**Features**

- Media distribution server designed for both Live and Stored (VOD) applications
- Ingests H.265 or H.264 live streams over IP, then adds wrappers such as MPEG-DASH, HLS, or RTMP
- Supports both HD and SD H.265/HEVC and H.264/MPEG-4 AVC
- Packaging or Origin or Edge server
- Inbound Protocols: Multi-bitrate File, RTMP, RTSP, MPEG-TS, HLS
- Outbound Protocols: HTTP Live Streaming (HLS), RTMP, MPEG-DASH, MPEG-TS
- Converts unicast streams to multicast streams, or other direction
- Includes Catch-up TV and live timeshift functionality (rewind/fast forward) via HLS, creates X hour buffer and continuously cleans up old files
- File formats supported for VOD: TS and MP4
- Server Side Ad Insertion with HLS – Server inserts pre-encoded ads based on schedule or with SCTE markers. Dynamically targets ads at specific users.
- Adds subtitles for closed captioning or multiple languages
- Intuitive management interface
- Compatible with Verimatrix® VCAST™ and Widevine® DRM’s
- Fully Cloud manageable
- Supports Android™ private channels
- Data Base Replication – Produces device specific segments
- Carrier Class hardware
- Supports Teradek®, LiveShell Pro™, Wirecast™, Motorola®, Harmonic®, Tandberg®, Matrox®, Cisco®, Spark-ETM HDMI/IP, and most other well known encoders
- Easy FTP transfer of media for VOD of stored content
- REST and SOAP SDKs are available

**Applications**

- Over the Top TV (OTT)
- Live Video Auto Archive and then to VOD
- VOD support for small, midsize IPTV deployments
- Movies on demand
- Multiscreen Content delivery
- Education Video Server
- Just in Time Encryption
- Ethnic Channel Video Server
- STADIUMS and Public Venues
- Content Caching for ISP’s
- Pause and Catch-up TV

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**Packagers**

Packagers are the newly respected Swiss Army Knife of the streaming industry. They are designed to segment H.264 transport streams into pre-determined chunks and package or wrap the segmented streams into HLS or DASH. A third function they are tasked with is serving these streams to thousands of users simultaneously. Packagers often also apply DRM or content protection keys to secure the streams. We support DAES-128, VCAST™ (Verimatrix®), and Widevine® output. We can import DISH or Vubiquity™.

Packagers are typically fed the required profiles via HLS or TS from origin encoders or transcoders. They do not typically encode or transcode. They are designed to keep track and feed segments used by clients.

Our packaging server does more than many others. We support non-segmented outputs as well as segmented outputs. We also support "Go Back TV" functionality in our servers.

DVEO’s ATLAS III Packaging Server: TELCO supports third party encoders and transcoders, including Harmonic®, Elemental®, and Envivio®. Our packager also works seamlessly with our Brutus™ or Gearbox™ profilers/ gateways. This allows you to re-use encoded TS or HLS content from anywhere as long as the resolutions needed are available.

Packaging is crucial in today’s mobile oriented environment. Chunks help alleviate problems associated with bandwidth changes and mitigate out-of-order packets. This bit rate adjustment technique ensures that mobile devices are supported with the best possible video quality at all times. This is critical since there are now almost 2 billion mobile devices out there that need to be fed.

As of June 2017, ATLAS servers support Android™ private channels.
Benefits of Packaging Servers

- Designed for adaptive streaming protocols like HLS and DASH
- Offloads CDNs so local users pull content from local packaging servers
- Provides for re-use of live feeds for VOD delivery

Benefits of Media Servers

- Serve thousands of users
- Provide encryption services to each stream

Features Matrix

<table>
<thead>
<tr>
<th>Feature</th>
<th>Broadpeak®</th>
<th>DVEO® ATLAS™</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLS Input</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Smooth Input</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>FMP4 VOD</td>
<td>Yes</td>
<td>Soon</td>
</tr>
<tr>
<td>Adaptive TS input</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>HLS output</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Dash output</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>HDS output</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Smooth output</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Time Shift output</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Start over/Catchup</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>DRM Encryption</td>
<td>AES128, Playready</td>
<td>AES128</td>
</tr>
<tr>
<td>DRM Vendor</td>
<td>Verimatrix®, Widevine®, BuyDRM™</td>
<td>Verimatrix®, Widevine®, BuyDRM™</td>
</tr>
</tbody>
</table>

Inputs/Outputs

- Web User Interface (HTTP and HTTPS)
- SSH for CLI Access
- SNMPv2 for Monitoring and Alerts
- SOAP API for the System
  - Statistics
  - Management of Stream Adaption Profiles and Stream Adaption Families
- SOAP API for Live
  - List of the channels
  - Creation/configuration of channels
  - Statistics on channels
- SOAP API for VOD
  - List of the contents
  - Creation/configuration of contents and associated jobs processing
  - Statistics on contents

Application Example – Hotel or Stadium VOD Server

Atlas III uses variable sized buffers. This means we provide a 1-X hour buffer for each program. Each user then can pause and/or go back in their buffer and watch segments again should the person be interrupted or wish to restart the program at an earlier point in the timeline.

Catch Up

Throughput

Sample of GUIs

Scheduled IP Input Setup

IP Output Setup

Throughput

No. of Simultaneous Users Increases as Average Bitrates Fall

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Specifications

**IP Input**
- HLS cache, HLS push via web dev, Multi-bitrate input/output file, RTMP, RTSP, MPEG-TS (UDP), HLS, TS, MP4

**IP Output**
- Output protocols: HTTP Live (HLS), RTMP, MPEG-DASH, MPEG-TS

**Some Supported Resolutions – Input and Output**
- 1920 x 1080
- 1280 x 720
- 720 x 576
- 720 x 480
- 704 x 480
- 640 x 480
- 480 x 480
- 480 x 320
- 320 x 240
- qHD
- H.264
- H.265

**Hardware**
- **CPU:** Intel® Dual 16 Core processor
- **OS:** DVEO embedded Linux® on SSD
- **Hard Drive:** 3 TB SSD Standard, Optional up to 256 GB
- **RAM:** 128 GB, Optional up to 256 GB
- **Network:** Four 10 Gbps and two 1 Gbps Ethernet

**Physical & Power**
- Size – 3 RU high: 19 x 5.25 x 25.2 inches (W x H x D)
- Power Supply: 3U 760W – Redundant
- Operating: 0°C ~ +50°C on Full Load Storage & Shipping: -20°C ~ +70°C
- Non-operating Humidity: 5% to 95% non-condensing
- Weight: 39 lbs. (17.69 kg)

**Conformities:**
- UL, BSMI, CSA, FCC, CE, RoHS

**Security**
- Ports security scanned to MIL requirements prior to shipment

**Ad Insertion**
- SCTE Ad Marker insertion via RS232, USB, IP, Contact closures

**Block Diagram**

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