

Personal television - the future of TV?

by Tim Warren, Director On-Demand Software, Harmonic Inc.

Planning your TV viewing according to broadcaster schedules will soon end. On-demand TV that lets you watch what you want when you want is arriving. Over time, quality has improved and the selection grown, but untying the viewer from the broadcaster's schedule is the greatest change in the service model since the introduction of TV. The demand for 'personalisation' of TV programming and modern equipment that lowers the cost of content production are broadening the range and availability of commercial content



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Television is currently one of the few activities the consumption of which remains tied to an externally driven schedule. Over time, greenhouses and international trade in goods have freed consumers from seasonal variations in the availability of produce. For instance, personal motor vehicles have freed passengers from the schedules, the timetables, of buses and trains. Television, however, remains an externally driven and scheduled activity for the majority of viewers.

By observing trends in technology, we see that much of modern technology has been dedicated to making things easier, or more 'convenient'. Into this category fall the mobile phone, the personal car and the household washing machine, not to mention numerous other devices and inventions.

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Interestingly it is television, a technology-enabled invention with a relatively short history, that is a laggard with respect to enhancements introduced since its introduction. The live television service today, to the vast majority of viewers, is almost identical to the service that was widely available in the 1950s. The only significant technological change it has undergone to date, from the viewer's perspective, is the introduction of colour.

The broadcast TV service is well understood, but it is worth distinguishing between audio/video entertainment, as such, and the largely passive delivery of programmes in parallel on a number of channels according to a pre-defined schedule that is the same for all viewers.

The shared scheduling of television channels is an artefact of the broadcast technology that was first, and is still predominantly, used to deliver the service. The shared scheduling of television channels is not intrinsic to the service itself. As a side effect of the scheduling, which creates a linearized sequence in the viewing on a particular channel, there are two other attributes that have been introduced by the presence of schedules: genre-based packages; and, 'accidental' suggestion of new areas or topics of interest.

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Programmemeing options on digital networks

The migration from an analogue to a digital service had a number of significant implications, mostly positive, for operators, but the main impact for the viewers has been limited to the growth of the number of channels available and the quality of the image. This has led to a shift in the channel line-up from one that is aligned with particular geographies or commercial concerns to channels being increasingly genre-based and increasingly specialized at that.

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phenomenon of continuous channel changing is born from a mixture of dissatisfaction with current viewing combined with fear of missing something on another channel. A side effect of this channel changing, however, is the cross-pollinating effect of stumbling upon some content that would otherwise not have been sought out. Who has not come across a fascinating Discovery Channel documentary and viewed the remainder of the show, wishing there was some way to start it from the beginning?

On-demand video delivery

Today, we can re-start programmes from the beginning; ‘time-shifted’ and ‘on-demand’ television services are truly possible. The video delivery architecture of the future lies in a flexible, anytime, anywhere model. This trend toward personalization began with video-on-demand services such as an operator-defined library which viewers can access for viewing anytime, will continue to evolve over the coming years to offer the user an even more dynamic and customizable experience.

A truly personalized TV service cannot be delivered on a purely broadcast infrastructure. It is necessary to introduce on-demand elements into the video delivery path to take into account differences in viewing times, viewing geographies and the breadth of material required. Over time the shift from ‘live’ to ‘on-demand’ viewing will probably have a similar effect on viewers as the shift from analogue to digital - the viewers will notice the greater personalization of the service more than the technological infrastructure changes put in place to support it.

In providing this personalized service however, it is important not to overlook the attributes of traditional TV broadcasting, with its

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genre-based programming and the cross-pollinating effect of chance exposure to content, which might not, in the normal course of viewing, have been chosen by the viewer. In making the transition from a shared schedule broadcast infrastructure to an ‘on-demand’ one these attributes should not be swept away. It is expected that successful, predominantly on-demand services will continue to present the viewers with pre-selected sequences of genre-based programming - together with some unanticipated material to ‘stumble across’. This will, in all probability, continue once the underlying technical infrastructure has changed and is no longer a shared broadcast medium that requires this model of viewing.

Personalized TV delivery

Essentially, it is not so much a question of whether people want personal TV, but how effectively this service is delivered. Today all TV viewers get personal TV, just inefficiently and with much compromise. Much of the inefficiency is a consequence of the broadcast medium used to carry the majority of TV, the need for laborious searching for content and a lack of flexibility as to how, when and where it is watched.

The PVR/DVR, *personal video recorder / digital video recorder*, has started addressing the inherent inefficiencies of the broadcast infrastructure. The success of these devices, however, is more an indication of the gap between today’s services and what the viewers crave, than an endorsement of the technology as the end game for personalized TV delivery.

My view is that the delivery of these on-demand assets will be best managed in the network via intelligent, real-time distributed systems that provide the operator with greater flexibility and efficiency in how their ‘uni-cast’ services are delivered.

Of course, there are some events - such as news and sports - that are intrinsically ‘live’. Both of these could still benefit from a hybrid on-demand/broadcast delivery. Many live broadcasts today provide instant replays, but these are channel-based and not controllable by individual viewers. Using a hybrid live/on-demand infrastructure the viewers could take charge of their own, personalized, instant replays. Other services, such as multi-angle

cameras and links to access statistics, could further enhance the viewing experience.

Subscribers are also eagerly embracing VOD services, and their variants, where available. They provide another incremental improvement whereby subscribers can receive the programming they desire when they wish to view it. Today, however, VOD services are available to only a small minority of worldwide TV viewers.

An on-demand world

The ultimate on-demand model is one where live events are available live, in real-time and with interactivity, and non-live content - including ‘previously live’ content - is available on-demand. Increased specialization and the availability of a broader range of content will lead to a variety of audio/video material with production costs and quality proportional to the interested/viewing constituency.

Ad revenue will continue to be disassociated from the producers of material, but a whole new set of business models between the producers of content and their ‘channel’ will open up. The sponsorship of popular content for YouTube shows the beginnings of this trend. Similarly, popular content on YouTube will soon be rewarded with revenue from Google, their new channel.

‘Fan movies’ are another aspect of this; they are rapidly becoming a legitimate part of the content spectrum. The narrowing gap between the quality obtained using consumer, ‘prosumer’ and professional equipment for production lowers the entry barriers that new content producers face. This, consequently, broadens the range and availability of commercially viable content. Content distributors and individual producers, with their genre-related content, will seek out operators who own the infrastructure necessary to store and deliver the content to the viewers.

There is little question that personal TV is the future of TV, but how long will it be before personal TV is conveniently and widely available to the user? Platforms that enable live, hybrid and on-demand delivery of content from extensive content libraries will soon be widely available. This heralds the next phase in the personalization of TV. ●