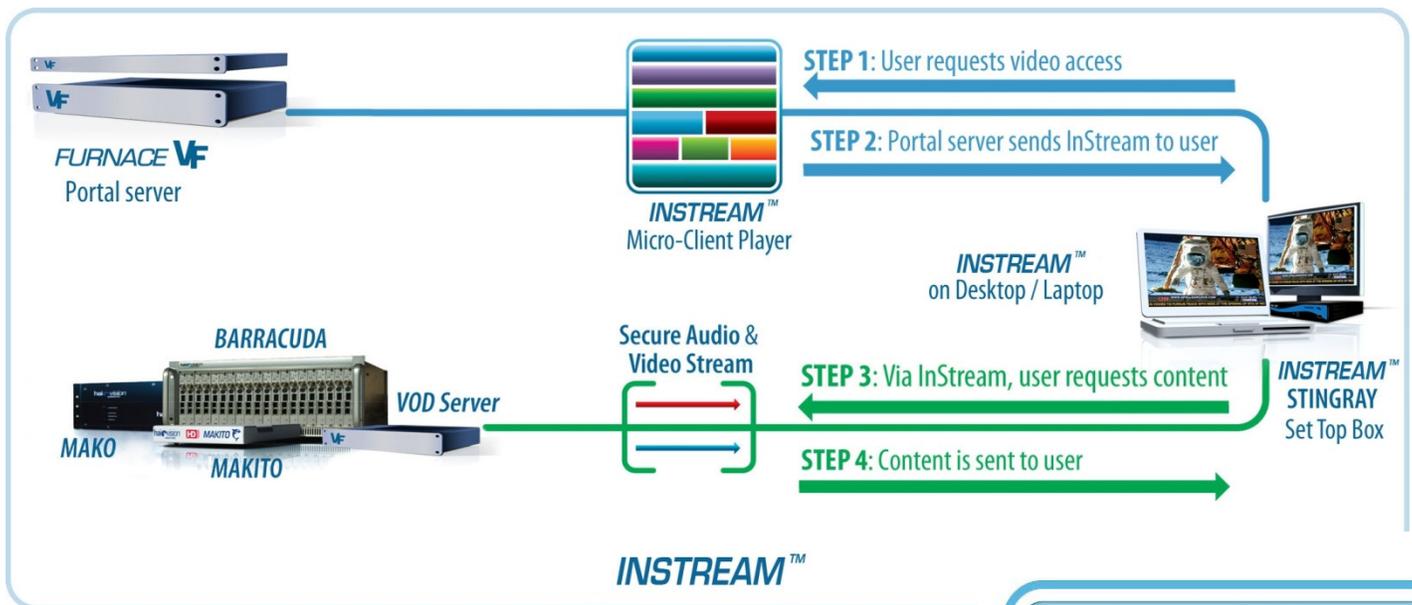


InStream™: The Magic Micro-Client Player Technology

InStream™ is the most advanced MPEG compliant viewer™ experience in the industry. It is the player technology of Video Furnace System 5—HaiVision’s end-to-end HD H.264 IP video solution. InStream™ is the easiest IP media player to deploy and manage as it requires no installation to the desktop and supports all modern operating systems and browsers. InStream™ is 100% secure supporting the Video Furnace System 5 end-to-end implementation of AES encryption. InStream™ supports live and on-demand MPEG 1/2/4, H.264 and High Definition. Within the enterprise, in the hospital, and across the educational campus, there is one common requirement of video-over-IP deployments: Users just want them to work. InStream™ just works!

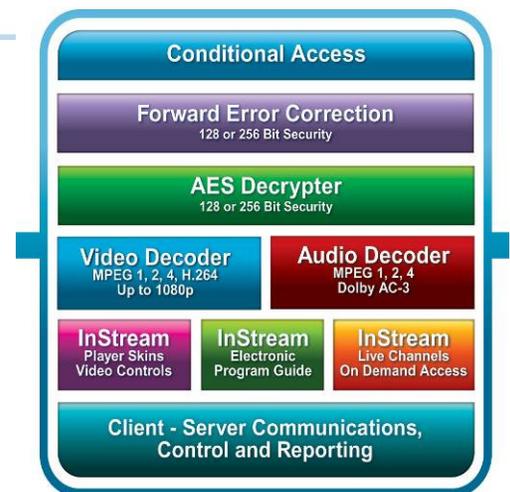
Light - Efficient - Easy InStream relies on a coupled client/server approach and runs solely in the computer's memory space. There is no software, plug-ins or ActiveX controls to install on viewing computers and it works on all the most common computing platforms, including Windows, Mac, Linux, and Sun Solaris. Regardless of the user's operating system, the interface is the same, offering a consistent viewing experience. When a user requests Instream through a simple Web link, instantaneous communication is triggered with the server, informing it of the platform the user has and, if conditional access is implemented, who the user is. The player is then sent to the user's computer and launched. It then provides straightforward access to live channels, playback channels originating from disk, and video on demand through an integrated electronic program guide.



Once the requested player is sent by the server to the client, which occurs instantaneously, the user can select what content to view. The content is immediately delivered to the player (with forward error correction and security as an option) for the user to view. Delivery of content is fast, secure, reliable, consistent, and controlled. The user does not need to install any software, which means that administrators will never need to go to each machine and update a player, install a new one or maintain it in any way. It also means that users always get the latest version of the player every time it is launched. Finally, once the viewing session is closed, the player is completely removed from the end user's machine. This means no configuration or user files are created and no media is cached. Once the player is removed from the computer, there is no trace of it left.

Feature Rich

- Runs solely on computer's memory space requiring less than 800kB.
- A high-performance video decoder for industry-standard MPEG-1, MPEG-2, MPEG-4, and H.264 for multiple resolutions from CIF (approximately one-quarter SD) all the way up to 1080p HD, and even computer resolutions



- An advanced de-interlacing suite to smooth SD broadcasts
- A synchronous audio decoder supporting industry-standard MP2, MP3, AAC, and AC3 audio
- Performance implementations of AES security
- Forward Error Correction (FEC)
- Access to user-associated channel lineups and video on demand with powerful playback controls
- An extensive electronic programming guide (EPG)
- A full-featured interface with complete audio, video, and window controls
- A bi-directional communications link with the server that allows the server to manage and track the player.

Absolute Security InStream supports full 256-bit AES encryption and is FIPS 197 and FIPS 140-2 compliant. The InStream player never caches any data, thus removing the need to attempt to protect content with complicated digital rights management. A textual digital watermark can be inserted as a video overlay to help thwart unauthorized analog attempts to steal content or to identify streams. When integrated with a customer's conditional access solution, the InStream player can be locked down to provide users with only the content they are authorized to view. With these security measures in place, the InStream viewing environment is completely secure making it impossible to steal any content.

Coordinated Media Delivery Users can have access not only on their computers, but also on fixed endpoints such as displays driven by set-top boxes. HaiVision offers a low-cost set-top box, the STINGRAY™ that exactly mimics the desktop user experience. The STINGRAY supports all of the core features of InStream and presents the same user interface, operated with a remote control instead of the computer keyboard/mouse, providing the unique benefit of player/STB synchronization.

Command and Control Administrators can quickly and easily control anything that a user can do with either a set-top box or with the InStream player. They can control what users view and how they view it. Administrators can send out emergency alerts, remotely change channels, power up/down set top boxes, and much more. With Command and Control, administrators have a tool that gives them complete control over their IP video distribution system.

InStream specifications

VIDEO COMPRESSION STANDARD

MAKITO (x-290E-DVI)
 MPEG-1 ISO/IEC 11172
 MPEG-2 ISO/IEC 13818-2
 Main Profile @ Main Level
 I, P, B Frames support
 MPEG-4 part 2 ISO/IEC 14496-2
 Simple Profile
 MPEG-4 part 10 AVC / H.264 ISO/IEC 14496-10
 Main Profile @ Level 4.2
 I, P, B Frames support
 Frame and Field mode support

VIDEO RESOLUTION

TV Resolutions: From 1920x1080 down to CIF
 Computer Resolutions: From 1280x1024 down to 640x480

AUDIO COMPRESSION STANDARD

MPEG-1 part 3 Layer II ISO/IEC 11172-3
 MPEG-1 part 3 Layer III ISO/IEC 11172-3 (MP3 audio)
 MPEG-2 part 7 AAC-LC ISO/IEC 13818-7
 MPEG-4 part 3 AAC-LC ISO/IEC 14496-3
 Dolby AC-3

NETWORKING

MPEG Transport Stream over UDP
 Unicast and Multicast support

ADVANCED FEATURES

Nothing to install on desktop
 Lightweight and highly optimized for efficiency
 Full television-like interface
 Supports live, scheduled and VOD streams
 Built-in De-Interlacer
 AES Decryption up to 256 bits
 Forward Error Correction
 Supports EIA-608B close captioning and search trigger
 Support SAP (Secondary Audio Program)
 User authentication support through Conditional Access portal
 Can be launched from a web page
 Configurable decoding latency
 "Always-on-Top" and frameless modes
 Bookmarks and scrub-bar for VOD playback
 Time vs. Frame count cursor for VOD playback
 Trick-play such as Play/Pause/Stop/FF/RWD
 Slow-motion Fast Forward and Rewind

MINIMUM SYSTEM REQUIREMENTS

SD MPEG-2	Intel Pentium III 500MHz or PowerPC G3 700MHz
SD MPEG-2	Intel Pentium III 500MHz or PowerPC G3 700MHz
SD H.264	Pentium D 2.8GHz
HD H.264	Intel Core 2 Quad 2.66.GHz

SUPPORTED PLATFORMS

Windows XP, Vista, 7
 Mac OS/X
 Linux
 Sun Solaris 10
 Video Furnace Set Top Box



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