including an explanation of the underlying Anywhere Scorecard attributes and the weighting methods, please see the Appendix.

III. Final Scoring of the CDN Market

Using the methodology described above, Yankee Group has completed a detailed analysis of 10 key competitors in the content delivery network market. Exhibit 2 shows the final scoring for all of these players, as well as drill-down data on how each competitor fared in the individual attributes.

Front-runners: Akamai, Limelight Networks

Contenders: EdgeCast Networks, AT&T, Level 3 Communications, Highwinds

Competitors: Mirror Image Internet, Internap Network Services, BitGravity

Followers: CDNetworks

Top-line analysis of each of these competitors is included below.



Exhibit 2. Detailed Scoring of the CDN Market

Source: Anywhere Scorecard: Content Delivery Networks, 2009

	Akamai	Limelight	EdgeCast	AT&T	Level 3	Highwinds	Mirror Image	Internap	BitGravity	CDNetworks
Anywhere Vision (40%)										
Capacity (17%)	62.5	82.5	42.5	40.0	70.0	50.0	47.5	52.5	55.0	70.0
Openness (20%)	66.7	40.0	51.7	66.7	31.7	31.7	51.7	46.7	23.3	23.3
Usability (18%)	80.0	62.5	82.5	32.5	52.5	70.0	60.0	45.0	47.5	27.5
Network Centricity (15%)	43.3	28.3	26.7	76.7	68.3	45.0	18.3	53.3	25.0	26.7
Innovation (20%)	74.0	68.0	50.0	48.0	38.0	38.0	52.0	44.0	36.0	30.0
Convergence (10%)	80.0	75.0	70.0	60.0	50.0	40.0	45.0	55.0	35.0	35.0
Total Weighted Score	67.7	58.6	53.4	53.1	50.5	45.8	46.9	48.7	37.0	35.0
Ability to Transform (60%)										
Ecosystem (16%)	50.0	65.0	85.0	25.0	30.0	75.0	20.0	25.0	65.0	15.0
Portfolio/R&D (6%)	86.7	30.0	40.0	66.7	66.7	50.0	40.0	50.0	60.0	43.3
Management (13%)	82.0	80.0	76.0	42.0	28.0	48.0	66.0	30.0	40.0	56.0
Customer Base (18%)	82.5	85.0	42.5	55.0	67.5	30.0	40.0	50.0	37.5	42.5
Brand Reputation (20%)	86.7	83.3	63.3	50.0	53.3	53.3	50.0	26.7	43.3	40.0
Pricing (16%)	33.3	56.7	36.7	63.3	73.3	70.0	66.7	63.3	56.7	36.7
Financial Viability (11%)	63.3	50.0	50.0	63.3	40.0	53.3	56.7	50.0	13.3	36.7
Total Weighted Score	68.3	69.1	57.6	50.5	51.4	54.4	48.3	40.9	45.2	37.8
Final Score	68.1	64.9	55.9	51.5	51.1	50.9	47.7	44.0	41.9	36.7

Note: The Vision and Ability to Transform evaluation categories, as well as their sub-attributes, are measured on a scale of 1 to 100. Each sub-attribute is weighted relative to the others within the two categories as indicated in parentheses. The Vision and Ability to Transform subtotals are then weighted against each other at 40% and 60% respectively to produce a final score.

Akamai

Final score: 68.1

One would expect Akamai to be relatively staid in its approach, sitting pretty with 70 to 75 percent market share in the CDN space and an unrivaled brand reputation. However, the reality is that this year has been one of evolution for Akamai, as its focus has shifted toward the application acceleration and dynamic site acceleration product lines, as well as put additional emphasis on advertising and mobile content solutions. This reflects Akamai's recognition of the commoditization of core CDN services and its desire to focus on value-added, cloud-based services (or, more accurately, underscoring that Akamai has always been a cloud provider). We believe this is a wise strategy in the long term, though it has affected Akamai in the short term as pricing levels have declined during the past year, customer churn has increased slightly and we have heard anecdotally of Akamai showing a level of aggression on pricing for large logo accounts that is antithetical to its historical operating model. A large part of this is simply the byproduct of being a leader in a market that is in transition, and we expect Akamai to continue to experience strong growth and product diversification in the coming year. In particular, upcoming enhancements to the security capabilities, the analytics suite and client-side delivery capabilities to augment the core delivery architecture will be attractive to a variety of customer segments.

Limelight Networks

Final score: 64.9

While Limelight maintains its position as the strong number two in this market, it has made major strides during the past year to challenge Akamai. In the first place, Limelight has begun to move outside of its traditional niche in media and entertainment and into enterprise verticals such as financial services, government and e-commerce. The linchpin of this strategy is the introduction of LimelightSITE, which is the company's dynamic site acceleration product line. As this product matures, Limelight will be in position to provide a competitive solution for enterprises looking to deliver small files for large Web sites, which is a market that Akamai has traditionally controlled. Additionally, in a departure from the past strategy of third-party partnerships for ancillary services,

Limelight purchased mobile advertising provider Kiptronic in May, which Yankee Group sees as a particularly strong investment. The company's most significant progress may be in the courts though, as Limelight received favorable decisions in ongoing patent litigation brought by both Akamai and Level 3 Communications in the first half of 2009. Given these developments, as well as the company's strong brand and an attractive customer base that includes logos such as Apple, Disney, MSNBC, Microsoft and Netflix, speculation continues to swirl that Limelight will be acquired by a major carrier looking to make a splash in the CDN market. Yankee Group believes this will occur at some point during the next 24 months, but that Limelight's growth potential will drive an acquisition price that will be favorable to shareholders (unlike some other expected acquisitions in this market).

EdgeCast Networks

Final score: 55.9

When Yankee Group scored the relevant CDN players last year, we included EdgeCast as a representative example of a large group of small, "premium CDNs" that were all struggling for differentiation. In the intervening year, EdgeCast has succeeded in standing out from that pack, largely through a strategy that has focused on increasing partnerships and indirect sale, while maintaining a strong performance reputation and product portfolio. High-profile partnerships with players including Global Crossing, Deutsche Telekom, NaviSite, Samba Tech and The Planet are valuable as new sources of revenue for EdgeCast. Yet with the thinner margins that an indirect model necessitates, the real value comes in greater visibility for EdgeCast, inroads into strategic accounts that purchase wholesale services from major carriers such as Global Crossing and Deutsche Telekom and a proven partner model that EdgeCast is actively taking out to other prospective channel partners. There are still issues to overcome because a conservative level of financing means the company is perhaps overly risk-averse and vulnerable to the pricing wars that are becoming commonplace in this market. But that's nothing a little added scale can't fix, whether through increased private financing to enable aggressive internal development and network capacity buildouts, or through a potential acquisition by one of the new carrier entrants.

AT&T

Final score: 51.5

Although AT&T has long claimed to offer content delivery services within its wholesale division, the CDN service received a significant push and rebranding in June 2008 with the establishment of its Digital Media Solutions business and an initial infrastructure investment of \$70 million. Since that time, AT&T has worked diligently to ramp up capacity for its Intelligent Content Distribution Service (ICDS), with 33 points of presence (POPs) already in place (primarily within AT&T's domestic footprint). The most impressive part of the solution is the pieces AT&T has around it though, providing solutions for content management, DRM, digital asset management, advertising, transcoding and other ancillary services through a combination of internal development and partnerships with players such as ExtendMedia, Move Networks, Qumu and Stratacache. These solutions, combined with AT&T's top-of-class wholesale portfolio and the Private Content Distribution Service (PCDS) for enterprise customers, create a compelling bundle that can be tailored in a number of ways to serve all manner of customer needs . . . in theory. The reality is that AT&T still has a long way to go in building out the offering, sales organization, CDN nodes and content management and workflow capabilities to provide a solution that can stand on its own two feet against the likes of Akamai. Given the capital resources at its disposal though and the strong early traction of the offering, we expect AT&T to move down this path rapidly, with an acquisition of a dedicated CDN a strong possibility in the near future.

Level 3 Communications

Final score: 51.1

Since acquiring its way into the CDN market in late 2006 with the purchase of the Sandpiper assets from Savvis, Level 3's Content Markets Group has been a study in contrast. On one hand, there have been internal conflicts around account placement and struggles with realizing the vision of a bundled content delivery solution with Level 3's traditional wholesale products. Moreover, Yankee Group believes that Level 3's position of not focusing on internally developed ancillary services in digital media distribution is somewhat misaligned with what many customers are asking for.

On the other hand, the company has been remarkably successful in ramping the business up from almost nothing and getting its foot in the door on some of the largest RFPs in the market, due in large part to competitive pricing and strong streaming services. This streaming piece is particularly relevant, as Level 3 has aided in streaming delivery of high-profile events such as the Olympics, the Democratic National Convention and President Obama's Inauguration. Level 3's recent restructuring is designed to overcome some of the internal issues that have hindered the growth of the Content Markets Group, and if that is successful, the market convergence of IP services and CDN services is likely to continue to aid Level 3 in its growth.

Highwinds

Final score: 50.9

As another player coming from the IP/wholesale world, yet lacking the scale of an AT&T or Level 3 Communications, Highwinds is faced with a unique challenge in standing out. Initially, the company put forth a "channel-centric" model that was optimized for partnerships with carriers, ISPs and hosting providers. However, recently Highwinds has deviated from that path and is now focusing more on direct sale to content owners. Although this is rational given the pricing pressure evident in the market, the need to develop a broader solution and the thin margins of a resale model, Yankee Group believes this is counter to the overall direction of the CDN space and Highwinds would be wise to reconsider its desired mix of direct and indirect sale. That said, the company is still in a strong position from a technology standpoint due to a dedicated focus on streaming content (including participation in some high-profile live events that cannot be disclosed), a user-friendly reporting suite with extensive real-time capabilities and historical IP competencies that will prove valuable as more carrier and hosting competitors enter the space. Like Level 3, Highwinds was an early player from the wholesale realm to enter the CDN space, and as their peers follow suit, these players will enjoy first-mover advantages around name recognition and proven solution capabilities.

Mirror Image Internet

Final score: 47.7

Too often, Mirror Image gets grouped in with a set of relative market newcomers due to the size of the company, its focus on rich media and its portfolio of “premium CDN” services. Yet this is an inaccurate picture, as it ignores Mirror Image’s greatest asset, namely its market legacy of 11 years. The trustworthiness that comes with this market incumbency, as well as superior performance with a 98.5 percent cache hit ratio, are the sorts of indicators that large media companies look for when choosing a primary CDN. Therein lies the problem as well though, as Mirror Image is typically targeting customers that are in the wheelhouse of Akamai and Limelight (in terms of size and verticals), and it is difficult to make a case about superior scale, performance and market expertise relative to the market leaders. To combat this, it would be wise for Mirror Image to form a more extensive partnership ecosystem to extend their story beyond the strong expertise in pure CDN. The recent announcement of a strategic partnership with Wowza Media Systems to further the streaming capabilities is a positive step in this direction.

Internap Network Services

Final score: 44.0

Upon purchasing its way into the CDN market through the acquisition of VitalStream in late 2006, Internap had the potential to be a highly disruptive player in this market. Internap has always had highly regarded co-location and IP transit services, and the natural synergy with a dedicated CDN made the move perfectly logical. Unfortunately, VitalStream has proved to be more of a burden than an asset in many ways since the acquisition. A poor reputation for performance, brand issues, significant management turnover and a difficult integration process have stalled the progress of the CDN business within Internap. This culminated in a write-down of \$100 million on the VitalStream acquisition (originally \$217 million) in October 2008. However, Yankee Group sees reason for some optimism here. A new CEO with experience in video delivery, a planned refresh to the Media Console reporting suite, a strategic partnership with asset management specialist The FeedRoom and the revamping of the core CDN product post-VitalStream are all

positive steps. The challenge now is not one of technology or vision, where Internap can go toe-to-toe with anyone in the market, but rather one of overcoming the preconceived notions that longtime CDN customers have of Internap.

BitGravity

Final score: 41.9

In theory, BitGravity should be the one stand-alone “premium CDN” with no trouble standing out from the pack. It has a differentiated message to hang its hat on (delivery of HD streaming video content). It has an architectural approach that is unique (a distributed origin architecture that replicates all content at every location). And it has highly competitive pricing, while not sacrificing performance in the same way that Panther Express did before it was acquired by CDNetworks. Yet the reality is that although BitGravity has a few high-profile customers to trumpet, it is not typically seen as a company that is a viable player in the most competitive RFPs (even for live video delivery, its sweet spot). This is partly a brand issue, partly an issue of solution breadth and partly an issue of simply being a relatively new player in a challenging market to penetrate. Rather than its core competencies, the most significant aspect of BitGravity’s business is actually its partnership with Tata Communications, whereby Tata licenses BitGravity’s technology to provide CDN services at various locations across its global footprint. This relationship is buoyed by an \$11.5 million investment by Tata in BitGravity and the placement of Tata Communications CTO John Hayduk on BitGravity’s Board of Directors. Unlike most other carrier-CDN relationships, Tata not only provides scale, support capabilities and a sales channel, but a truly distinct CDN offering that it is augmenting with internal development in areas such as watermarking and secure content distribution. This can be seen as a powerful proof point of BitGravity’s ability to work in close concert with carriers in a manner that goes beyond mere reselling, and BitGravity’s stated goal is to forge similar relationships with other major carriers. More likely though, it represents a potential exit strategy for BitGravity. Yankee Group expects that if the CDN solution is getting the sort of positive traction with Tata’s customers that both companies claim, an outright acquisition is a likely outcome.

CDNetworks

Final score: 36.7

It is somewhat surprising to see the number-three player in this market (in terms of pure CDN revenue in 2008) at the low end of the Anywhere Scorecard. And in truth, there are a number of compelling advantages that CDNetworks enjoys. It has market incumbency in Asia-Pacific (with its roots in Korea). It has POPs in China, the most sought-after market for many content owners, and an area where many competitors struggle to establish a foothold due to the regulatory roadblocks to foreign companies operating within the mainland. Following the acquisition of Panther Express, it has a truly global network with a customer base that exceeds 1,100 customers. Yet the reality is that CDNetworks is lacking a story that Yankee Group believes will lead to long-term growth in this market. It does not have the sort of channel strategy that many of the other stand-alone players are focused on. With the exception of DRM and some standard security functionality, the ancillary services are not at a level that provides a highly compelling bundle. And the customer base, while large, does not have the type of large reference accounts that major content providers are looking to for validation. Yankee Group feels that CDNetworks will continue to succeed in the near term based on its unrivaled presence in Asia-Pacific, but long-term success will be dictated by whether the company has the appetite to absorb another acquisition to expand the solution in a way that will be truly competitive with the large players.

IV. Conclusions and Recommendations

If nothing else, the results of the Anywhere Scorecard for content delivery networks should indicate to content owners that this is a market defined by an abundance (perhaps even an overabundance) of choice. Rather than defaulting to Akamai or Limelight Networks because they are the known entities or because they appear at the top of Anywhere Scorecard's results, content owners should challenge themselves to dig deeper and consider what it is they truly want to get out of a content delivery solution. Are you most interested in delivering streaming video content? Are you interested in piling CDN on top of existing IP services purchased from a large wholesale supplier? Do you have relatively limited online assets today, but need a highly scalable CDN with flexible

pricing models to prepare for ramping demand? Are you focused on small file delivery at the highest possible level of reliability and speed to a globally dispersed work force? What is more important, raw performance or peace of mind? Is there a particular region where your customer base is highly concentrated? There is an endless list of questions such as these, and the disparate answers to all of them will direct customers to a number of different CDNs. For this reason, the Anywhere Scorecard should be used as an interactive tool for customers to map their individual needs to the individual strengths of each player, rather than a dictatorial ranking of the best and worst.

The other underlying theme of this Anywhere Scorecard and of the CDN market as a whole is one of constant change and potential upheaval. Twelve months from now, the results of the Anywhere Scorecard are likely to appear markedly different. We expect market consolidation to begin in earnest in the next six to 12 months, with three to five players either acquired or exiting the market of their own accord by this time next year. We expect this consolidation of the stand-alone players to be driven by a continued surge in carrier activity in CDN, as more carriers recognize the value of content delivery and look to turn up an offering quickly in response to immediate demand from existing enterprise customers. Much of the major encroachment during the past year was confined to the United States and Western Europe, but the next 12 months will see incumbents in Latin America and Southeast Asia throw their hats in the ring, as well as continued interest from the major European providers. Finally, with some players already selling content delivery at levels below the cost of IP transit, we expect pricing levels to begin to asymptote. Ultimately, Yankee Group does not expect prices to drop below \$0.02 to \$0.05 per GB for the highest-volume deals (though the volume of the bandwidth commitments will continue to increase). That said, overall margins for CDN services will continue to drop, as publishers push ever-greater amounts of video and other content online, and thus shift to these higher-commit, lower-priced tiers. As a result of this commoditization, ancillary, value-added services will grow to a level of even greater prominence, with top-tier players such as Akamai and Limelight Networks further diversifying their portfolios with other enterprise services and fancying themselves more as cloud computing and software as a service (SaaS) players than CDN competitors.

Recommendations for Content Owners

- **Pricing pressure is very real, so you can dictate terms.** It can be misleading to assess the pricing of this market based on vendors' suggested list prices. Although these have declined to a certain degree, there is now only a casual relationship between list price and actual price. Vendors are bundling more value-added services at no cost to win key accounts. Customers are being offered "most favored nation" status, which guarantees them the lowest possible pricing levels at various commitment tiers. Short-term commits or no-commit contracts are more commonplace, particularly for smaller CDNs in land-grab mode. It all boils down to a simple economics equation, wherein there is an overabundance of supply. Customers can use this to their advantage by dictating pricing terms to their CDN suppliers. Even Akamai, which has traditionally been able to maintain higher margins and higher pricing levels through an unimpeachable reputation for performance and delivery, is no longer in a position of control on pricing. So don't be afraid to ignite a pricing war when you are purchasing pure CDN services, as you will find no shortage of willing armies ready to fight.
- **Diversify; CDN is not an all-or-nothing proposition.** Many content owners who are using outsourced infrastructure for the first time feel the temptation to purchase all content delivery services from a single provider. Yet there are compelling reasons to consider diversifying content assets across a number of networks. First, it allows for a safety valve in case a single provider experiences performance issues (either across the network or at a single node). Second, it provides more leverage when renegotiating overall traffic commitment levels with each provider. Third, it allows customers to take advantage of best-of-breed capabilities, such as the geographic strength of CDNetworks in Asia-Pacific or the reporting suite of EdgeCast or Highwinds. Finally, it allows for the segmentation of content to a variety of different locations and the allocation of particular services dependent on the nature and strategic importance of the content. Given the relative ease and speed at which content can be transferred from one CDN to another, it would behoove customers to mix and match their CDN suppliers, and perhaps augment with some internal content delivery capabilities as well (for larger enterprises).
- **Pay close attention to Convergence, Openness and Network Centricity.** Each customer is going to have unique requirements when it comes to the breadth of services required to handle their content. On-demand video content delivered to a mobile device requires a dramatically different suite of services than a live streamed broadcast event, and both have entirely different parameters than a software download that needs to be distributed across a multinational corporation. To account for these differences, content owners ought to pay close attention to the Convergence, Openness and Network Centricity attributes of the Anywhere Scorecard. This will give a good indication of which suppliers have capabilities to serve business or consumer content, what sorts of ancillary services such as encoding, ad insertion and content management are available and how the solution fits in with a larger IP portfolio of potentially necessary services.
- **Push suppliers to offer a tight bundle between wholesale services and content distribution.** A number of large enterprises with online assets have already begun to push their communications providers to offer content delivery services. This is a principal reason why Deutsche Telekom, Global Crossing, Tata Communications, KPN and others have developed partnerships to offer CDN services. Not only should their peers follow this lead in looking to large carriers as a point of purchase for CDN, but they should pay close attention to the level of engagement between the carrier and the potential CDN partner. Although there are synergies from sales, marketing and customer service perspectives with a basic resale relationship, a CDN service cannot be treated in the same fashion as something like a tried-and-true transit service. Given the level of complexity and technical expertise required to develop, maintain and sell CDN and the ancillary services that surround it, a carrier has to be directly involved at some level to truly be considered a competitive player. For this reason, enterprises should be looking at operators that have a long-term road map in the CDN market with plans to further develop capabilities through increasingly close partnerships, internal development and merger and acquisition activity.

- **Look to Ecosystem and Innovation to assess who will survive consolidation.** Despite the fact that switching between CDNs is a relatively simple process, large content owners should still pay attention to the long-term strategy and viability of their suppliers because it provides good visibility into how their networks can scale and what services to turn to them for as content needs expand. The temptation would be to look at the underlying financials and brand, but the Ecosystem and Innovation attributes can provide meaningful clues as well. Players such as EdgeCast, BitGravity, Limelight and Highwinds with strong channel stories are poised for continued development, either by themselves or upon acquisition by a large player. And those that have taken the lead in streaming services, mobility and alternative architectural models have the potential to be adequately differentiated once all of the “me too” suppliers begin to vanish.

V. Further Reading

Yankee Group Link Research

“The Fate of the CDNs,” July 2009

“Internet Video Sends CMSs and Enterprise Architectures on a Collision Course,” February 2009

“Transforming Service Providers into Anywhere Providers,” February 2009

“Carrier Encroachment into the CDN Marketplace,” January 2009

“Bridging the Digital Divide,” January 2009

“P2P: Damn this Traffic Jam,” July 2008

“Making Sense of the CDN Market: Introducing the Yankee Group CDN Scorecard,” July 2008

“Akamai, Content Delivery and the Disconnect Between Impact and Revenue,” June 2008

Appendix: Detailed Methodology

Vision

For the purposes of this Scorecard, we have chosen the following six attributes as key building blocks of an Anywhere-optimized content delivery network, each of which is scored based on a number of underlying components:

- **Capacity:** To enable the global proliferation and constant availability of content, a CDN must have adequate raw capacity to handle all manner of content in an efficient and reliable manner. This necessitates a robust architectural approach that is specifically optimized for the delivery of dynamic content. Not all architectures are designed specifically for the delivery of video, but Yankee Group has given primacy to those that are because we believe video will be the true game-changer in the world of online content, both in terms of rampant demand and the effect that it will have on network usage. Although architectural debates about distributed versus centralized server spreads and how they can handle video, small file delivery, streaming and other forms of content often fall on deaf ears when customers are assessing CDN solutions, there are basic table stakes that all providers must be able to meet. This attribute aims to clarify those.
 - **Underlying components:** Average server size, number of POPs, centralized versus distributed architectural approach, geographic reach
- **Openness:** A content delivery solution is no longer synonymous with a content delivery network. Increasingly, CDN providers must broaden their solutions to incorporate other pieces of the content distribution value chain, either through internal development or partnerships. We refer to this broader solution as a “premium CDN.” Without proper augmentation, content may be delivered, but it will not be optimized for the highest-quality user experience that today’s consumers demand. Content distribution is about much more than content delivery; it is about ingestion, production, encoding, management and extraction. Moreover, capabilities of this sort are essential to stand out from the pack in an overcrowded, commoditizing market. This attribute assesses the breadth of the solution as aligned with this “premium CDN” concept, and its flexibility to incorporate new ancillary services as customer requirements continue to evolve.
 - **Underlying components:** Content management, encoding/transcoding, advertising play, digital rights management (DRM), security services, managed services
- **Usability:** There are a number of ancillary components to a CDN solution that content providers ask about when assessing providers, but the reporting and analytics suite is often at the very top of the list. Not only do extensive reporting tools provide the ability to track the effectiveness of a CDN and the global dissemination of one’s content, but deep analytics are critical for consumer-directed content in particular. Metrics around customer usage, length of consumption, reactions to embedded advertising and effectiveness of recommendation engines, when cross-tabbed with basic quality and speed-of-delivery metrics, give a holistic picture of how customers are experiencing and interacting with content delivered by a CDN. This attribute examines the effectiveness of the reporting and analytics suite, and how different constituencies within a customer can capitalize on it.
 - **Underlying components:** Number of reports generated, real-time capabilities, GUI, C-level reports
- **Network Centricity:** A content delivery network, by definition, has traditionally been thought of as a separate entity from the traditional IP network. Yet with the movement of carriers, ISPs and network equipment vendors into the content delivery space, it is increasingly critical for customers and their CDN providers to consider how their services interact with traditional network services (typically from the wholesale realm). This is strongly aligned with Yankee Group’s viewpoint of the network as the defining entity that will further the spread of connectivity and content, and this attribute analyzes the traditional network services that CDN providers can offer to further this progress. As carriers continue their march into the CDN space, wholesale-centric bundles that includes content delivery will become commonplace, and even stand-alone CDN providers must be able to address these requests.
 - **Underlying components:** Hosting, co-location, IP transit, storage, site acceleration, application acceleration

- **Innovation:** As online content evolves and diversifies, the CDN market is moving beyond delivery of static HTTP content. This evolution is inevitable and incontrovertible. Perhaps the most significant shift in content demand is the growing prevalence of streaming content (particularly video) and the particular technology capabilities and support infrastructure that true live streaming necessitates. As audience sizes grow for live events, broadcasters and streaming customers will look to providers with the right mix of streaming protocols, operations support and proven experience with large streaming events such as the Olympics, the Democratic and Republican National Conventions, sporting events from Major League Baseball and the National Football League, NCAA March Madness and others. Additionally, customers ought to look for innovation around new methods of delivering content that go beyond the traditional proxy-cache model, solutions that are optimized for mobile-specific content and even new methods of content delivery that are not CDN in the truest sense of the word. As the IETF continues to make progress around P2P content delivery in the Application-Layer Traffic Optimization (ALTO) Working Group, customers, investors and Yankee Group are tracking who is spearheading thought leadership in this area and looking to capitalize on the potential cost and speed benefits of P2P (or P4P) delivery. This attribute examines progress and innovation by all of the Scorecard participants across these various domains.
 - **Underlying components:** Intelligent routing/caching, mobile content solution, P2P augmentation, streaming protocols support, existing streaming customer base
- **Convergence:** One of the central tenets of Yankee Group's vision of the Anywhere Enterprise® is the consumerization of the enterprise. Or, put another way, the blurring of lines between how individuals consume content and services in their professional lives and how they consume content and services in their personal lives. On one hand, media that has typically been thought of as the purview of a consumer audience (such as online video) is on a rapid migration path into the enterprise as companies look to new tools that workers are comfortable with to further efficiency and productivity. Conversely, as the number of remote workers grows, enterprises are tasked with distributing internal content to an increasingly mobile

and geographically dispersed work force. The net result of these countervailing trends is that the line is blurring between business-to-consumer (B2C) content and business-to-business (B2B) content. Therefore all enterprises (and their CDN suppliers) must have the capabilities to distribute all forms of content. This attribute assesses what form of content each of the players specializes in today, and where they must aim to improve.

- **Underlying components:** B2B content capabilities, B2C content capabilities

Ability to Transform

All Anywhere Scorecards analyze a competitor's Ability to Transform according to the following seven attributes, though the underlying components vary across scorecards:

- **Ecosystem:** As the bundles into which CDN is folded continue to expand, a provider's CDN solution can no longer be concretely defined as those elements that are developed and sold directly. Rather, many players are pursuing partner strategies, indirect sale, white labeling initiatives and other channel offerings that require a full ecosystem surrounding the core provider and the core product. Limelight Networks has traditionally had a partner-centric approach to ancillary services such as encoding and content management. Level 3 is working toward a solution with open APIs to enable a developer community of third-party services to converge around the content delivery solution. EdgeCast Networks is aggressively pursuing resale and white label relationships with wholesale-centric players such as Global Crossing, Deutsche Telekom, NaviSite and others. BitGravity is focused on constructing a solution that is optimal for carriers such as Tata Communications to license and sell in combination with traditional IP services. All these initiatives, and others, represent a recognition that channel strategy will be increasingly important as market consolidation occurs, customers ask for broader solutions and providers look to derive revenue in ways other than the direct sale of traditional CDN services. This attribute examines progress in establishing this ecosystem of partners.
 - **Underlying components:** Channel partners, resale vs. white-label approach

- Portfolio/R&D:** Since the beginning of the decade, the elephant in the room in the CDN market has been the role of patent portfolios and litigation in determining market longevity. The most significant factor has been the 703 patent that Akamai owns and has used against Digital Island and Speedera in the past, and is currently alleging infringement upon in an ongoing lawsuit against Limelight Networks. That suit in particular has the potential to significantly impact the market with regard to Limelight's breadth of intellectual property, the future viability of the 703 patent and Limelight's attractiveness as an acquisition candidate (an appeals judge recently overturned an initial ruling in favor of Akamai, and Akamai has appealed that decision). Moreover, there are ongoing patent disputes involving Akamai, Limelight, Level 3, Two Way Media, AT&T and others. All of these disputes over intellectual property continue to hang over the market, and thus customers (and more directly, potential partners and investors) need to be aware of a CDN provider's exposure to these issues and their overall portfolio. This attribute takes a high-level look at the intellectual property picture, as well as R&D plans that can expand upon existing assets.

 - Underlying components:** Number of patents, current exposure to patent litigation, R&D budget
- Management:** As in any market, the vision and leadership of the management team are paramount considerations in determining both market success and customer attractiveness for CDNs. In terms of the management team itself, a background in content delivery and video is highly attractive given the primacy of this content on the network. Although turnover in this core team can be at times a positive for players such as Internap or Level 3 that have had internal battles with positioning a CDN solution, in general a core team that functions cohesively with a consistent plan and vision is a plus. This attribute also assesses the reputation and reliability of the sales and support organizations, which represent the customers' primary points of interaction with their CDN and therefore must be points of emphasis.

 - Underlying components:** Stability, experience, go-to-market plan, strategic vision, sales reputation, customer support reputation
- Customer Base:** One of the best ways to gain visibility into the strength and future prospects of a business is to closely examine the existing customer base. Not only does this provide insight into the key target areas for each CDN and how stable the revenue stream is, but it also offers proof points for potential customers that are interested in visibility into how their peers are addressing content delivery needs. Core customer references such as Disney, NBC Universal, Microsoft, Symantec, Amazon and others serve as these proof points, while also offering a true glimpse into the size and profile of a content owner that a CDN is best suited to serve. This attribute tackles this question of customer makeup from a variety of objective angles.

 - Underlying components:** Average revenue per customer (ARPC), average contract length, total CDN customers, average size of customer
- Brand Reputation:** In a market defined by overcrowdedness and confusion, brand recognition and reputation cannot be discounted or de-emphasized. Quite the opposite, brand is the gateway to RFP participation and (in many cases) success. Akamai wins contracts simply because it is Akamai, in the same way that Cisco succeeds in some markets simply because it is Cisco, and Microsoft or IBM do likewise. And this is not naiveté on the part of customers in all cases. Although choosing a vendor based on name alone is unwise, elements of brand reputation such as customer churn and a strong performance and delivery record paint an accurate picture of a strong solution. And given the increasing complexities of content and the bets that publishers are making on the revenue potential of online assets, the peace of mind of a trusted brand is a valuable commodity. Although brand is by nature a nebulous concept, this attribute aims to quantify it with an examination of customer retention and anecdotal evidence from customers about visibility of and issues with particular providers.

 - Underlying components:** Average customer churn rate, market awareness/visibility, known network performance issues

- **Pricing:** Anywhere Scorecards in all markets must necessarily include some element of pricing analysis. In last year's CDN scorecard, pricing was targeted as one of the most influential decision points for customers. With the solution similarities across various competitors and the overcrowded marketplace, many CDN players were forced to be overaggressive on price and offer increasingly flexible (and disadvantageous) contract terms. Although these dynamics are still at play and pricing has continued to decline during the past year by a couple of cents per GB at all tiers, the decline has slowed because margin levels are gradually becoming unsustainable. Players such as Akamai and Level 3 that focus heavily on bundled services have been able to continue cutting pricing on a case-by-case basis (we have seen Akamai in particular become much more lenient on pricing than in past years), but stand-alone providers have worked diligently to slow the decline. More importantly, the most visible and important contracts no longer include only core CDN services, and therefore customers are often not focusing on robotic cost per GB calculations as the determinative factors in vendor selection. So although this is still a critical attribute to consider, it would be unwise to overestimate the effectiveness of a pricing-dependent value proposition, and it would be equally unwise for customers to use this attribute as the primary measure of a CDN provider's value. The lessons learned for Panther Express' poor long-term success (and ultimately undervalued acquisition) with a commodity pricing model bear this out.

- **Underlying components:** List pricing rates, discounting practices, flexibility of terms
- **Financial Viability:** When we consider the ability to transform and succeed in any market, obviously the underlying financials are a key component to consider with regard to long-term viability, ability to expand, appetite to absorb necessary debt levels and the capability to provide adequate return for investors/shareholders. Yet the Anywhere Scorecard is an effort to judge a solution's worth from the customer's perspective, so the question must be asked as to whether financial viability matters to the customer. In the case of the CDN market, the answer is "yes," but it should be taken with a grain of salt. Due to the plethora of players in the market, the fact that many content owners diversify assets across multiple CDNs and the understanding that it is relatively simple to move assets from one CDN to another, having your content delivery supplier disappear overnight is not necessarily a catastrophic event.

That said, there are minimum levels of capacity, support and performance that a CDN must be able to maintain at all times to provide quality delivery for high-value content, and minimum levels of capitalization that are required to accomplish this.

Moreover, for those online content publishers in high-growth areas such as online video, social networking, enterprise video communications and others, there must be an understanding that your CDN can scale along a similar acceleration curve to your content needs. Finally, there is inherent value in the peace of mind factor described in the brand reputation discussion, and for a CDN to convey this there must be a viable financial model underpinning the business.

- **Underlying components:** Available capital, burn rate, long-term debt

Weighting

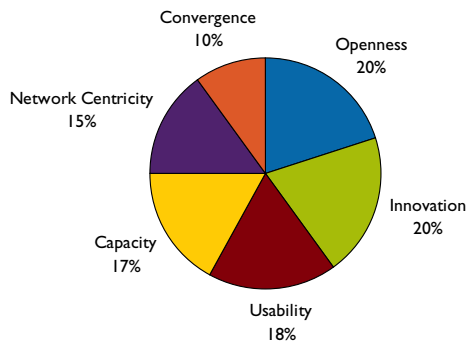
Upon completion of the analysis of all the attributes and underlying components described above, the Anywhere Scorecard is weighted at three distinct points to compile the final scores. The first point is that all the attributes within Vision are weighted relative to each other, and all the attributes within Ability to Transform are weighted relative to each other. The reason for doing this is that all these attributes are not created equal, and they are of varying degrees of importance to customers in any given market. In the CDN market, for example, Openness and Innovation are the most significant components of a provider's Vision, given the growing importance of ancillary services in addressing the wide range of content distribution requirements and the necessity to provide innovative distribution models and full streaming services to differentiate on a technology level. Conversely, although B2B- and B2C-specific content solutions are important, given the growing similarities between these content types and the fact that many providers only target verticals that serve one or the other, the Convergence attribute has been downplayed in relative importance. In terms of Ability to Transform, pricing has been downgraded due to the approaching commoditization of core services and the increased bundling of ancillary services that are less hindered by pricing pressure. Brand Reputation and Customer Base are the most important elements in Ability to Transform because they provide visibility into the success of the competitor in the most significant accounts and offer the requisite reference points that customers seek out when assessing potential suppliers.

The weighting percentages at this level are arrived at through extensive internal analysis of existing CDN contracts and customer conversations to determine how decisions were ultimately made, as well as discussions with the scorecard participants on what factors they see winning and losing deals in the market. Exhibit 3 shows the aggregate weighting of these attributes.

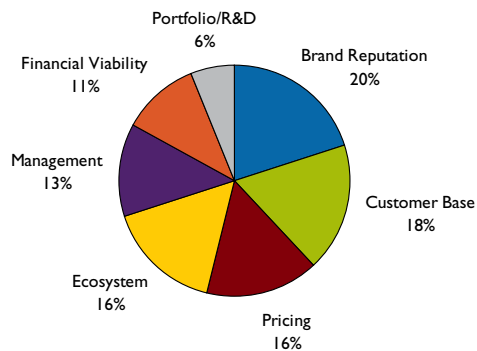
**Exhibit 3.
Relative Importance of the Included Scorecard Attributes**

Source: Yankee Group, 2009

Anywhere Vision (40%)



Ability to Transform (60%)



The second point of weighting is between the subtotal score in Vision and the subtotal score in Ability to Transform. Depending on the maturity of the market in question, who a particular player is and their reputation may matter more or less than what their technology capabilities are or the product vision, both in determining winners and losers and in guiding customer decisions. In the case of the CDN market, a lack of technology differentiation and an overcrowded market mean that customers are right to pay attention to things like reputation, underlying financials, management outlook and partner ecosystem more so than the nuts and bolts of the product in many instances. For this reason, a competitor's final score is comprised of 60 percent its Ability to Transform and 40 percent its Vision. This is not to discount any of the factors within the Vision category, but rather to give proper weight to underlying business realities. In concrete terms, there is a reason why Akamai and Limelight continue to be the top players in this market and the logical choices for many customers, and in a number of cases it has little to do with the core strengths and weaknesses of the product lines.

The final point of weighting has to do with the segmentation of the scorecard participants into four groups at the highest level. Given the high volume of different components that we assess and the continuing progress and improvements that all players still must make, it is nearly impossible to score more than a 75 on an Anywhere Scorecard. Similarly, any player that is deemed worthy of inclusion in an Anywhere Scorecard is a key market participant and thus has at least some merit on a technical or business level. Therefore, it is rare for any player to score below a 25. This creates a natural convergence toward the mean, and to account for this we have applied a bell curve to group the scoring into the following four sectors:

- **Front-runners:** 60 and above
- **Contenders:** 50–59.99
- **Competitors:** 40–49.99
- **Followers:** 39.99 and below

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Yankee Group Link

Yankee Group Link membership brings clients the insight, analysis and tools to navigate the global connectivity revolution. It provides timely, actionable and accessible research and data that analyze the impact of connectivity and the transformation it will create in driving enterprises and consumers to an Anywhere society. The result is an experience that no other market research firm can provide.

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