Streaming Engine

For: For Telecoms, Media & Entertainment, & Anybody Who Wants to Start New High Quality TV Service

⇒ In Sport Every Second Matters
⇒ Overcome the Challenges of Internet Connectivity
⇒ Reach all the Audience around the Globe
⇒ Low Latency, High Video Quality, 4K/8K Live Stream around the World

Long Range Live TV Streaming with Best Viewing Experience

Qarva's Low Latency Streaming Solution is a perfect combination of the aQua Video server with an award-winning OTT MultiPipe protocol and industry-leading DRM platforms.
As a result, we have the set of functionalities fully dedicated to effective archiving and secure delivery of video content at the same time addressing the main issues of the internet television – delay from live streaming and dependence of the bitrate on subscriber's geographic location.

Qarva MultiPipe Protocol – Enabler of Low Latency Live Video Streaming Around the World

Qarva MultiPipe streaming technology provides the solution overcoming all Internet limitations – latency from live and dependence of the bitrate on subscriber's geographic location.

Real Test How MultiPipe Overcomes the Challenges of Internet Connectivity
The real-life tests were performed to prove the advantage of Qarva MultiPipe over standard protocols. These tests showed that connection established between Europe and Hong Kong with 500ms RTT resulted in 20mbps stream in case of Qarva MultiPipe and only 2mpbs stream in case of standard protocol. In case Sidney (600ms) numbers were 20mbps and 1mbps respectively.

High Quality Streaming with High-Capacity Video Servers

aQua Video Server is designed with maximum performance and scalability in mind. Video server is capable to utilize maximum amount of storage space available, RAM and CPU cores in one instance (multiple instances on one server

is allowed). In real world cases one aQua Video Server is capable to stream up to 200 Gb/s to up to 50000 clients simultaneously.
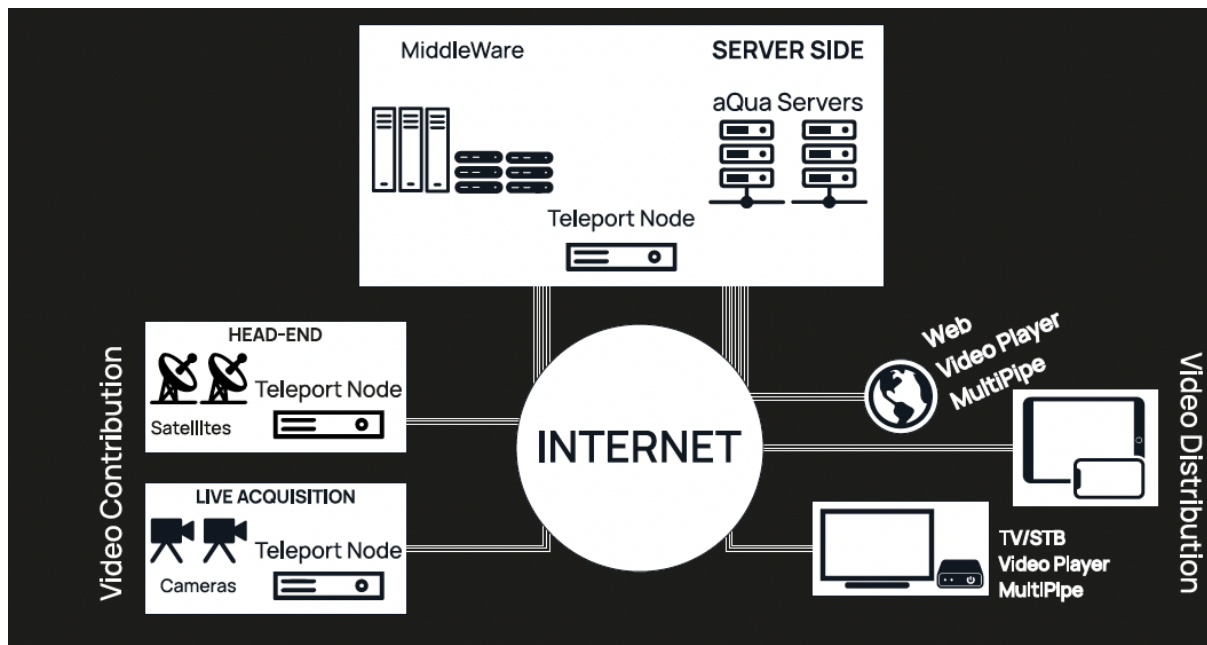
aQua Video Server key features are:
- source could be aQua media server, UDP/RTP multicast (with Qarva FCC/PLR support), HLS playlists or HTTP progressive sources
- supports static VOD content
- supports real-time content indexing for Multiformat and Trick Mode streaming
- streams indexed content in Qarva Proprietary or HLS/HTTP progressive format
- supports various content protection, such as DVB-CSA, Verimatrix, PlayReady, Widevine
- supports config file-based management and management from database
- supports client IP black/whitelisting
- supports client content scrambling with static keys
- supports client tokenization
- comprehensive statistic of sever usage (memory, storage, CPU, network, clients, contents)

Features of the aQua Video server are fully dedicated to video content effective and secure archiving and delivery of media information to the STB and other endpoints. Secure delivery of the content is empowered by integration with Google Widevine and Apple FairPlay DRM systems.
Unlimited horizontal scalability allows service providers to easily scale out, reduces expansion costs and conserves space while still allowing room to grow.

In addition, aQua uses server hardware in a very efficient manner. The resulting aQua streams are very cost effective and double or triple stream capacity when compared to competitive offerings on the market.

Direct reception of a satellite feed and the ability to digest a Variable Bitrate feed without loss in quality reduces hardware costs by eliminating the necessity for transcoders. This means that one aQua Video Server can do the same amount of work that requires several competing video servers. This results in a low cost per stream making aQua Video Server even more efficient, space saving and cost effective.

Record Live Content Infinitely - Manage Your Favorite Sports and Movies in Seconds

Qarva aQua technology allows one-touch instant rewind from the live TV without deterioration in quality. Our unique indexing method ensures absolute precision – playback starts from the exact moment when the viewer stops rewinding or resumes paused video.

DRM Supported, ABR HTML5 Player – Easy Integration to Existing Legacy Systems

- ⇒ Catch a Second & Manage Your Time
- ⇒ Play / Pause
- ⇒ One Touch Instant Rewind
- ⇒ Time-Shift (Catch-Up) TV
- ⇒ Bookmarking / Reminders
- ⇒ EPG

PIX – innovative way of Rewinding Live TV

Qarva has developed the ultimate in IP Television trick play; Qarva Pix. This is a unique feature providing "slide rewinding" similar to that seen on smart phones. Using a finger, the viewer can sweep the video content forward or back and stop. The amount of content the scrolling frames represent is user chosen; an hour, a minute, a second. It is a highly accurate and immersive way

for the user to choose exactly where they want to be in the content. When a frame is chosen it can be expanded with a hand gesture and re-divided into smaller segments so the user can find what they are looking for down to the second.

The Qarva Pix server, part of the Qarva QoE ecosystem, receives frames from the aQua server and renders them as a linear sequence of 'film frames' that can be manipulated to and from. When the user chooses to stop and returns to the play mode the device is seamlessly returned to the aQua buffered recording or the live stream.

Key Features:

Ultra-Low Latency Around the Globe
4K/8K Streaming
200Gbps Streaming Capacity Video Servers
Widevine & Fairplay Support
ABR Support
HTML5 Player for Easiest Integration

How Does It Work?
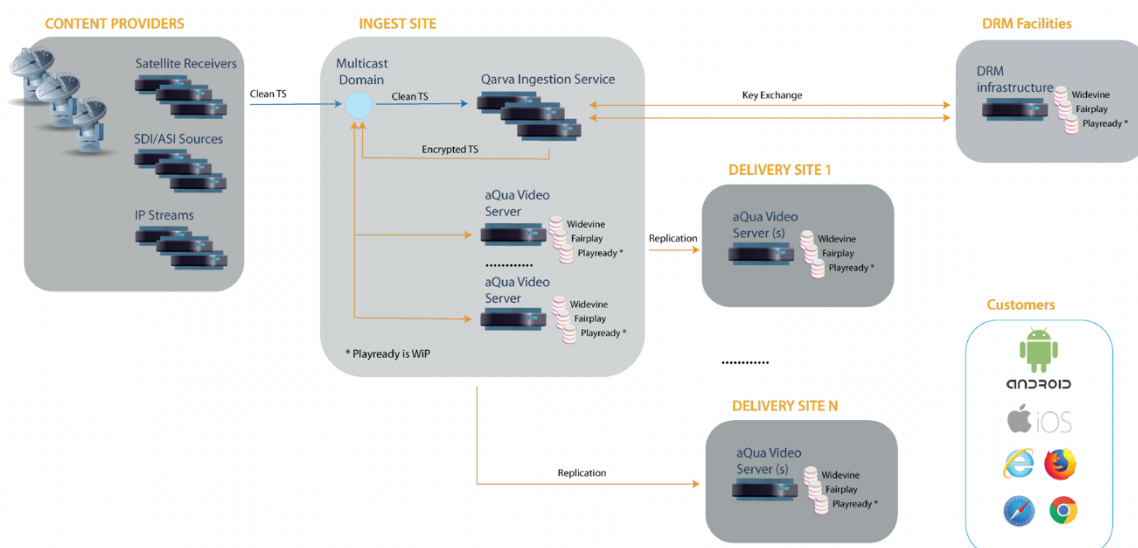
Qarva MultiPipe OTT protocol is award winning solution delivered by Qarva in order to provide subscribers TV service over the internet at the same time addressing two main issues of the internet television – Delay from live streaming and dependence of the bitrate on subscriber's geographic location.

Qarva MultiPipe is TCP/IP based protocol, which uses persistent connections to multiple streaming servers around the world, that were allocated in order to shorten distance between subscriber and server due to HLS protocol limitations, to receive and aggregate content data.

Up to 32 servers can be accessed the same time generating high content delivery speed and allowing usage of whole bandwidth of local internet connection for accessing video even from another continent and getting HD or even 4K quality.

Qarva MultiPipe could be integrated as proxy agent for older platforms or using provided libraries for most performance. In case of using MultiPipe proxy agent on end user device, aggregated video stream will be outputted to the device's legacy player as HTTP video stream or HLS video stream.