Point of View

Online Video: What Do Media Companies *Really* Want?

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Online Video Growing in Consumption and Importance

Online video is one of the few success stories of the recent economic downturn. According to a March 2010 report from Heavy Reading, a research firm specializing in the telecommunications industry, video is now responsible for the majority of Internet traffic, and is expected to grow 100 percent per year for the next five years.[1] Most of the large, traditional media players have launched Internet video sites—but few of these sites are profitable today, despite the surge in popularity of accessing video entertainment over the Internet. There are significant technological gaps in the Internet video value chain that prevent media companies from deriving adequate margins on content distributed via these sites. Either the existing technologies are too expensive to support appropriate profit margins, or the technology itself in some cases is inadequate to meet the expectations of consumers and the industry.

The Service Provider Media Practice of the Cisco® Internet Business Solutions Group (IBSG) set out to identify these gaps in the Internet technology value chain by interviewing a representative group of leading digital media executives from the United States and the European Union. Cisco IBSG asked these executives to provide a "wish list" of technologies that would help them achieve their current and future business objectives.

This white paper presents the results of the survey, and identifies specific areas that offer market and revenue opportunities to telecom service providers (SPs) choosing to address the exponentially growing online digital media market.

Internet Video Distribution Value Chain

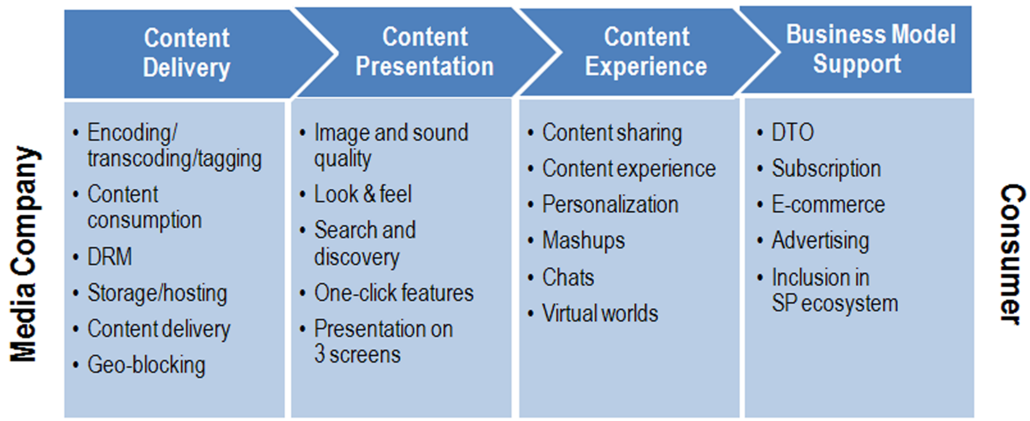
The Cisco IBSG study identified four areas that create opportunities for SPs:

- Content delivery
- Content presentation
- Content experience
- Business model support

Each of these areas uses a set of technologies that present moderate- to high-growth opportunities for SPs choosing to provide superior solutions in content delivery, content presentation, content experience, and business model support (see Figure 1).

1. "OTT Video: Service Providers Face a Gathering Storm," Aditya Kishore, Heavy Reading, March 2010.

Figure 1. Each Key Segment of the Internet Video Distribution Value Chain Is Supported by a Suite of Enabling Technologies



Source: Cisco IBSG, 2010

Content Delivery. The growth of over-the-top[2] (OTT) online video services creates an increased need for storage and content delivery services. Content delivery deserves special mention because it is the largest cost center for online video outside of content acquisition. Although the price of content delivery networks (CDN) has decreased steadily over the past decade, the industry is crying out for more affordable and scalable solutions. As Internet video consumption has grown, so has piracy, and there is an increasing need for new forms of content protection to meet consumers' demands to view purchased media on their devices of choice. The Cisco IBSG survey shows this to be a high-growth area.

Content Presentation. There is significant demand for increased image and sound quality as key differentiators for sites with high-value content, but improving the overall search-and-discovery functions of the sites is of paramount importance. For sites offering pay-per-view (PPV), video-on-demand (VoD), or download-to-own (DTO) content, one-click services are becoming necessary to satisfy consumer expectations. Presentation on multiple screens is still a nascent consumer market, but represents a potential high-growth area.

Content Experience. Existing capabilities are usually adequate for consumers today. The exception is the ability to customize the viewing experience for each user. Platforms and tools to support this capability will continue to be in great demand. Looming on the horizon is deployment of social media tools—technology that will integrate social media with digital media content. This is an area of moderate expected growth.

Business Model Support. All current Internet video business models are in serious need of support and improvement, creating a high-growth area for supporting technology features and platforms. In particular, better tools are needed for supporting the advertising business model. New ad-targeting and measurement engines are desperately needed to make Internet video distribution viable.

2. Over-the-top, or OTT, refers to nontraditional, Internet-based providers of a variety of services, including Internet video, that were formerly available through nonv. irtual channels.

This new media requires novel kinds of advertising, targeted by content, consumer demographics, and observation of online behaviors. Standardization tools are required to deliver the same ads to multiple syndication partners using different platforms.

“One-click” buying capabilities should help improve the monetization of VoDs. Subscription business models are also needed to improve profitability, enabling media companies to sell bundles of content, as opposed to one VoD at a time. Eventually, they will need to distribute the content on multiple screens, facilitated by an SP ecosystem, but this will be of interest only if the added value justifies the cost.

Content Delivery

Content delivery is an area where the right technologies will be eagerly received by the digital media community, judging by some of the comments received during the course of the survey:

- “Digital rights management is a necessary evil.”
- “Usage kills us.”
- “The cost of content delivery is our biggest issue.”

Cisco IBSG examined the current industry status of content delivery technologies and identified the technology areas that present the most fruitful opportunities for SPs:

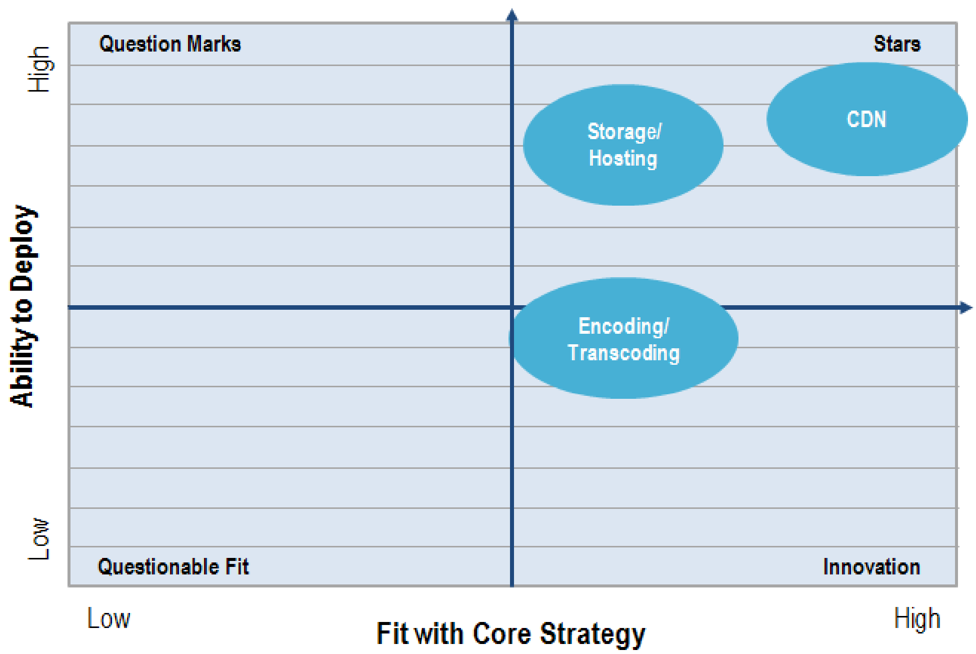
Digitization and Encoding. The industry considers this process to be too slow, involving too many manual processes. The multiple transcoding formats required to publish to a variety of content sites and lack of automation are too expensive to support a profitable business model. SPs have an opportunity to build automatic encoding systems capable of syndicating content on the fly to a host of affiliated sites, dramatically cutting the cost of digitization and encoding for media companies.

Storage and Hosting. Large digital-media content providers prefer to store content in their own data centers, largely because outsourcing with the various CDNs is too expensive (but security concerns are at play here, too). Media companies need a scalable storage solution that can compete on price with in-house data centers. SPs evaluating the viability of becoming cloud-service providers have an additional opportunity: They can gain media-company customers by providing affordable data centers capable of interfacing intelligently with various CDNs. Even better, SPs could offer an integrated data center/CDN solution. This will be well-received by media companies, as long as security remains an absolute priority.

CDN. After licensing of content, CDN is the single largest cost of doing business for media companies. Cisco IBSG discovered a high level of dissatisfaction with the expense of contracting with CDN companies, the difficulty of switching vendors, and the current level of quality and scalability. SPs can meet this urgent need by offering scalable CDN solutions at a more affordable price. Among the features needed by media companies is “burstable bandwidth on demand” to consumers, allowing them to upgrade the speed of broadband connections on the fly, generating an instant increase in average revenue per user (ARPU). SPs would also like to barter CDN functions for better licensing terms on high-value content.

Storage/hosting, encoding/transcoding, and CDN are an excellent fit with SPs' capabilities (see Figure 2). SPs already are required to deliver their own content, and this function can be easily and cost-effectively optimized and offered to third parties. SPs also have storage and hosting capabilities, so they can add more capacity to accommodate media companies at minimal cost (although additional security features may be required).

Figure 2. Provision of Encoding, Storage and Hosting, and CDN Services Is an Excellent Fit with SPs' Core Business



Source: Cisco IBSG, 2010

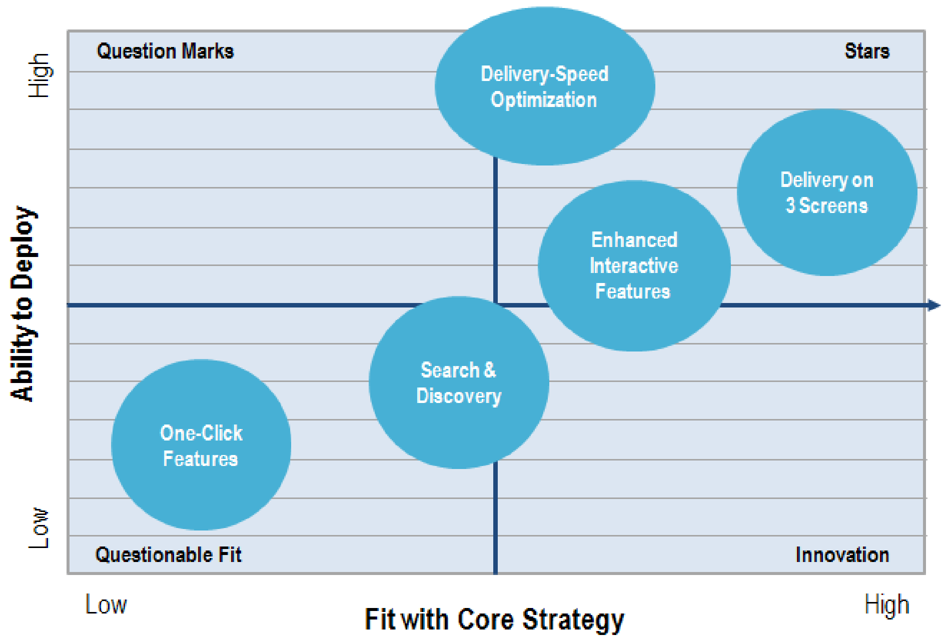
Of these services, CDN is potentially by far the most lucrative area, offering an excellent opportunity for SPs to take advantage of the network infrastructure optimized for their own use. Wholesaling this capability, backed by SPs' reputation for reliability and quality of service, would generate additional revenues. The major obstacle to such a scheme is the limitation on SPs' service areas. This might be overcome if the content were geographically blocked to a specific country served by one operator, such as France Telecom in France or BT in the United Kingdom.

Content Presentation

Content providers unanimously placed improving search and discovery at the top of the feature priority list. Due to their existing investment in advanced network infrastructure, SPs are well-positioned to offer valuable services around content presentation (see Figure 3).

Based on the research done by Cisco IBSG, content companies believe that consumers value constant improvements in content presentation—hence, these companies place a premium on technologies that will cost-effectively improve the consumer experience. Media companies are looking at newer functions such as presentation on multiple screens because younger viewers are accustomed to switching rapidly among PC, TV, and mobile.

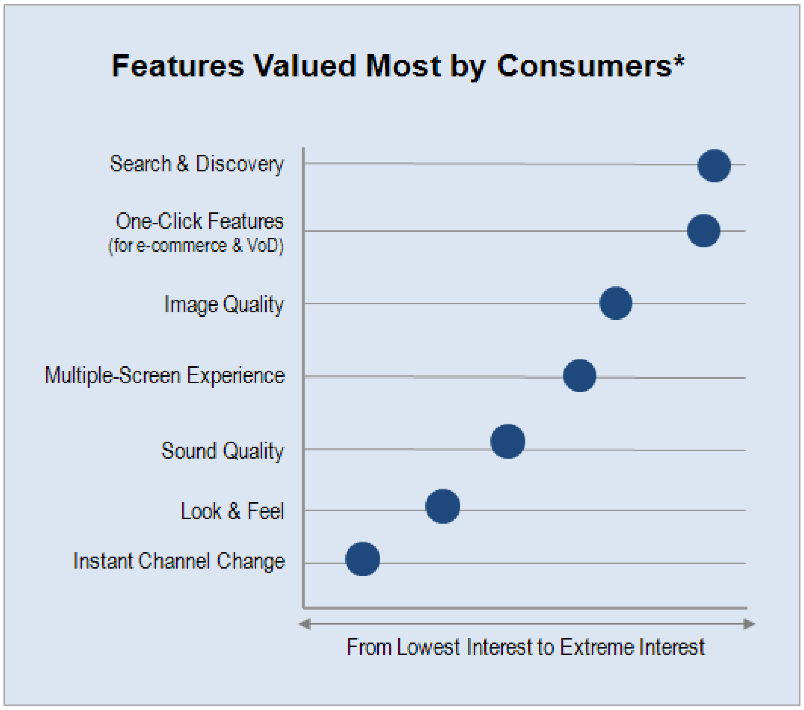
Figure 3. Service Providers' Investment in Advanced Network Infrastructure Positions Them To Offer Unique Content Presentation Features



Source: Cisco IBSG, 2010

Media executives are concerned about how little control content providers have over Internet video presentation quality. They can't control the speed of consumers' broadband connections, or control the quality of users' PC processors, and the delivery of HD video is expensive. This makes media companies reluctant to display content in HD. Although most current TV shows are shot in HD, many are not displayed in HD over the Internet due to prohibitive delivery costs. Reducing these costs would dramatically improve profit margins and justify presenting those shows in HD. Reducing bandwidth costs and providing better search-and-discovery and recommendation engines are high on media executives' wish lists (see Figure 4).

Figure 4. Content Providers Believe Consumers Value Constant Improvements in Content Presentation, Ranking Search and Discovery Highest in Value



*Not based on primary consumer research, but reflects the point of view of content providers

Source: Cisco IBSG, 2010

SPs are in the best position to offer seamless presentation of video on multiple screens. (Some SPs, such as France Telecom, are already offering content displayed on three screens.) SPs can provide a reliable, flexible, and intelligent content presentation platform that monitors consumers' broadband connections and automatically adapts the content-encoding format to the speed of individual connections to provide a high-quality viewing experience, regardless of the consumer's connection speed. SPs also can adapt technologies to the rising expectations of digital viewers, and provide DRM protection to authorize display on any screen and over any network. Consumers can avoid multiple sign-up and authentication processes as they migrate their content across networks and devices. Though difficult and somewhat costly to implement, the rewards are commensurate with the investment.

SPs are also in the best position to enhance search and discovery features by providing one-click search and purchase-or-rent features. SPs could introduce new discovery functions, such as sophisticated recommendation engines (for example, Amazon or Netflix) that generate personalized content viewing suggestions. They might also allow users to share authorized scenes from a favorite TV show or movie, and encourage blogs, chats, and reviews around these segments (with content providers' permission).

Discovery, one-click, and customization features are not the best fit for SPs because they do not take advantage of existing investments and are not core competencies. A better solution would be partnering with a platform provider that offers these services.

Content Experience

If SPs want to attract media companies as customers, they must take steps to attract consumers—media companies' target audience for online video. Media company executives interviewed for the study offered the following comments on this topic:

- "The experience becomes the product."
- "About communities: once they get there, they stay there."
- "Make each of your viewers feel very special."

Media convergence has empowered SPs to build appealing, unique, and proprietary environments around their content that complement and enrich the online media experience. Consumers have embraced this, and increasingly value interactive and customizable experiences. Internet video sites powered by new platforms already provide a TV-like presentation, but with added layers of experience, while interactive features on TV platforms seem to be lagging behind.

The content industry needs a higher degree of personalization to enhance customer loyalty, including TV-like presentation on the PC, interactive features, and the ability to do viral marketing. But however greatly media companies value pursuing a higher-quality consumer experience, these improvements must come at a price point compatible with the slim profit margins of Internet video. This opens many doors of opportunity for SPs to:

- Enhance customization and community features by enabling social interactions around users' favorite content through metatagging and other tools, and by meshing ads with the content in which they are displayed
- Enable seamless integration between linear content and surrounding online community features
- Make OTT distribution strategies with SP support more appealing to content owners by:
  - Securing the right to share consumer data with content providers and codeveloping web analytics software to determine content demographics
  - Partnering with content providers to design next-generation online-content services that meet consumers' social media needs while remaining intuitive and easy to use
- Take advantage of SPs' experience in multiple platform distribution by offering complementary solutions (even in experimental form, as this will allow SPs to learn from the industry and educate the market)

Business Model Support

Skinny margins are the source of much frustration for digital media companies—and are also a reason it is so difficult for these companies to make expensive investments in technology. Some of the comments that came up in the survey included:

- "Subscription services only remit digital pennies."
- "The margins are so thin, yet we are constantly expected to add new bells and whistles."

- "Why would I give DTO a favorable window when it does not pay?"
- "The industry is crying out for improvements in the ad space."

There are five key business-model drivers in the online video space: DTO, PPV VoD (sometimes also known as "download to rent"), e-commerce, advertising, and SP ecosystem partnership. Let's take a closer look at each of these drivers and the pros and cons of each.

Download to Own. Content providers keenly feel the need for a new market dynamic around DTO, as revenues from DTO (with the exception of iTunes) are still embryonic. Consumers consider DTO products inferior to packaged DVDs because they don't provide the "extras" that viewers now take for granted, such as "behind the scenes" footage or "director's cuts." But before the technical issues are resolved, there are other issues to be addressed. Large retailers with the buying power to make a difference are pushing back on coordinating the DTO availability date with the street date of the DVD. At a typical $14.99 per movie, DTO pricing is higher than consumers' perceptions of value, and some DTO deals are signed primarily to placate content partners as they add incremental revenues to other business models. An example is Comcast's Fancast site, where the studios and networks occasionally insist that some of their library titles also be sold as DTO items to add revenues to the share of advertising bounty remitted by Comcast for the ad-supported area of the site.

With the proliferation of devices capable of playing video, it is a major annoyance to consumers that digital rights management (DRM) technology restricts them to viewing video on PCs. Media providers need a new form of interoperable DRM that will enable users to easily and seamlessly transfer their purchased video files to any device.

DTO sites' search and discovery functions do not meet customers' expectations; site traffic would increase if they added compelling community functions wrapped around content, such as the ability to embed or forward a file to a friend who could unlock it after paying the required fee to the content provider.

PPV VoD and Subscriptions. Although subscription revenues are rising, content providers need a new market dynamic that would boost PPV and subscriptions (especially in the United States, which lags Europe in deployment of paid services). Revenues may also be affected by the recent economic downturn; if this is the case, subscription revenues will rise as the economy strengthens.

Again, nontechnical challenges need to be addressed first. The industry's sequential distribution windows that grant each channel a period of exclusivity do not allow consumers access to PPVs, VoDs, or subscription content in a timely enough manner, limiting revenue growth. The availability of the same content on multiple broadband video platforms also deters growth of paid subscription services. In any case, revenues from subscription services are currently so small that content providers are not incentivized to license content to them.

On the technology side, although existing forms of registration and billing are acceptable to users, content providers need better systems to improve ease of access to PPV content, boosting revenues.

Partnering with an SP could potentially improve margins for subscription services, as SPs' platforms and marketing might draw more traffic to these sites. By bundling premium subscriptions with broadband access, SPs might boost their subscriber base—but the revenue share remitted by SPs to the content companies must meet these companies' expectations.

E-Commerce. New e-commerce capabilities provide a lucrative addition to ad-supported or free sites. Content providers are particularly interested in technologies that provide a seamless link between editorial content and related products offered for sale. Anything that can shorten the response time between the order and its fulfillment is critical (like one-click purchasing). Customer support is also critical, and the benefits must be weighed against the cost of providing these services.

The quality of the consumer's interaction with the site determines the success of service and product sales. Consumers value better purchasing experiences; the growth of new forms of entertainment (like virtual worlds) might boost microtransactions. Enabling technologies that ease the purchase of digital products increase the revenue potential of microtransactions. (Microtransactions are nothing to sniff at. According to AdMob, a mobile advertising startup, iPhone apps, which sell for an average of $0.99 per app, were a $2.4 billion annual market last year.[3])

Some of the media company executives interviewed for the Cisco IBSG survey are planning to sell web-enabled products that activate links among packaged toys and other goods and related digital content. This would enrich the interactive experience, strengthening users' attachment to existing interactive environments such as "Webkinz."

Advertising. Media companies are eager to discover new forms of advertising to replace traditional video "pre-rolls" and "mid-rolls." In particular, they seek new formats that incorporate interactivity, such as telescoping.[4] There is also an urgent need to improve synchronization and integration of ads with the editorial content that surrounds them.

For example, the media industry wants improved effectiveness in targeting ads to the type of content watched, consumer demographics, and user behavior. Current tools are considered crude and ineffective. Media companies know there is a huge amount of valuable—yet uncaptured and unused—data available from online user behavior.

Media company executives are also interested in ad metrics, especially new metering systems and ways to generate more accurate reports for advertisers and agencies, but they believe the recent recession is responsible for current low advertising budgets and revenues. They nonetheless would like to see better integration across the advertising value chain with the measuring and reporting tools used by their agencies, the various networks and third-party ad servers, and ad-placement tools. The fact that sites use incompatible ad-placement tools makes it impossible to serve ads concurrently and dynamically across all sites ("create once, serve many times"). Media company execs are interested in new players in this space offering better creative and technology solutions.

3. "How Big Is the Apple iPhone App Economy? The Answer Might Surprise You," Om Malik, GigaOm, August 2009.
4. An example of a telescoping ad can be viewed at http://x-blog.mixpo.com/tag/telescoping/

SP Ecosystem Partnership. Media companies see both pros and cons with the integrated three-screen ecosystem. On the pro side:

- All are interested in the ability to deliver the same content to a variety of devices (PC, TV, mobiles) through one storefront—but only if the cost is justified by the added revenue potential.
- Some would license their content to such a service only if the SP's distribution footprint were quite large.
- Others would consider paying a technology licensing fee for the privilege.

On the con side, media executives see considerable risk of:

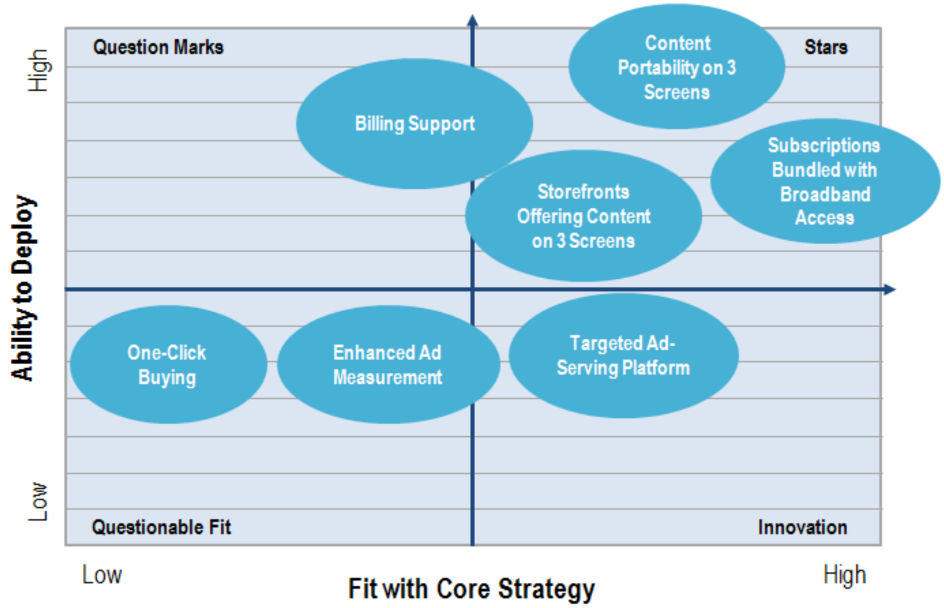
- Losing control of and direct access to the end user
- Losing control of distribution
- Being surrounded by programs that detract from their own brand
- Drowning their content in a large, hard-to-navigate site
- Being unable to dynamically serve their own ads to the platform
- Having no access to the global market due to SPs' "walled garden" ecosystem

These concerns offer a rich field of opportunities to SPs. A brief list of the capabilities SPs could provide includes:

- Ad-targeting engine that can target ad placement by consumer demographics, online behaviors, and type of content viewed
- One-click purchasing and billing for e-commerce transactions
- Improved search and discovery, enhancing the consumer experience while watching content
- Interoperable DRM that consumers can use to transfer purchased content to other devices
- Bundled premium subscriptions with broadband access (resulting from negotiated carriage partnerships with content providers)
- Storefronts enabling consumption of content over three screens (including the ability to pause content on one screen and resume its viewing on another)

Some of these offerings dovetail with SPs' core competencies, while others would be better developed by third-party partners (see Figure 5).

Figure 5. SPs Can Support Internet Video Business Models by Developing Services Aligned with Their Core Competencies and by Partnering with Third Parties



Source: Cisco IBSG, 2010

Internet Video Presents Rich New Adjacencies for SPs

Cisco IBSG's research with media content executives clearly revealed the industry is desperate for technology and tools allowing them to monetize online video; it is equally clear that few solutions exist today. Tools that do exist are expensive, lack integration, and in some cases are inadequate for meeting viewers' expectations.

SPs' traditional revenue sources are in decline, and SPs are looking for new markets to address cost-effectively by using their existing infrastructures and core competencies. Internet video, although by no means a traditional market for SPs, is a viable adjacency. SPs are well-positioned to offer services to third-party content providers on terms that meet the needs of both parties (see Table 1).

Table 1. SP Broadband Video Opportunities in a Nutshell.

Content Delivery	Content Presentation	Content Experience	Business Model Implementation	Overall
Viewed as white-label utility	Improving search and delivery viewed as great value	Consumer experience is paramount	New service platforms facilitating implementation of business models greatly valued	SPs well-positioned to offer enhanced delivery, presentation, and personalization
Cost savings, improved scalability are fundamental drivers for adoption of new CDNs	Great improvement in presentation quality tied to introduction of HD content at cheaper costs	Content personalization regarded as most significant revenue driver	Especially relevant in pay VoD and DTO; should bolster revenues at minimum cost	Cost/ reward analysis will be chief decision factor
Increased trend toward digital fulfillment of paid content creates additional demand	Presentation on 3 screens deemed of value as long as affordable	Introduction of additional social-media features valued	Great potential for sophisticated ad profiling, targeting, and measurement	Partners with SPs equipped with advanced platforms will rest on value of business arrangement
Service Provider Opportunity				
Reduction of content-delivery costs and improved quality / scalability through distributed architecture—storage and hosting offered in addition	Creation and enablement of SP ecosystem that provides search, 3-screen viewing on multiple devices	Introduction of enhanced customization tools and community features, resulting in experience becoming the product	New SP platforms to enhance appeal and ease of use, boosting revenues; greatest demand in targeted ads	New service functionalities as part of SPs' ecosystem are of interest, but only if the potential for added revenues justifies the cost

Source: Cisco IBSG, 2010

While SPs' investment in providing support for digital media content providers will be significant, there is also the promise of stable relationships, a market that will continue to grow rapidly (especially when consumers' expectations of quality and experience are met), and the ability to readily partner with third parties where SPs lack core competencies. The time to differentiate is now, providing support and superior platforms to companies that are hungry for a better way of doing business.

For more information about the needs of digital media companies and the opportunities presented to the service provider industry, please contact:

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