

AWS Elemental Server



File-to-File Video Processing

AWS Elemental Server enables fast and reliable video processing for file-based workflows. The appliance or software-based solution performs simultaneous, faster-than-real-time conversion of media files into mezzanine deliverables, on-demand assets, and adaptive bitrate outputs optionally with encryption for primary and multiscreen devices. AWS Elemental Server integrates easily into existing video workflows and evolves with emerging technologies to create content for premium viewing experiences while maximizing revenue opportunities.

Experience the Benefits

High Performance

Create content for delivery via common streaming formats including Apple HLS, MPEG-DASH, CMAF, Apple ProRes, or XDCam. Reduce storage costs by creating distribution formats ready for re-wrapping with a separate packager such as AWS Elemental Delta.

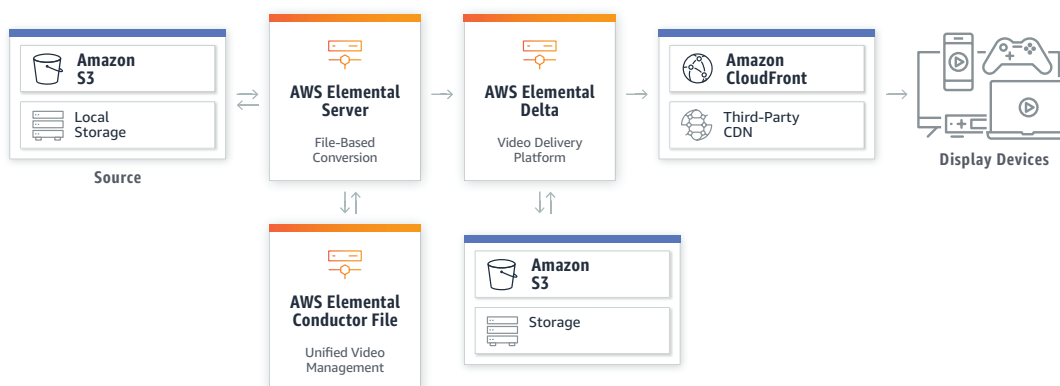
Versatile Design

Software-based video processing is developed by AWS Elemental and offers rapid optimization and enhancement of video codecs including HEVC (H.265), AVC (H.264), and MPEG-2. Highly upgradable infrastructure provides evolving support for High Dynamic Range (HDR), ad insertion, captioning, watermarking (open and forensic), and monetization methods.

Flexible Deployment Models

Scale video processing as needed to flex with variable demand, whether on premises or in a virtual cluster. Deploy the same video processing software with complete compatibility to satisfy business needs.

AWS ELEMENTAL SERVER WORKFLOW





Why AWS Elemental Server

Broad Ingest Support

Decode object-based and linear mezzanine, broadcast, post production, and editing formats with software that provides the best combination of speed and flexibility.

High-Throughput Processing

Convert content with unprecedented speed and throughput. Unique software architecture provides maximum performance and scalability.

Uncompromised Video Quality

Harness powerful algorithms built by AWS Elemental to achieve optimum image quality per bit with Quality-Defined Variable Bitrate (QVBR) encoding, motion-adaptive deinterlacing, scene change detection, deblocking, noise reduction, and high-quality scaling, spatial, and temporal filtering.

Premium Viewing Experience

With continuous development, support for new codecs, containers, resolutions, frame rates, color spaces, metadata, DRM, and High Dynamic Range (HDR), AWS Elemental Server delivers the most engaging premium content experiences to consumers.

Produce Multiple Outputs

Create multiple resolution bitrate ladders, and output formats targeting any player or platform. Software updates ensure player compatibility keeping pace with the fast pace of device development.

Advanced Audio Processing

Build audio-only workflows and take advantage of multi-channel, multi-language and broad audio codec capabilities including the latest immersive audio experiences. Meet government broadcast specifications with built-in features such as audio normalization and advanced channel mixing.

Reduce Management Overhead

Simplify operations with built-in tools or SNMP. Use REST / XML APIs, the web-based user interface, or define watch folders for tasks such as workflow integration, job queuing, scheduling, and prioritization.

Scalable, Reliable Architecture

Scale clusters easily by combining multiple systems with a shared job queue that automatically distributes encoding tasks.

Build a highly available transcoding farm with automatic failover and redundant job schedulers.

Monetize Multiscreen Content

Support for ESAM, Adobe Primetime and comment-based HLS methods provides the ability to work with numerous ad insertion platforms.

Secure Valuable Content

Protect content with support for multiple DRM solutions and track content with forensic watermarking.

SOFTWARE-BASED VIDEO

Process media for delivery to any device, at any time, all at once

Eliminate bottlenecks and reduce risk with fast and reliable transcoding

Save time and resources with improved workflow efficiency

Reduce total cost of ownership with a highly upgradable software solution



SPECIFICATIONS

OUTPUT CODECS

Video:

- HEVC / H.265 (Main, Main10)
- AVC / H.264 (Baseline, Main, High, High Profile Intra 10-bit)
- Apple ProRes
- MPEG-2
- Uncompressed
- Frame Capture

Audio:

- AAC-LC / AAC-HEV1 / AAC-HEV2
- Dolby Digital (AC-3), AC-3 Passthrough
- Dolby Digital Plus (EAC3) (Option), EAC3 Passthrough
- DTS Express (Option)
- MPEG-1 Layer II
- Uncompressed WAV, AIFF

FILE CONTAINERS

- Apple QuickTime and ProRes (MOV)
- MPEG-4 Part 10 (MP4)
- RAW YUV (Uncompressed)
- Sony XDCAM MXF (XDCAM)

SEGMENTED OUTPUTS

- Common Media Application Format (CMAF)
- Apple HTTP Adaptive Streaming (HLS)
- Dynamic Adaptive Streaming over HTTP (MPEG-DASH)
- Microsoft Smooth Streaming (MSS)
- MPEG-2 Part 1, Systems, CableLabs compliant (MPEG-TS)

SYSTEM CONTROL

- AWS Elemental Conductor File
- Automated Load Balancing
- HTML-Based User Interface
- Job Queue Management with priority
- Multiple Authentication Tiers
- Network Management
- Notifications and Alerts
- REST XML API
- SNMP
- System Resource & Statistics Monitoring

VIDEO PROCESSING

- Adaptive Quantization
- Anti-Aliasing Scaling
- ABR, CBR, CQ, VBR, Quality-Defined Variable Bitrate (QVBR), Two-Pass Encoding Modes
- Color Correction
- Cropping (per input and output)
- Deblocking
- Deinterlacing (Motion Adaptive Interpolation and Blend)
- Dithering (Pseudo-random dynamic rounding) for 16-bit Down-Conversions
- Force Interlace Mode
- Frame Rate Interpolation
- HDR 10 Support (ST.2084, ST.2086, MaxFALL, MaxCLL)
- HLG (ITU-R Rec. 2100)
- Inverse Telecine (per input)
- IMF (Complex and Simple) Ingest and Conversion
- IMSC Burn-in and Passthrough
- Lanczos Scaling

- Linear Scaling
- Look Ahead Rate Control
- Minimum I-frame Interval
- Motion and Static Graphics Overlay
- MPEG-2 Error Concealment
- Noise Reduction
- Rec.2020 Color
- RGB to YUV Conversion
- Scene Change Detection
- Thumbnail Creation
- Timecode Burn In
- Variable GOP Support

OTHER FEATURES

- 4K Ultra HD Output
- Ad Avail Blanking & Black-Out Capability
- Apple Store Compliance
- Audio Level Adjustment
- Audio Channel Mixing and Mapping
- Audio Loudness Management (1770-1, -2, -3, -4)
- Audio Only Encoding
- Burned-In Timecode and Captions
- Caption Extraction and Passthrough
- Comprehensive Encryption and DRM Support
- Forensic Watermarking
- Insert / Respond to AFD
- Multiple Audio Tracks (SAP)
- Nielsen ID3 Support
- Open Caption Support
- SCTE-35 and SCTE-104 Support

Ready to get started?

Contact us or visit our website to learn more about AWS Elemental Server and video delivery to any screen, anytime – all at once.

