Optibase FITIS™

Fully Integrated Tactical IPTV System for Delivery, Archiving and Asset Management of ISR Video

25th Anniversary

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VIDEO INNOVATIONS

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Fully Integrated Tactical IPTV System for Delivery, Archiving and Asset Management of ISR Video

Optibase FITIS™ is an integrated, end-to-end Full Motion Video (FMV) solution for processing, archiving, indexing, managing and disseminating tactical ISR video and metadata sources. It enables government and military entities to quickly process and exploit live and recorded video assets to create actionable, reliable, real-time intelligence.

Warfare today is much more complex than ever before and is evolving rapidly. Operational units rely on Full Motion Video (FMV) gathered by unmanned aircraft, ground sensors, and other remote sources, which provide vast amounts of Intelligence, Surveillance and Reconnaissance (ISR) data. While sheer volume makes data management difficult, integrating the many data formats and footage of myriad specific focal points into larger situational intelligence is an even greater challenge.

Actionable, reliable and flexible solution for FMV applications

Optibase FITIS (Fully Integrated Tactical IPTV System) is an innovative, end-to-end integrated FMV IPTV solution for the Operational Command that addresses these complex challenges by effectively capturing, storing and managing video and data from remote sources, and distributing FMV content and metadata across multiple network configurations. The flexible, centralized FITIS system provides efficient playback, sorting and retrieval of vital video assets, substantially reducing the time and resources necessary to process, exploit and disseminate tactical video imagery. FITIS enhances situational awareness and command decision-making processes across the full military hierarchy, from tactical forces through the highest ranks of command.

As a mission critical application that supports troops in the theater of operations, FITIS meets rigorous security, interoperability, reliability and scalability requirements. Its open architecture and full integration with FMV and IT equipment already in the field make the system easy to deploy, activate and maintain. FITIS supports dissemination of both situational awareness and exploitation qualities (100Kbps network efficient streams to 20Mbps 1080p video) simultaneously, and enables remote connection to personnel and systems across the world.

FITIS uses advanced H.264 compression and metadata insertion using the latest MISB / STANAG standards and supports legacy video as well. The system supports propagation of scenario-specific video imagery in a variety of formats and bandwidth constraints, ranging from high-definition ISR footage for analysts to ultra-compressed streams for transmission to tactical units at the edge.

Powerful management and decision-making tool

Optibase FITIS enables users, either individually or in collaboration, to annotate video content in real-time by inserting free text information that is frame-accurate for searching and retrieval. Automatically generated geospatial and time-based information as well as users' custom annotations are logged and indexed for fast retrieval by both local and remote disadvantaged users.

FITIS integrates seamlessly with network storage devices to facilitate transition of video assets through workflow processes with defined retention periods. Archives can be maintained for specified time periods, and video clips spliced to create compilations encompassing full mission areas and time-lapse views of targets of interest. FITIS can provide historical data to facilitate future decision making processes, and as after-action aids for training and lessons learned analysis.

Based on the renowned Optibase EZ TV system, FITIS Player supports user-selected mosaic views of 1, 4, 9 or 16 concurrent video feeds. Selected metadata can be displayed on-screen, without in any way altering the original video.

FITIS is fully integrated with Optibase professional-class video decoders, encoders and streaming platforms from the flexible, robust MGW series

Benefits

- Secure IP-based access to real-time situational awareness video
- Enhanced processing, indexing, exploitation and dissemination of motion imagery
- Rapid, easy integration with deployed FMV and IT equipment
- Increased operational performance
- Secure, reliable and scalable to meet exacting military requirements
- Support for multiple encoding formats
- Integrated content flow from ingest to distribution
- Reduces manpower resources required for video asset management
- Workflow process meets archive retention requirements
- End-to-end integrated solution
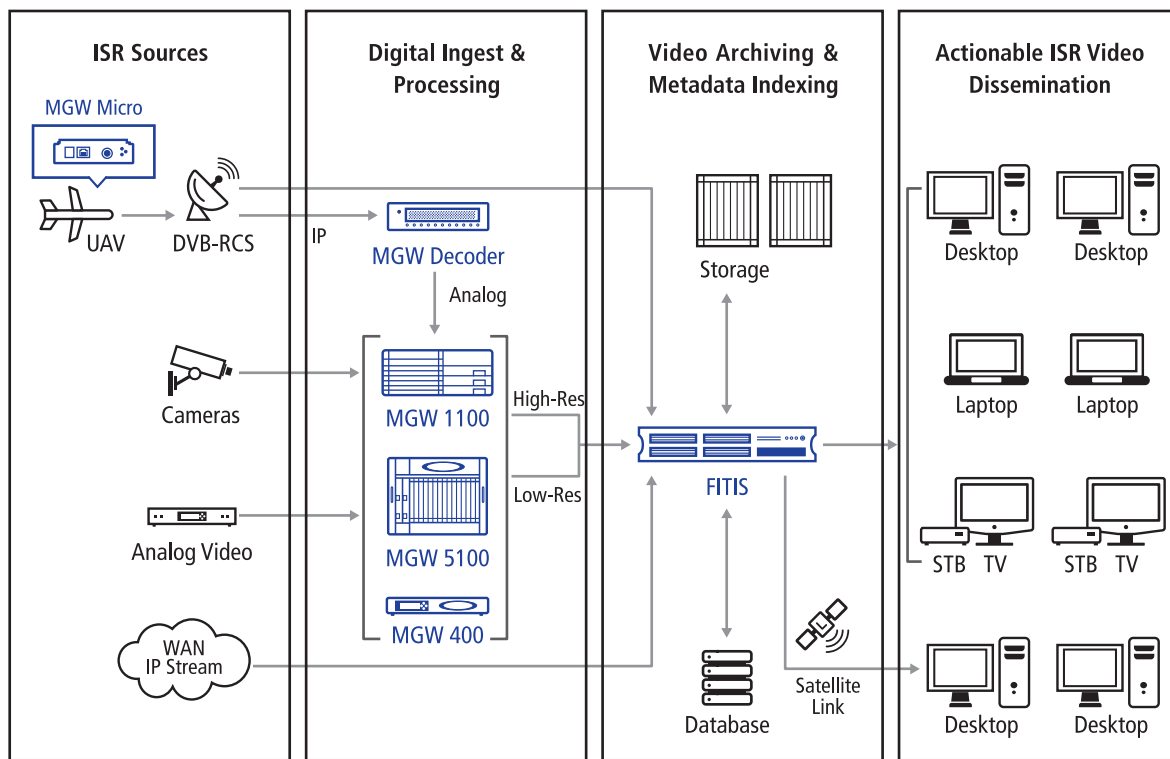
Applications

- Recording, indexing and distribution of STANAG compatible streams
- Real-time actionable FMV intelligence for situational awareness command decisions
- Historical operations archives to support decision-making process
- After-action review tool for training and lessons-learned analysis

Key Features

- Real-time viewing of SD and HD video streams
- Recording and archiving of DVB-RCS streams with metadata
- Advanced channel guide with grouping and access control, integrated with Microsoft Active Directory
- Powerful browser-based video player with time shifting, mosaic views and KLV preview capabilities
- Annotation of archived video data

System Components

- **FITIS Manager -** Secure, powerful browser-based administration interface with full control over all aspects of the FITIS system
- **FITIS NDVR Module -** Built-in recording and archiving module records IP streams to local or remote storage (integrated with all major "NAS/SAN" solutions).
- **FITIS MAM Module -** Media asset management module offers compressive video file management and editing capabilities.
- **FITIS VOD Module -** Video on Demand server serves recorded assets on-demand to LAN and WAN users based on permissions schemas.
- **FITIS Player -** browser-based full motion video front-end player. Packs powerful features in a user-intuitive user interface; time shifting, mosaic views, KLV metadata playback (synchronized with video), annotations and more.
- **FITIS GE Plug-In -** Integrated add-on module that enables FITIS Servers to extract KLV metadata in real-time, convert to Google KML format and stream to Google Earth client application. Using the Google Earth plug-in, FITIS users can benefit from an enhanced situational awareness, viewing all air-born aircrafts on a 3-D moving Google Earth map with ability to launch the FMV streams and view metadata from within Google Earth clients.
- **FITIS IP Set-Top-Box Middleware -** the STB (set-top-box) add-on module extends the use of FITIS for viewing of FMV and ISR video to IP-based set-top-boxes. Set-top-boxes are embedded, cost effective appliances that connect to TV's flat screens and monitor-walls. The module integrates with Microsoft Active Directory to secure and regulate access to content in the same way FITIS manages PC viewers.
- **FITIS IP Set-Top-Box Middleware -** The "Full Motion Video Mobile Streaming" solution is an integrated solution that allows FITIS administrators to disseminate ISR video streams to mobile devices and WAN users. FMVMS comes with iOS And Android IPTV players that are integrated with FITIS, inherit security settings and offer a user-intuitive interface for watching video on mobile devices.

The diagram shows four stages: ISR Sources, Digital Ingest & Processing, Video Archiving & Metadata Indexing, and Actionable ISR Video Dissemination.

ISR Sources: MGW Micro, UAV, DVB-RCS, IP, Cameras, Analog Video, WAN IP Stream

Digital Ingest & Processing: MGW Decoder, Analog, MGW 1100, MGW 5100, MGW 400, High-Res, Low-Res

Video Archiving & Metadata Indexing: Storage, FITIS, Database, Satellite Link

Actionable ISR Video Dissemination: Desktop, Desktop, Laptop, Laptop, STB, TV, STB, TV, Desktop, Desktop

Technical Specifications

Operating System Compatibility
- Server: Windows 2003 (32/64-bit), Windows 2008 (32/64-bit) including STIG platforms
- Clients: Windows XP Pro, Windows Vista (32/64-bit), Windows 7 (32/64-bit), Windows 2003 (32/64-bit), Windows 2008 (32/64-bit)
- Database - SQL Server 2005, SQL Server 2008 (32/64-bit)

FMV / IPTV Formats
MPEG-1, MPEG-2 (SD/HD), MPEG-4 ISO, MPEG-4 Part-10 H.264 (SD/HD), Third-party and legacy IP streams*

Protocols
TCP, UDP, RTP, RTSP, HTTP, Unicast and Multicast

Metadata Standards
SCTE-20, SCTE-21, NGA Motion Imagry Standard Profile (MISP) Compliant; EG 0104.5, EG 0601.3, MISB STD 0604, MISB EG 0904, MISB STD 0601, STANAG 4609, SMPTE 336M/335M

System Throughput (Per FITIS Instance)
- Real-Time Recording and Archiving of up 30 simultaneous SD/HD MPEG-2 and MPEG-4 H.264 IP streams
- Unprecedented throughput of up to 300Mbps of video, audio and KLV metadata with real-time indexing of Cursor-On-Target (CoT) information for fast retrieval
- KLV-to-KML conversion and streaming to Google Earth clients of up to 20 aircrafts simultaneously (Google Earth display with updating assets in under 1 second latency from real-time actual flight path)

Footprint
Supported platforms include standalone servers, tactical ruggedized notebooks and virtual machines

*Contact for more details

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