

Case Study: UPC Hungary

YouTube as a channel on existing digital set-top boxes



EXECUTIVE SUMMARY

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Customer Name: UPC Hungary

Industry: Pay-TV

Location: Hungary

Total Subscribers: 910,000 Video Subscribers
(408,000 Digital Video Subscribers)

BUSINESS CHALLENGES

- Customer demand for online video is increasing broadband usage and eroding perceived value of pay-TV video packages
- UPC Hungary desire to build content libraries and value by integrating online video into service bundle, beginning with YouTube
- Limitations of existing set-top boxes prevent delivery at scale of online video to the television

BUSINESS SOLUTION

- Virtualization of STB in the cloud enables UPC Hungary to overcome inability of existing STBs to support complete online video experiences
- CloudTV™ StreamCast platform from ActiveVideo renders user interface and enables media manipulation in the cloud
- Cloud-rendered UI and online video are stitched together into a single interactive stream that is delivered to existing STBs
- Immediate YouTube availability at launch to 200,000 STBs; total footprint current footprint is 520,000 STBs
- UPC Hungary: Hardware cost of the solution is less than 1 Euro per STB

BUSINESS RESULTS

- YouTube engagement has far exceeded original estimates: 68% of subscribers have tried the service; 83% of those have become return viewers
- YouTube engagement is consistently high: After three months, viewers were streaming >1 million minutes per day of YouTube content, with an average viewing time of 45 minutes
- YouTube engagement is complementary to peak linear viewing: viewing has peaked and remained high during the day, before falling off in the prime-time hours

Background

The largest cable system operator in Hungary, UPC Hungary is a subsidiary of Liberty Global Plc. UPC Hungary provides video, voice and data to 1.1 million customers in Budapest and in 22 other major cities and towns.

UPC pioneered advanced services in Hungary with UPC Direct, the first interactive digital TV service in the market. Today, UPC Hungary has 910,000 video subscribers, 408,000 of which are digital cable subscribers, on a network that is almost entirely two-way capable. Digital services are available through standard definition or high definition set-top boxes, as well as to televisions equipped with a CI Plus conditional access module.

Business Challenges

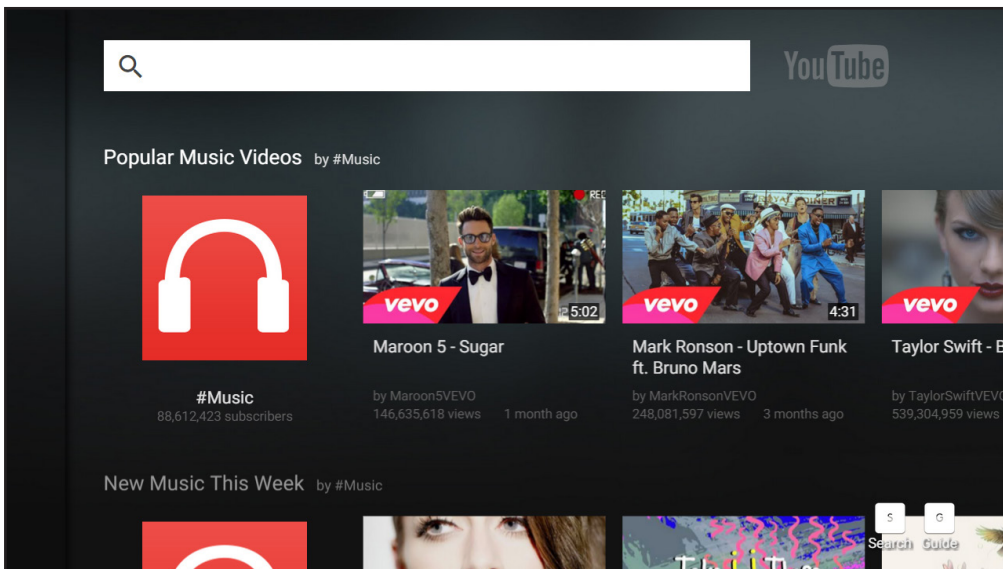
Like all pay-TV operators, UPC Hungary has faced the challenge of growing customer demand for online video. Cisco VNI estimates that IP video traffic will be 79 percent of all consumer Internet traffic by 2018. Content is delivered almost exclusively to handheld devices, gaming consoles, Smart TVs and other connected devices — increasing pay-TV broadband service usage, while decreasing perceived value of pay-TV video services.

Pay-TV operators have sought ways to counter this trend by bringing online video to the television as part of the pay-TV bundle, transforming online content from a competitor to a service differentiator that increases content availability and subscriber satisfaction. Typically, operators' strategies have involved replacement of customers' existing set-top boxes with more expensive, IP-capable devices that can support online video user interfaces and online content. For example, a small number of

operators — notably Liberty Global's Virgin Media in Europe and Suddenlink Communications in the United States — have made the Netflix subscription video-on-demand (SVOD) service available in limited numbers to customers who have purchased TiVo set-top boxes.

UPC Hungary recognized that taking full advantage of the game-changing potential of online video would require making such services available at scale via its managed network. Rather than requiring the significant expense or the lengthy time-to-market of deploying an expensive new set-top box in every home, UPC Hungary sought a solution that would overcome resource limitations in existing set-top boxes to resolve multiple technological hurdles:

- Content Experience — The vast majority of existing STBs simply are unable to support the rich user interfaces of online video brands;
- Content Protection — The digital rights management solutions used by many online video providers, such as PlayReady and Widevine, are incompatible with the conditional access systems used by UPC Hungary and other cable operators; and
- Content Delivery — Existing pay-TV STBs' need for video to be delivered in MPEG-2 or H.264 formats, rather than the adaptive bitrate streaming protocols used by online video.



Solution

To bring online video experiences to existing set-top boxes, UPC Hungary opted to virtualize the STB functionality in the cloud. Using the CloudTV™ StreamCast software platform from ActiveVideo, UPC Hungary can render online video user interfaces and conduct media manipulation in the cloud, and deliver both the UI and the online video as a single video stream to any STB.

Working with YouTube and Metrological, a provider of interactive television applications, UPC Hungary has enabled full access to the YouTube Leanback experience that is optimized for television. The UPC Hungary service enables search, discovery and navigation using the existing HTML5 YouTube Leanback interface, as well as access to the complete library of YouTube content. The service currently is a value-added offering, rather than a source of new revenue.

Subscribers tuning to the YouTube channel are connected to a cloud-based browser that points to the YouTube Leanback URL. A thin client delivered via a simple software download to existing set-top boxes maps Up, Down, Left, Right and Enter key presses from subscribers' STB remote controls to the cloud. Subscribers use these keys to navigate the YouTube Leanback UI, providing Web functionality in an environment with the quality and reliability of the television. When a video is selected, it is streamed immediately from YouTube servers.

“ Cloud-based stitching of both YouTube video and the cloud-rendered user interface provides UPC Hungary viewers with a single-stream television experience that retains all of the interactivity of the Web. ”

As the world's first implementation of online video via a pay-TV managed network, the service is notable for several innovations:

- By rendering the application interface in the cloud, rather than on the device, UPC Hungary is enabling a uniform user experience to every subscriber, using the STBs already in homes;
- UPC Hungary is using CloudTV StreamCast's execution of video pass-through or real-time hardware transcoding in the cloud, ensuring compatibility between online audio and video formats and UPC Hungary's MPEG2 and H.264 STBs.
- Cloud-based stitching of both YouTube video and the cloud-rendered user interface provides UPC Hungary viewers with a single-stream television experience that retains all of the interactivity of the Web.

“ UPC Hungary has stated that the hardware cost of the service is 'a very small addition,' less than 1 Euro per set-top box. ”

Using the cloud, UPC Hungary quickly and cost-effectively scaled availability of the YouTube service. The service was launched to 200,000 high-definition STBs in May 2014, and since has become available on 320,000 additional devices, most of which are standard definition STBs. The bandwidth required is equivalent to that of a standard VOD channel. UPC Hungary has stated that the hardware cost of the service is “a very small addition,” less than 1 Euro per set-top box.

Other benefits of the cloud-based solution include reduced expense and faster service velocity for updates, which can be effected once in the cloud and delivered immediately to all devices, as well as the ability to ensure a uniform experience across every device as new STBs or CE devices are installed in the future.

Finally, the same platform can be used by UPC Hungary to deliver online video content, including encrypted content, from other SVOD providers, using capability that bridges DRM-protected online video content to the conditional access systems or specific DRM used by pay-TV providers. It was announced at IBC 2014 that HBO Europe intends to use a cloud-based platform to deliver its HBO GO service to full footprints of existing STBs in eastern and central Europe and the Netherlands.

Results

Since the launch of the YouTube service in May 2014, customer usage has far exceeded expectations. UPC Hungary had envisioned usage rates of between 30% and 40% of customers. Instead:

- 68% of UPC Hungary subscribers have tried the service, and of that number, 83% have returned for additional views.
- In September of 2014, UPC Hungary announced that customers were viewing more than 1 million minutes per day of YouTube content during the first three months of availability on the television.
- UPC Hungary has repeatedly stated that the average engagement length of a YouTube session is 45 minutes.
- UPC Hungary YouTube viewing is complementary to prime-time television, rising in the waking hours and remaining relatively consistent until prime-time viewing hours in the evening.

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