



**DELIVER YOUR BIG LIVE OTT EVENT GLITCH-FREE**

# THE 'BIG EVENT' – OPPORTUNITIES AND CHALLENGES

*“...an opportunity to build brand awareness and a valuable platform to sell advertising on or add value for subscribers.”*

Your big event could be local or global, a sporting final or a reality TV show, but it will be the one that gathers the biggest audience with the biggest expectation. Whether it's the Superbowl, the World Cup, the Olympics or 'Sweden's Got Talent', it will come with a lot of publicity and social media coverage amongst your target audience - so it better not go wrong!

The rights to stream such big events are usually significant investments. They are an opportunity to build brand awareness and a valuable platform to sell advertising on or add value for subscribers. But the downside is just as great if your OTT viewers are not happy about the experience they get!

Unlike most on-demand OTT TV, big live events are characterized by hundreds of thousands of viewers all watching the same content at the same time, on multiple device types. And this creates some specific challenges for a unicast delivery system. High quality OTT delivery of your big events requires specific solutions to address these challenges. This solution brief explains how Edgeware can help you deliver your big event glitch-free.

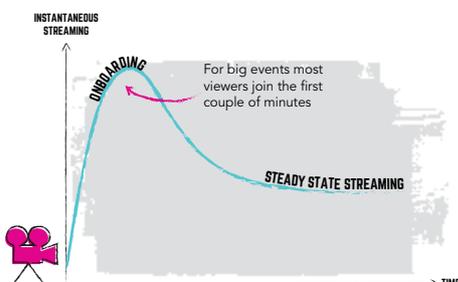


## THE ONBOARDING CHALLENGES

When delivering OTT TV, not all content can be treated the same. Live content has very different viewer behavior to on-demand (VOD) content, especially during the onboarding phase as many viewers want to start watching the same content at the same time.

- ✓ Huge numbers of clients are requesting exactly the same content...
- ✓ ...and the majority of the client requests come within a very short time period – in our experience 50-60% of all requests typically come within the first 2 minutes

This makes the onboarding phase absolutely critical for big live events and for the total viewing experience. That's why Edgeware has developed a number of key capabilities to specifically address the onboarding phase of live content.



## DYNAMICALLY SPREAD ASSETS TO AVOID OVERLOAD

In a scenario where thousands of clients are requesting the very same content from the very same TV Delivery server, there is a risk of server overload. Edgeware has addressed this risk with Dynamic Asset Spreading.

The Dynamic Asset Spreading feature is a capability of Edgeware's TV Director product and enables popular live assets to be spread across multiple servers and hence reduces pressure on single servers. Based on an asset's name, for example, the asset is spread to the servers of your choice, increasing the total streaming capacity. The more popular the live content is, the wider it is spread. This capability increases the number of servers that can stream the live content and means that the TV Director can direct client requests to the additional servers and thereby avoid overloading those servers initially requested to stream the content.

## PREDICT SESSIONS TO CONTROL ONBOARDING

As stated above, in big live events the majority of the client requests come within a very limited time period, most within the first 2 minutes. This characteristic is sometimes referred to as "appointment TV" because most viewers want to watch the program at the time of the original broadcast.

In a TV CDN this creates pressure on the TV servers' buffer fill which generates a peak as viewers are requesting the content. Edgeware's solution for big events solves this problem by predicting sessions as they begin to be requested, to balance the server load and control the onboarding.

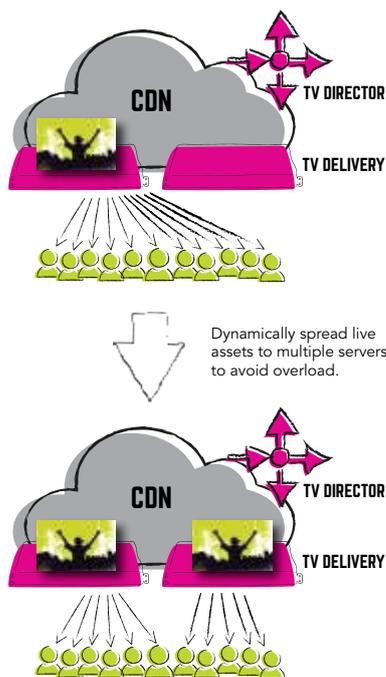
As the TV Director receives requests from the clients it knows how many sessions it is requested to set up. Even though the requests include different bitrates a threshold to the number of sessions can still be set. As the number of requests approach the server's limit, they can gracefully be directed to another server, before it hits congestion, and the additional streaming sessions are fulfilled from the "new" server.

An alternative threshold option to counting sessions is to use total streamed bandwidth as the means for server limit. For your VIP customers, this is an ideal set-up as it guarantees delivery of the bandwidth requested.

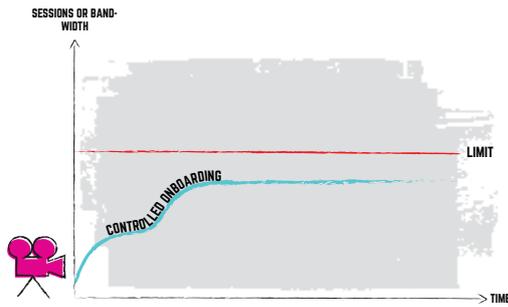
## CONSOLIDATE REQUESTS FOR EDGE ASSETS

Low latency is of course a good thing for TV CDNs, especially for big live events where viewers may see spoilers on social media feeds if latency is too high. However, when delivering live content in a latency-minimized CDN there is a risk that clients request the latest segments of the content before these segments have been written from the origin (NAS server) to the TV Delivery server. If this happens, then a huge number of clients will receive a cache-miss, and the servers will send many requests to re-send the content from the origin. Edgeware's solution for big events includes the capability to consolidate these requests for new segments into a single request, saving both capacity on the origin server and the backhaul network.

The Edgeware's Edge Request Consolidation capability **reduces pressure on the origin server**, as it collects all the requests for the newest segments and instead of requesting segments for every single client, it sends only one request. It also **saves backhaul capacity** as the NAS is sending the latest segments of the content only once, and not for every single server request.



*"...as the number of requests approach the server's limit, they can gracefully be directed to another server, before it hits congestion."*



Controlling the onboarding phase is key for a successful viewing experience.

## SUCCESSFUL ONBOARDING IS KEY

Edgware's solution for delivering your big live events has been developed to make onboarding during peak scenarios smooth and controlled. If onboarding fails, then viewers will be frustrated and might give up trying to watch your expensive content altogether. Along with a highly scalable and low latency streaming architecture, these technologies are designed to address the particular issues you face when delivering live events at large scale and to give your viewers the best possible experience, so you can maximize revenues from personalized ad impressions or subscription fees.

## AN AMAZING VIEWING EXPERIENCE IS ALWAYS IMPORTANT

The viewing experience is important whether content is live or VOD, but perhaps an amazing viewing experience is at its most critical for your biggest live events. Production or rights costs for big events can cost significant amounts and perhaps is it THE event where your TV CDN can shine a little brighter. With a big event, there is simply no room for a poor viewing experience!

Edgware's TV CDN is the ideal choice. Our proven track record of successful TV CDN deployments is characterized by a glitch-free viewing experience without buffers and delays. The capability of the TV Delivery servers to start streaming to the clients after only a small fraction of the content (only 64kb) has been received from the NAS is just one example of why an Edgware CDN is ideal for streaming live content. Our highly-distributed CDN architecture with edge servers close to the end viewers is another. The big event can also be an important platform for personalized ad insertion revenues. With Edgware's award-winning technology for ad insertion, using frame accurate segmentation, Edgware's Ad Enabler makes sure the shift between content and ads is delivered glitch-free to your viewers.

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## CONCLUSIONS

Managing the onboarding phase of a big live event is absolutely essential to ensure a high quality viewer experience, along with a scalable streaming architecture and low latency.

The Edgware solution for big events includes the ability to

- ✓ Spread the content across multiple TV servers to avoid the risk of server overload
- ✓ Predict and load balancing live sessions by dynamic server limits
- ✓ Consolidate asset requests to lower the pressure on the origin server and save backhaul
- ✓ Stream immediately to minimize latency
- ✓ Enable glitch-free experience of both live content and ads

All of Edgware's *big event* features are available as part of its software portfolio or can work with Edgware's purpose-built TV Servers.

All these features can be applied to provide a TV experience beyond even broadcast quality, like that provided by MyTV SUPER, the largest independent Chinese language broadcaster in Hong Kong, who delivered their viewers coverage of the Olympic Games in 4K, with 50fps, and personalized ads.

[Read more](#) in the MyTV SUPER Case Study on our website.

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Specifications are subject to change without notice.

Let's make TV amazing again.

**edgware**