



# Enterprise IPTV and Digital Signage Platform



EZ TV is a Technology & Engineering Emmy award-winning, all-in-one integrated platform that combines broadcast-quality IPTV distribution with powerful digital signage capabilities.



EZ TV enables the distribution of live and recorded video content from various sources including cable, satellite and free-to-air TV channels and locally generated private video.

It enables organisations to benefit from the most advanced IPTV experience with features such as viewing live stream, on-demand video, digital video recording (DVR), mosaic player, time-shifted TV, pause live TV (PLTV), access to content using your mobile app, desktop player, TV monitors, and SoC TVs. The system can be rapidly deployed and is designed to seamlessly integrate with any IT environment and run on all types of networks, delivering live and on-demand content securely to LAN users and WAN users.



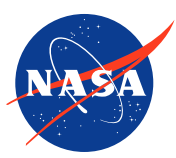


EZ TV is deployed in hundreds of sites around the world, with over one million enterprise users. It is the primary video distribution and playback solution for many leading news and broadcast centres, military units, government agencies, Fortune 500 companies, arenas and stadiums, and professional sports teams.



The EZ TV Digital Signage capabilities enable organisations to use displays to enhance employee, visitor or fan experiences.

Powerful, hardware-based end-points deliver eye-catching digital content with dynamic data and up to 4K video to any number of screens – all managed from a centralised platform which can be installed on-premise or hosted as a cloud instance. Combined with VITEC’s series of Video Wall Processors, mobile apps for Android and iOS, smart touch-panel control extensions and API the platform enables users to create and manage a full digital video experience in any building or venue or in a large multi-site environment for any application.



# Features and Benefits

- Enterprise-grade, easy to deploy and manage solution for secure distribution of IPTV channels over LAN, WAN and Wi-Fi.
- All-in-one solution for managing Live, Recorded or On-Demand content, Digital Signage workflows and eye-catching Video Walls.
- Intuitive administration interface for monitoring and controlling all aspects of the digital experience and user access rights
- Advanced TV capabilities: Live and on-demand video on TVs, Android and iOS devices, and HTML5 browser player for desktop/laptops, PLTV, VOD, PVR, NDVR, mosaic viewing, OTT delivery to remote users, multi-decode of HD and 4K video on TVs and Video Walls.
- Support for up to 5,000 concurrent viewers from platform server – cost effective perpetual license model with no recurring costs.
- Tight integration with VITEC encoders, transcoders, encryption server, gateways, and mobile apps enables a complete end-to-end IPTV solution.
- Highly secure architecture: from government and military installations to financial and medical enterprise networks – EZ TV Platform is designed to meet and exceed the highest standards of cyber-security, user data protection, and content rights management; all communication is SSL protected, seamless integration with Microsoft Active Directory and Okta for managing access to content. 256-bit encryption applied to communication between the server and the viewing devices.
- “One Stop Shop” for monitoring in-house feeds, managing and distributing 3rd party TV content, and enabling access to content for any user on the LAN or remote.



TV over IP for distributing cable, satellite TV, local and custom channels around any business



Management and distribution of live camera feeds, TV content and sponsorship signage assets



RF Cable Replacement – cost effective transition to TV over IP with VOD and Desktop Playback

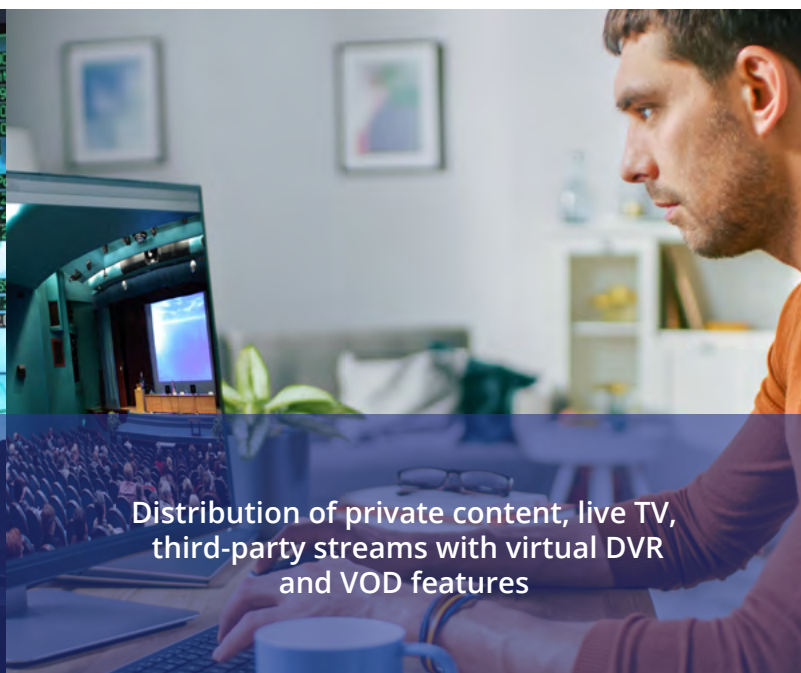


- Mobile app for watching low latency multicast / unicast streams on phones and tablet.
- EZ TV IPTV Portal software is deployed as a Web Server on the network – as a Virtual Machine or Physical Server instance.
- Hardware-based, professional-grade digital signage and IPTV playback end-points feature solid-state design and low latency decoding of IPTV streams.
- Advanced digital signage workflows including dynamically updating menu boards, integration of sponsorship content with live event feeds, and multi-video decode.
- Platform can run as an on-premise instance or deployed as a private cloud platform.

- High-availability and multi-site clustering support ensures uptime of all software and hardware IPTV components required for mission critical application.
- Dashboards measure real-time content consumption, user activity, network bandwidth utilisation, and other valuable insights.
- Real-time extraction, archiving and playback of MISB / STANAG metadata in military environments.
- Virtual Remote application provides full control of any display, or group of displays, around your building or at remote sites – all from your workstation or handheld device's web browser.
- Developer Kits and API for integration with third party systems. Documentation and source code examples available to all customers upon request.
- Fully-featured API allowing the integration of custom interfaces to manage, control, and interact with VITEC's IPTV and Digital Signage end-points from devices such as Crestron, AMX, Extron, Q-SYS panels or tablets, as well as other custom built software applications.



Situational Awareness video and dissemination of Tactical Full Motion Video (FMV)



Distribution of private content, live TV, third-party streams with virtual DVR and VOD features

# Reasons to choose the EZ TV IPTV & Digital Signage Platform



## End-to-end content security

To ensure full compatibility with civilian and federal secure environments, EZ TV has been designed to conform to the most stringent network information assurance security standards. Baseband content is encoded to MPEG streams or transcoded. Sources already available in IP format are turned around and managed seamlessly.

VITEC's AES content security has been approved for use in conjunction with the leading content providers in North America, Europe, and the Middle East. VITEC's studio-grade end-to-end secure architecture seamlessly receives AES-encrypted IP streams or applies AES encryption in real-time if the IPTV content from your provider is handed off in the clear. The EZ TV Platform manages and distributes streams in a fully secure architecture without the need to re-encode content from baseband players, eliminating unnecessary costs, reducing points of failure, and optimizing streaming latency.



## Intuitive Users Rights Management and Conditional Access

VITEC's smart integration with Microsoft Active Directory establishes the EZ TV Platform as a secure network resource allowing the operator to select, using a visual interface, to which domain groups, content and system features individual users will have access. Additionally, EZ TV allows administrators to selectively turn on/off playback and recording features for specific user groups. The Platform is also fully integrated with Okta, enabling seamless user identification and security workflows for organizations utilizing Okta's solution.

The EZ TV Platform also monitors all user-initiated actions and content consumption, providing administrators with valuable data about content consumption, user trends, network bandwidth utilisation statistics and event logging for operators' and/or users' actions for traceability, billing, or other needs.



Distribution of VOD assets and Digital Signage to TVs, mobile devices and PCs



Sharing of training and educational videos



### High performing and reliable

EZ TV uses VITEC's cutting-edge video playback and security engines to deliver the lowest latency playback on any device. The IPTV end points / set-topboxes deliver a consistently smooth, secure, uninterrupted viewing experience for the most demanding graphics and video applications, designed to ensure 100% up time. The ASIC-based decoders guarantee longer service life and less time spent troubleshooting.



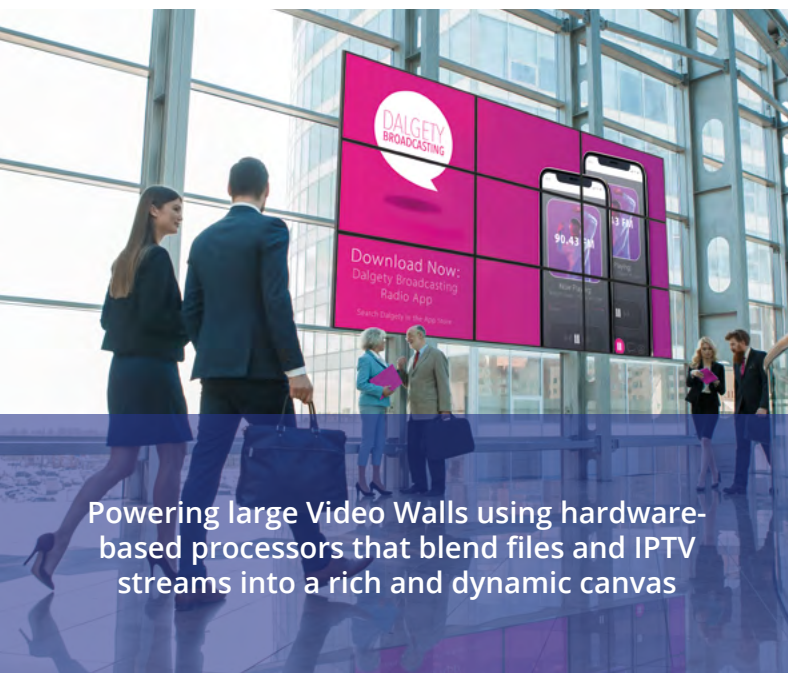
### Easy content selection

Administrators map all digital video streams and files to a simple channel line-up with user-friendly channel names, numbers, and optional metadata description. A drag-and-drop interface is used for assigning live video, recorded content and application features to groups or individual users – eliminating the need to use complex routing filters, networks access lists and firewall rules to regulate access to video content.



### Cost-effective solution

The EZ TV Platform does not require user seat licensing and there are no annual usage fees so the up-front investment means there are no hidden costs. Plus, the hardware-based IPTV and signage end-points cost a fraction of the price of PC-based media players.



Powering large Video Walls using hardware-based processors that blend files and IPTV streams into a rich and dynamic canvas



Video distribution on mobile devices across campuses and to remote users

## EZ TV Core Modules

### **EZ TV Management and Administration**

**Server** – Administration interface for configuring IPTV services such as live TV channels, programming guides, uploading VOD content, managing users and permissions, monitoring all system components using real time dashboards and tracking system usage.

EZ TV Portal Server is available as a rack-mounted server or as a virtual machine.

**EZ TV Browser Player** – Powerful, plugin-based, IPTV Player provides one-stop-shop for playback of all streaming formats. Advanced experience includes user-defined mosaic grids, programming guide (EPG), display of KLV metadata, 608/708 Closed Captions support, personal and network DVR functions, seamless integration with Microsoft Active Director with single-sign-on support and AES 128/256-bit decryption.

**EZ TV Player Lite** – EZ TV Player Lite is powered by VITEC's Multicast-to-the-Edge® technology (US Patent No. 10728589). The HTML5-based revolutionary 'Multicast-to-the-Edge®' technology plays live UDP MPEG multicast streams and on-demand files on any browser (including Chrome, Safari, Internet Explorer, Edge and Firefox) without using browser plugins, on both Windows OS and Mac OS computers. It eliminates the reoccurring costs, hassle and major network configuration and load changes required when adding unicast streaming servers, wrapper servers and IP stream transcoders. The intuitive interface is designed to work in parallel with the current EZ TV IPTV Player and the low decoding latency is suitable for viewing live events, news content, ISR and SA content. Real-time AES decryption support, fully compatible with the content security requirements of all major satellite and cable TV content providers as well as with US Government and Department of Defence full motion video DRM specifications.

**EZ TV VOD/NDVR Server** – Video-On-Demand and recording add-on that provides the ability to upload video assets or record programs streaming on the network. Admins and users can trigger recordings based on privileges and quotas configured in the EZ TV Portal. EZ TV VOD is available as a rack-mounted server or as a virtual machine.

**EZ TV Media Library** – Easy-to-use, powerful solution for Government and Military users to manage digital video content quickly and collaborate with colleagues. It integrates seamlessly into any existing IT environment and serves both local area network users (LAN) and remote users (WAN). The EZ TV Media Player can archive and index MPEG-2, MPEG-4 H.264 and HEVC H.265 video from SD to HD to 4K resolution at any bit rate, while creating proxy, HTML5-ready preview files. This enables users to perform powerful tasks such as cutting, stitching, extracting, and playing back multiple videos time-synced from any device including desktops, laptops, tablets, and phones.

### **IPTV Set-Top-Boxes / Signage End-Points**

– Compact, highly robust, fanless, and totally silent hardware appliances that connect to displays and deliver TV experience for personal users, or used to display dynamic, content-rich digital signs using a schedule defined by the administrator. With end-to-end content security using VITEC AES encryption, advanced features include remote management, control of TVs via serial connection, Power over Ethernet (PoE), and non-compromised playback performance with up to two 1080p streams / files decoded simultaneously for the most impressive combination of signage and live video.



**EZ TV App for Android and iOS** – VITEC's IPTV player for iOS and Android devices integrates with the EZ TV Portal server to receive channel line-ups, programming information and user permissions. It delivers a best-of-class mobile streaming experience with under 500ms end-to-end delay for live video, support for up to 1080p content, network-efficient multicast UDP TS decoding and support for VITEC's AES content protection / DRM for fully secure delivery of any content on any Wi-Fi network.

**EZ TV App for LG WebOS Devices** – VITEC's IPTV player for LG webOS devices is a native app fully integrated to use LG's webOS framework and run natively on LG SoC TVs and LG media players. EZ TV App for webOS provides the full experience of the EZ TV Platform with customizable channel line-ups, programming information, user permissions, emergency messages, MoEs, and more. EZ TV Platform can centrally control all webOS devices making it a highly efficient monitoring solution for any project using LG webOS devices with IPTV content.

**EZ TV Personal TV Middleware** – State-of-the-art TV middleware software that allows users equipped with VITEC's IPTV set-top-boxes to interact with their TVs, tune into live TV streams, view local feeds, watch on-demand videos, browse through up-to-date programming information, record shows and manage DVR saved content.

**EZ TV Sign Creator** – Digital Signage authoring web-based application that makes the design and creation of engaging digital signs a breeze. An intuitive application supports a broad range of assets including videos, pictures, IPTV streams, social elements, sports scores, integration with food catering providers and multiple layers of graphics, all meshed into highly dynamic signage content to be displayed on VITEC's IPTV/Digital Signage End Points.

**EZ TV Signage Director** – EZ TV's Administration interface for Digital Signage services and End-Points management is a centralised web-based tool for managing signage content, creating schedules for different type of events and venues, integration with 3rd party data sources, real-time monitoring of all deployed end points and comprehensive logging and analytics.

**EZ TV Video Wall Processors** – Professional series of video processors featuring hardware-based processing, modular and configurable frames with all the input and output options for any video and audio source. Powerful rendering and effects engines ensuring smooth, synchronised playback of IPTV and file-based content 365x24x7.

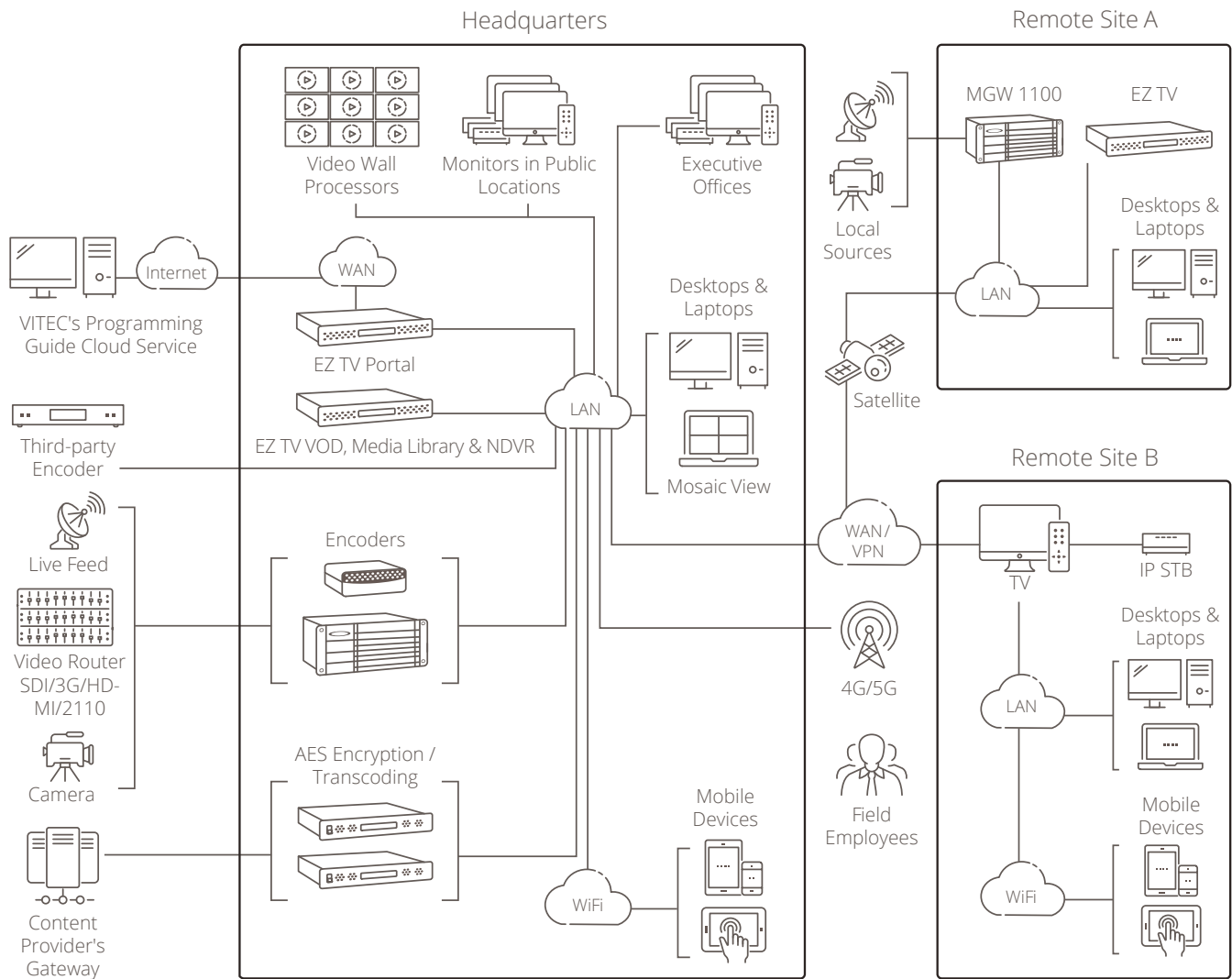
**Streaming Servers** – VITEC offers a wide range of streaming servers that act as IP distribution / reflection servers extending the reach of live IPTV content to any user, local or remote and on any network; LAN, WAN, private or public internet. Protocols supported include HLS, RTSP, SRT, Zixi. VITEC's distribution servers, combined with the wide range of playback devices from desktop browser to TV, to mobile device and EZ TV end-points connected to an HDMI display provide a turn-key solution for distribution of IPTV and FMV content to any user in any location.

**Automation and Control** – This is an add-on that enables the user to easily create their own touch-enabled control panels for conference rooms, clubs etc. This saves the cost of purchasing, integrating and maintaining other systems when used for controlling rooms with IPTV TVs.

# EZ TV for Corporate, Government Agencies and Military Sites

The EZ TV IPTV & Digital Signage Platform allows you to stream live video content (including cable, satellite, off air TV channels and locally generated video) around company headquarters, to satellite offices and to remote employees or clients.





Whether the live streams originate from content providers' gateways, encoded by VITEC's wide range of MPEG encoding and streaming products or sourced from a 3rd party encoder – the EZ TV Platform seamlessly maps any type of stream to a user friendly channel number and name, adds electronic programming guide information for the next 14 days of broadcasting, and makes it available securely for local and remote users via intuitive UX on TVs, work computers and laptops, mobile devices and SoC TVs. The EZ TV Server Administration interface is then used to manage all in-house and live TV content and easily configure access rights and personalised channel line-ups. Usage reports, IPTV services ratings and trends are available via the platform's comprehensive analytics and reports module.



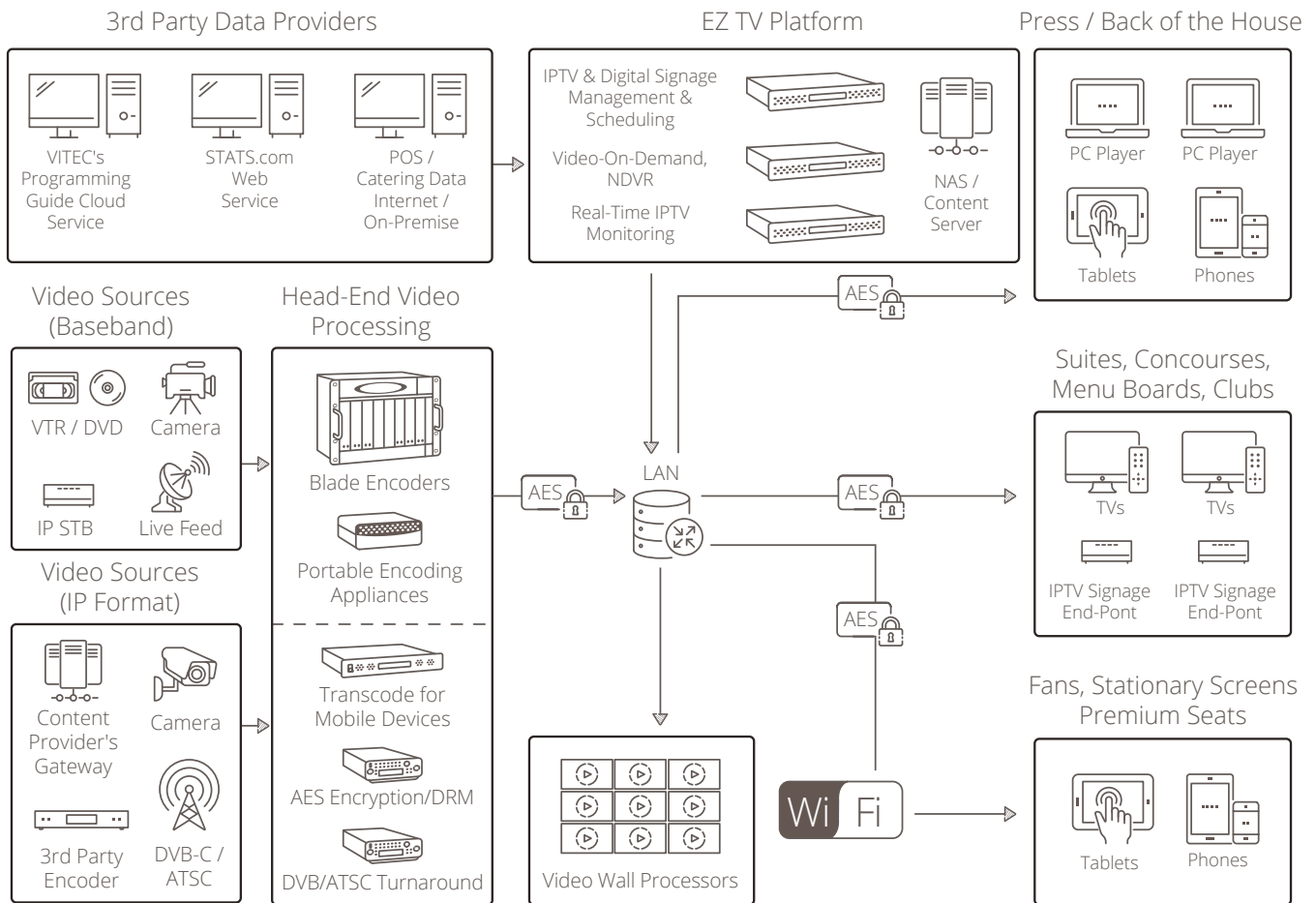
VITEC's end-points / set-top boxes let viewers enjoy a professional TV experience using the EZ TV Browser Player to watch on any laptop or desktop computer, or with the EZ TV Mobile app for any IOS or Android devices.

Using the Digital Signage Platform, departments within the organisations can also create engaging signage designs to display information in public areas, meeting rooms or anywhere else using the same set-top boxes in the headquarters or satellite offices, helping to increase employee satisfaction and visitors' experiences.

# EZ TV for Sports Stadiums, Arenas and other Entertainment Venues

The EZ TV IPTV & Digital Signage Platform allows users to manage live game-day streams and TV channels anywhere in a stadium or arena environment. Its open platform architecture makes it easy to integrate with other third-party systems.

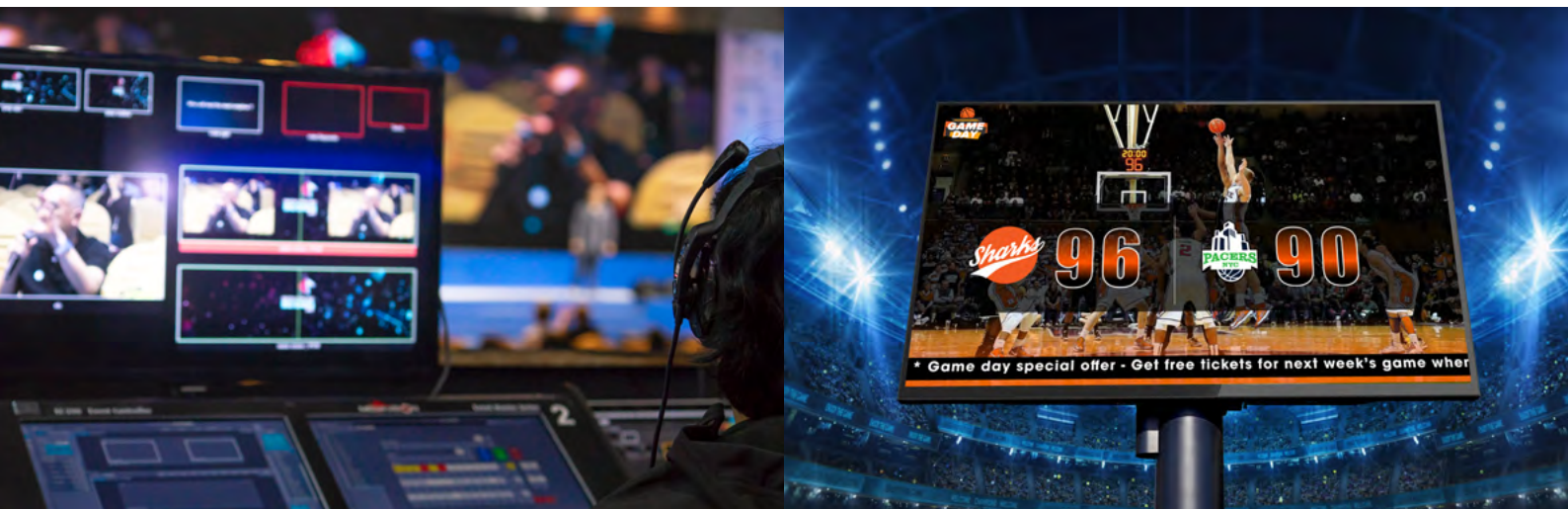




Users can also deploy Digital Signage content for engaging audiences with information such as game day news, special offers or menu boards, using dynamically updated content alongside live video streams. EZ TV also makes creating revenue-generating marketing and sponsorship content easy to manage and deploy.

Using our best-in-class TV middleware, fans can enjoy live streams displayed in the lowest latency throughout the venue. Premium seat holders in private viewing areas and clubs can easily choose live action footage, video-on-demand movies, or game highlights with a user-friendly interface, improving the whole viewing experience.

The EZ TV Mobile Player app enables live video to be streamed to mobile devices with less than 500ms delay using VITEC's efficient multicast over Wi-Fi technology.



# Technical Specification

## EZ TV Portal Server

- Up to 5,000 concurrent IPTV Browser Players, Mobile Device Players, IPTV Set-Top-Boxes or Digital Signage End-Points for TVs from a single server instance
- Digital Rights Management (DRM) - management of AES 128/256-bit keys based on user access rules
- Clustering capability to support HQ server with multiple edge servers serving remote users
- TAA and NDAA Compliant. Embedded OS patched and secured to meet to highest cyber-security and information assurance standards

## Footprint

- EZ TV Platform is offered on a 1-RU physical server and as a software package that is installed on any third-party machine or as a virtual machine

## Physical server specifications

### (EDU, Basic, Explorer):

- HP DL20/DL20+, Quad-Core 3.0GHz CPU (1-RU)
- 32GB RAM
- 2 x 1Gbps network interfaces
- 2 x Power supplies 500W AC 110/240V 50/60 Hz
- Windows 2019 Server 64-bit
- Dimensions: 1.70" (4.32cm) Height x 17.11" (43.46cm) width x 15.05" (38.22cm) Depth
- Weight: 17.37lb (7.88kg)

## Minimum requirements for installation on third-party servers, cloud-hosted instances or as a virtual machine (Basic, Explorer):

- 1 x Quad Core 3.0GHz CPU
- 32GB RAM
- 2 x 1Gbps network interfaces
- 1TB Disk Space (OS only)
- Windows 2016/2019 with IIS and all OS service packs installed Server 64-bit

## Physical server specifications (Pro, Enterprise):

- HP DL360, 2x Octa-Core 2.4GHz CPUs (1-RU)
- 32GB RAM
- 4 x 1Gbps network interfaces
- 2 x Power supplies 500W AC 100/240V 50/60 Hz
- Windows 2019 Server 64-bit
- Dimensions: 1.70" (4.32cm) Height x 17.11" (43.46cm) Width x 27.5" (69.85cm) Depth
- Weight 33.3 lb. (15.31 kg)

## Minimum requirements for installation on third-party servers, cloud-hosted instances or as a virtual machine (Pro, Enterprise):

- 2 x Octa-Core 2.4GHz CPUs
- 32GB RAM
- 1 x 1Gbps network interface
- 1TB Disk Space (OS only)
- Windows 2016/2019 with IIS and all OS service packs installed Server 64-bit

## Advanced capabilities

- Automatic data replication between EZ TV Servers - High Availability redundant configuration
- Integration with Microsoft Domain Controllers for users and content access management
- Integration with Gracenote's (Tribune™) electronic programming data syncs up-to-date information for all major satellite, cable and local channels
- Automatic discovery of available IPTV streams on the network using Session Announcement Protocol (SAP)
- Centralised web-based interface for content management, scheduling Events and Signage Campaigns and control of TV displays
- Unlimited number of unique Digital Signs layouts and scheduled events (macros)
- Certificates of Net Worthiness, DIACAP, documentation for use on classified networks provided upon request

## EZ TV VOD / NDVR / Media Library / Render Server

- Supports streaming to desktops, laptops, TVs and mobile devices
- Support recording and streaming of AES-256/128-bit encrypted streams
- Streaming / Recording Capacity - 400Mbps input + 400Mbps Output
- Built-in storage 2TB (Raid-5) + support for network attached storage (NAS)
- TAA and NDAA Compliant. Embedded OS patched and secured to meet to highest cyber-security and information assurance standards

## Footprint

EZ TV VOD / NDVR / Media Library / Render is offered on a 1-RU physical server or as a virtual machine

## Physical server specifications:

- HP DL360, 2x Octa-Core 2.4GHz CPUs (1-RU)
- 32GB RAM
- 4 x 1Gbps network interfaces + 2 x 10Gbps fiber network interfaces
- 2 x Power supplies 500W AC 100/240V 50/60 Hz
- 2TB built-in video storage RAID 5 configuration
- Red Hat Enterprise Linux Server release 8
- Dimensions: 1.70" (4.32cm) Height x 17.11" (43.46cm) Width x 27.5" (69.85cm) Depth
- Weight 33.3 lb. (15.31 kg)

## Minimum requirements for installation on third-party servers, cloud-hosted instances or as a virtual machine:

- 2 x Octa-Core 2.4GHz CPUs
- 32GB RAM
- 1 x 1Gbps network interfaces (1 x 10Gbps network interfaces if recording more than 20 IPTV streams)
- 200GB Disk Space (OS only)
- External NAS/SAN storage for video content

### Video formats

- Video: MPEG-1, MPEG-2, MPEG-4 part 2, MPEG-4 part 10 H.264, HEVC H.265 - ITUT H.265 / ISO IEC 23008-2
- Audio: MPEG 2 AAC-LC, MPEG 2 AAC-HE, MPEG 4 AAC-LC, MPEG 4 AAC-HE, Dolby AC-3, MPEG-1 Layer 2 (ISO/IEC 11172-3)

### EZ TV Browser Player for Desktops/Laptops\*

#### Operating systems:

- Microsoft Windows 10, 11
- MacOS 12

#### Internet browsers:

- Windows Internet Explorer
- Apple Safari
- Google Chrome
- Mozilla Firefox

#### Multi-View Mosaic Playback for IPTV Streams:

- Up to 25x SD/HD channels on single screen

#### Supported streaming protocols:

- UDP, RTP/RTSP, MPEG-2 Transport Stream, HTTP progressive download, HLS, Multicast / Unicast, VITEC TurboVideo™, SRT, MPEG-Dash

#### Supported video formats:

- MPEG-1, MPEG-2, MPEG-4 part 2, MPEG-4 part 10 H.264, HEVC (High Efficiency Video Coding) H.265 - ITUT H.265 / ISO IEC 23008-2, WMV, Quick Time, HTTP live streaming HLS
- All resolutions from QCIF up to 4K

#### Supported audio formats:

- MPEG 2 AAC-LC, MPEG 2 AAC-HE, MPEG 4 AAC-LC, MPEG 4 AAC-HE, Dolby AC-3, MPEG-1 Layer 2 (ISO/IEC 11172-3)

#### Metadata:

- Line 21: SCTE-20/21 Closed captioning, CEA-608/708 (user configurable enable/disable + captions position)
- DVB subtitles (ESTI EN 300 743) supported on IPTV End-Points and SoC TVs
- MISB KLV/STANAG input over UDP
- NGA Motion Imagery Standard Profile (MISP) Compliant; EG 0104.5, EG 0601.6, MISB STD 0604.2, MISB EG 0904, MISB STD 0601.6, STANAG 4609 (Edition 3), SMPTE 336M/335M

### Advanced capabilities:

- On screen text overlay and real-time parsing and display of KLV / STANAG metadata
- Security classification tagging - real-time color coding of displayed video based on classification
- Auto detection and enumeration of multiple audio tracks
- HEVC / H.265 decoding using GPU hardware acceleration (when supported GPUs are detected)
- Backup channel automatically directs player to alternate IP stream when primary stream fails
- Built-in content security / DRM using AES 128/256-bit
- SRT support on desktop browser player as well as on Android and iOS apps for delivery of IPTV streams to remote users / employees working from home

### IPTV / Digital Signage End-Point Specifications

- Rugged, fan-less and 100% silent compact appliance with IR, IP and SDK control system options
- Discrete hardware processors for video decoding and signage graphics playout
- AES decryption and Active Directory support fully integrated with VITEC's IPTV encoders
- VESA compatible integrated mounting brackets and RS-232 serial interface for TV control (H series only)
- Dual video decoding of IPTV streams or files simultaneously / Picture-in-Picture
- Sub 500ms glass-to-glass decoding of live IPTV streams ideal for real-time events such as Sports, News, Situational Awareness video
- TAA and NDAA Compliant. Embedded OS patched and secured to meet to highest cyber-security and information assurance standards
- Powerful visual effects capabilities including alpha channel layering of images over video, dynamic text over graphics and video and real-time content updates without interruption to signage scheduling and playback

#### HP DL20/DL20+

- Dimensions: 1.70" (4.32cm) Height x 17.11" (43.46cm) width x 15.05" (38.22cm) Depth

#### HP DL360

- Dimensions: 1.70" (4.32cm) Height x 17.11" (43.46cm) Width x 27.5" (69.85cm) Depth

#### Notes:

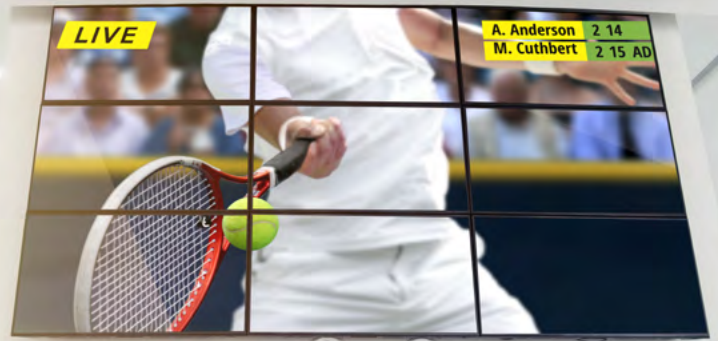
- \*The above specifications relate to both legacy plugin-based EZ TV Player and to the new HTML5 based EZ TV Player Lite. For more information about the specific capabilities and supported IT environment for the browser players refer to the EZ TV Platform user manual or contact VITEC.

*For IPTV / Digital Signage End-Points and Video Wall Processors information and technical specifications please refer to VITEC's End Points and Video Wall Processors brochure*

# CORPORATE



# VENUES



# GOVERNMENT



# BROADCAST



# MILITARY



# HEALTHCARE



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