

DIGITAL DIGEST

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Digital Tech Consulting

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IN THIS ISSUE

New Horizons for the Digital Set-top Box page 1

Update: MPEG-4 AVC Market page 2

DVD Still King of Video Content page 2

NEW RESEARCH

This market research digest is designed to give you a glimpse of some of the research that Digital Tech Consulting is preparing for publication. Here is some of the research currently available from DTC:

The Global IPTV Market: ROI Business Models, Value Chain, & Forecasts

DVD & HD-DVD/Blu-ray: Worldwide Shipment History and Forecasts

For more information, please visit us online at: www.dtreports.com.

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New Horizons for the Digital Set-top Box

Industry Comments from Senior Analyst, Antonette Goroch

As the primary gateway between the operator and the consumer, the set-top box (STB) has always played a role of central importance in the digital pay TV model. STB technologies like the Electronic Program Guide and the DVR have been instrumental in ushering in new services and revenues from digital content, providing both the look and feel of new digital packages, as well as expanding the scope of pay TV.

This tenet remains even truer today, as the role of the STB has changed from merely a conditional access and decoding device for video content, to a full fledged gateway device feeding content to a range of devices within the home, including TV, PC, home audio, phone, and portable media players. It's a double edged sword for pay TV operators and technology vendors though, as they face both new opportunities in terms of the services that STBs can offer, and new threats to the pay TV STB's incumbency as the primary home gateway.

A core question in tackling opportunities and threats is the degree of openness and interoperability to the set-top box, both in terms of component parts within a system/network, and the interoperability of that network with others. Many incumbent pay TV operators, used to their high-margin content and tight control over the network value chain, are reluctant to loosen that control, and have thus been slow to implement technologies like the CableCard or Firewire that would facilitate a more open network and multi-vendor system. Similarly, many new IPTV operators (despite using standards-based IP infrastructures) have gravitated to Microsoft TV's proprietary, rather closed, but one-stop, end-to-end pay TV solution for what is unfamiliar territory to them.

But the history of digital content, and more specifically digital content networks, would suggest that operators and vendors whose business strategies thrive with the maximum degree of openness will find the most success in the new digital era. Traditionally, more open systems allow for lower costs, quicker time to market for new services, and the ability to not be locked in to one supplier.

Already, more than a few IPTV systems have seen the pitfalls of proprietary technologies, whether because of delayed service rollouts due to reliance on a single key supplier, or the high costs of developing new applications in a rapidly changing, highly competitive environment.

But more broadly speaking, an open system approach ultimately enables greater access to content and the collective force of Internet convergence. With digital packages increasingly encompassing a bouquet of services, delivered via a common underlying IP network framework, more open infrastructures are better able to serve the entire breadth of services, rather than a rigid pipeline to only one. Additionally, they are better positioned to deliver greater access to emerging content from niche sources, rather than only traditional pay TV video content.

While the possibilities of offering a breadth of new services to the home are no doubt enticing to any operator, there are competitive realities in play as well. New players, from Apple to Sling Media, are seeking to claim the set-top/TV as

an extension of the PC, using a more seamless integration with the Internet to change the nature of TV viewing and content consumption itself. If these new players are able to position themselves as the source of new network based services and content, in opposition to tightly controlled and centralized content, traditional pay TV players will find themselves losing not just the opportunity of new revenue streams, but their core base of subscribers and influence.

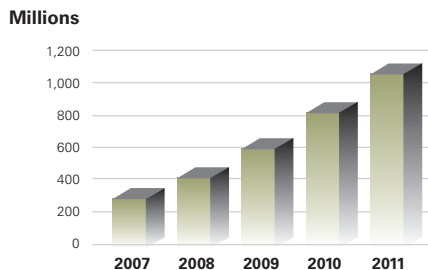
Update: MPEG-4 AVC Market

With a little more than a year having passed since the first advanced video codec products debuted, the picture of this emerging market is crystallizing. Here's the outline:

- The early dominance of MPEG-4 AVC as the de facto next-generation broadcast and pay TV video codec has not waned. Most current pay TV services that use an advanced video codec (DirecTV, Dish Network, AT&T U-verse, etc.) are encoding programming in MPEG-4 AVC; although some IPTV providers, such as U-verse, are using both MPEG-4 AVC and VC-1.
- With few exceptions, MPEG-4 AVC continues to be the video codec of choice for new mobile TV services.
- As DTC has outlined before, it will be some years before advanced digital video codecs erode the market of the ubiquitous MPEG-2 codec. In the interim, MPEG-4 AVC and other advanced codecs will continue to be used as value-added supplements to existing technology, and to enable digital video to be introduced into products, such as mobile devices, that previously included no digital video.
- Apple's inclusion of MPEG-4 AVC in its QuickTime media player and its video iPod, as well as video content for the iTunes Store, make Apple the single largest supplier of MPEG-4 AVC devices, software, and content.

It is the expansion into new product categories that will fuel much of the MPEG-4 AVC market. DTC estimates that more than 380 million MPEG-4 AVC products will ship worldwide in 2007 growing to more than 1 billion in 2011 (see chart).

Estimated MPEG-4 AVC Products Shipped



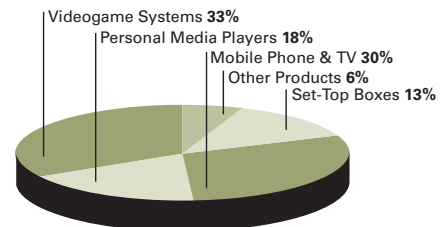
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A significant portion of those shipments, however, will be made up of free Internet media players. After factoring out the Internet media players, DTC estimates that more than 90 million MPEG-4 AVC capable units will ship in 2007, growing to more than 780 million units in 2011. These consist mainly of set-top boxes for pay TV, mobile telephone and TV handsets, personal media players, and videogame systems (see chart).

Despite the copious ink dedicated to Blu-ray Disc and HD-DVD devices and programs, DTC anticipates relatively modest shipments of these new devices. It must be pointed out, however, that the videogame system category includes forecasted shipments for Sony's Blu-ray equipped PlayStation 3 and Microsoft's HD-DVD peripheral for its Xbox 360, both of which decode MPEG-4 AVC.

2007 Estimated AVC Product Shipments

(excludes Internet media players)



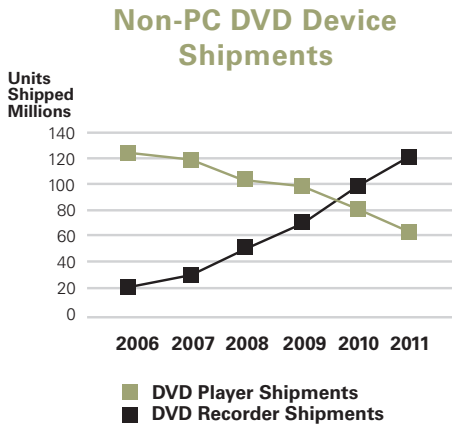
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The "Other products" category is made up of the following: integrated digital TVs (IDTV); optical disc PCs and aftermarket kits (Blu-ray & HD-DVD); non-PC and non-videogame optical disc devices (Blu-ray & HD-DVD); aftermarket desktop software and PC cards; and video surveillance and videoconferencing devices. DTC believes that all of these products will log substantial shipments in the latter parts of our forecast period but will only represent about 6 percent of all non Internet media player shipments in 2007.

DVD Still King of Video Content

Despite the prognostications that video programming is quickly going the way of electronic distribution, the business of placing video programming on physical media and playing it back on a dedicated device is enormous and far outweighs electronic distribution. For example, DTC estimates that more than 5 billion pre-recorded DVD discs will ship into the market in 2007. More than 265 million PC devices and peripherals will operate as DVD play back and/or record devices. And more than 160 million dedicated DVD player/recorders are expected to ship in 2007. If you add the 53 million videogame devices that will playback pre-recorded DVDs, nearly a half-billion devices will ship in 2007.

Direct electronic distribution (Internet, VOD, etc.) will temper some of video optical disc format's growth in the coming years, but it will be many years before the growth stops. Regarding the direct electronic delivery of video programming available over the Internet, it is still mostly being stored and viewed on the PC. Until there is more consumption at the TV, Internet delivered video programming will continue to pale in comparison to packaged media. And content protection and DRM issues are still being sorted out. With the exception of a handful of specific categories, we estimate continued growth of DVD devices throughout the forecast period.

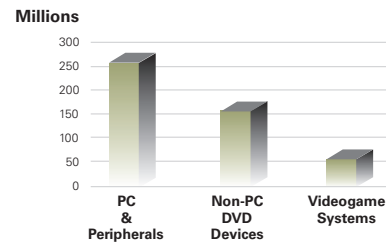


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Biggest growth areas:

- PCs and PC peripherals – the explosion of the DVD market happened first in the non-PC category, and the PC market lagged behind. DTC estimates that in 2007, 73% of new PCs will ship with a DVD and/or advanced optical disc drive. As the cost of DVD drives continues to fall, the DVD drive will ultimately replace the CD drive. Given the current attach rate of 73%, DTC estimates that the PC and PC peripheral category will continue to log a double-digit CAGR throughout the forecast period.
- Non-PC DVD recorders – non-PC DVD recorder shipments are estimated to log a 38% CAGR throughout the forecast period. As cost for DVD recording drives drops, consumers will find little reason to purchase a play-only unit. Two items that will help drive recorder shipments are the popularity of DVRs and desire to archive saved programs on DVDs, and households replacing DVD players with DVD recorders.
- AOD aftermarket drives – Advanced Optical Disc drives (HD-DVD and Blu-ray) are forecasted to log a 71% CAGR for the forecast period. Drivers of this growth include consumers' interest in buying aftermarket kits for increased storage, and interest in adding HD playback and recording capability for existing PCs.

2007 DVD Device Shipments



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Biggest areas of decline:

- DVD players – growth rates for DVD players are currently declining and will continue to do so throughout the forecast period. Drivers of this decline include alternative storage and playback mechanisms – like the iPod – as well as the increase in solid state memory products, and the popularity of the DVR for recording and playback of video.
- DVD PC aftermarket kits – as more and more OEM PCs are equipped with DVD drives, the demand for DVD aftermarket kits will drop dramatically. In fact, DTC forecasts no growth throughout forecast period.
- Videogame systems – these shipments show a healthy decline following 2009. But this is somewhat misleading because videogame systems typically exhibit similar cycles. We anticipate a follow-on generation of videogame systems at some point later in the forecast period, but without the knowledge of what form the device will take, we're more apt to act conservatively rather than forecast based on loose estimates.
- DVD camcorders – these have had dramatic growth because footage is saved directly to a DVD and can be immediately played back on DVD devices. In 2007, DTC estimates a 20% growth in shipments. This will change, however, as DTC believes that consumers will begin to adopt hard-disc drive based camcorders that will encode in the new MPEG-4 AVC video codec.

Other:

- Pre-recorded disc growth will slow throughout the forecast period but remain robust with more than 6 billion estimated to ship in 2011. Growth will slow because DVD device household penetration will begin to reach a saturation point in parts of the world where the household penetration is still relatively low compared to the U.S. In addition, high definition disc formats will begin to have traction in the latter part of forecast cutting into shipments of standard definition DVDs.

NEW REPORTS FROM



Digital Tech Consulting

***The Global IPTV Market
ROI Business Models, Value Chain,
and Forecasts***

February 2007 US \$2,999

DTC breaks down the IPTV market from every angle. There is an inclusive list of global IPTV deployments including the system's name, system launch data, encoder vendors, set-top box vendors, middleware and application software vendors along with DRM information. The report also includes the top ten IPTV systems along with associated vendors, and number of subscribers. The report contains a five year forecast for IPTV total subscribers by region, total revenues by region, and total STB units shipped.

Many will find our ROI Business Models section very beneficial. In this section we layout revenues, costs, and profits over a five year period associated with three typical IPTV system deployment scenarios.

***DVD & HD-DVD/ Blu-ray
Worldwide Shipment History and
Forecasts (2001-2011)***

February 2007 US \$1,295

This data-intensive report provides detailed worldwide historical data and forecasts of Video Optical Disc devices and media. Both the high definition (HD-DVD/Blu-ray) and standard definition formats for product categories including PC and peripherals, Non-PC DVD devices, Pre-recorded media, and Video gaming systems are detailed in a comprehensive spreadsheet format. This report includes shipment data from the years 2001-2011, along with geographical and vendor market share estimates for 2007. Also included is a section of charts and graphs for ease of interpretation and presentation, as well as an executive summary that gives a brief overview of this exciting market.

Digital Tech Consulting is a market research firm providing strategic information and analysis to help companies succeed in the consumer digital marketplace. To learn more about DTC and how our analysts might help your company, please visit us online at www.dtcreports.com or call 214.915.0930.

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