Anytime IP IP: TELCO™
"Traditional" Stand Alone Distribution and Streaming Server with Pre Groomed (Preformatted with Right Parameters) Video Stream Ingest. Supports Major Brands of DRM. Designed to Efficiently Serve 500+ "Groomed" Live Streams and Resident Files on an On-Demand Basis to 1,000+ Users. Groomed Streams are Stored Usually in Multiple Popular HLS, RTMP, or H.264 TS Formats. With our Selectable Recording Segments, Incoming Streams are Instantly Cached and Thus End Up as VOD Files Quickly. Thanks to Load Balancing, These Servers can be Placed Anywhere so Subscribers Get Fast and Smooth Video from Servers Nearest to Their Location. We Utilize Off the Shelf Hardware Coupled with Linux® OS along with Intel® Solid State Drives. We Support Wrappers and Protocols that are Needed to Support Most of Today's Mobile Devices, STB's, and OTT Televisions. Ideal Server for TELCOS, Hotels, Schools, Cruise Ships, or CDN's who Rely on Both Live "Groomed" and Prerecorded Content. Since These Servers Automatically Discover Files on the Anytime or Non Anytime Servers, Some Customers use These to Create or Augment their CDNs.

### Features
- Can deliver over 1,000 streams at .2 Mbps from on board magnetic HD and more with Intel® Solid State Drives
- Specifically supports MPEG-2 transport streams
- Designed for Live or Stored TV applications with any content persistence policy
- Total Streams and Users determined by I/O and Stream BW
- Unit does not need or use lots of CPU processing
- Based on Intel® Xeon® CPU
- Ships standard with 32 Gbytes of memory
- Supports Verimatrix®, AES 128, and other CP technologies
- Units can be daisy chained via FAST IP backbone
- Autonomous asset propagation: Designed to propagate content between servers located across great distances such as between cities or continents
- Designed to work with our encoders and transcoders or with anyone else's encoders and transcoders
- Built with Dual Power Supplies and Redundant IP ports on HP, DELL or Supermicro platforms
- API includes REST
- Billing and subscriber management can be added via other interfaces
- Supports SD, HD, and H.264 AAC
- Based on Helix® Server Technology licensed to DVEO by RealNetworks®
- Supports most mobile devices including Apple, Android, RIM, etc.
- Can Be Scaled to Hundreds of Servers to support Millions of concurrent users with load balancing technology via splitting content caching
- Designed to handle FULL SCREEN targets or Mobile devices
- Supported by DVEOTM
- CableLabs® compliance Grooming is available

### Overview
Video media distribution technology is the logical extension of IP video streaming. Video content distribution servers are a type of server that are geared to live streams. Since the early 1990’s there have been “trials” by cable companies in the U.S. and U.K. VCD is now a fairly mature technology and is greatly enhanced by today’s large memory banks and much better IP infrastructure, driven by mobile devices.

The Anytime IP IP: TELCO ingests correctly encoded live streams and VOD files via IP and/or file transfer. Thereafter it caches and keeps alive these "Groomed" streams and any onboard files for 1000+ users per box. By combining many boxes you can increase the number of users.

The Anytime: TELCO products are built by DVEO on Super Micro®, Dell®, or HP® servers. We don’t merely load the application. We fine tune and test each system to fit your needs. When they are delivered we provide “real” support to get you going.

Each Anytime: TELCO system is tailored to your needs, depending on how many channels and users you have. As needed we will quote them with more Random Access Memory. Sometimes we will quote units with Solid State Drives or Rotating Drives. To boost performance all units that will be used by more than 300 users are shipped with redundant Network ports. For maximum performance we have qualified smart NICs that offload DMA transfer demand from the host CPU.
Capabilities

- **DRM**: Use digital rights management to protect your content and get encrypted content delivery and access protection.
- **Multi-Protocol Stream Ingest**: Ingest Flash and other RTMP feeds plus RTP, MPEG2-TS and Helix® RBS to Helix®.
- **CDN Integration**: Relay live streams from Helix® Server to a content delivery network or service provider.
- **Network DVR**: Give your customers control over live streams with pause, seek and play options.
- **Integrates Media Servers into Enterprise Web and Mobile Applications**: More robust and flexible level of access control than username and password, less complex and easier to deploy than digital rights management (DRM), enables web-based single sign-on security.
- **Allows Client-Access Control**: Control client connections and disconnect based on business rules via session manager.
- **Supports Multiple Devices**: Controls access to content on PCs, mobile phones, and tablets.
- **Supports Multiple Delivery Methods**: Controls access to digital content streamed or downloaded via the Helix® Universal Media Server or downloaded via an HTTP server.
- **Supports Multiple Media Formats**: Controls access to all formats supported by the Helix® Universal Media Server and HTTP, RTSP (input only) RTMP, DASH servers.
- **Replication**: For live requests, Helix® Mobile Proxy replicates the stream among the clients who request it. A single live stream is replicated among client connections reducing network bandwidth and increasing quality of service.
- **Content-Caching**: For on-demand requests, Helix® Mobile Server caches the streaming media for later viewing by other clients. The cached content resides closer to client request, reducing network bandwidth and increasing quality of experience.
- **Apple® HTTP Live Streaming**: Stream video to the growing iPhone® audience and to other devices. Supports HTTP streaming and HTTP streaming with adaptive bit rate to the iPhone® and iPad®.
- **Live Rate Adaptation (LRA)**: Improves overall end-user QoS by automatically delivering the highest bit-rate stream supported by the network at any given time. Seamlessly manages network fluctuations, such as signal strength, bearer handover and network congestion.
- **Server-Side Play List (SSPL) Management**: Increase end-user engagement with mobile video content by combining live and on-demand video assets in compelling and interactive ways in a single session. Playlists are dynamically updateable and may be created by content providers, mobile operators or customized by subscribers.
- **Flash Progressive Download**: Deliver Flash Video (.flv) and Flash animation (.swf) from Helix® Mobile Server using HTTP Progressive download.
- **Support for MPEG-DASH**: Helix® supports MPEG-DASH and includes support for adaptive bitrate content with multiple resolutions, bookmarking and segmenting for live and on-demand H.264 video.

How We Add Value

1. **BUILD** our systems on Proven Dell® or Super Micro® Platforms with Reliable Dual Redundant Power Supplies.
2. **Build** our systems with Non Standard Smartly Buffered 10 GigE Streaming Ports for Performance, Redundancy, and PCR Jitter Management. Built in GigE Ports are for management.
3. **Build** our systems with Optional Solid State Drives to Provide SPEED and Performance.
4. **Support** the servers with In House Support People with Engineering Degrees – not telephone answerers.
5. **Red Hat** server supports 2 TB of Physical Memory... We can ship with all this Local Memory.
6. We can add PCIe bus based SSD to add even more Local Memory – to increase amount of storage for more streams...
7. **We build** our Anytime Servers from the Ground Up for the Best user experiences.
8. **We know** our servers.

Applications

- Global Content Distribution via your own CDN
- Groomed Live Video Auto Archive to VOD
- VOD support for small, midsized TELCO IPTV
- Broadcast Stored Content to mobile, tablet, PC, and IPTV STBs
- Deliver multi-lingual content to subscribers and viewers
- Provide over-the-top VOD services for subscribers and viewers
- Mobile Video Servers
- Hotels
- Build a mini CDN for a Stadium, University, Cruise Ships, etc.
- Stream via CDN

Block Diagram

Computer Modules, Inc.
11409 West Bernardo Court
San Diego, CA 92127
Tel: 858-613-1818 Fax: 858-613-1815
www.dveo.com
Application Example

Sample of GUIs

Live Stream Setup

Auto Archive

Stream Monitor

DASH Setup
**Configurable Ports Utilized**

<table>
<thead>
<tr>
<th>Protocol</th>
<th>TCP Ports</th>
<th>UDP Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTTP</td>
<td>80, 8000, 8001, 8080</td>
<td></td>
</tr>
<tr>
<td>HTTPS</td>
<td>443</td>
<td></td>
</tr>
<tr>
<td>RTSP (input only)</td>
<td>554, 7070</td>
<td>6970-7170, 5005 (in)</td>
</tr>
<tr>
<td>TCP</td>
<td>1935</td>
<td></td>
</tr>
<tr>
<td>RTP</td>
<td>6970-6999, 16384-32767</td>
<td></td>
</tr>
</tbody>
</table>

**Some Supported Resolutions**

<table>
<thead>
<tr>
<th>Supported Resolutions – Input and Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920 x 1080</td>
</tr>
<tr>
<td>1280 x 720</td>
</tr>
<tr>
<td>720 x 576</td>
</tr>
</tbody>
</table>

Also supports any custom resolution not listed here.
Note: Supports closed captions. Note: Supports NTSC or PAL.

**Tested With:**

1. VLC
2. Live RTMP
3. Live UDP
4. Harmonic Encoders
5. Arris Encoders
6. Looping IP
7. Ad Serter
8. HLS Out
9. CDN’s
10. Roku
11. Set Top Boxes
12. More to come!

**Options**

- Dell Systems Available
- Load Balancer: For automatic load balancing across many units
- Extra Storage
- NFS

**Ordering Information**

Anytime IP IP: TELCO – High End: 1 RU 4 x 8 Core Intel® Sandy Bridge CPU (for groomed streams)
Anytime IP IP: TELCO – Basic: 1 RU Intel® Xeon® 4 Core (for groomed streams)
Gold Support