VITEC
VIDEO INNOVATIONS

IPTV Blade Systems Encoding & Streaming Platforms

IPTV Blade Systems
Encoding and Streaming Platforms

MGW 5100 / MGW 1100 / MGW 1000

IPTV Blade Systems Encoding & Streaming Platforms

Media Gateway (MGW) carrier-grade platforms are hardware-based professional video compression, transcoding and streaming systems that house VITEC MPEG-4 AVC (H.264) HD/SD, MPEG-2 HD/SD encoding blades and the new Transcoding and Mobile Streaming Blades.

The award-winning MGW compression and streaming platforms deliver unprecedented video processing efficiency and exceptional video quality at a wide range of bit-rates. Designed for mission critical applications, the dense hardware architecture offers extensive modularity and redundancy options.

MGW platforms encode, transcode and transrate uncompressed and compressed HD and SD sources to bandwidth-efficient MPEG IP streams optimized for IPTV and full-motion-video (FMV) services. The Transcoding capabilities include real-time processing of any MPEG stream to the most common mobile and internet web streaming protocols including Apple™ HTTP Live Streaming (HLS), Microsoft™ Silverlight Smooth Streaming (SST), Adobe™ Flash Dynamic Streaming (HDS), 3GPP, RTP and more.

Advanced capabilities include encoding of secondary stream (up to 1080p HD) for remote users or picture-in-picture (PiP) applications, ancillary data support, graphic overlay and time-code insertion. A management application suite optimized for secure Department-of-Defense IT environments up to top secret (TS) classification make the carrier-grade blade-based platforms the ideal video streaming solutions for federal and state government agencies, Telco operators and enterprises. The vitec 6th generation MPEG-4 H.264 compression codec delivers superb video quality at any bit-rate for applications ranging from situational awareness to DVD-quality streaming for the enterprise to HD video for real-time contribution and ISR applications.

The MGW platform utilizes a highly efficient integrated controller blade that serves as the single point of interaction with the network, manages all hardware modules in the system and automatically triggers redundancy and failover. The controller aggregates all streams produced by the compression blades into a single network interface with the LAN, reducing OPEX and CAPEX costs by eliminating the need to allocate multiple ports on the network switch and individually manage encoder modules.

With up to 104 HD/SD H.264 encoders (52 primary and 52 secondary streams) integrated in a single platform, the high-density MGW product line offers best-in-class video processing power with a compact footprint and lowest cost per video encoding port, The MGES-6000 blade provides full control of resolution, data rate and other compression parameters for both primary and secondary streams, including built-in downscaling from HD to HD and HD to SD with frame-rate down-converting. The blade also features inputs for composite, HD/SD-SDI and HDMI signals for flexible mixing of different sources in a single MGW deployment.

The cutting-edge MGTS-Prism IP Transcoder and the Mobile Streaming Blade offer extended reach and flexible dissemination of live video to any mobile device, phones, smart TV's and over-the-top (OTT) media players over WiFi, 3G or 4G LTE networks or over the public Internet. Advanced capabilities such as video and audio pre-processing, content protection and Adaptive Bit-Rate (ABR) streaming make the MGW platforms the ideal solution for ingesting and distributing content for any live media application.

The MGW platform's built-in real-time encryption engine uses a 256/128-bit AES algorithm, allowing operators to securely deliver Full Motion Video and IPTV content over IP. The encrypted content and metadata is deciphered by authorized VITEC EZ TV and FITIS video player users, eliminating the need to manually manage access rights to IPTV content.

The VITEC Cluster Manager professional management suite provides intuitive, efficient monitoring and management of multiple MGW platforms and hundreds of channels from one centralized application. The system offers full redundancy including N+K capability that allows failover of a blade in one platform to a blade located in a different platform to eliminate single-point-of-failure scenarios. The MGW line is fully integrated with VITEC EZ TV and FITIS video delivery and management systems.
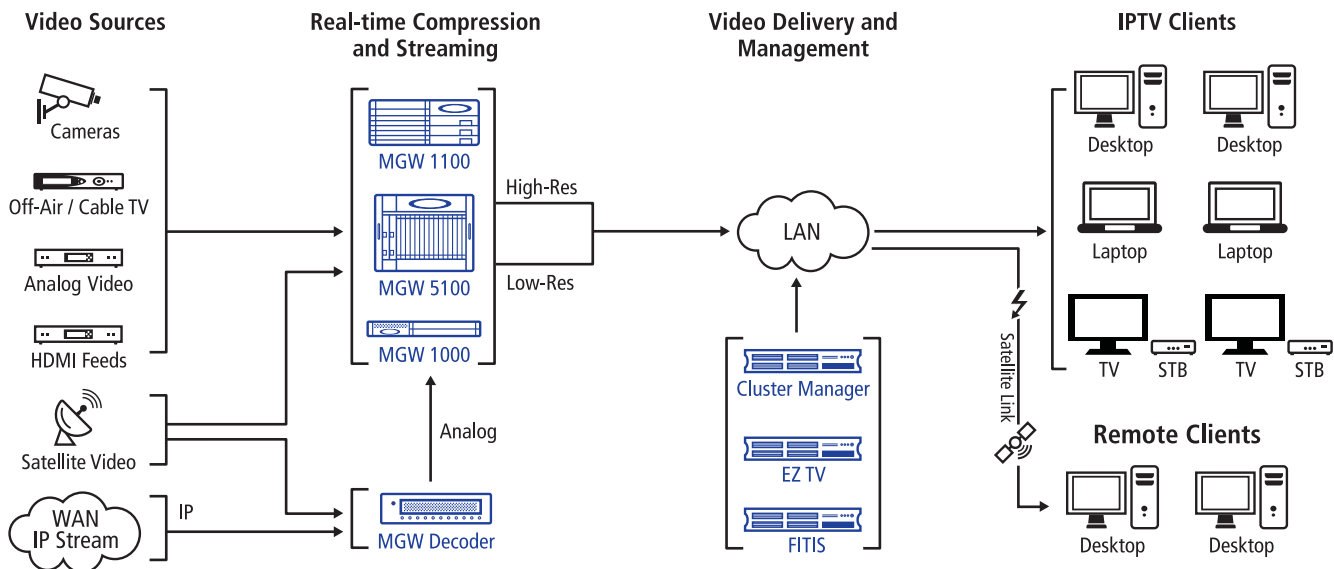
VITEC
VIDEO INNOVATIONS

toner
cable equipment, inc.
www.tonercable.com

IPTV Blade Systems Encoding & Streaming Platforms

Benefits

- Complete video streaming solution covering encoding, transcoding, transrating and mobile streaming
- 6th generation codec offers best-in-class HD & SD video quality
- Scenario-specific form factors and density: 1RU/4RU/10RU
- Hot-swappable components with built-in automatic failover for all critical components
- Controller blade consolidates all streaming and management traffic to a single network interface
- Mix-and-match inputs and outputs offers service diversity within each platform
- Designed with highest level of availability for mission critical applications
- Comprehensive management tools, clustering and automatic failover capabilities
- Dense architecture supports up to 104 streams per platform
- Analog, HD/SD-SDI, IP , ASI and HDMI inputs

Key Features

- Encodes/transcodes/transrates up to 52 video sources per platform to more then 100+ streams
- Formats: MPEG-4 AVC (H.264) or MPEG-2/MPEG-1, SD and HD, Dolby 5.1 and 7.1 audio
- OTT: Apple™ HLS, Microsoft™ SST, Adobe™ Flash Dynamic Streaming (HDS), 3GPP, RTSP
- Encodes each source to two quality levels (secondary stream up to 1080p)
- Built-in AES-256/128-bit encryption for video, audio and metadata
- Clustering for efficient management and monitoring of large installation
- Streams video to mobile devices over 3G/4G LTE/WiFi networks or open Internet
- Streams each video feed to up to 7 targets (multicast and unicast)
- N+K redundancy for cost-effective automatic service recovery, network interface redundancy and diversity modes
- Wide range of bit-rate support per video port: 150Kbps-15Mbps
- IP v6 streaming
- Optimized for government and military IT environments. Networthiness certification by US NETCOM

Video Sources
Cameras
Off-Air / Cable TV
Analog Video
HDMI Feeds
Satellite Video
WAN IP Stream

Real-time Compression and Streaming
MGW 1100
MGW 5100
MGW 1000
MGW Decoder
High-Res
Low-Res
Analog
IP

Video Delivery and Management
LAN
Cluster Manager
EZ TV
FITIS

IPTV Clients
Desktop   Desktop
Laptop   Laptop
TV   STB   TV   STB
Satellite Link

Remote Clients
Desktop   Desktop

IPTV Blade Systems Encoding & Streaming Platforms

Applications

- Enterprise and Corporate IPTV
- FMV Dissemination for Situational Awareness and ISR Video
- Telco IPTV
- Over-the-Top Web Streaming
- Terrestrial and Mobile TV
- Replacement of Legacy Cable TV Systems with efficient IPTV
- Training and Distance Learning
- Video Monitoring and Video Confidence

Technical Specifications

Input

Video

Service Density

Blade Model	Service Type	Service Density	Supported Input Types				
			Analog	HD/SD-SDI	DVB/ASI	HDMI	IP
MGTS-Prism	OTT/Mobile Transcoding	3 x ABR					✓
FMVMS	OTT/Mobile Streaming	10 x HD/SD					✓
Enterprise Multi-Screen	OTT/Mobile Streaming	10 x HD/SD					✓
MGES-6000	H.264 HD/SD	4 x HD/SD	✓	✓		✓	
MGES-5610	H.264 SD	2 x SD	✓	✓	✓		
MGES-5200	MPEG-1/2 Encoding	2 x SD	✓	✓	✓		
MGTR-5200	MPEG-1/2 Transrating	5 x SD			✓		
MGRS-5200	DVB to IP Encapsulation	10 x HD/SD			✓		

Notes:

MGTS-Prism Adaptive Bit Rate services main contain up to 8 unique profiles each

MGES-6000 blades can be seamlessly upgraded from any configuration to 4xHD via firmware upgrade

Management

- SNMP RFC3416 with remote client
- Telnet, RS-232
- N+K supported by Cluster Manager

Compliance

- EN 55022/55024;
- FCC Part 15, Subpart B, Class A
- CSA/CE, RoHS/WEEE

Physical & Power

Platform	MGW-5100	MGW-1100	MGW-1000
Streaming Network Ports	2 x 1000BaseT	2 x 1000BaseT	2 x 1000BaseT
Management Network Ports	2 x 1000BaseT	1 x 1000BaseT	1 x 1000BaseT
Service Blade Slots	13	6	1
Redundant Controller Slot	✓		
Width	19" / 48cm	19" / 48cm	19" / 48cm
Height	10RU	4RU	1RU
Depth	12" / 30cm	12" / 30cm	12" / 30cm
Input Voltage Range	100 - 240 VAC / DC 36-72 VDC	100 - 240 VAC	100 - 240 VAC
Power Consumption	900W max	600W max	200W max
Hot Swappable components	Power supplies, system fans, Service Blades,Controller Blade Switch Blade	Power supplies, system fans, Service Blades	Service blade