

# ChannelLink

Smart IP Distribution Gateway



More and more video feeds are transmitted live over various IP transmission links and protocols making it complex for organizations to efficiently and reliably manage those feeds. ChannelLink allows organizations to deliver IP content anywhere, anytime, using legacy baseband video matrices.

ChannelLink acts as a central hub where IP channels from the field can be received reliably and retransmitted live, acting as an efficient gateway across any IP network. It is especially well suited for stream management, routing, re-broadcasting or IPTV stream reflection over WAN/the Internet. It can receive any number of input streams and translate them into a multicast or unicast MPEG Transport Stream over UDP (UDP TS), RTMP/RTMPS, Zixi™ or an SRT-protected stream. ChannelLink's design ensures the support of more transport protocols in the future, allowing it to stay ahead of the game.

For broadcasters, ChannelLink simplifies content delivery of live channels from news agencies, sports or entertainment venues. Designed to meet stringent security criteria, it is also suited for secure government and military Full-Motion Video (FMV) applications.

## Features and Benefits

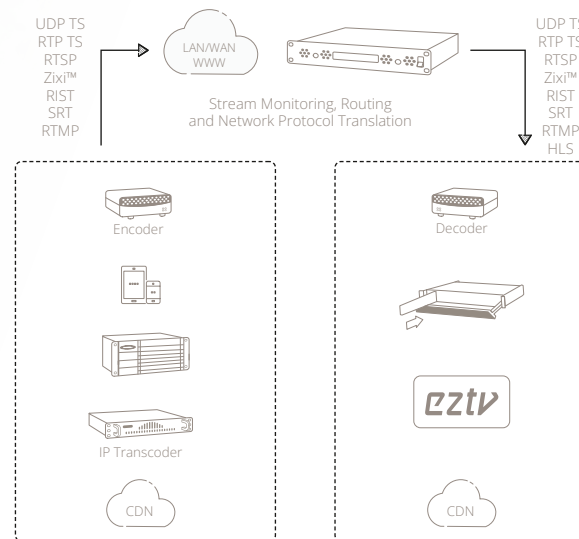
- Network Protocol Translation from source to destination
- Centralized gateway for simplified stream management for Sports Venues, eSports, In-House and Multi-site IP video distribution
- IP video routing across LANs, WANs and other IP network types
- SmartLink ensures optimal use of the transmission link bandwidth
- IPTV Channel Reflection: Multicast to Unicast, and Unicast to Multicast
- Ultra-low processing time
- Intuitive web management interface featuring live channel preview

## Applications

- Content Backhaul/Contribution
- Remote Production over the Internet (REMI)
- Sports Venues, eSports, In-House and Multi-site IP video distribution
- Full-Motion Video stream management and distribution

# ChannelLink

## IP Distribution Gateway



### Best End-to-End latency delivered with MGW Ace Encoder/Decoder

Latency is key in any IP streaming application and ChannelLink achieves the lowest processing time for IP-based channels. When used in conjunction with VITEC's MGW Ace Encoder/Decoder in its Ultra Low Latency HEVC profile, ChannelLink provides the best end-to-end latency without compromising video quality. The solution enables contribution over the Internet and avoids the use of expensive fiber or satellite transmission infrastructure, leading to dramatically reduced operating expenses (OPEX).

### Bandwidth conscious with SmartLink

Part of VITEC's green initiative, ChannelLink ensures optimal use of the inbound transmission link bandwidth, which reduces the overall network traffic and power consumption. Thanks to its SmartLink feature, ChannelLink ensures IP source feeds are requested only when needed.

### Interoperable

ChannelLink ensures full compatibility with third-party encoders and decoders. Compatible with a wide range of protocols and codecs such as MPEG-2, H.264 and HEVC, the gateway is compression-standard agnostic and is engineered to evolve and support future transport protocols.

### Easy to Set up and Use

ChannelLink is designed to facilitate setup for operators. An unlimited number of channel sources (encoders) or destinations (decoders) can be set to target a single IP address associated with ChannelLink. Tailored to streamline IP video contribution, backhaul and distribution, the user-friendly interface simplifies channel source-to-destination routing. Users can view information and statistics such as quality of network link and packet loss. The gateway provides users with a centralized location for aggregating content.

### End-to-end Content Protection

VITEC encoders and decoders provide the capability to encrypt the audio and video stream. ChannelLink handles the management of such encrypted streams to secure your content end-to-end. To ensure full compatibility with civilian and governmental secure environments, ChannelLink has been designed to conform to the most stringent network and information assurance security standards. Specific accreditations can be provided by VITEC upon request.

# Technical Specification

## Source & Destination Channels

- Support for HEVC, H.264 and MPEG-2 channels
- Network Protocol Translation (NPT) from source to destination
- Ultra-low processing time
- Live channel analytics to monitor quality of service
- High performance:
  - Up to 500Mbps inbound and 500Mbps outbound traffic per server
  - Up to 500x UDP TS, 250x SRT, 150x Zixi or 120x RTSP channels.
  - Channel Encryption: Up to 100 channels can be encrypted simultaneously (500Mb/s traffic)
  - HLS Distribution: up to 250 HLS CMAF (or 120 HLS TS) channels totalling 2Gb/s traffic or 2000 clients maximum

## Network Protocols

- UDP TS: MPEG Transport Stream over UDP
- RTP TS: MPEG Transport Stream over RTP
- RTSP (RTP ES): Elementary Stream over RTP
- SRT (Caller, Listener, Rendezvous):
  - SRT Listener multi-destination with capability to limit the number of remote clients/decoders
  - SRT Server with Stream ID/tagging for multiple stream routing over a single IP port
- Zixi Stream protection.
  - Input: Zixi P2P and Zixi Pull
  - Output: Zixi Push
- RIST Stream protection (Simple and Main Profile)
- HLS Single Stream (Output only)
  - TS
  - CMAF / fMP4
- RTMP/RTMPS Server and Client
- Unicast/Multicast/IGMPv3 Source Filtering (SSM)

## Encryption

- Real-time AES encryption for video, audio and metadata
- 128- and 256-bit encryption key support
- Interoperability with AES-compliant systems such as VITEC EZ TV and FITIS distribution platforms

## Ancillary Data Pass-through

- Compatible with UDP/RTP TS, SRT, Zixi, RIST and HLS TS
  - Teletext & DVB Subtitles PIDs
  - KLV/STANAG PIDs
  - Closed captioning (CEA-608/708)

## Advanced Features

- Simplified source routing to destination (including live source preview for confidence monitoring)
- SmartLink to ensure optimal use of inbound traffic bandwidth
- Failover: Automatic failover to a backup source channel if the primary channel fails
- HLS channel distribution and playback via an embedded player for up to 250 clients (50 channels maximum)

## Footprint

ChannelLink is offered as a 1-RU physical server or as a software package that can be installed on any third-party machine, or as a virtual machine

## Management

- Live channels preview for confidence monitoring
- Dashboard with channel statistics and system performance information
- Advanced search and filter capability of created sources and destinations
- Intuitive access to destination channels via QR code (or URL link) directly from the web interface
- SRT and Zixi streaming statistics for easier configuration and enhanced quality of service
- Accounts with configurable privileges
- Save, export and load configurations
- System and channel event logging
- Easy-to-use HTTPS Rest API for integration with third-party systems
- Secure Web-based remote management interface (HTTPS), password protected
- Custom SSL certificate loading capability
- Software upgrade via Web UI

## Physical Server Specifications

- HP DL360 (1-RU)
- 32GB RAM
- 4x 1Gbps network interfaces
- Option for additional 2x 10Gbps SFP+ ports
- Redundant power supply (2x power supplies 500W AC 110/240V 50/60 Hz)
- 2x 300GB disk space
- Red Hat Enterprise Linux Server release 8
- Dimensions: Height: 1.70" (4.32cm) x Width: 17.11" (43.46cm) x Depth: 27.5" (69.85cm)
- Weight: 33.3lb (15.10kg)
- Regulation: CE/FCC Part 15 Class A/RoHS/WEEE/TAA compliant

## Minimum requirements for installation on third-party servers or as a virtual machine

- 1x Dual Core 3.0GHz CPU
- 32GB RAM
- x86 platform with UEFI BIOS
- 10GB storage
- 1x 1Gbps network interface
- VMWare: ESXi6.0/VMX11 or ESX7.0/VMX18

## Ordering Information

- 17629 - ChannelLink Server
- 17630 - ChannelLink Virtual Machine
- 18833 - ChannelLink Lite Virtual Machine (limited to 10 routes, up to 200Mbps traffic)
- 18834 - ChannelLink - Zixi License
- 18835 - ChannelLink - RTSP License
- 18974 - ChannelLink - HLS License
- 18973 - ChannelLink - RIST License
- 17749 - Additional 2x10Gbit SFP + Ethernet ports for ChannelLink Server