Flexible deployment
A single Catalina instance can easily handle dozens of simultaneous feeds and operations, and additional instances can be deployed to support co-located scaling or distributed operations.

Catalina features:
- 3D Scene Reconstruction
- Extensible, Plug-in Architecture
- Media Catalog
- Metadata Filtering & Editing
- MISB-Compliant Formats & Standards
- Optical Character Reader/Manipulation
- Reticle™ Georegistration
- Still Image and Video Mosaicking
- Visual Enhancements

Built for Linux or Windows, Catalina features a vast library of capabilities to provide all the thrust needed to command your metadata-rich media:
- Connect to any MISB-compliant video and metadata source to collect, index, and record mission-critical media and metadata.
- Computer vision and metadata processing capabilities to extract, improve, edit, or delete information contained in your media or metadata.
- Disseminate your data as files or streams, or access them directly through our SOAP or Rest APIs using your own systems and software.
- Secure access to capabilities and data using TLS, SSL, and certificate-based security protocols and methods.

Catalina is a sophisticated server-side software powering your media enterprise. The server application subscribes to and ingests data from a wide variety of sources, can improve both the imagery and metadata, and indexes the data for easy discovery—all in a standards-compliant manner.
### COMMUNICATIONS
- RTP
- TCP
- UDP
- UDP Multicast
- OpenSRT (Secure Reliable Transport)
- Support for custom interfaces
- IPv4
- IPv6

### INTEGRATION
- SOAP
- REST
- GCC
- Visual Studio
- Visual C++
- Visual Basic
- Visual C#
- Java and NetBeans

### METADATA
- KLV (SMPTE 336M-2001)
- STANAG 4545
- STANAG 4609
- MISB Standard 604
- MISB Standard 0601
- MISB Standard 0100
- MISB Standard 0102
- MISB Standard 1010
- MISB Standard 1107
- STANAG 4609
- STANAG 4609

### IMAGE FORMATS
- NITF (MIL-STD-2500C)
- Bitmap, JPEG, PNG, TIFF
- JPEG 2000
- STANAG 4545
- KMZ
- GeoTIFF
- GeoPDF

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

### AUDIO
- MPEG-2 (MP2 and MP3)
- AAC

### STREAM FORMATS
- MPEG-2 Program Stream
- MPEG-2 Transport Stream

### ARCHITECTURES
- Windows
- Linux
- Virtualization support

### SPECIFICATIONS

### LICENSABLE FEATURES

**Baseline**
This feature is required by all other Catalina licensable/optional features and provides for basic input and output of received video streams. Provides access to the Catalina SOAP API.  

**3D Scene Reconstruction**
Enables the construction of a 3D textured model and point cloud from uncalibrated still images or motion imagery clips. Can optionally use metadata to improve geolocation and scaling of the reconstruction, if available.

**Annotation**
Enables the association of vector- and text-based annotations to media stored in Catalina. Annotations may have geospatial properties and are retrievable through the Catalina API. Requires Catalog and Archive feature.

**Catalog and Archive**
Cataloging (indexing) and archiving (storing) motion imagery and other media for retrieval through OGC Catalog and OGC Filter services through common SOAP/REST methods. Supports SQL Server (license not included) and PostgreSQL databases.

**GeoSpatial Data Export**
Export live platform and frame locations as a network KML. Viewable in Google Earth and other KML-enabled viewing clients.

**HEVC Codec**
Enables ingest of HEVC/H.265 formatted MPEG2-TS video files and UDP streams for Catalog and Archive. With Video Transcoding license, also enables transcoding MPEG2-TS files and UDP streams into HEVC/H.265 format.

**Landmark**
Produces real-time, video-rate, high-precision positioning metadata using computer vision techniques to generate a 3D structure-and-appearance model of the target location. This eliminates the need for sensor calibration or reference imagery and elevation data.

**Metadata Transcoding**
Enables all KLV metadata encoding/decoding features necessary to convert between standards-based metadata types, or add/modify/delete existing metadata fields. Handles STANAG 4609 and MISB standards.

**Metadata Guard**
Javascript-based feature enables a scriptable media firewall based on the presence and/or contents of MISB metadata.

**On-Screen Metadata Burn-in**
Draws frame-based annotation overlays on video from dynamic metadata elements or static entries from user defined templates. Requires Video Transcoding feature; TacitView recommended.

**On-Screen OCR**
Converts on-screen characters into MISB-compliant KLV metadata. Pre-defined templates available upon request and user-defined templates can be authored with this Javascript-based solution. Requires Metadata Transcoding feature. TacitView recommended.

**On-Screen OCR**
Converts on-screen characters into MISB-compliant KLV metadata. Pre-defined templates available upon request and user-defined templates can be authored with this Javascript-based solution. Requires Metadata Transcoding feature. TacitView recommended.

**On-Screen Metadata Inpainting**
Obscures on-screen characters using surrounding pixel data. Requires Video Transcoding feature; TacitView recommended.

**On-Screen Metadata Redacting**
Censors on-screen characters with a specified overlay color. Requires Video Transcoding feature; TacitView recommended.

**Reticle Real Time (RT)**
Enables the Real Time (RT) mode of the Reticle georegistration engine. This mode improves metadata by leveraging low-latency image tracking, sparse 3D modeling, and image-to-image correlation to lock motion imagery to reference imagery and terrain. Generates correlation metadata to quantify accuracy of solution. Includes Reticle Metadata Optimizer.

**Reticle Target (TGT)**
Enables the target (TGT) mode of the Reticle georegistration engine. Provides the confidence level of the georegistration for a selected point within Motion Imagery to aide targeting decisions. Includes Reticle MO and RT. Requires TacitView.

**Still Image Mosaicking**
Builds ortho-image mosaics from a series of related still images. Leverages embedded camera position data (EXIF or an accompanying XML file) to optimize the geospatial accuracy of the ortho-image.

**Visual Enhancements**
Enables debanding, dehazing, contrast enhancement, stabilization, and super resolution features. Requires Video Transcoding feature.

**Video Mosaicking**
Generates mosaics from motion imagery in a batch process. Uses geopositioning metadata and image data to determine viable segments of video, and optimizes the output mosaics. Exports images in multiple formats including geospatial.

**Video Transcoding**
Required for all video encoding/decoding features necessary to convert between compression formats, adjust compression quality, adjust bit-rate, selectively drop frames, and modify frame sizes. HEVC Codec licensed separately, DASH/HLS encoding requires Catalog and Archive feature.

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Software is classified as EAR99.