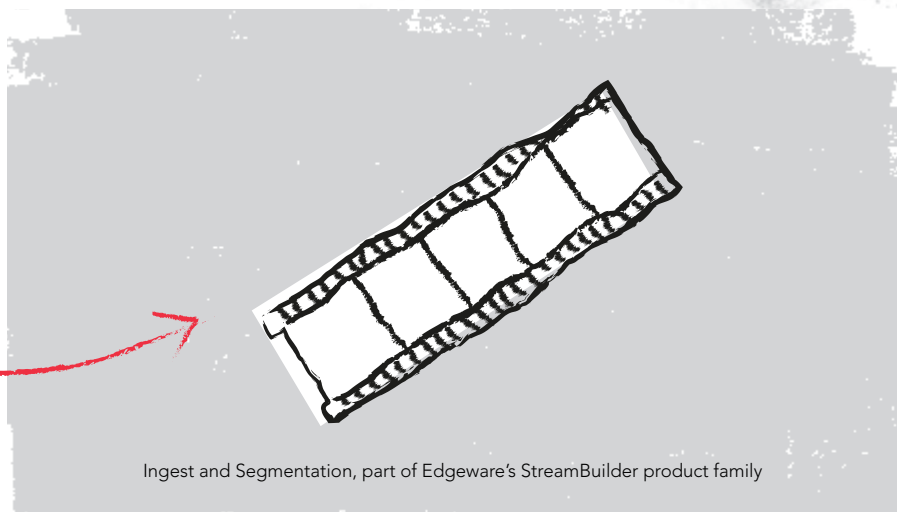## STREAMBUILDER OVERVIEW

StreamBuilder is one of Edgeware's four product families and includes content processing functionality necessary for an OTT distribution.

Available as both an on-prem and saas offering it brings key capabilities to capitalize your content, offer a glitch-free viewing experience and a scalable solution.

StreamBuilder includes products for the following applications:

- OCR Subtitling
- Ingest and Segmentation
- Ad Insertion
- Time-shift TV
- Just-in-Time Repackaging
- Protection
- Content Stitching



Ingest and Segmentation, part of Edgeware's StreamBuilder product family

# INGEST AND SEGMENT YOUR TV CONTENT WITH HIGH PRECISION FOR BROADCAST GRADE QUALITY

Ingest and Segmentation, part of Edgeware's StreamBuilder product family, ingests your content assets and processes it in the most accurate and optimized way to enable glitch-free viewing. It segments and synchronizes the incoming streams, aligning audio, video and subtitling streams with broadcast grade quality. Live streaming is treated separately, offering extraordinary quality. With its high precision segmentation capabilities it reduces the dependency on encoder performance and helps overcome synchronization issues when multiple encoders are used.

## WHAT IT DOES

Edgeware's StreamBuilder products provide the ultimate capabilities for distributing live streams and VoD assets over an http delivery platform.

Ingest and Segmentation is one of the products in the StreamBuilder product family. It segments the incoming stream from a wide range of encoders, providing high flexibility and investment protection.

The accurate and strict segmentation performed by the Ingest and Segmentation product is aligning with encoders' frame rate and GoP (group of pictures) duration. This can compensate for potential synchronisation and time-drift issues introduced by the encoders.
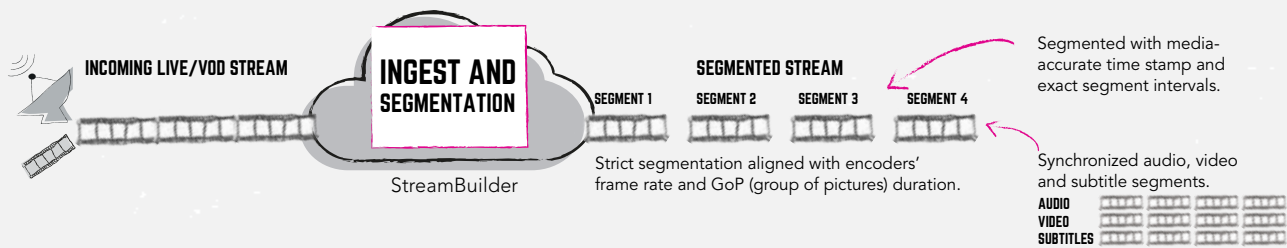
Each media-stream component such as audio, video and subtitles are segmented, aligned and synchronized in the most optimal way to avoid unnecessary latency or glitches.

## KEY FEATURES & BENEFITS

✅ High precision segmentation of incoming streams to enable http distribution in any ABR format

✅ Synchronization and alignment of audio, video and subtitling segments

✅ Strict segmentation reducing the dependency on encoder performance and prolonging the usage of older encoders

✅ Short and dedicated catch-up buffer in RAM for live providing robustness even if NAS is overloaded

✅ Deterministic segment creation for maximum client compatibility

✅ Modular architecture enabling scalability of ingest functionality separate from egress i.e. many/few ingest channels vs many/few client requests

## HOW IT WORKS

**1.** Incoming live streams and VoD assets from the headend are ingested into the Ingest and Segmentation.

**2.** The streams are segmented with high precision.

**3.** Audio, video and subtitle segments are synchronized and aligned to minimize latency and avoid glitches.

**4.** Live segments are stored in a small catch-up buffer in the RAM giving maximum robustness for live streaming.

**5.** For time-shift services, the live segments are stored in a catch-up buffer in the internal or external storage.

**5.** VoD segments are stored in internal or external storage to enable on-demand viewing.

# STREAMBUILDER - INGEST AND SEGMENTATION

## edgeware



**INCOMING LIVE/VOD STREAM**

**INGEST AND SEGMENTATION**

StreamBuilder

**SEGMENT 1**  **SEGMENTED STREAM**  **SEGMENT 2**  **SEGMENT 3**  **SEGMENT 4**

Segmented with media-accurate time stamp and exact segment intervals.

Strict segmentation aligned with encoders' frame rate and GoP (group of pictures) duration.

Synchronized audio, video and subtitle segments.

AUDIO
VIDEO
SUBTITLES

## HOW TO DEPLOY

The Ingest and Segmentation can be deployed in public or private clouds, in data centers or on COTS hardware. The product can also be offered as part of the Edgeware Cloud Service, with Edgeware operating it from the cloud. The modular architecture of the StreamBuilder products allow full flexibility to suit different market characteristics and business models and provide an elastic and scalable content processing solution.

## TECHNICAL SPECIFICATIONS FOR INGEST AND SEGMENTATION

| LIVE INGEST |
| --- |
| Multicast ATS |
| Unicast ATS (UDP) |
| RTP + FEC |
| Zixi |
| SRT |
| **VOD INGEST** |
| DASH on Demand |
| MP4 (with SMIL) |
| HLS |
| **VIDEO & AUDIO CODECS** |
| Video codecs: |
| AVC/H.264 |
| HEVC/H.265 |
| Audio codecs: |
| HE-AAC |
| HE-AAC v2 |
| AAC-LC |
| AC-3 (Dolby Digital) |
| E-AC-3 (Dolby Digital Plus) |
| Dolby Atmos |

| SUBTITLES |
| --- |
| EBU Teletext (in) |
| Cavena Teletext (in) |
| DVB Subtitle (image based) (in)* |
| CEA-608/708 Closed Caption (Passthrough) |
| **DYNAMIC AD MARKERS** |
| Ad Markers from SCTE-35 |
| **OTHER FEATURES** |
| Trick play support (preview images in scrub bar) |
| **CLOUD FRIENDLY** |
| Object based storage |
| S3 |
| Azure blob |
| Cloud platforms |
| AWS |
| Azure |
| Ingest formats |
| RTP + FEC |
| SRT |
| Zixi |

*With OCR Subtitling

| HIGH AVAILABILITY |
| --- |
| Node redundancy |
| Synchronized segmentation |
| Node synchronization |
| Repair mechanism between circular buffers |
| Multiple circular buffer deployment options |
| Robust live streaming with dedicated RAM catch-up buffer |
| **SYSTEM CONTROL** |
| SNMP (Control and Status) |
| REST API |
| Configuration and Monitoring GUI |
| System Resource & Statistics Monitoring |
| Notification and Alerts |
| **SYSTEM HW / SW** |
| Linux RHEL 7 + CentOS 7 |
| Unlimited number of CPU Cores |
| IPv4 + IPv6 |
| IGMPv2 + IGMPv3 |
| HTTPS/FTPS |

Learn more at www.edgeware.tv