

# PROJECT ORCHID TAKES ROOT AT **TELESTREAM**

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**S**o, how important is live video streaming to the global broadcast and electronic media market? Research shows that 2018 represents the inflection point after which time, on average, consumers watch more minutes of video through OTT streaming than through scheduled linear TV broadcasts (source: Zenith via Recode). By 2021, video will constitute 82 per cent of all consumer internet traffic and mobile video will comprise 78 per cent of all mobile data traffic (Source: Verizon Digital Media Services 2017; Cisco VNI 2017).

'Live' is the biggest differentiator that a broadcaster or service provider has in their armoury. More than any other form of entertainment, it greatly influences their ability to attract viewing audiences and thereby commercial advertisers. The more live content a broadcaster produces, the more ad revenue earned.

Relatively speaking, the investment that programme makers are putting into live production is greater since the viewing audience is the most valuable they have. However, the question today is whether that live broadcast is transmitted over the airwaves or streamed direct to the consumers' device of choice.

Several years ago, a major cable company CEO announced at CES that live was the firewall that would protect pay-TV operators. He believed that large audiences still wanted to watch their live events on linear TV and that would be the industry's redemption.

Now, a few years down the track, multiple holes are appearing in that firewall – the most significant being the impact of live video streaming. Research predicts that live internet video will grow 15-fold between 2016 and 2021 (Source: Internetworldstats.com).

## **ASSURING QOE AND QOS WITH LIVE STREAMING**

For live streaming to become an attractive business model, service providers need to provide a number of things, the

most important being a consistently high-quality viewing experience for large audiences. To achieve this requires a good understanding of the product that is being offered to consumers – you can't make a better viewing experience if you don't first understand what today's service looks like.

Monitoring is the secret to this – firstly, monitoring at the video headend proves that the origin data meets the quality levels that consumers demand. After this point, the distribution pathway will encompass multiple CDNs, access networks, in-home networks and WiFi infrastructures where media quality can be diminished.

If quality at the headend is good but it is significantly less good by the time the consumer views it, there is a challenge of identifying the weak link in the chain responsible for degrading the media experience. Today, with much of the distribution infrastructure being cloud-based there is a need to position virtual monitoring probes at every stage throughout the distribution chain.

Once this probe network is up and running, service providers can move from being reactive to become truly proactive. It will provide an efficient early warning system of distribution faults, so service providers don't have to wait until they start to receive complaints from viewers.

As the market moves to event-based business models where consumers are paying to view a specific event – be that a boxing match or a music concert – then efficient and effective real-time monitoring of the distribution chain is absolutely essential. Without it, service providers are open to real reputation damage, even involving class action lawsuits.

## **WHAT IS PROJECT ORCHID?**

Within enterprise-scale live event streaming ecosystems there are a number of essential requirements. One key area is the ability to dynamically adapt channel capacity to match the needs of the viewing audience. Within

linear TV applications, the long-term solution has been a 'channel in a box'. This hardware solution has been available for many years, and from multiple vendors. Whilst it is relatively rapid to install and commission, it will still take a broadcaster several weeks or months to get this new channel operational and on-air.

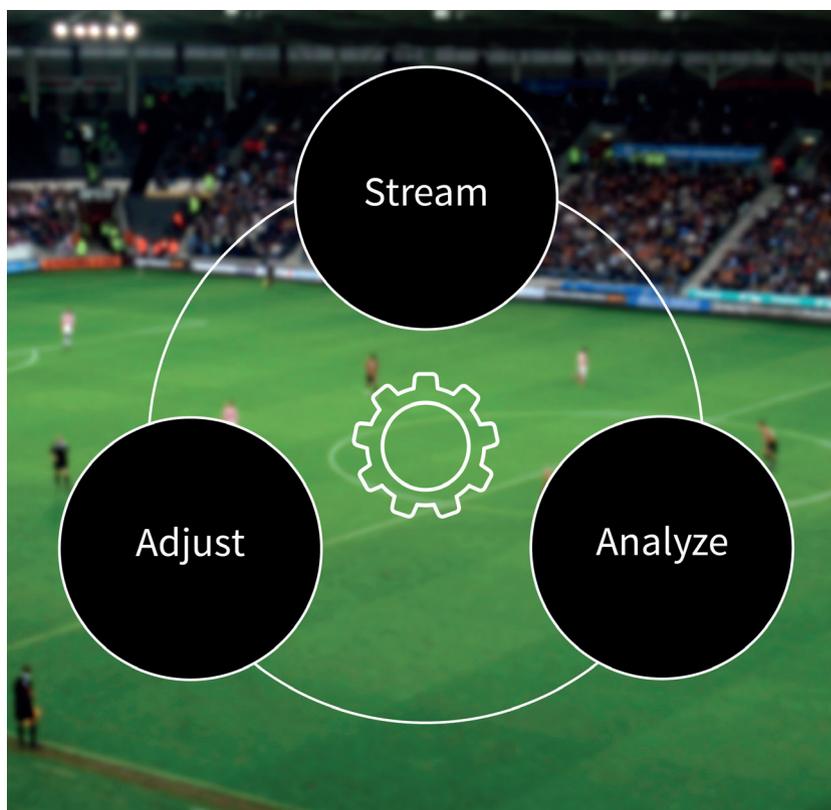
The cloud has transformed this scenario, empowering business agility that was previously just a pipe-dream. The Holy Grail is an ability to spin up a new channel within a tiny fraction of the time of traditional channels in a box – in effect reducing months to minutes. This is an area where Telestream has been focusing much of its research and development resources for more than a year. Still a proof of concept, Telestream introduced a new and radically different concept at IBC this year.

Combining the joint resources of Telestream and IneoQuest (which the company acquired 18 months ago), the result is Project Orchid. This concept provides a one click channel spin-up capability with fully integrated monitoring that is portable across all major cloud architectures and on-premise data centres. At the same time, the company has worked hard to ensure that anything deployed in traditional workflows today will work equally well within this new environment in the future.

Project Orchid has multiple real-life applications. One is the ability to very quickly spin up a channel and then take it down again once the spike in demand has passed. Having that ultra-fast channel response with integrated monitoring from the outset is incredibly valuable to users and differentiates Project Orchid from any other solution available today.

Another key application is where a service provider is running at high capacity for a length of time – maybe there are two major sporting events such as a major golf and tennis tournament happening at the same time. Normally in this situation, service providers will need to leave valuable live assets on the shelf, simply because they don't have the channel capacity to stream them. This could take the form of different camera angles or highlight reels.

But now, Project Orchid offers extra channel capacity, which can be spun up at very short notice and then taken down as soon as the peak has been passed. This business model focused agility enables content providers and



service providers to monetise their live content in the most compelling way.

An equally powerful component within the system is the ability to live-mix the channel on the fly. With this feature, the operator has pre-configured video playlists, ad drop-in lists and live switching between inputs, which is especially useful if there is a loss of main signal during an event.

This functionality builds on Telestream's broadcast experience: it targets live sports producers as well as a host of other broadcast applications. Based on visitor response at IBC, and also the conversations that Telestream is having with its customer based, this rich live channel compilation capability combined with industry leading video monitoring and analytics throughout the distribution chain is a very compelling proposition.

*'A key differentiator of Project Orchid is the rigorous video monitoring and analytics capabilities that come as standard.'*

**PICTURED:**

Stuart Newton (left), Ken Haren (right)



Talking to users of traditional channel in a box systems, a key differentiator of Project Orchid is the rigorous video monitoring and analytics capabilities that come as standard. Traditional channel in a box systems focus tightly on content production but they can turn a blind eye to the viewers' QoE. Project Orchid is the only concept which ties together the content production and content monitoring as core components of channel origination.

Telestream owns virtually all the intellectual property (IP) involved in Project Orchid. This allows the company to focus on key issues and develop agile solutions to those challenges.

For example, channel latency is a key issue in live streaming operations. Previously, there was no way of dynamically monitoring changes in latency across different networks and different geographical regions: now, with Project Orchid there is a solution in the making.

### **CAN A NETWORK BECOME SELF-AWARE?**

Latency is just one aspect of a QoE experience. With Project Orchid's integration of Telestream's market leading media processing capabilities with its newly acquired video monitoring capabilities it is offering a clearly differentiated customer proposition.

In a progressive development that breaks new ground, Telestream has developed capabilities for the system data generated by the downstream monitoring to be automatically fed back into the content creation architecture. With this capability, the system becomes self-aware.

When other vendors talk about this capability they are

talking only about the encoder or the data packager. In comparison, Telestream takes a holistic view of the entire content creation and distribution chain. Project Orchid provides actionable analytics which inform the production system; and the production system is embedding things in the video which helps inform the analytics programme.

### **EVOLUTION. NOT REVOLUTION**

Project Orchid is significant: the ability to spin up new channels within any cloud environment in minutes is new to the industry. And for that channel to include monitoring so sophisticated that it becomes aware of defects and can provide real-time feedback for corrective action is equally important.

What is really important is the evolutionary approach that Telestream has taken in developing Project Orchid. The company expects the first Project Orchid products to be introduced in late Q1 next year. However, it has developed a migration pathway that assures that any products bought today will be equally applicable with an Orchid environment.

Users that buy Telestream products today – from Vantage and Lightspeed Live to iQ Inspector – will benefit from using the same core technologies if and when they migrate to Orchid. Their operators will be trained on the same software, and all their configuration work will port across seamlessly. Customers can buy Telestream today and use it on-premise safe in the knowledge that Telestream will provide an intuitive migration pathway for their operations as and when they decide to migrate to the cloud or another virtualised environment. ■