Live OTT

Create a Live Service Worth Paying For

Live OTT is a distributed media streaming software solution for live and linear services over the top. The uniqueness of the solution lays in very low and fixed latency. This is uniquely complemented with frame synchronization of media rendering across devices and a higher picture quality level. When rationalized this transforms end-user expectations. From a high-delay and non-synchronized services into a premium end-user viewing experience.

The software suite is offered to delivery network providers as a business to business offering. For example, network providers may offer a compelling differentiated service to broadcasters and content owners. Alternatively, network providers may offer a business to consumer offering over the top, or in a walled garden pay-TV offering. Live OTT enables the premium TV experience over the top, live or linear. Live OTT is offered as a combination of recurring pay per usage (monthly internet usage) and active clients (concurrent users).

The Premium User Experience

Live OTT provides a fixed server side controlled latency and synchronized rendering of video and audio. A network resilient protocol, with higher streaming utilization, is in use with real time aspects by design.

With a robust media distribution mechanism, an overall picture quality increase is achieved due to an inertia effect, prolonging time at the highest profile. When the robustness resources are exhausted, a quality change is enforced in order to keep the experience of continuity, synchronization between screens and the fixed low latency. Live OTT uses a refined adaptive bit rate technology that is "state-aware" of the client's available bandwidth.

The stateful ABR tracks and book-keeps each client's bandwidth availability and network quality continuously in order to provide the highest possible picture quality at any given time. This approach has two distinct effects, 1) the client experiences the highest available picture quality for longer and 2) there are no longer the "sinus curve" behavior of non-stateful ABR. This "sinus curve" behavior is observable as through the stepwise gearing up and down of available ABR levels. Live OTT flattens this curve through its direct knowledge of the client's available bandwidth at all times.

Instant channel change without overbooking the last to the client is now possible. Live OTT bursts data without overbooking the last mile. This creates truly refreshing and intuitive user experiences. Consider the instant channel swipe. Swipe is a powerful man machine interface for UX designers and now, for the first time, channel change is fun!
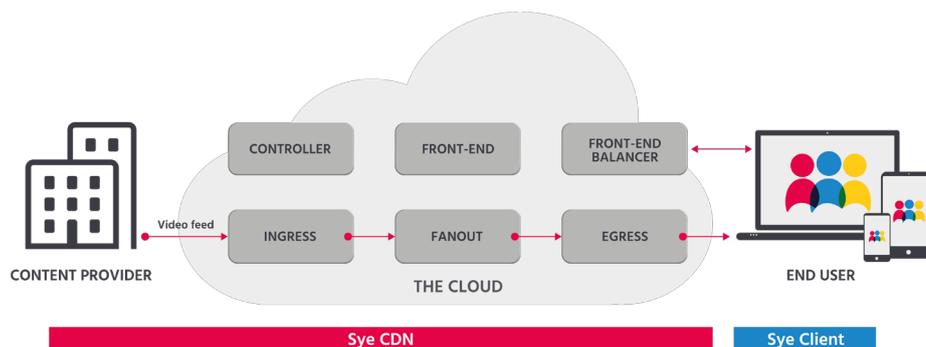
Live OTT Solution Architecture

The Live OTT back-end and play-out consists of different software services and functions. This is divided into the control plane and the data plane

Control Plane Services

The Controller Cluster includes functions for configuring and provisioning the live media network through the Dashboard. The Dashboard offers graphs tracking log and metric data from network services. Significantly, it also tracks and presents client data. The Front-End is the streaming load balancer, spreading load over multiple Egress functions in the network. The Front-end balancer is an HTTPS proxy that load balances client resource requests.

Data Plane Services

The Ingress function ingests content from encoders or transcoders depending on the application. The Ingress then reads out the characteristics of the bit stream before enriching the streams with sync and latency information. Fan-Outs are optional components for saving core bandwidth - achieved through point to multi-point replication. The Egress is the client streaming function and forwards ABR and instant channel changes to the clients.

Client SDK

In the client device, there is an integrated SDK component. The Live OTT SDK contains the necessary binary to be integrated into existing apps or newly built apps. This software handles resource requests, network streaming, decoding and rendering.

KEY FEATURES

Scaling and Redundancy.

Controller cluster, n+5, and n+2 for all other functions.
Up to 80% of network I/O utilization depending on key factors*

Streaming.

Ingest format: Unencrypted MPEG-2 transport streams over UDP, unicast or multicast Video and Audio Formats: Apple recommendations ABR Profiles: Apple recommendation

Software package.

Client SDK: Xcode and Android Studio projects, reference application and API documentation as a software package.

Server cluster software suite: ISO base image for bare metal or VMWare vSphere 5.5 or later installations and application tarball.

Number of channels, number of ABR profiles, bitrates per profile, number of concurrent users deployment on bare metal vs. virtualized environments and NIC configurations.

Device support.

Apple: IOS 8 or later.
Android: Select devices supporting Android 4.4 or later with hardware decoder support.

App Framework.

Pre-Integration: Accedo Broadband
DRM Pre-Integration: Verimatrix

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