

ELEMENTAL SERVER

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Elemental® Server is a video processing platform component that provides fast and reliable transcoding for pay TV operators, content owners and film studios. The software-based solution performs simultaneous, faster-than-real-time conversion of multiple video files to create mezzanine deliverables, traditional on-demand assets or adaptive bitrate outputs for delivery to TVs, PCs and mobile devices. Ideal for large-scale broadcast and multiscreen video applications, Elemental Server is easy to install, configure and integrate into existing workflows and operates seamlessly with Elemental Cloud.



EXPERIENCE THE BENEFITS

High Performance

Accelerate video compression through the power of parallel processing. Create content for delivery via Adobe Flash, Microsoft Smooth Streaming, Apple HLS, MPEG-DASH, Ultraviolet, QuickTime or traditional broadcast formats. Reduce storage costs by creating mezzanine files formatted and ready for wrapping with a separate packager such as Elemental Stream.

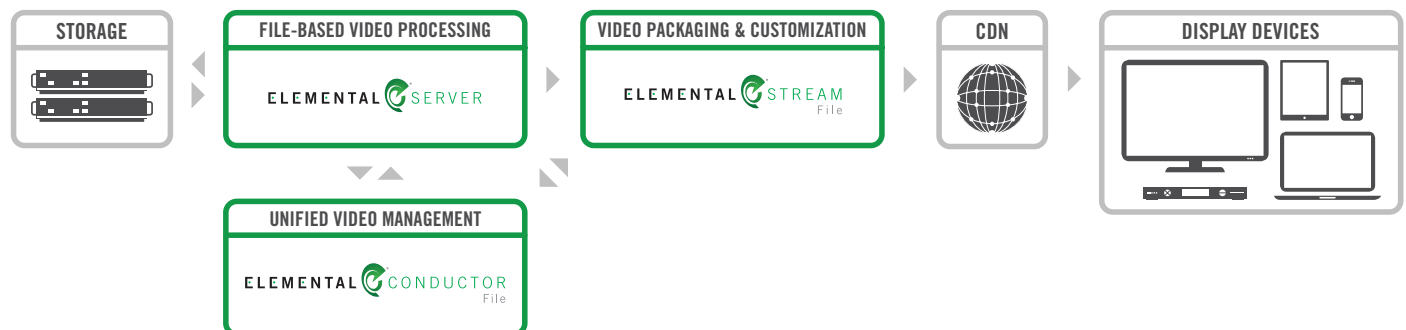
Versatile Design

Unique software-defined video processing allows for rapid optimization and enhancement of existing video codecs such as VC-1, MPEG-2 and H.264 as well as support for new codecs such as HEVC / H.265. Stay on the leading edge with highly upgradable video infrastructure that provides evolving support for ad insertion, captioning, watermarking and other monetization methods.

Flexible Deployment Models

Expand video processing as needed to flex with variable demand, whether on the ground, in virtual clusters or in the cloud. Integration with Elemental Cloud replicates the profiles, capabilities and formats used on premise so that video outputs are identical regardless of where they are processed.

ON DEMAND WORKFLOW



WHY ELEMENTAL SERVER

Universal Input Support

Decode all common mezzanine, broadcast and editing formats with a platform that provides the best combination of speed and flexibility.

High Density Video Processing

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

Uncompromised Video Quality

Deliver the highest quality encoding using codecs developed by Elemental including HEVC / H.265, H.264, VC-1 and MPEG-2.

Produce Multiple Outputs

Create multiple resolution, bitrate and output formats targeting a variety of players and platforms. Wrap files in popular formats or retain content in a base container for downstream packaging in the future.

Advanced Audio Processing

Multichannel, multi-language and broad audio codec support serves all audiences. Combine independent audio channels with a single video stream to create unique outputs without additional processing cost. Support for audio normalization provides future proofing for requirements such as the CALM Act.

Reduce Management Overhead

Use REST / XML APIs, the web-based interface, or watch folders for tasks such as system setup, workflow integration, job queuing, scheduling and prioritization. Simplify operations by reducing the total number of instances in use and manage the platform through built-in tools or SNMP.

Scalable, Reliable Architecture

Scale clusters easily by combining multiple licenses in a shared job queue that automatically distributes encoding tasks. Deliver high reliability with a fully redundant job scheduler for automatic failover.

Monetize Multiscreen Content

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

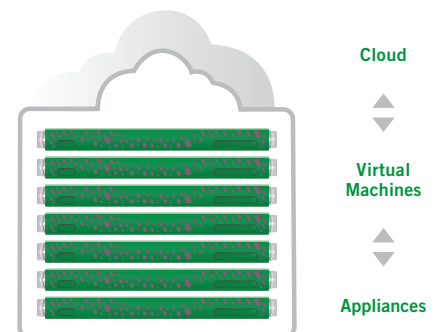
Secure Valuable Content

Track content with forensic watermarking from Civolution; create content for use with DRM solutions such as NDS and Widevine; protect content using traditional AES and SAMPLE-AES for HLS, PlayReady for HLS and Smooth Streaming or Adobe Access for HDS or HLS.

SOFTWARE-DEFINED VIDEO

- Deliver video to any screen, 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 platform

Software-Defined Video Processing ELEMENTAL DEPLOYMENT MODELS



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SPECIFICATIONS

Output Formats

Video:

- Apple ProRes
- AVC / H.264 (Baseline, Main, High)
- HEVC / H.265
- MPEG-2 (4:2:0, 4:2:2)
- VC-1 (Simple, Main Advanced)

Audio:

- AAC-LC / AAC-HEV1 / AAC-HEV2
- Dolby Digital (AC-3), AC-3 Passthrough
- DTS Express
- Dolby Digital Plus (E-AC-3), E-AC-3 Passthrough
- Uncompressed WAV, AIFF
- WMA2

Output Containers

- 3GP (3GPP)
- Adobe HTTP Dynamic Streaming (HDS)
- Adobe Media Server (F4F / F4V)
- Apple HTTP Adaptive (MPEG-TS)
- Apple ProRes (MOV)
- CableLabs Compliant Option (MPEG-TS)
- Microsoft Smooth Streaming (ISMV)
- Microsoft Windows Media (WMV / ASF)
- MPEG-2 Part 1, Systems (MPEG-TS)
- MPEG-4 Part 10 (MP4)
- MPEG-DASH (MP4)
- Ultraviolet (CFF, UVU)
- DASH (ISO, TS)

Video Processing

- Adaptive Quantization
- Anti-Aliasing Scaler
- Deblocking Filter
- Frame Rate Interpolation
- Inverse Telecine Support
- Lanczos Scaling
- Logo Insertion
- Look Ahead Rate Control
- Motion Adaptive Deinterlacing
- MPEG-2 Error Concealment
- Noise Reduction
- Scene Change Detection

System Hardware / Software

- Linux CentOS
- 8-16 CPU Cores
- 500 GB RAID-1 Local Storage
- 10GigE Ports (Option)
- Up to 4 High Performance GPUs
- Up to 16 GB Main Memory
- Up to 6 Gigabit Ethernet Ports
- Fibre Channel Interface (Option)
- Hot-Swappable Power Supplies (Option)

System Control

- Automated Load Balancing
- Web-Based User Interface
- Elemental Conductor File
- Integrated CDN Support
- Job Prioritization and Planning
- Multiple Authentication Tiers
- Notifications and Alerts
- REST XML API
- SNMP Version 2c
- System Resource & Statistics Monitoring
- Video and Audio Preview

Other Features

- 4K Ultra HD Output
- Ad Avail Blanking & Black-Out Capability
- Apple Store Compliance
- Audio Channel Mixing
- Audio Loudness Management (CALM Compliant)
- Burned-In Timecode
- Caption Extraction and Passthrough
- Comprehensive Encryption / DRM Support
- Forensic Watermarking
- Multiple Audio Tracks (SAP)
- Nielsen ID3 Support
- Open Caption Support
- SCTE-35 and SCTE-104 Support
- Support for Auxiliary Data (EBIF / KLV / V-Chip / CGMS-A)