

IPTV adaptation

Bo Ferm, director of product marketing at Verimatrix (Stand 117), assesses the scope new pay-TV opportunities with adaptive rate streaming.



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We live in an era characterised by proliferation of video services across all types of networks and devices. Users expect content anywhere, anytime supported by whole-home and network DVRs, and on mobile devices. The convergence of broadcasting, broadband and mobile communications represents an opportunity for innovative service providers to expand offerings and grow revenues.

Traditionally, pay-TV operators deliver services over managed networks with a pre-defined Quality of Service. Statistical multiplexing is often used to leverage dynamic changes in video characteristics in order to maximise content throughput for a given broadcast channel bandwidth.

Radical developments now threaten the traditional pay-TV gatekeeper role while opening new revenue opportunities beyond the managed network. The proliferation of video everywhere is the driver. Granted, though, the video quality over unmanaged networks has not posed a threat to typical pay-TV. However, the lack of internet-wide QoS is being compensated by innovation in delivery protocols.

An emerging technology, adaptive rate streaming (ARS), detects a receiver’s available bandwidth and then grabs the video stream with the highest quality consistent with the throughput available. This minimises the buffering and delay to start watching. It moreover eliminates stream stuttering and other quality issues that have plagued video delivery over unmanaged networks.

The rapid smartphone uptake is substantially driven by video. With competing standards for mobile broadcasting and telecommunications networks, a dynamic approach to video was required. The ARS principles are based on the idea pioneered by Move Networks to facilitate mobile and over-the-top video delivery.

Traditional pay-TV media formats will increasingly co-exist with emerging formats like ARS, especially in OTT and mobile applications. Broadcasters can therefore explore services to mobile devices while mobile operators can monetise bandwidth by offering network access to established pay-TV as well as OTT operators. However, content owners and pay-TV operators need to retain control to monetise premium content. Pay-TV will remain a prime outlet for premium content, sporting events and on-demand services.

Content protection or digital rights management (DRM) systems, while ensuring that only authorised subscribers can access the content, typically implement proprietary and incompatible technologies. This is not a

problem as long as subscribers belong to a managed network controlled by the pay-TV operator.

The real challenge is for operators to support native DRM systems on the devices they wish to deliver services to, thereby eliminating the “distribution silos” that often frustrate consumers. The “silo challenge” can be overcome with an approach similar to ARS: a single content authority at the head-end adapts to the native DRM in each device. Similarly to ARS, where video is encoded at different bitrates for different bandwidths, content is ingested in the head-end in various DRM formats, enabling a multi-rights service approach.

When a user requests content in a multi-rights enabled system, a real-time “DRM check” will be performed. Upon completion of an entitlement check or purchase transaction, the content matching the DRM format of the device will be provided. This unified rights management and entitlement process will thus deliver content in the DRM format the user needs.

Consequently, the new world of pay-TV must embrace proactive revenue protection, enabling operators to cast the widest “services net.” This shifts the central value proposition for the pay-TV enterprise beyond content protection, towards a broader perspective of revenue security.

A new breed of pay-TV security architecture is required, based on a format-independent approach that enables uniform revenue security across media formats, protocols and file types. For instance, it must secure multicast IP services in a managed IPTV system and rate-adaptive HTTP streams on mobile networks. It must secure content to any device in any DRM format. Operators may define the protection level and pricing on specific content depending on the user’s device. And subscribers can enjoy a seamless consumption experience from a single service brand.

With various licensing obligations, content values and quality levels, operators need a three-dimensional security solution that evolves. Incorporating techniques like watermarking and clone detection, supports delivery to any device over any network, guarding against any threat.

By combining ARS with the multi-rights approach, pay-TV operators can maximise monetisation of content across a multi-screen delivery environment, while users are unperturbed by underlying DRM mechanisms. Operators can enhance ARPU, subscriber loyalty and broaden the customer base beyond the limits of its managed network. It represents a true win-win world for operators and users. ●