

DIGITAL DIGEST

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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:

NEW REPORT!

The Second Edition of The Business of Digital Copyright: *Content Protection and Management in the Consumer Digital Era*

Online Media Services: *Forecasts, Business Models and Analysis*

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

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The Changing Face of Conditional Access

As commercial implementations of digital pay TV take root through multiple platforms across the globe, conditional access (CA) systems—one of the key enabling technologies for any pay-TV service—are taking on a more central and more contentious role in the evolving market.

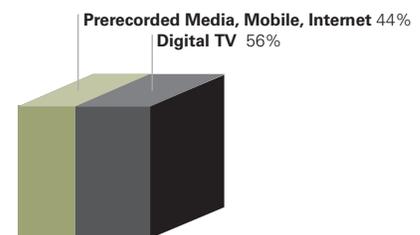
This important set of technologies which today make up more than half of all content protection spending for digital media entertainment will be molded in the immediate future by the alternate pressures of a greater demand for functionality and by demand for lower prices.

According to DTC's recent report, *The Business of Digital Copyright: Content Protection in the Digital Consumer Era*, total spending on CA systems will more than double between 2003 and 2009, surpassing \$600 million annually. This offers a glimpse of the segment's rapid change and growing significance over the coming years.

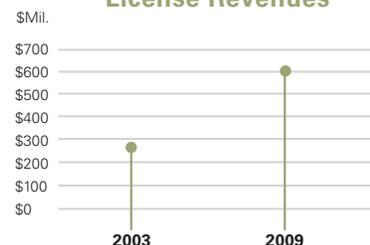
Conditional access systems, the technologies that serve to encrypt and decode digital television programming, are critical enablers in the delivery of both current and future services and provide the technological "gate" that serves as a basis for any commercial transaction. They are of prime strategic importance in the digital TV environment because they serve to shape pay-TV business models and the different services they might offer. They make up the majority of total spending on content protection for digital TV.

The conditional access market is currently undergoing marked change as the digital TV market itself becomes more dynamic and competitive which puts pressure on CA vendors to provide a broader range of technologies and services to their customers. Pay-TV services like video-on-demand, DVR and HD are key to many operator's competitive strategy. All require greater sophistication from CA systems. Interoperability among what were once completely separate devices and businesses such as mobile phones or Internet delivery are now factors that take technology a step further and are offered by CA suppliers like Irdeto and NDS.

Digital TV Dominates Content Protection Estimated Sales (2005)



Estimated Conditional Access License Revenues



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New services like this have added to cost and leading operators concerned about their bottom line and are being forced to seek cheaper solutions from new sources rather than their established vendors. These vendors, in some cases, have held virtual monopolies. Multiple efforts are being pursued in this regard with mixed success. They range from the initiatives to strip out CA from the set-top box to developing downloadable software-based security. Stripping CA from the STB will make content security a separate module that is interoperable and open to competitive bidding. Downloadable software-based security is both cheaper and interoperable. The recent U.S. joint venture between Comcast and Motorola to develop a software-based security download is a high-profile example of this. Other initiatives are aimed at changing the way conditional access is done for digital TV deployments.

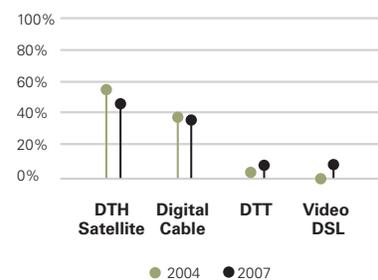
The table below is a sampling of those efforts.

Initiative	Companies Involved	Comments
Developing software-based security that can be downloaded to digital STBs	Comcast and Motorola Broadband	Attempt by U.S.'s largest cable operator to cut CA costs. Motorola action seen as defensive posture against new competitors.
Offering software-based CA	Widevine	Start-up company recently announced Thomson has selected it for CA with its IPTV STB.
Offering software-based CA	Latens	Start-up with a handful of partnerships such as a deal to integrate technology with TI's DSPs.
Developing and/or offering software-based CA alongside "smart card" solutions	Traditional CA suppliers such as NDS, Nagravision and Irdeto	Well-entrenched CA suppliers reacting to competitive threats to their traditional business.

The common thread in these efforts is a trend towards more open, competitive technologies from multiple vendors. This is certain to lower prices over time even as the functionality, sophistication and expectations of CA systems grow. As our report details, there is still much upside to CA despite what might seem to be daunting challenges. While deployments to date have been almost exclusively DTH or cable-based, video DSL (digital subscriber line) and DTT (digital terrestrial television) systems are beginning to see real commercial subscribers, broadening the overall base of pay-TV consumers, and are making up an increasing share of the whole (see chart).

Dropping equipment prices across platforms is increasing the spread of services into new regions like India and China. This offers ample opportunity for overall market growth, despite competitive pressures on price.

Conditional Access Revenues by Digital TV Platform



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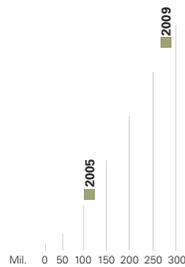
Read more about DTC's new research on copy protection and digital rights management in *The Business of Digital Copyright: Content Protection and Management in the Consumer Digital Era (Second Edition)*. For more information on the report, please go to www.dtreports.com.

MPEG-4 Visual: The Underappreciated Performer

Despite all the attention lavished on the new MPEG-4 AVC codec for next-generation video products like high-definition TV set-top boxes and next-generation optical disc devices, a less noticed member of the MPEG-4 family – MPEG-4 Visual – is the unsung breadwinner of the MPEG-4 video clan. Despite declarations that the supposedly onerous licensing terms would kill the standard, DTC's recent research estimates that more than 120 million MPEG-4 Visual (aka Part 2 or ASP) devices are estimated to ship in 2005.

The vast majority of these units are mobile handsets and MPEG-4/DivX-enabled DVD devices. MPEG-4 Visual has emerged as a popular standard for recording and playing back videos and is finding inclusion in an increasing number of the nearly 700 million mobile handsets shipped worldwide each year (about 100 million in 2005). Major vendors include Nokia, Samsung and Sony Ericsson with their handsets being used for 3G mobile services in markets like Japan and parts of Western Europe.

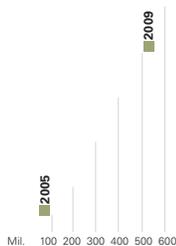
Mobile Handsets with MPEG-4 Visual



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MPEG-4 Visual DVD players are estimated to surpass 60 million units shipped this year. These players, available from vendors including Sony, Toshiba and LG Electronics among others, allow consumers to purchase DivX video content over the Internet using DivX's proprietary digital rights management system, burn this to a DVD and then play it on a DivX-equipped set-top DVD or desktop DVD player. Content ranges from independent film to sport and adult content without much mainstream content available for purchase. Consumers can also encode their own content in MPEG-4 Visual using a variety of PC-based encoders. The DivX desktop encoding software is also known to be used by individuals who pirate mainstream movies and distribute them over the Internet.

MPEG-4 DVD Players



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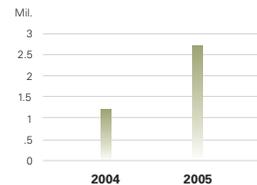
DTC believes that MPEG-4 AVC will soon erode some of MPEG-4 Visual's market share for mobile devices as DVB-H (DVB handheld) and DMB (digital multimedia broadcasting) deployments gain traction. And it remains to be seen if DivX can effectively compete with high-definition DVD devices when they eventually become factors in the market. But in the meantime, it appears that MPEG-4 Visual devices will outshine their MPEG-4 AVC brethren – at least in the sales arena.

DSL Deployments Continue Unabated

This year will be the biggest year for telco-based video services over high-speed DSL lines and marks a major turning point for the newest digital pipeline. STB shipments are already strong during the first part of 2005 and are driven by a variety of international deployments in almost every region. DTC's latest research into telco video shows that strong interest in maximizing return from upgraded broadband lines that can offer TV services as well as high-speed Internet combined with falling unit costs will buoy STB shipments from under one million during 2004 to nearly 2.5 million in 2005, a rise of more than 150 percent.

Systems like FastWeb in Italy, Chungwa Telecom in Taiwan, Softbank's Yahoo!BB in Japan, and Bell Canada and SingTel in Singapore all showed strong results in their early "triple play" deployments during 2004 and are contributing to the growing wave of momentum in video DSL. Two high-profile North American DSL deployments are still planned for 2005 despite reported technological snags with the Microsoft IPTV platform.

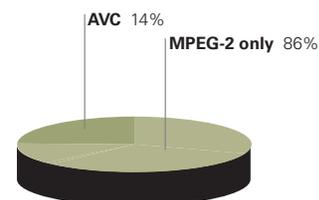
DSL Set-Top Box Shipments



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A majority of these deployments will still distribute only MPEG-2-encoded video despite the attractiveness of using next-generation codecs such as MPEG-4 AVC or VC-1 in "greenfield" deployments. The MPEG-2 deployments are by smaller operators and operators in less developed regions that are benefiting from the more mature standard's lower costs and greater accessibility. STBs and headend equipment are increasingly favoring multicodec solutions with software programmable technologies that can offer a smooth transition to future MPEG-4 AVC content delivery.

DSL STBs 2005: MPEG-4 AVC vs. MPEG 2 Only



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ABOUT DTC

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.dtreports.com or call 214.915.0930.

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