AvediaStream® Transcoders

exterity®

Datasheet (avstr-t5300)

AvediaStream t5300 Transcoder

Create

Delivering high quality TV and video to an unlimited number of users has never been easier. The AvediaStream t5300 transcoder receives and processes 4K, HD and SD content and converts it for direct delivery to IPTV equipment or ongoing delivery to mobile devices through an origin server or CDN.

- **Convert** streams into a format suitable for streaming beyond the LAN and playing on mobile/non-IPTV devices/legacy devices
- **Deliver** streams beyond the LAN
- **Contribute** streams into an origin server or a Content Delivery Network (CDN) for ongoing delivery to very large numbers of devices
- Fully integrated with all Exterity® head end and client devices

Transcoder Functionality

Stream beyond the LAN
- Contribute to origin servers and CDNs for delivery over WiFi, WAN and the Internet.
- Customize streams for ongoing delivery to mobile devices and thin clients.

Play streams on a wide range of equipment
- Modify bit rate, preserve or remove aspect ratio information, adjust resolution and frame rate to precisely match client device requirements.
- Extend the life of legacy IPTV equipment by downscaling 4K/HD/SD streams or converting H.264 to MPEG-2 etc.

Extend an IPTV System
- Send streams simply through routed networks by converting Multicast to/from Unicast.
- Convert streams from non-IPTV devices such as IP CCTV or Internet radio stations into IPTV format.
- Stream across low bandwidth links and to remote locations.
- Convert to lower resolutions and bitrates to deliver to mobile clients or through restricted networks such as Wi-Fi.

Shape video for other parts of the IPTV solution
- File transcode video assets for use on a VoD server.
- Rotate video for use in portrait Digital Signage.

Technical Specification

Interfaces
- Two 802.3 10/100/1000 Ethernet (RJ-45) sockets

Inbound Streams
- Single program MPEG-2 transport streams (ISO/IEC 13818-1)
    - RTP
    - UDP
    - IP unicast
    - IP multicast via IGMP
- RTMP (FLV container, pull)
- RTSP
- HLS (HTTP Live Streaming)
- HTTP (single file/video/radio)

Outbound Streams
- Single program MPEG-2 transport streams (ISO/IEC 13818-1)
    - RTP
    - UDP
    - IP unicast
    - IP multicast
    - IGMP Join Group for enhanced switch compatibility
- RTMP (FLV container, push)

Inbound Channel Management
- Automatic channel discovery via SAP/SDP
- User-specified channels and sources (Transport Stream UDP, Transport Stream RTP, RTMP (Flash), RTSP, HLS, HTTP, Custom URL)

Enterprise IP Video Solutions

Outbound Channel Management

- Channel announcement via SAP/SDP
- Multicast/unicast address selection (automatic/manual)
- Configurable name, number and group membership

Management

- Fully integrated with Exterity management tools
- Network administration via SSH and SNMP
- HTTP web interface (supported browsers: Firefox, Internet Explorer and Chrome). Check with support@exterity.com for version information
- Serial RS232 Admin Port
- Event logging via Syslog (local and remote)
- Firmware upgrade via TFTP
- Configuration backup/restore via TFTP
- Activity Monitor enables more efficient transcode setup and monitoring and prevents overloading

System

- Based on CentOS 7.1

Convert

Video Input Standards

- MPEG-2, H.264 (AVC), H.265 (HEVC), VC-1, Theora, WebM (VP8), Google (VP9), H.263, MPEG-4 Part 2, MJPEG, JPEG2000, WMV7/9, raw video (YUV4MPEG2)
- Up to 4k (4096 x 2304)

Audio Input Standards

- MPEG-1 L2, WMA, MPEG-2 AAC, MPEG-4 AAC, HE-AAC, Vorbis

Input Container Formats

- MPEG-2 Transport Stream (TS), MPEG Program Streams (.m2p, .ps), MP4, FLASH Video (F4V, FLV), Quicktime (.mov, .qt), WMA, WMV, Ogg, WebM

Input Streaming Formats

- UDP, RTP, RTSP, RTMP, HLS, HTTP

Deliver

Video Output Standards

- MPEG-2
- H.264 (AVC)
- Up to 4k (4096 x 2304)

Audio Output Standards

- AAC

Output Container Formats

- MPEG-2 Transport Stream (TS) or Flash Video (FLV)

Output Streaming Formats

- UDP, RTP, RTMP

Transcoding Functions

- Live streams and files: scale, transcode, transrate, transpose, transcast
- Configure: output resolution, bit rate, interlacing, aspect ratio, frame rate, GOP length and structure
- Transcode 8 to 40 video channels, depending on format
- Change audio sample rate
- Pass through video or audio
- Output only video or audio from a stream containing both
- Preserve or drop subtitles, closed captions or data streams

Protocols

IP (RFC 791), UDP (RFC 768), TCP (RFC 793), ARP (RFC 826), DNS (RFC 1035), DHCP (RFC 2131), ICMP (RFC 792), IGMP (RFC 3376), TFTP (RFC 1350), HTTP (RFC 2616), Syslog (RFC 3164), NTP (RFC 1305), SAP (RFC 2974), SDP (RFC 4566), RTP (RFC 3550), SNMP (v1, v2c -RFC 1901)

Regulatory

EMC:

- EN55022:2010, EN55024:2010
- EN61000-3-2:2006 + A1:2009 + A2:2009
- EN61000-3-3:2008
- IEC 60950-1:2005 (Ed. 2.0) + Am 1:2009 +Am 2:2013
- EN60950-1 2006 + A11:2009, A1:2010, A12:2011, A2:2013

FCC/UL/CSA:

- FCC 47 CFR Part 15 Subpart B: 2008; ANSI C63.4-2003
- UL60950-1/CSA C22.2 No. 60950-1, Second Edition. Rev. October 14, 2014

Environment

- Operating temperature range: 5° - 35°C (41° to 95°F)
- Non-operating temperature range: -40° to 60°C (-40° to 140°F)
- Operating humidity range: 8% to 90% (non-condensing)
- Non-operating humidity range: 5% to 95% (non-condensing)

Physical Format

- Compact 1U rack-mounted standard 19" chassis
- Dimensions: W: 483mm x D: 369mm x H: 43mm
- Weight: 6.4kg

Power

- 290W Typical, 430W Maximum

MTBF

- Calculated to MIL-HDBK-217F, notice 2: 94858 hours (10.8 years)