

# Challenges and opportunities for cloud DVR services: lessons from Liberty Global

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This comment analyses the potential of cloud digital video recorder (DVR) services to close the experience gap between operators' and broadcasters' TV services using over-the-top (OTT) alternatives; it also describes Liberty Global's experience in developing cloud DVR infrastructure.

## Cloud DVR solutions help operators and broadcasters to evolve their offering in line with changing customer needs, while potentially reducing costs

Consumer spend on pay TV and digital video in Europe will grow by EUR10 billion in the next 5 years.<sup>1</sup> OTT services are likely to capture around 80% of that growth, leaving traditional pay-TV models little room for expansion. Cord-cutting has proved problematic in the USA, and European operators' strategy of replacing cord cutters with new pay-lite customers will only sustain the market growth for so long. The increased availability of free content and the use of multiple types of device are also changing the way people consume video. Operators are therefore exploring cloud DVR services<sup>2</sup> to accommodate changing customer habits while improving the efficiency of their content-delivery infrastructure.

Cloud DVR solutions can also provide time shifting functions, such as catch-up TV and the ability to restart a programme. These help to adapt the overall pay-TV service offering to match users' video consumption behaviour. By using such functionality, the consumer is not constrained to a specific timetable to access missed content, and the ability to watch TV on-demand in such a way is increasingly becoming a priority. Multi-screen services are also enabled using cloud DVR functionality. Cloud delivery of content, and more specifically cloud DVR services that are based on a shared-copy framework,<sup>3</sup> also provides sizeable capex and opex benefits.<sup>4</sup>

<sup>1</sup> For more information, see Analysys Mason's [Pay TV in Western Europe: trends and forecasts 2017–2022](#) and [Pay TV in Central and Eastern Europe: trends and forecasts 2017–2022](#).

<sup>2</sup> Cloud DVR services, also known as network PVR, replicate the functionalities of a DVR on a cloud platform. Usually, operators and video service providers charge extra fees for a determined amount of cloud storage, rather than providing unlimited storage for a one-off price.

<sup>3</sup> Two broad frameworks for cloud DVRs are commonplace: 'shared-copy' and 'private-copy'. Within the 'shared-copy' model only one copy of each piece of content is stored and it is accessible to every subscriber who has added it to their recording library. It differs from the 'private-copy' approach, in which operators provide dedicated storage space for each subscriber where they can record private copies of the content.

<sup>4</sup> NFV and SDN-enabled CDN solutions will facilitate the efficient delivery of 4K and UHD content, as well as cloud DVR services. For more information, see Analysys Mason's [NFV, SDN and cloud are critical to the multi-screen, OTT and 4K business case](#).

## Content rights owners have been the main obstacle to the diffusion of cloud DVR services

The success of a cloud DVR service launch depends on negotiations with content owners. Where rights to content have not been explicitly agreed in advance, content owners have often successfully taken the provider to court.

**Figure 1: Legal cases against cloud DVR service providers<sup>5</sup>**

Country	Service provider	Launch year	Ruling favourable to
United States	Cablevision	2006	Service provider
Finland	TVkaista	2008	Content owners
France	Wizzgo	2008	Content owners
Germany	SAT.1	2009	Content owners
South Korea	Ental TV	2009	Content owners
Singapore	RecordTV	2010	Service provider
Japan	Rokuraku II	2011	Content owners
Japan	Maneki TV	2011	Content owners
Australia	Optus	2013	Content owners
Belgium	Bhaalu	2013	Service provider
United Kingdom	TV Catchup	2013	Content owners
Italy/EU/UK	VCAST	2017	Content owners

Source: Analysys Mason, 2017

## The Liberty Global Group set the stage for large-scale cloud DVR deployments in Europe by proactively engaging rights owners

Liberty Global's subsidiary, UPC, operates the Replay TV service in ten of its twelve European markets as of December 2017. This service enables subscribers to view past content from a large selection of highly rated TV channels for up to 7 days after airing. Replay TV presents numerous innovations over UPC's previous catch-up TV service: it is integrated into the electronic programme guide (EPG) and it is available on the Horizon Go platform and on the Horizon TV website. Liberty Global's Replay TV does not yet provide a cloud DVR service, but the platform, which is based on a shared-copy framework, can easily be configured to launch cloud DVR services across its footprint when needed.

According to the Liberty Global managers, Mr Van der Linden and Mr Halters, Liberty Global proactively engaged content owners regarding the issue of rights as soon as work on the Replay TV project commenced, as such a platform is subject to the same legalities as cloud DVR services, and they maintained close contact with the rights holders throughout the project. Liberty Global made use of its size and long-standing relationships with content owners to gain solid legal agreements to launch its Replay TV service, but given the fragmented legal landscape of their European footprint, each country was subject to separate negotiations. These cloud services had both direct and indirect revenue advantages for Liberty Global – some of the direct revenue growth

<sup>5</sup> This table only shows a selection of the court litigation regarding cloud DVR services. Many operators have not been challenged by content owners, such as Swisscom. This operator launched cloud DVR functionalities in 2013 when it came to an agreement with content owners to obtain a copyright exemption.

was passed to the content owners, but Liberty Global consistently experienced an increase in customer satisfaction (measured using the net promoter score (NPS)). Liberty Global also emphasised that the increasing value of VoD for consumers was a key factor in the design of Replay TV, which provided a better experience for consuming linear content next to existing TVoD and or SVoD functionalities.

Liberty Global in Europe plans to eventually transfer all residual DVR functionality across its footprint to the cloud, as well as adding new features such as voice searching and offline viewing for the Horizon Go service. The technical capability for cloud DVR is already there, but further content rights negotiations and commercial priorities need to be clarified with all the appropriate stakeholders.

## **There is no shortcut – operators will need to negotiate, giving a share of any revenue increase to content owners**

The legal grounds for the implementation of cloud DVR services require a well-defined agreement between operators and content owners. This is especially true in Europe, where a recent ruling by the European Court of Justice forbids national legislations to permit commercial undertakings that offer cloud DVR recording, even using a private-copy framework, without the rights holders' consent. Operators in this situation do not have the upper hand, and those who have successfully implemented such a service have agreed to share the profits to gain safer ground in the TV market.