MGES‑6000

HD/SD H.264 Broadcast Quality IPTV Encoding Blade

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Quad-input blade offers real-time hardware encoding of high definition and standard definition video from HD/SD-SDI, HDMI and analog source. Features best-in-class picture quality at various bit-rates for all IPTV applications. Includes advanced features such as secondary low-res channel, integrated resolution and frame-rate scaling, AES 256/128-bit encryption and streaming to up to 7 IP destinations from each port.

The converged MGES-6000 blade offers best-in-class density of four HD/SD inputs ports for live sources of HD/SD-SDI, HDMI or Analog video. The blade uses 6th generation hardware-based encoding chips to support dual encoding of superb primary and secondary video streams, up to 1080p resolution for each input.

Coupled with the Media Gateway (MGW) family of carrier-grade IPTV platforms, IPTV providers can serve up to 104 IPTV channels from the MGW 5100 (10-RU), up to 48 IPTV channels from the MGW 1100 (4-RU) and up to 8 IPTV channels from the MGW 1100 (1-RU). VITEC Smoothing™ algorithm guarantees low jitter for flawless IP over any network - LAN and WAN.

The flexible MGES-6000 Blade uses the most advanced H.264 tools to deliver exceptional video quality in various bit rates from 200 Kbps to 15 Mbps, with various frame rate and minimal latency. Integrated hardware scaling provides support for real-time HD-to-HD or HD-to-SD downscaling as well as frame rate reduction. The wide range of bit rates, resolutions and compression features supported guarantee optimized picture quality and viewer experience for any IP video and full-motion-video (FMV) application from Triple-Play and Multi-Screen service, through corporate TV to mobile delivery.

The MGES-6000 also includes the option to enable real-time AES-256/128-bit encryption, for securing classified content or for protecting premium content delivered on the LAN and WAN. IPTV and ISR application can be tightly controlled using the seamless integration of the AES scrambling with Optibase EZ TV and FITIS video management and playback systems.
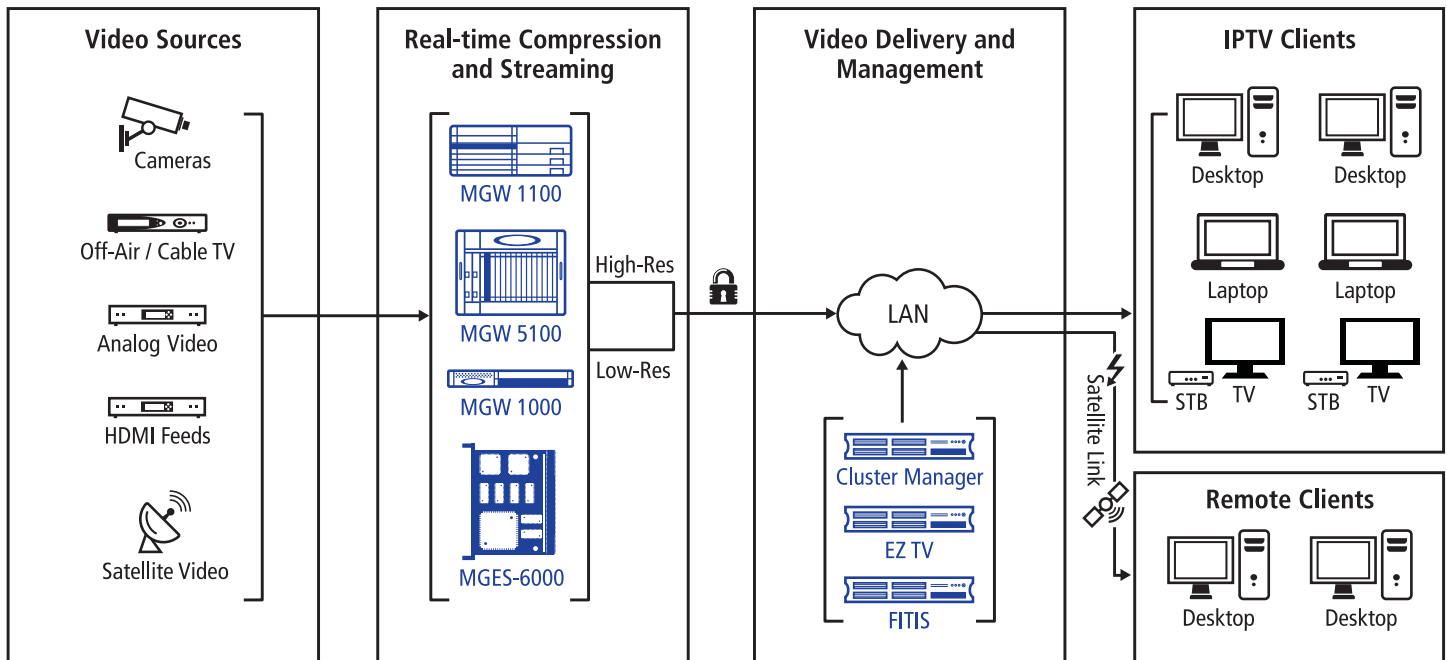
MGES-6000 is fully supported by the VITEC Cluster Manager (CM) System, which provides global system monitoring and control, as well as automated N+K redundancy to ensure high availability operation 365x24x7.

MGES-6000 is available in various configurations of HD and SD licenses to provide the most cost-effective cost per IPTV encoding port. All blade configurations are upgradable to the full capabilities of 4x HD/SD in the form of a simple firmware upgrade, without replacing any hardware.

Benefits

- Best-in -class, superior video quality at all bit-rates, from low bit rate streaming to broadcast-quality data rates
- Unmatched density - four HD/SD hardware encoders and four dedicated secondary encoders, each supports up to 1080p resolution
- Real-time 256/128-bit AES encryption secures content and metadata
- High availability architecture with no moving parts for mission critical applications
- Built-in scalar converts HD to HD or HD to SD in various resolutions and frame rates
- Real-time Smoothing™ to ensure highest Quality of Service over any IP medium
- Successfully deployed by broadcasters, governments, militaries and Fortune 100 companies

Video Sources

Cameras

Off-Air / Cable TV

Analog Video

HDMI Feeds

Satellite Video

Real-time Compression and Streaming

MGW 1100

MGW 5100

MGW 1000

MGES-6000

High-Res

Low-Res

Video Delivery and Management

LAN

Cluster Manager

EZ TV

FITIS

IPTV Clients

Desktop

Desktop

Laptop

Laptop

STB   TV

STB   TV

Satellite Link

Remote Clients

Desktop

Desktop

VITEC
VIDEO INNOVATIONS

Key Features

- Bit rates: 200 Kbps - 15 Mbps, configurable for each Primary and Secondary Channel
- Secondary stream capabilities for applications such as OTT, picture-in-picture (PiP) and LAN/ WAN dissemination
- HD/SD-SDI, analog (composite) and HDMI inputs (protected and unprotected)
- Multiple audio tracks and Dolby 5.1 / 7.1 support
- Automated N+K redundancy for recovery of IPTV service with no human intervention

Technical Specifications

HD Encoding

Video Codec
- Conforms to ISO / IEC14496-10 (H.264/AVC) High Profile Level 4.0
- 1920 x 1080 59.94i/29.97p/60i/30p/50i
- 1280 x 720 59.94p/29.97p/60p/30p/50p
- Chroma sampling: 4:2:0
- Encoding rate: 500 Kbps to 15 Mbps
- Aspect Ratios 16:9
- CBR Support with Optibase Smoothing™ algorithm
- Downscaling from HD to HD and HD to SD (down to QCIF)

Audio Codec
- Up to 2 stereo pairs (embedded in SDI or HDMI, Unbalanced in Analog)
- Sampling Frequencies: 48khz
- AAC LC (32 to 384Kbps)
- MPEG 1 Layer 2 (32 to 384Kbps)
- Mono, stereo

SD Encoding

Video Codec
- Conforms to ISO / IEC14496-10 (H.264/AVC) Baseline and Main Profile Level 3.0
- 720 x 480 x 29.97i/15i
- 720 x 576 x 25i/12i
- Chroma sampling: 4:2:0
- Encoding Rate: 200 Kbps to 6 Mbps
- Aspect Ratio: 4:3 and 16:9
- CBR Support with Optibase Smoothing™ algorithm
- Various downscaling options to as low as QCIF resolution

Audio Codec
- Up to 2 stereo pairs embedded in SDI and Unbalanced in Analog, 1 stereo pair for HDMI
- Sampling Frequencies: 48khz
- 16bit support
- AAC LC (32 to 384Kbps)
- MPEG-1 Audio Layer 2 (56 to 384kbps)
- Mono, stereo

Closed Captioning
- CEA 608 from Line 21 and CEA 708 VANC extraction per SMPTE 334M

Inputs and Outputs

Available Input Blades
- 4 x Serial Digital inputs, 75 Ohms BNC connectors (HD/SD-SDI Interface)
- 4 x HDMI (HD/SD) with support for protected (HDCP) and unprotected sources
- 4 x Composite analog inputs, 75 Ohms BNC connectors (Analog Interface)

Audio Inputs
- Embedded audio up to 2 stereo pairs per video source for HD/SD-SDI and HDMI
- Unbalanced analog audio (RCA connector) up to 2 stereo pairs per video source

Transport Outputs
- MPEG-2 Transport Stream encapsulaiton over UDP/IP

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