

# Tungsten™ SDK

**Building blocks for powerful still and motion imagery media applications.**

Our Tungsten™ Media Toolkit is the ideal Software Development Kit (SDK) for companies and platforms that demand flexible, superior, real-time digital media solutions. Designed for software developers, Tungsten can be used for a wide array of media purposes and applications and offers developers an extensive Application Programming Interface (API) to operate on media from a range of sources, including cameras, network streams, archives and beyond.

## KEY FEATURES

- › Accelerate Development
- › Guarantee Compliance
- › Maximize Interoperability
- › Simplify Projects

## CAPABILITIES

Tungsten's versatile architecture makes it ideal for integration into systems that require the capability to ingest, process and deliver a large number of streams of video, audio, metadata and annotation with minimal latency. Tungsten's highly adaptable, layered capabilities range from encoding and decoding, to recording and playback, to advanced content-based retrieval and analysis that can handle simultaneous media sources across many platforms. Tungsten provides a comprehensive bundle of sample applications including a full-featured media client and server, a remote server management application, a web-based Java client and a media-streaming application. The Tungsten Media Toolkit provides the foundation to unleash the full potential of digital media.

- › Build client-side metadata rich media consumption software and server software for metadata rich media.
- › Digitally encode your motion imagery and metadata to MISB standards using our encoding libraries and MainConcept codecs.
- › Decode digital motion imagery and metadata for use directly in your software.
- › Includes the core components needed to make your solution MISB and STANAG compliant, including the MISB metadata set libraries, Cursor-on-Target encoders and decoders, NITF libraries and video codecs.
- › The Tungsten SDK is available to registered developers within our Insitu Developer Program.



AIR VEHICLE



GCS



SERVER



WORKSTATION



MOBILE

Tacitview



Catalina



Tungsten



## DETAILS

### ENCODING & DECODING

#### Video

AVC/H.264  
MPEG-2/H.262  
MPEG-4/H.263  
HEVC/H.265

#### Audio

MPEG-1/2 (MP3)  
AAC

#### Metadata

KLV (SMPTE 336M-2001)  
Cursor on Target (CoT)

#### Stream Formats

MPEG-2 Transport Stream  
MPEG-2 Program Stream

### INTEROPERABILITY

Motion Imagery Standards Profile (MISP)  
STANAG 4609  
Cross Platform Support  
Customizable Interfaces

### GIS UTILITIES

Digital Elevation Models -  
DTED / SRTM / GTOPO30  
Four Corners Calculations  
Coordinate System and  
Height Conversions  
Geometric Types – WKT/WKB

### ACQUISITION

TCP  
UDP – Unicast / Multicast  
RTP / RTSP  
File  
Sliced File  
Archives  
JPIP  
Surge Media Acquisition Framework  
Video for Linux Sources  
DirectShow Video Sources  
IPv6

### METADATA

MISB ST 0601 – UAS Datalink Metadata  
MISB ST 0102 – Security Metadata  
MISB ST 1107 – Geopositioning Metadata  
MISB EG 0104 – Predator Metadata  
Predator ESD  
MISB ST 0603/0604 – Synchronous  
Metadata  
MISB ST 0902 – Minimum Metadata Set  
MISB ST 1204 – Core Identifier  
MISB ST 0806 – RVT Data  
MISB ST 0602 – Annotation Metadata  
MISB ST 0808 – Ancillary Text Metadata  
MISB ST 0903 – VMTI Data  
MISB ST 1202 – Generalized  
Transformation  
MISB ST 1010 – Std Dev Corr Coef Matrix  
MISB EG 0801 – Photogrammetry  
Metadata  
MISB RP 0608 – Motion Imagery Identifier

### IMAGE FORMATS

NITF (MIL-STD-2500C)  
NSIF (STANAG 4545)  
Bitmap  
JPEG  
JPEG 2000  
PNG  
TIFF  
RGB / Monochrome / YUV

### VIDEO DISPLAY

DirectX  
OpenGL  
Video Overlays

### PROGRAMMING

#### LANGUAGES

C++  
Java via the JNI  
C# via the CLI

### ARCHITECTURES

Windows – x86/x64 –  
Visual Studio  
Linux – x86/x64 – GCC  
Android – ARM/ARMv7 – NDK

### DEVELOPER RESOURCES

Extensive API Documentation  
Technical Support and Solutions Options

### SAMPLE APPLICATIONS –

#### FULL SOURCE

Media Client / Player  
Media Server  
Web Media Player (Java)  
Media Transcoding  
Media Streamer



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