



Digital Media: The Next Web Frontier

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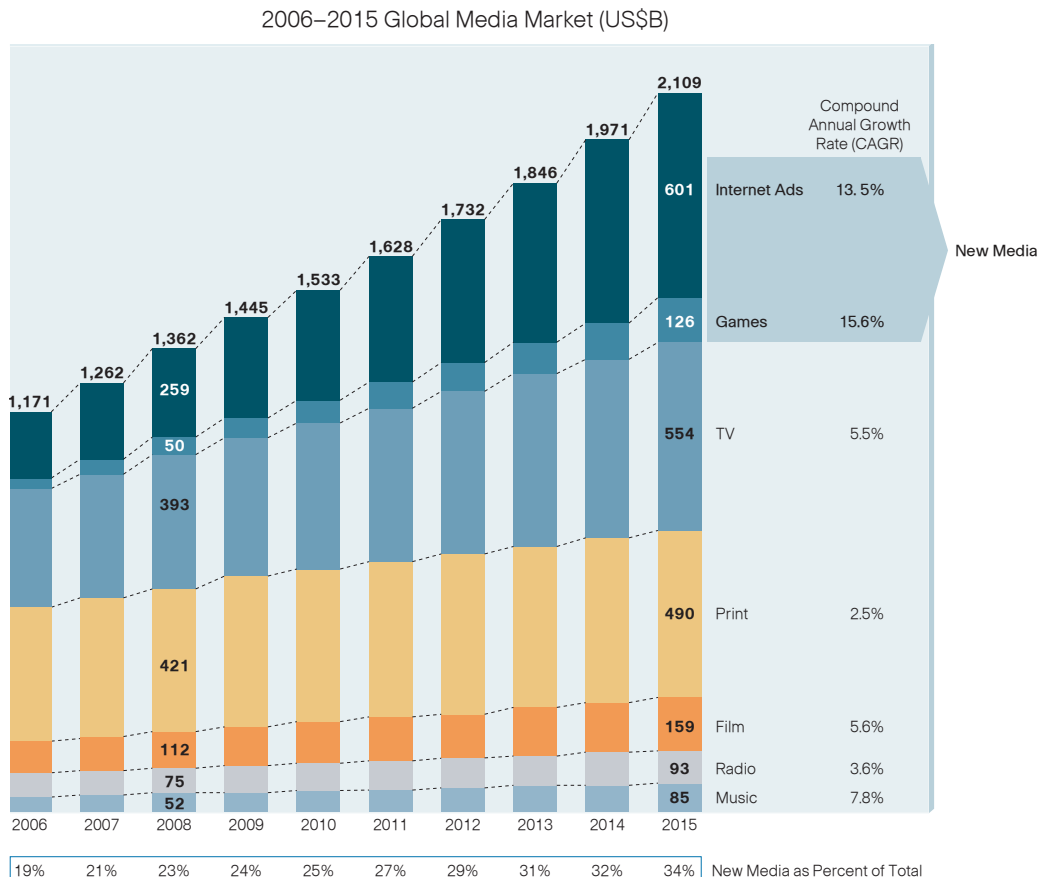
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Transformation of the Media Industry

The digital media revolution is continuing, gathering speed as it goes. The transition from analog to digital was a revolution in itself, but today the entire value chain is in the process of transformation—from content provider to the user—with the Internet as the underlying driver of change. Once, the media market offered content from a few, large content providers. Today, many individual content creators are seeking and finding markets for their work. Movies were once understood to be about 90 minutes in length; today, movies and videos range from a few minutes to several hours long. Some experts predict that the market for digital media will more than double, growing from US\$309 billion in 2008 (23 percent of the entire media market) to US\$727 billion by 2015 (35 percent of the market)—see Figure 1). The numbers to the right of the chart express the growth of media as a percentage of Compound Annual Growth Rate (CAGR). The blue arrow to the right highlights new media (Internet advertising and games).

Figure 1. The Web Is Powering Media Growth



Source: PricewaterhouseCoopers, 2007; Cisco IBSG, 2007

This transition has occurred as increasing numbers of consumers view the web as a preferred channel for consuming media, in some cases supplanting the use of traditional media. A recent survey indicated that consumers in developed countries like the United States, the United Kingdom, Japan, and Australia spend up to 40 percent more of their personal time using the web than watching TV.¹

Advertising and Multiplatform Availability Are Key

Consumers have a great deal of influence on the profitability of web businesses. The ups and downs of web service providers are highly dependent on the size of their user base—a key underlying factor in driving advertising revenue—which underscores the importance of consumers' role in this new era of digital media. Google's growth, for example, is built on superior user base monetization via its innovative "AdSense" and "AdWords" search advertising programs.

To date, advertising is a significant source of web income, in some cases representing more than 80 percent of revenues. As web-based advertising grows, advertising in traditional media slows, according to the Yankee Group.² In the United States alone, advertising expenditures in traditional media grew by US\$3.5 billion in 2006, while Internet advertising expenditures rose by US\$4.4 billion during the same period.³

Sustaining the growth of online advertising is critical to all Internet-based businesses, and to digital media in particular. A majority of web ads have been "view-based" schemes where advertisers pay based on the number of impressions or the number of clicks. As Internet use branches beyond the core 20- to 40-year-old demographic, the slowing growth of traditional, view-based schemes begins to emerge. Internet newcomers simply do not use the web as intensively as early adopters.

Major web players are acutely aware of this phenomenon and are looking to enhanced advertising and digital media for remedies—on PCs as well as other platforms such as mobile devices.

While Internet advertising has been largely a response-based tool, Google is taking advantage of the inherent ability of the Internet to capture user response, enabling advertisers that join its ad network to measure campaign results automatically. It is a win-win proposition for both advertisers and Google; advertisers can readily measure campaign effectiveness, while Google extracts more value by positioning itself as the preferred Internet ad network.

The popularity of user-generated content—amateur videos in particular—also gives rise to new, potentially higher-priced ad media. In-stream video advertising is on the rise, as can be observed on YouTube (and a key reason Google viewed YouTube as a desirable acquisition). This, coupled with low acquisition cost of user-generated content, makes video ads a lucrative Internet ad business model.

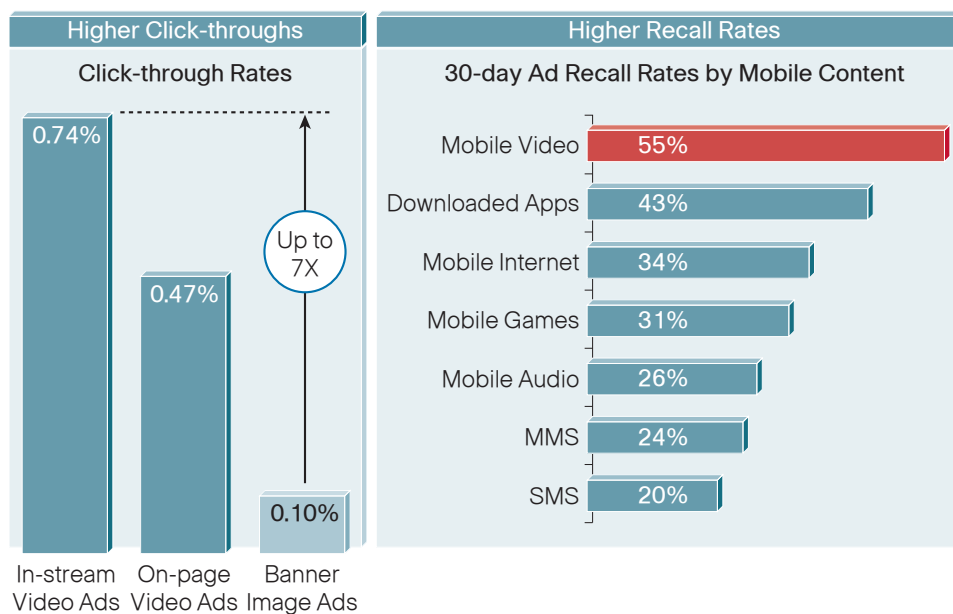
1. IBM Consumer Digital Media Online Survey, 2007.

2. "The New Persuaders: Brand Advertising Is the Next Big Online Thing," Annette Schaefer and Mike Goodman, Yankee Group, 2007.

3. Ibid.

As Figure 2 shows, putting available content (and ads) on the mobile platform further combats deterioration in revenue per user by introducing yet another medium for ad placement. Key players such as Google and Yahoo! have been porting their service offerings to the mobile platform for several years. Google in particular is going several steps further by creating an open mobile platform (Android), partnering with handset providers, and purchasing a frequency license, thereby positioning Google as a major mobile player.

Figure 2. Video and Mobile Increase Ad Effectiveness



Source: Dynamic Logic MarketNorms Survey, 2006; DoubleClick Ad Video Benchmark, 2007; Telephia Mobile Ad Report, 2007; Cisco IBSG, 2007

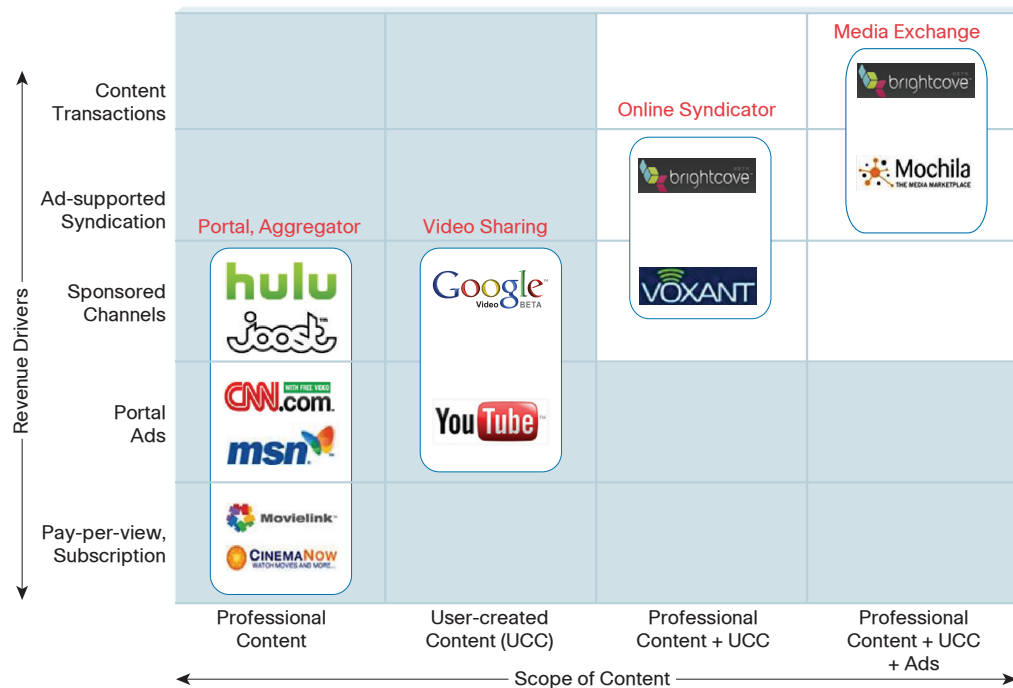
Advancements in the Web Business Model

These latest developments, especially the role of advertising and user-generated video content, have resulted in advancements in the web business model. Video content was once offered on a subscription-only basis by professional content producers—a move that often failed because piracy made almost everything on the Internet free. As a result, content now increasingly must be offered free of charge, subsidized by advertising revenue. The advertising play is also getting more diversified. Website banner images have been augmented by in-content placement (such as pre-roll and post-roll video ads⁴), branding of dedicated web real estate (the so-called sponsored “channels”), and prioritized search ads where advertisers bid for places at or near the top of search results.

4. Pre-roll ads are inserted before the start of video content. Post-roll ads are inserted at the end of video content.

The increasingly prominent role of advertising also is fueling the business of user-created content; ads can be paired with relevant content, so the content itself is free. We can start to think of content as a means of delivering ads, rather than the traditional view of ads supporting the content. And as highlighted, the web play is branching out from a purely PC platform to embrace other delivery methods—specifically mobile and Internet-based television (IPTV).

Figure 3. Advancements in Web Business Model



Source: Cisco IBSG, 2007

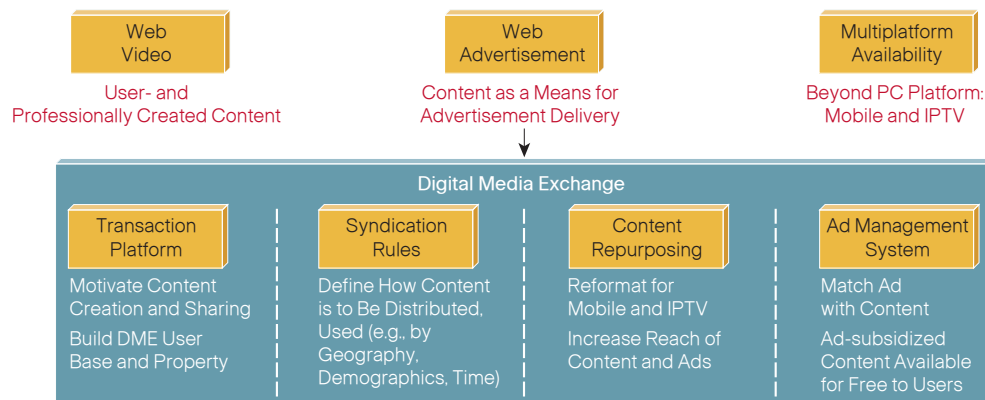
These advancements are summarized in Figure 3. The early model of subscription-based businesses exemplified by CinemaNow and Movielink has given way to a variety of ad-supported models—from portals like Yahoo!, MSN, and CNN, to video aggregation sites like Joost and Hulu, to user-generated video sites pioneered by YouTube. This last business model is particularly interesting because it has caught on rapidly; YouTube, for instance, has garnered more than 100 million unique users since its inception in 2005, has become a business valued at US\$1.6 billion, is ranked among the top 10 most-visited sites globally, and uses more than 1 petabyte (PB) of bandwidth daily. It is inevitable that the next step in the advancement of web-based media will address the question of how users, as a new class of content providers, can benefit financially from the content they create. One strong global phenomenon is the emergence of digital media exchanges (DMEs) and marketplaces.

4. Pre-roll ads are inserted before the start of video content. Post-roll ads are inserted at the end of video content.

Digital Media Exchange: The Next-generation Web Business Model

The rapid emergence of web video, the growing importance of advertising as a key web revenue source, and the user need for content availability across multiple platforms are creating a perfect storm for a new business model and technology platform like the DME. The DME implements an efficient process that allows content creators and buyers/ licensors to connect, facilitating completion of transactions and revenue sharing. Advertisers can also marry their ads to suitable content, making the ad-paired content available at low-to-no-cost to content buyers/licensors. The DME can also provide value-added services such as repurposing content and advertisements to platforms beyond PCs (such as mobile devices and IPTV), as well as subtitling and dubbing for local markets. While some DMEs initially offered only user- or prosumer⁵-generated content, current players often provide professionally generated content as well.

Figure 4. Web Video, Web Ad and Multiplatform Availability Create Perfect Storm for Digital Media Exchange



Source: Cisco IBSG, 2007

One prominent example of the DME concept is Brightcove (www.brightcove.com). Started by entrepreneur Jeremy Allaire, it launched in 2006 as a venue for individuals and media companies to offer video channels. That year, it expanded to become a full-fledged DME enabling web video syndication by individual content producers and more than 40 media companies. Fox, CBS, Warner Bros., Disney, and Sony Music Entertainment are among the notable media companies using Brightcove to distribute and/or promote their content.

5. As the term is used here, a "prosumer" is a consumer who uses advanced digital technology to produce digital media content. Such content may be posted on social networking sites such as YouTube, or distributed through a variety of other Internet-based channels.

Brightcove provides a wide range of services—content management systems, DRM-based syndication, and video ad insertion. In addition to the main video publishing site, it runs Brightcove.tv, a video-sharing and distribution site, and Brightcove Studio, a set of tools for creating custom media players. Figure 5 shows some of the user management interfaces and tools available to Brightcove's content providers. The firm's income is derived primarily from advertising revenue sharing, sponsored channel fees (for major media companies that wish to brand specific Brightcove web estate), and resale of media streaming bandwidth. To date, it is one of the best-funded and most successful DMEs. With US\$82 million in funding from media investors such as AOL Time Warner, InterActiveCorp, *The New York Times*, Hearst Corporation, and transcosmos, inc., it recently expanded operations to Europe and Asia by opening offices in London and Tokyo.


Figure 5. Brightcove: A Digital Media Exchange

Syndication Marketplace

Hundreds of video content owners have made their video available for syndication through the Brightcove Syndication Marketplace, making it easy for web site publishers to discover and acquire video content for their site. To get started, click the "Apply" link next to the content you would like to publish to your web site. In some cases, RSS feeds are also available. If you would like to distribute your own video content through Brightcove, please [create a publisher account](#). Learn more about the Syndication Marketplace on our [FAQ page](#).

There are 45665 offers. ☐ RSS ☐ No Approval Previous 4 5 6 7 8 Next

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Source: Brightcove websites, 2007

There are other media exchanges in the United States and elsewhere, some of which are highlighted below. While all of these companies may be termed DMEs, each has taken a slightly different approach to structuring the business and wooing advertising revenues:

Mochila is a media exchange launched in April 2006, initially targeting syndication of print media—The Associated Press, the *Financial Times*, *New York Magazine*, the *Los Angeles Times*, and *The Washington Post*. It has since cast a wider net, syndicating video plus photography, and focusing on mid-tier and large web content publishers. Mochila supports direct sell-buy transactions as well as ad-supported transactions—where content is paired with relevant ads and is thus available free to consumers. Approximately 75 percent of its content is ad-supported. Revenue is primarily derived from transaction commissions (of which Mochila receives up to 30 percent) and advertising revenue sharing (also a maximum 30 percent cut for Mochila). US\$20 million in funding came from venture capitalists (VCs), including Charles River Ventures and Mission Ventures.

Voxant focuses on news content, aiming to attract advertisers who have found the media marketplace increasingly fragmented as audiences have sequestered themselves into smaller communities of interest. Voxant's primary content partners are local TV stations and/or newspapers that wish to syndicate their content/stories nationwide. Consistent with other DMEs, Voxant's revenue model is dominated by advertising revenue sharing. Funding comes from VCs headed by SoftBank Capital—a subsidiary of Japanese media and communications conglomerate SoftBank.

Noank Media, based in China, provides non-compulsory blanket licenses to monetize legal online sharing of digital media, focusing on music and video. Noank Media's approach is unique, relying primarily on transaction commission revenue as opposed to advertising income; Noank Media expects users to engage in direct sell/buy transactions (albeit at a low price) rather than consuming the content for free. This approach is partly motivated by the desire to curb the content piracy that is prevalent in China by providing a low-cost means to acquire content. Given that most Chinese media distribution channels are state-owned, such an approach can potentially position Noank Media as the preferred independent online media distribution partner in China.

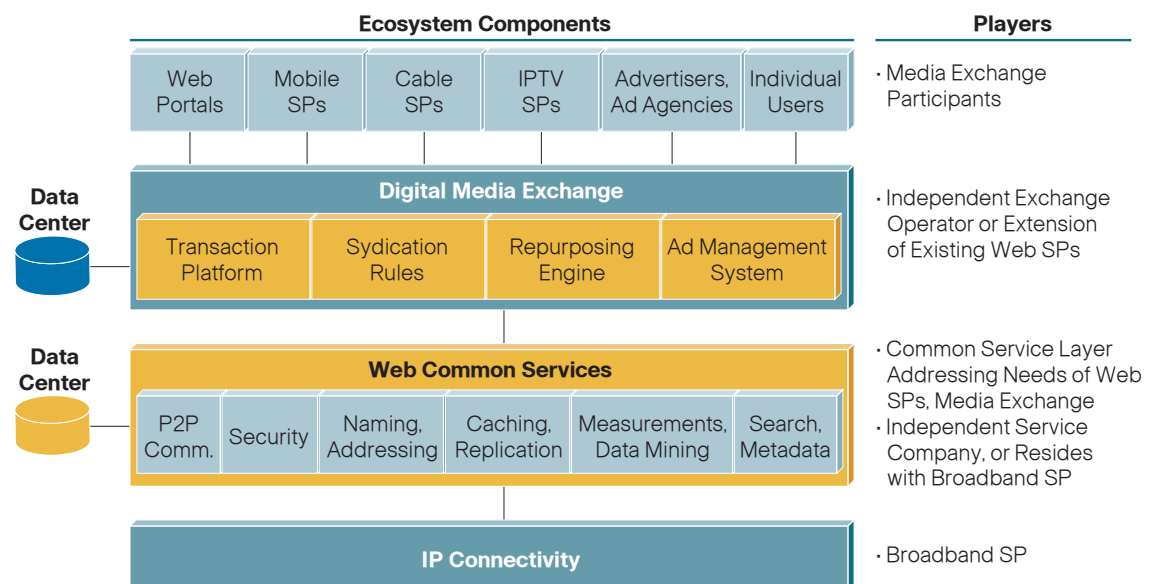
Alimama, also based in China, is an online advertising exchange started in August 2007 that connects advertisers with small and mid-sized Chinese websites and bloggers. A member of the Alibaba group of companies, Alimama is initially intended to support the group's core B2B and B2C e-commerce exchange business by allowing sellers to advertise products on Chinese websites. It has since opened the ad exchange to all interested parties, closely following Google's AdSense model. Publishers can offer their websites as advertising venues, while advertisers select among Alimama's members to showcase their ads. Alimama derives revenue primarily from a share of click-based income.

Building a Digital Media Exchange

Establishing a digital media exchange requires a partnership-based business model where the major players (media companies, production houses, broadcasters, cable companies, telcos, portals, advertisers, and ad agencies) work together and ensure a true global milieu. There is room for various levels of partnership, which is the underpinning of the exchange. This will include a trilateral partnership where the DME works with infrastructure vendors like Cisco, as well as telecommunications service providers, to ensure there is content, a business model, and connectivity designed to succeed. The service provider collaboration is of particular importance, as a DME requires not only connectivity and storage, but also mid- and low-level services commonly required by web service providers—delivery acceleration, content streaming, user profiling, and ad insertion, as well as media-oriented services like content repurposing and syndication.

To provide these essential services, the Cisco vision for the complete implementation of the digital media exchange involves the creation of a web-oriented common service layer, shown conceptually in Figure 6. This service layer, to be used by multiple web service providers, will enable aspiring exchange operators to virtualize, bundle, provision, bill, and manage services for their constituents. It also allows the exchanges to focus more on the business side of their operations, without the need to own and operate common applications and infrastructure, thereby lowering the investment requirement.

Figure 6. Key Ecosystem Components of a Digital Media Exchange



Note: P2P = Peer-to-peer communications

Source: Cisco IBSG, 2007

The reliance on service providers as business partners is ushering in a new era of collaboration. Cisco, in conjunction with technology partner Anystream, is architecting end-to-end solutions that enable next-generation web-based business models such as the DME.

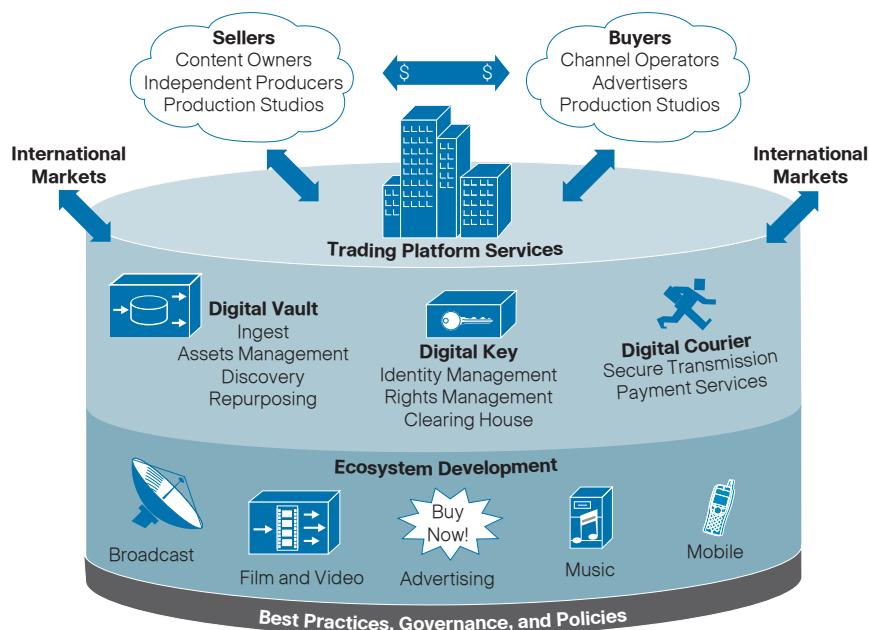
Singapore Builds a Pan-Asian Digital Media Exchange

The attractiveness of the DME concept has gained not only an industry following, but also country-level adoption. Singapore is an excellent example of how a DME can be structured to meet consumers' burgeoning demand for digital media, while monetizing content from large and small producers and delivering audiences to advertisers.

Singapore has been consistently at the forefront of innovation, embracing next-generation technologies as they evolve. Thinking ahead, Singapore has launched a master plan called Intelligent Nation 2015 (iN2015), designed to chart the groundbreaking use of information and communications technology (ICT) with emphasis on innovation, integration, and internationalization. Singapore is well-situated geographically to serve the Asian media market as a whole, but as geography is not a factor in the digital media market, Singapore aims eventually to become a global media hub. The city-state has additional advantages in its stable, high-speed ICT infrastructure and strong intellectual property rights laws.

The DME concept is a good fit with Singapore's vision of becoming a clearinghouse for digital media content—a pan-Asian Digital Marketplace. Cisco estimates that a S\$500 million (US\$350 million) revenue opportunity for Singapore is achievable by 2015 with relatively minimal investment, driven by Asia's demand for multiple categories of content—movies, photos, articles, and videos.

Figure 7. Singapore Vision of Pan-Asian Digital Marketplace



Source: Infocomm Development Authority of Singapore, 2008

Cisco is working with the Singapore government to help realize Singapore's Digital Marketplace ambition through development of an infrastructure and scaling presence. The key steps in this collaboration include:

- **Conceptualizing the DME model**, articulating its value-add for Singapore, and drawing up the relevant service offers from best practices around the world.
- **Attracting potential exchange operators** from domestic media companies as well as global players. Once the operator is picked, using a set of selection criteria, a teaming arrangement based on a preferred business model can be worked out.
- **Developing the infrastructure**: This step involves understanding business-use cases and translating them into technical requirements. The exchange operator, technology vendor, and service provider can then team up to architect the infrastructure.
- **Piloting the service**: This critical step identifies the pilot objectives and scope, and takes steps to attract pilot customers/users.
- **Scaling presence**: This phase involves developing the mid- and long-term roadmap and identifying the scaling requirements as the DME widens its service area. The exchange ecosystem can subsequently be extended.

Singapore is proceeding with development of NexMedia, a DME owned and operated by the largest local media company, MediaCorp. Initially, NexMedia will syndicate MediaCorp's own content, but it eventually will become a full-fledged DME serving pan-Asian interests.

Conclusion

The ongoing digital media revolution continues, with the DME becoming a new digital media value chain that enables the creation, distribution, and monetization of content over the web. It opens the door for content providers—consumers and professionals alike—to profit from content they generate; for advertisers to participate more effectively in the new media; and for service providers to offer enhancements beyond basic telephony services. With its ability to unite the interests of key media stakeholders, the DME concept has gained a strong industry and public sector following.

The Digital Age is one of interwoven interests, where businesses are “competitive” in the original meaning of the word, which is based on the Latin term “competare,” meaning “to strive together.” The DME embodies this very theme of collaborative partnership—with a core ecosystem of content providers, service providers, and technology providers.

Cisco, in combination with technology partners such as AnyStream, is developing a variety of digital media solutions. For more information, please contact:

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Notes

More Information

The Cisco Internet Business Solutions Group (IBSG), the global strategic consulting arm of Cisco, helps CXOs and public sector leaders transform their organizations—first by designing innovative business processes, and then by integrating advanced technologies into visionary roadmaps that address key CXO concerns.

For further information about IBSG, visit <http://www.cisco.com/go/ibsg>



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