Linux® based live or VOD Media Distribution Server designed to serve 80+ channels with support for 7,000 users at 1 mbps. Works with most STBs and mobile devices expecting HLS and DASH. Supports live streams from IRDs, IP cameras, origin servers, and H.265 or H.264 encoders or transcoders. Used as an Origin (Main) or Edge server for live or VOD. Supports HLS Timeshift or Catch-up TV, to rewind, pause, and fast forward live streams. Converts TS, DASH, RTMP, or HLS to UDP unicast or multicast TS wrapped with HLS or DASH when needed. We provide 1-10 TB of SSD, network speed of 10 Gbps, and up to 64 GB of RAM on board for sustained performance. Results affected by your bandwidth.

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, midsized 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

Overview
Up till recently, video content providers streamed video from their origin server which had to be configured with sufficient bandwidth and money resources. CDN’s made huge profits. A better work flow has now evolved.

A new type of server called the “Packager” or “Edge Server” provides a far better solution and saves significant cost for content distributors. Our Edge Serve typically is situated at the end points of CDN’s and is designed to provide just the right flavor of stream needed by users. These units are equipped with sufficient memory and plenty of “local bandwidth” to provide users with local “pulls” and thus end up creating a superior user experience at a really good price.

Our 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 II Server: Origin+EDGE+CDN 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 natively.
Benefits of ORIGIN 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>

Sample of GUIs

Inputs/Outputs

Application Example – Hotel or Stadium VOD Server

Catch Up
Atlas II 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.
Specifications

**Supported Input Devices**

Arris®, Cisco®, Ericsson®, Harmonic®, LiveShell Pro™, Matrox®, Spark-E™ HDMI/IP, Teradek®, Wirecast™, DVEO Brutus™, DVEO Gearbox™

New: TV APPMAKER™ – Direct support for Android™ private channels

**Supported Output Devices**

Any device that runs HLS or DASH: This includes all Apple®, Android™, and Chrome® based devices.

Supports DVEO’s IPTV or OTT Dashboard that manages JW Player™, THEOplayer™, and zXORA™ player.

**General DRM + CAS Support**

Verimatrix® VCAST™, Microsoft PlayReady, Widevine®, BISS, Simulcrypt standard (ECMG), AES-128 Encryption

Hospitality Oriented Support: DISH Simulcrypt in from PD-1600

Input: Simulcrypt

Output: Widevine or Verimatrix

**Ordering Information**

**ATLAS Options**

| ATLAS I Server: Origin+EDGE +CDN | ・ Small affordable live streaming and VOD server  
| | ・ 8 GB memory |
| ATLAS 1.5 Server: Origin +EDGE+CDN | ・ 1 RU live streaming and VOD server  
| | ・ 8 GB memory |
| ATLAS II Server: Origin+EDGE +CDN | ・ Live and stored asset server  
| | ・ 1 RU Rackmount  
| | ・ 128 GB memory  
| | ・ 2 10 Gbps and 2 each 1 Gbps Ethernet  
| | ・ 1 TB SSD, optional up to 10 TB |
| ATLAS III Server: Origin+EDGE +CDN | ・ 3 RU Rackmount  
| | ・ 128 GB memory, optional up to 256 GB  
| | ・ 4 10 Gbps and 2 1 Gbps Ethernet  
| | ・ Optional Android/iOS/PC Players |
| ATLAS IV Server: Origin+EDGE +CDN | ・ Live and stored asset server  
| | ・ 1 RU Rackmount  
| | ・ 128 GB memory  
| | ・ 2 10 Gbps  
| | ・ 48 TB SSD, optional up to 256 TB |

Optional DOZER™ Packet Loss Correction

・ Optional DOZER™ Automated UDP Packet Recovery protocol, enabling error-free video delivery over UDP

**Ad Insertion**

SCTE Ad Marker insertion via RS232, USB, IP, Contact closures

**Block Diagram**

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