

Advertising in video-on-demand and connected media

by Jobst Muehlbach, VP On Demand Solutions, EMEA, ARRIS

Digital television, video-on-demand, time-shifted content and the shift from the TV set to a variety of viewing devices have altered the time-honoured relationship between ad placement and content broadcasting and has forced operators and content providers to change their business models. The development of new transmission standards, unified platforms for transmission, and of new standards for the cuing of content insertion, ad decision management, ad delivery and the like gives operators new tools to replace lost 'cost-per-thousand' revenues.



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Due to one of the toughest recessions in the media industry, advertising revenues and budgets collapsed in 2009 in all media sectors. TV advertising actually fared much better than other traditional media as borne out by the Nielsen research group which recorded an increase of advertising investments in Asia and Europe during the last quarter of 2009. The good news is that we expected the advertising industry to recover during the course of the year 2010.

Attaching ads to television and video assets is increasingly accepted in IPTV and web-based television services. According to Screen-Digest the four biggest US-based networks - ABC, CBS, NBC and Fox (including Hulu) - bill 53 per cent of the total advertising-financed US online TV market. In Germany, RTL and Pro7 are establishing an online platform for time-shifted linear television content to generate new advertising opportunities for existing content.

During the past few years it has become easier for television viewers to connect media devices in the home to enjoy music, photos and videos on different devices or share it with family and friends using a broadband connection. Interconnectivity is a key function found on the new generation of consumer end-devices and through wireless standards, smart phones and the new mobile broadband technology Long Term Evolution (LTE) mobility is going to become even more of a focal point to people.

Interconnectivity is being implemented through IP-based technologies that use a number of solutions, including DLNA (Digital Living Network Alliance), at the application and service level. Operators will invest even more into upgrading and extending their IP-infrastructure during the next years. There is not only a need for new infrastructure components but, in particular, a demand for solutions and service-platforms that enable service- and media-convergence across a multitude of end-devices.

Operators count on providing their customers with new services to recoup their infrastructure investments. The traditional monthly subscription model is no longer sufficient to compensate their investment.

For more than ten years, the broadcast industry has delivered quality video services to the television set using MPEG-2 (Moving Picture Experts Group) standard technologies. In the past five years, MPEG-4 AVC (Any Video Converter) has become popular as network infrastructure capacity increased and IP-technologies became ready to carry quality video to PCs and TVs. This built the basis for new service types and generated a number of new streaming, container and video technologies. Today Microsoft is providing IIS Smooth Streaming, Apple supports HTTP Live Streaming and Adobe features HTTP dynamic streaming - the respective application frameworks are .NET, Objective-C or Action Script AIR and mobile devices have become the

third video screen. There is no industry-wide format consensus.

According to a recently published TDG Diffusion Group study, time-shifted television is becoming more attractive with services like DVR, NDVR or RS-DVR (*digital video recorder, network DVR, remote storage-DVR*) as well as existing On-Demand platforms and broadband video portals. TDG found that only 48 per cent of US TV-viewers watch first run TV-shows - a finding that has significant potential impact.

The growing number of On-Demand platforms, DVR services and broadband portals enable viewers to relinquish substantial subscription packages and, instead, access content on-demand. Moreover, TV viewers are quitting the part of the subscription packages that they don't like and only paying for content that they want to watch, when they want to watch it.

A similar effect occurs in the music industry. According to the RIAA, 1999 saw the highest number in CDs sold and in North America the industry turned over US\$14.6 billion - at an average price of US\$14.9 per CD. During the following years, people started to download MP3 music on the Internet and purchase single tracks instead of buying full CDs. A single title cost about US\$0.99, and by 2008 the industry turnover had plummeted to US\$8.4 billion.

An equivalent trend is anticipated for video and broadcast media, so operators are focusing on making substantial feature extensions to their delivery platforms in order to compensate for this trend with new services and business models.

Triple and quad-play technologies enable operators to target multiple distribution platforms and recycle products and content for each of these platforms. Next generation back-office systems go one step further offering content and applications on a variety of distribution platforms so customers can access them as they please. Integrated bookmarking functions let a movie that is paused on one device - a mobile phone, for instance - resume at exactly the same position, using another distribution platform, on another device - like a TV set.

Integrated playlist functions enable operators to bundle different elements dynamically, like a TV show and a commercial video, and deliver them to a specific customer. Playlist functions of this sort let operators address commercials to specific, individual, viewers in sequence with the content they access as it is streamed from the server. Indeed, many back-office systems do not yet provide this functionality or just try to implement it as an add-on module.

One advantage of a fully integrated next generation back-office solution is to combine

on-demand and linear television functionality into a single integrated solution that controls all distributions channels within the same management platform and distributes them all from a single server. Doing so can bring the following benefits:

- One, common, hardware platform for on-demand, linear television and advanced advertising.
- Efficient use of rack space, energy and network infrastructure.
- A single integrated interface, monitoring, and management system.
- Flexible, central or distributed, distribution architectures.
- Low capital and operational expense.

Advanced advertising in time-shifted television

Many European operators have made advanced advertising a priority on their list of new value added services (*VAS*). On the one hand, such a business model can build on an established industry and, as initially mentioned, can tie in with existing and reliable budgets. On the other hand, the business case is complementary to existing subscription models and does not load additional costs on to the customer.

Technically Network DVR (*nDVR*) and Remote Storage DVR (*RS-DVR*) services provide typical broadcast content via a 'unicast' session established for an individual viewer. The operator - offering the time-shifted service - knows the customer, the TV content and the advertising asset. Operators compensate for the loss of traditional revenues by using their information about customer preferences to target advertising according to the content replay and the individual customer's profile.

Targeting ad in time-shifted television is good for the operator as well as for the content provider who was previously concerned about the loss of CPM (*cost per thousand*) revenues and the potential loss of opportunities to place its television advertising. With targeted advertising, the CPM value will increase due to the addressable nature of the individual replay session.

Cue tones

Cue tones are essential for the proper insertion of TV commercials. An advanced new standard, SCTE-130 'Digital Program Insertion - Advertising Systems Interfaces' - based on the 'old' SCTE-35Cue - Tones standard, was developed for digital programming.

Logical Services

The flexibility SCTE-130 offers is helping this technology become more accepted in Europe and elsewhere in the world. The SCTE-130 core

structure defines a framework of interfaces and divides them into five logical services. The five logical services are:

1. Ad Delivery Manager - ADM.
2. Ad Decision System - ADS.
3. Content Information Service - CIS.
4. Subscriber Information Service - SIS.
5. Placement Opportunity Information Service - POIS.

The five services define the advertising system architecture. In a way, the structure illustrates the value chain and how market players participate through well-defined interfaces.

SCTE 130-Broker - ADB

In many ad placement decisions for an on-demand session are shared among different parties. The content provider, the operator and the national or local agency can each operate their own ADS and the connected campaign manager. There needs to be an instance in the advertising system that decides which system is entitled to take a given decision.

The SCTE 130-Broker determines the ADS; it shields the flow of sensitive information between the operator's platform and external campaign managers, stores SCTE-130 messages and monitors the state of the advertising system.

Advertising in nDVR and RS-DVR services

One particular downside of time-shifted television is the lower relevance and value of time-shifted commercials during replay. Just a few days after the first run, a commercial can be outdated. Viewers' increasing interest in time-shifted television is intensifying this problem.

SCTE-35 Cue Messages allow for the detection of commercials in recorded time-shifted replays and can turn them into new placement opportunities for the advertising system. Thus the Video-On-Demand platform is capable of identifying outdated advertising content during replay and refreshing the commercial through a placement decision with new, targeted, advertising spots.

SCTE 130 and the illustrated SCTE 130-Broker enable operators to offer content providers new placement opportunities. It increases the relevance of the original advertising content due to customer and content-oriented placement decisions. Thus the disadvantages of time-shifted television, like the decrease of CPM value and the option of skipping ads, can be compensated for and turned in to a benefit for both the content provider and the operator. ●