

# **ATLAS™ I Packaging Server**

Powerful second generation “turnkey” live and VOD streaming server for few to many content distribution. This is an affordable “ready to go” appliance that enables you to stream live and on-demand events to many subscribers from any H.265 or H.264 encoder or IP camera. This is much more convenient than purchasing software and configuring software to match hardware you may have or purchase. We offer flexible factory technical support as well. Supports 700 users simultaneously at 1 mbps. Supports transport stream, RTSP, or RTMP inputs and serves these as HLS, RTMP, DASH, and MPEG-TS streams. This unit is ideal for corporate communications, religious and faith-based institutions, schools, museums, festivals and special events, and video bloggers. All you need is suitable bandwidth to support simultaneous users.

## Features

- Ingests H.265 or H.264 transport streams (TS) from any encoder
- Ingests HLS or RTMP from any streaming encoder
- Ingests H.265 or H.264 RTSP from any IP camera
- Easy-to-use browser Config dashboard
- Outbound Protocols: HTTP Live Streaming (HLS), RTMP, MPEG-DASH, MPEG-TS
- Sends live or stored adaptive bitrate video feeds to any device that supports HLS or MPEG-DASH
- 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.
- Can live within firewall
- Ships as a turnkey appliance
- Price includes two hour factory Config assistance
- Supports both unicast and multicast outputs
- ATLAS I's can do content discovery among multiple ATLAS I's
- Compatible with Verimatrix® VCAS™ and Widevine® DRM's
- Adds subtitles for closed captioning or multiple languages
- Fully Cloud manageable
- Supports Android™ private channels
- Easy FTP transfer of media for VOD of stored content
- REST and SOAP SDKs are available
- Comparable to well known streaming engine solutions that arrive as software-only solutions

## Applications

- Over the Top TV (OTT)
- Streaming festivals and special events
- Live Streaming support for small, midsized IPTV deployments
- Multiscreen Content delivery
- Education Video Server
- Cruise Ship Video Server
- Ethnic Channel Video Server
- STADIUMS and Public Venues
- Ingest from DISH PD-1600 and output Widevine® or Verimatrix®



## Overview

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, VCAS™ (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 compact ATLAS I Packaging Server 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.



**Computer Modules, Inc.**

11409 West Bernardo Court

San Diego, CA 92127

Tel: 858-613-1818 Fax: 858-613-1815

[www.dveo.com](http://www.dveo.com)

## 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

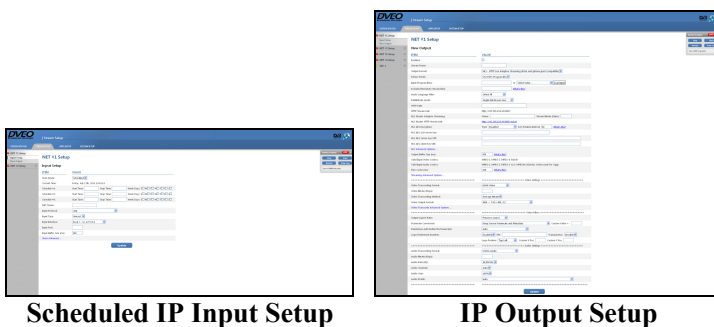
## Benefits of Media Servers

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

## Features Matrix

| Feature            | Broadpeak®                      | DVEO® ATLAS™                    |
|--------------------|---------------------------------|---------------------------------|
| HLS Input          | No                              | Yes                             |
| Smooth Input       | Yes                             | No                              |
| FMP4 VOD           | Yes                             | Soon                            |
| Adaptive TS input  | Yes                             | No                              |
| HLS output         | Yes                             | Yes                             |
| Dash output        | Yes                             | Yes                             |
| HDS output         | Yes                             | No                              |
| Smooth output      | Yes                             | No                              |
| Time Shift output  | Yes                             | Yes                             |
| Start over/Catchup | Yes                             | Yes                             |
| DRM Encryption     | AES128, Playready               | AES128                          |
| DRM Vendor         | Verimatrix®, Widevine®, BuyDRM™ | Verimatrix®, Widevine®, BuyDRM™ |

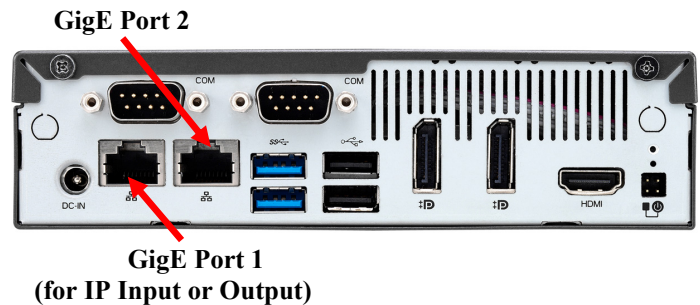
## Sample of GUIs



## Interfaces

|  |
|--|
| Web User Interface (HTTP and HTTPS)  |
| SSH for CLI Access   |
| SNMPv2 for Monitoring and Alerts   |
| SOAP API for the System <ul style="list-style-type: none"> <li>• Statistics</li> <li>• Management of Stream Adaption Profiles and Stream Adaption Families</li> </ul>                                    |
| SOAP API for Live <ul style="list-style-type: none"> <li>• List of the channels</li> <li>• Creation/configuration of channels</li> <li>• Statistics on channels</li> </ul>                               |
| SOAP API for VOD <ul style="list-style-type: none"> <li>• List of the contents</li> <li>• Creation/configuration of contents and associated jobs processing</li> <li>• Statistics on contents</li> </ul> |

## Input/Output



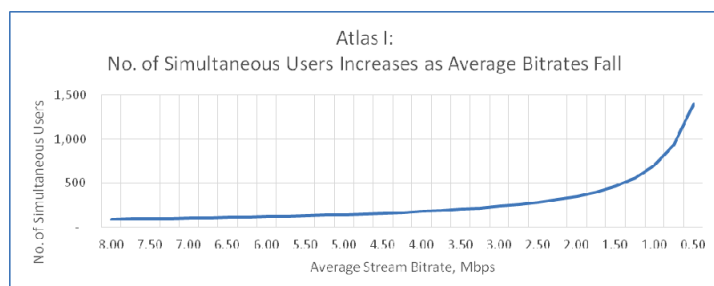
## Example Ports

|                      |                 |
|----------------------|-----------------|
| HTTP/HLS/DASH/Smooth | Port 80 or 8080 |
| RTMP/Flash           | Port 1935       |

## Catch Up

Atlas I 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

## Throughput



## 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™ box private channels

## Supported Output Devices

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

## General DRM + CAS Support

Verimatrix® VCAS™, 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

|  |   |
|--|---|
| <b>ATLAS I Packaging Server</b>        | <ul style="list-style-type: none"> <li>Small affordable live streaming and VOD server</li> </ul>  |
| ATLAS 1.5 Packaging Server             | <ul style="list-style-type: none"> <li>1 RU live streaming and VOD server</li> </ul>  |
| ATLAS II Packaging Server: TELCO       | <ul style="list-style-type: none"> <li>Live and stored asset server</li> <li>1 RU rackmount</li> <li>1 10Gbps and 2 each 1 Gbps Ethernet</li> <li>1 TB SSD</li> </ul> |
| ATLAS III Packaging Server: TELCO      | <ul style="list-style-type: none"> <li>3 RU rackmount</li> <li>4 10 Gbps and 2 1 Gbps Ethernet</li> <li>Optional Android/iOS/PC Players</li> </ul>                    |
| Optional DOZER™ Packet Loss Correction | <ul style="list-style-type: none"> <li>Optional DOZER™ Automated UDP Packet Recovery protocol, enabling error-free video delivery over UDP</li> </ul>                 |

## Specifications

### IP Input

|                  |   |
|------------------|---|
| Input protocols: | 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 | 720 x 480 | 480 x 480 | qHD     |
| 1280 x 720  | 704 x 480 | 480 x 320 | H.264up |
| 720 x 576   | 640 x 480 | 320 x 240 |         |

Also supports any custom resolution not listed here, including computer formats like 1280 x 1024, etc. Note: Supports closed captions.

H.265 output resolutions supported are 1080, 720, 576, 480.

H.265 576/480 resolutions only have 4:3 aspect ratio.

### Administration

|             |  |
|-------------|--|
| Access:     | Web interface, SSH (Secure command line interface) |
| SNMP:       | Monitoring and alerts                              |
| Scheduling: | On, Off support for timeslots                      |

### CPU and Operating System

|             |                             |
|-------------|-----------------------------|
| CPU:        | Intel® Core i3              |
| OS:         | DVEO embedded Linux® on SSD |
| Hard Drive: | 8 GB RAM                    |
| Memory:     | 120 GB SSD Intel            |

### Physical & Power

|                        |   |
|------------------------|---|
| Size (W x D x H):      | 7.5 x 6.5 x 1.7 inches (190 x 165 x 43 mm)  |
| Weight:                | 3 lbs. (1.36 kg)  |
| Shipping Weight:       | 5 lbs. (2.27 kg)  |
| Power:                 | External 90W fanless power adapter<br>Input: 100~240V AC, 50/60 Hz<br>Output: 19V DC, 4.74A |
| Power Consumption:     | Maximum 90 watts  |
| Operating Temperature: | 0°C to 50°C   |
| Processor Cooling:     | Heat pipe processor cooling with two 60 mm fans on the upper side of the chassis            |
| Relative Humidity:     | 10% to 90% non-condensing   |
| Conformities:          | UL, BSMI, FCC, CE, RoHS, C-Tick, CB, ETL  |

### Security

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|--|
| Ports security scanned to MIL requirements prior to shipment |
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### Ad Insertion

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