

ATLAS™ III Packaging Server: TELCO

Linux® based live or VOD Media Distribution Server designed to serve 80+ channels with support for up to 42,000 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 3 TB of SSD, network speed of 20 Gbps (up to 40 Gbps with optional fiber card), and up to 128 GB of RAM on board for sustained performance. Results affected by your bandwidth.



mpeg-DASH



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® VCAS™ 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-E™ 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

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 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.



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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

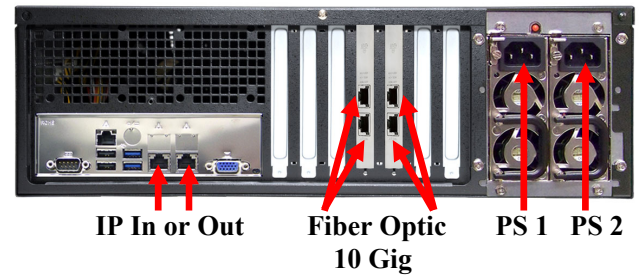
Features Matrix

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™

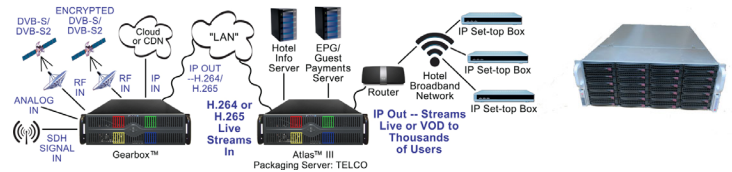
Interfaces

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"> • Statistics • Management of Stream Adaption Profiles and Stream Adaption Families
SOAP API for Live <ul style="list-style-type: none"> • List of the channels • Creation/configuration of channels • Statistics on channels
SOAP API for VOD <ul style="list-style-type: none"> • List of the contents • Creation/configuration of contents and associated jobs processing • Statistics on contents

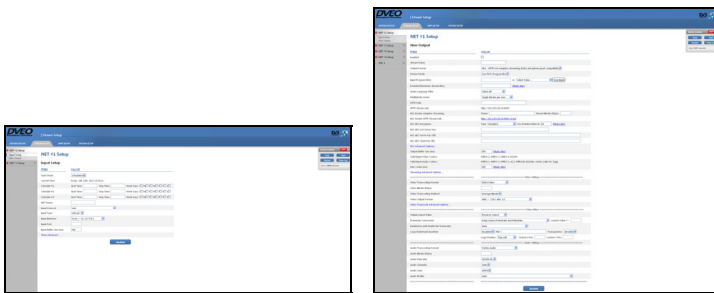
Input/Output



Application Example – Hotel or Stadium VOD Server



Sample of GUIs



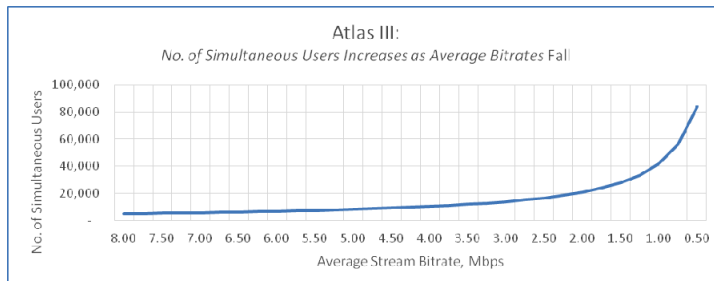
Scheduled IP Input Setup

IP Output Setup

Catch Up

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.

Throughput



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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 Packaging Server	<ul style="list-style-type: none"> Small affordable live streaming and VOD server 8 GB memory
ATLAS 1.5 Packaging Server	<ul style="list-style-type: none"> 1 RU live streaming and VOD server 8 GB memory
ATLAS II Packaging Server: TELCO	<ul style="list-style-type: none"> 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 Packaging Server: TELCO	<ul style="list-style-type: none"> 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 Packaging Server: TELCO	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Optional DOZER™ Automated UDP Packet Recovery protocol, enabling error-free video delivery over UDP

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
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IP Output

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

CPU:	Intel® Dual 16 Core processor
OS:	DVEO embedded Linux® on SSD
Hard Drive:	3 TB SSD Standard RAM: 128 GB, Optional up to 256 GB

Network

Network:	Four 10 Gbps and two 1 Gbps Ethernet
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Physical & Power

Size – 3 RU high:	19 x 5.25 x 25.2 inches (W x H x D) 48.26 x 13.34 x 64 cm (W x H x D)
Power Supply:	3U 760W – Redundant
Temperature Range:	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 

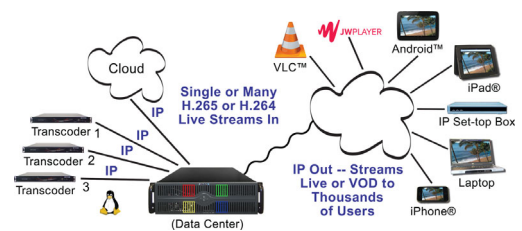
Security

Ports security scanned to MIL requirements prior to shipment
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Ad Insertion

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

Block Diagram



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