aws elemental

RELEASE NOTES

AWS ELEMENTAL SERVER AND CONDUCTOR FILE VERSIONS 2.17 AND 2.16

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This guide applies to AWS Elemental Server & AWS Elemental Conductor File versions 2.17.0, 2.16.1 and 2.16.0

Contents

INTRODUCTION

About AWS Elemental Server

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.

Software Upgrades

You can find the currently installed version of AWS Elemental Server software at the bottom of the user interface or by typing the command:

```
cat /opt/elemental_se/versions.txt
```

Note that some features may be available only in certain models of AWS Elemental Server.

RELEASE NOTES, 2.17.0

Essential Notes for AWS Elemental Server 2.17.0

Changed Default Behavior

KARP-4610 An AUTO mode has been introduced to the Adaptive Quantization control for H.264 and is the new default value for new jobs.

KARP-5091 The RAM verification step to ensure the machine running a DolbyVision job has at least 64GB of RAM now occurs after the job is submitted. If the machine does not meet the minimum requirements, an error will be returned through the UI and API and the job will not be submitted.

KARP-5432 The default value for AU_pic_struct information field will now be set to '01' for top field interlacing or '10' for bottom field interlacing to adhere to the ETSI TS 101 145 specification. Previously, this value was set to '00' regardless of interlacing type.

KARP-7868 A change has been made to the behavior of jobs with Frame Capture outputs when the Color corrector preprocessor is enabled. The pixel transformation that occurs in the color corrector when used with JPEG outputs has been improved to better suit for the subsequent JPEG encoding. Jobs submitted that generate Frame Capture outputs with color correction preprocessing will produce JPEG outputs with better color accuracy.

Product Enhancements in AWS Elemental Server 2.17.0

KARP-2936	For jobs with QuickTime or MXF outputs writing to an S3 destination, AWS Elemental Server will now progressively write QuickTime and MXF outputs to S3.
KARP-3125	AWS Elemental Server now supports AVC-Intra Class 50/100/200 and 4K/2K video with PCM WAV audio and SMPTE-436 caption in generic OP1a MXF outputs.
KARP-3256	We now support VC3 video codec with Class 145_8bit, 200_8bit and 200_10bit with PCM WAV audio and SMPTE 436M caption in generic OP1a MXF outputs
KARP-3732	In ABR outputs, when the length of a clip is not an even multiple of the segment duration, a small final segment is produced. For HLS / Audio-only, DASH, CMAF HLS, and CMAF DASH outputs, you may now set a minimum final segment length, as floating point number of seconds.
KARP-4400	Elemental Server now supports the High 422, High 422 10-bit, and High 10-bit AVC profiles in the MOV and MP4 output containers.
KARP-4548	The speaker labels of the audio channels can now be manually set for Quicktime outputs.
KARP-4733	AWS Elemental Server has enhanced its ability to seek to an input frame when the associated audio is not seek-able. This change will significantly speed up workflows with input clipping that use un-seek-able audio formats such as sidecar WAV.
KARP-5143	AWS Elemental Server now supports the conversion of non-teletext captions like SRT, TTML, 608/708 and STL to TELETEXT carried in MXF outputs.
KARP-5246	AWS Elemental Server can now accept files with the .mka file extension as an audio-only or sidecar audio input.
KARP-5287	AWS Elemental Server now supports ingest of .3gp and .3g2 files, as well as AMR-NB and AMR-WB encoded audio.
KARP-5407	The X/Y positioning and justification of DVBSub and burn-in captions can now be specified, and can be independently configured for each output within a job.
KARP-5673	Color, style, and positioning of Teletext subtitles can now be passed through to WebVTT, SRT, and TTML output formats.
KARP-5706	AWS Elemental Server now supports ingest of OGG and OGA containers.
KARP-5708	AWS Elemental Server now supports ingest of Vorbis and Opus audio-only content carried in the OGG and OGA containers.
KARP-5710	Support has been added for WMA audio files ingested as audio-only or sidecar audio file inputs.
KARP-5848	The Color Corrector has been enhanced to offer color range legalization from "Sample Range" to "Limited Range".

KARP-5849	Additional MXF profiles, or shims, have been added to adhere to the XDCAM and D-10 specifications. When creating content of this type, selecting the appropriate MXF profile will ensure that the file structure and constraints adhere to these industry standards.
KARP-5921	DASH outputs now support DASH-IF-IOP-v4.3 -- 6.4.3.3. This change improves embedded caption detection and playback across players.
KARP-6380	Audio Selector Groups can now mix source tracks that don't have the same codec or sampling rate.
KARP-6552	The luminance of burned-in IMSC captions will now be adjusted depending on the luma gain specified in the metadata of the IMSC xml and the luma gain of the frame region where the captions appear. This adjustment is as defined by the IMSC specification.
KARP-6553	Subtitles in IMSC format can now be converted to burn-in with color, style, and positioning retention.
KARP-6991	TTML or TTML-like (e.g. IMSC) caption content using the tts::unicodeBidi tag will be handled and rendered as bidirectional subtitle outputs.
KARP-7245	CMAF output groups now support user-defined audio rendition groups when configured to write HLS manifests.
KARP-7247	AWS Elemental Server now supports the Descriptive Video Service (DVS) flag in HLS and CMAF outputs. When you enable the DVS flag, Server includes the parameter CHARACTERISTICS="public.accessibility.describes-video" in the EXT-X-MEDIA entry for this track. The DVS flag can help with accessibility on Apple devices. For more information, see the Apple documentation.
KARP-7302	A new 'Scan Type Conversion Mode' option has been added that controls how high frame rate progressive content is converted to interlaced. When enabled, 60p/50p content converted to 30i/25i will produce each interlaced field from the matching progressive frame in the source content. This ensures the smooths possible motion in the interlaced output video.
KARP-7482	AWS Elemental Server now supports I-frame manifest generation in CMAF output group jobs that are configured to write HLS manifests.
KARP-7520	AWS Elemental Server now supports Dolby Dynamic Range Compression (DRC) profiles in AC3 audio.
KARP-7557	AWS Elemental Server has added the ability to specify the caption burn-in font color using hex values.
KARP-8389	AWS Elemental Server now supports HDR10+. A new pre-processor option will generate HDR10+ metadata and insert it into an H265 output. Applying the pre-processor requires that the output codec is using a 10-bit profile, that the incoming color space is HDR10 (this can be generated in the same job as HDR10+ by also using the color pre-processor to force a non-HDR10 input into an HDR10 color space).

Other Changes to AWS Elemental Server 2.17.0

KARP-1876	When using "/" name modifiers to create subdirectories for CMAF outputs, child HLS manifests will now be written in the same directory as init segments.
KARP-2373	Fixed an issue that could cause image insertion jobs that use the same S3 source file more than once to fail insertion.
KARP-4116	Corrupt Dolby Digital audio sources that previously generated a 1999 error when the frame header failed to decode will now produce a more descriptive 1075 error message.
KARP-4117	Fixed an issue with DVB-SUB DDS display_width and display_height values that caused output captions to be 1 pixel oversized in both dimensions.
KARP-4144	AWS Elemental Server now correctly handles non-passthrough dropframe timecode for MXF outputs.
KARP-4160	Fixed an issue affecting variable frame rate inputs that include edit lists or CTTS values for PTS, which could result in truncated outputs.
KARP-4512	Fixed an issue which may cause MOV inputs with QTRLE encoded video to product corrupted outputs.
KARP-4644	AWS Elemental Server can now ingest file inputs and external audio inputs from MPEG Program Streams with the .m2p file extension.
KARP-4794	Quicktime Apple ProRes outputs now return a 1040 error code when no output resolution is specified and the input resolution exceeds the maximum ProRes output resolution.
KARP-4813	Fixed an issue affecting DolbyVision HDR CMAF outputs with Fairplay DRM that could result in black screen during playback.
KARP-5374	Fixed an issue that could cause incorrect audio sync on audio-only DASH outputs.
KARP-5414	Fixed an issue where the 608 parity bit was set incorrectly when using an SCC source.
KARP-5498	Fixed an issue where SCTE35 packets were incorrectly placed when a job generated multiple outputs at different frame rates.
KARP-5504	Fixed an issue where the HDR color space metadata was not detected in WebM source files containing HDR video.
KARP-5583	Fixed an issue that would cause the filename of RAW outputs to be truncated when the input filename uses multiple period characters that do not designate the file extension.
KARP-5749	Fixed an issue that could cause VFR inputs with edit lists to drop frames in output.
KARP-5917	Burn-in captions will now respect the title safe area.
KARP-5965	AWS Elemental Server will now correctly handle MXF input files which have index entry array sizes greater than 65535, even when the 2 byte length is used for encoding length.

KARP-5994	Jobs configured to use the image inserter will no longer fail validation when provided with audio only source files. These jobs will now progress and ignore the image insertion as there is no video stream to apply it to.
KARP-6197	Fixed an issue that would cause the automatic bitrate calculation for transport stream outputs to be incorrect for low-bitrate video streams.
KARP-6467	Improved performance when writing per-frame frame capture outputs to S3.
KARP-6538	Fixed an issue that could cause macroblocking of the first and last video frames in 10-bit outputs when they are distinctly different to the frames adjacent to them.
KARP-6715	Fixed an issue where 608 or 708 captions could be periodically dropped during processing with some source files.
KARP-6723	AVC MP4 inputs that have start codes which are not compliant with ISO/IEC 14496-15 will now return a detailed error message on job failure.
KARP-6767	Fixed an issue that could cause truncated output durations with some variable frame rate source content.
KARP-7002	Fixed an issue parsing embedded timecode from some AVC source files.
KARP-7079	Fixed an issue that would cause job failures when the output frame rate was set to 'Follow source' and the source file frame rate was carried in a specific way.
KARP-7107	AWS Elemental Server now supports the "windowless" argument for DVB-SUB caption output insert_dds parameter. When enabled, this will insert DDS metadata into the output without a display window. Captions can be repositioned on-screen with this setting in conjunction with dds_origin_x and dds_origin_y.
KARP-7111	AWS Elemental Server will now log API Gateway request IDs.
KARP-7202	Fixed an issue that could cause jobs that ingest Quicktime CC tracks to stall if writing to embedded or burn-in caption destinations.
KARP-7261	Fixed an issue that could cause jobs with inputs containing PPS with a size greater than 256 to error.
KARP-7284	AWS Elemental Server has improved the tolerance for incomplete mdhd payloads present in MP4 source files.
KARP-7333	Fixed an issue that would cause jobs that encountered DolbyVision metadata greater than 2048 bytes/frame to fail.
KARP-7440	Fixed an issue that could cause MP4 inputs with Variable Frame Rate (VFR), edit lists (ELST), and a final video frame of very long duration to hang until canceled by timeout.
KARP-7501	Fixed an issue that would prevent ingest of ProRes content carried in MXF that does not include color bit depth metadata. These files should now ingest successfully.

KARP-7512	Fixed an issue that could cause jobs with H265 CMAF output when DRM is enabled to stall and eventually fail.
KARP-7599	Fixed an issue in which frames not in PTS order may cause frame duplication and silence in outputs.
KARP-7609	Fixed an issue ingesting MXF files with empty SMPTE291 frames in the SMPTE436 track.
KARP-7674	TTML captions that specify both 'end' and 'dur' attributes will no longer be rejected.
KARP-8477	Fixed an issue where some GXF source content would duplicate every 3rd frame during processing and produce a jittery output.

Newly Identified Known Issues

Performance

KARP-9282	MPEG-2 encoding on some older hardware configurations may experience a performance degradation of 10-15% after upgrading to this release.

Previously Identified Known Issues

Audio

SOCK-22543	AAC SBR signaling is incorrect in MPEG-2 TS with LATM/LOAS (Low overhead Audio Transport Mux / Low Overhead Audio Stream) transport. The output is playable, although the audio quality may not have optimal quality.
KARP-2389	AAC Audio output is cropped by 2 frames and out of sync depending on audio norm and offset settings.

Captions

KARP-3347	In jobs that have multiple input ancillary caption selectors, some caption channels are not created in the output.
SOCK-13956	If the minimum I-frame spacing option is used with the CPU AVC (H.264) encoder then the GOP markers needed for ARIB compatibility won't work. Avoid using Min I-Frame spacing in ARIB application for the CPU H.264 encoder.
SOCK-17447	SCTE-27 in some instances produces zero-length (or no) captions.
SOCK-20574	There is an issue with AWS Elemental Server running on VM servers with limited CPU resources. When running two simultaneous jobs that convert DVB-Sub to TTML captions, and if the inputs have parity errors, the VM node may enter into delayed shutdown. Workarounds include running one job at a time, providing clean content for processing, or running the VM on a server with more CPU resources
KARP-3398	If an input has TTML captions and the captions are converted to SMPTE-TT, the captions may produce empty SMPTE-TT tracks.
SOCK-23150	If an input has DVB Sub captions and the captions are converted to SMPTE-TT, the captions that span HLS segments have incorrect first time-spans referenced in the SMPTE-TT.

Conductor

KARP-3403	Uploading .tgz conductor license file through UI causes an error. For more information regarding a workaround for this issue, see https://community.elemental.com/docs/DOC-1327

DRM and Encryption

SOCK-22735	When creating encrypted HLS outputs of an asset, including one output with VOD mode (Archive), the VOD asset may not play. This is a result of non-VOD outputs using a sliding key and the VOD asset using a fixed key. Contact AWS Elemental Support for more details.

General

KARP-3421	Attempting to upgrade a failed worker node via the Conductor File UI does not return an error. The target node fails to upgrade and the Conductor File UI and logs do not reflect the failure.
KARP-5580	Deleting a failed mount point from Conductor File with not stop the Conductor File/Server nodes from constantly attempting to reconnect to it.
KARP-3483	The system may not reconfigure failed worker nodes when the user instructs it to via the web interface (UI). This can impact AWS Elemental Server worker nodes that are configured in a cluster controlled by AWS Elemental Conductor File.

HDR

SOCK-23572	If a job using HDR was created on a node running 2.9 software, then when you update to 2.10 or greater you must reconfigure the job. The location of the HDR tags (such as blue_primary_x) has changed from stream_assembly/video_description/ to stream_assembly/video_description/h265_settings.

Inputs

SOCK-23571	Reading .png assets from S3 has been observed to take multiple seconds. At the time of release the root cause of the excess latency has not been identified.
SOCK-23580	URI protocol field for S3 inputs is case sensitive. Example s3://... works, whereas S3://... fails with a 1010 error.

Log Files

SOCK-23564	Running a large number of small jobs creates a large number of log files. You should periodically check the log file directory and remove log files for completed tasks.

Motion Graphic Overlay

SOCK-23557	With motion graphic overlay (motion image inserter), PNG images from an S3 bucket are not being inserted.
SOCK-23567	For .png assets to be used with the motion image inserter, every .png image must have the same resolution.

Outputs

KARP-3292	ESAM support is intended for TS or Archive (TS) outputs only. ESAM should not be configured in conjunction with packaged outputs such as HLS.
KARP-3366	The system will fail to properly de-mux some MXF files on slow networks. This failure does not generate any errors.

SCTE-35

SOCK-23482	Avails durations are supported up to a limit of 13 hours. Avoid avail durations longer than 13 hours as they can cause inaccurate avail state transitions.
KARP-6543	Jobs using M2TS, M3U8, MPD, or CMFC output containers, with ESAM SCTE-35 or SCTE35 source set may experience job failure on first attempt. Jobs failing due or retrying due to this race condition will include a warning message in the job log, "W Transcode is experiencing video and metadata sync race condition" and may be retried to succeed.

Security

SOCK-22495	SSL fails to enable when running configure script with “--config-auth --https”.

XDS Insertion

SOCK-23204	XDS insertion works for embedded sources, but not for SCC or MXF ancillary inputs. This issue is known to affect AWS Elemental Server versions 2.8.4, 2.9.x, and 2.10.

RELEASE NOTES, 2.16.1

Essential Notes for AWS Elemental Server 2.16.1

Changed Default Behavior

KARP-5589 AWS Elemental now requires that the samba password for the elemental user be changed from the default password upon installation of 2.16.1. Users must update password when enabling conductor clusters.

KARP-5609 As of 2.16.1, AWS Elemental Server and Conductor File installers will lock the root account if they detect that the DEFAULT root password is in use. An alert will be returned that root is locked, with a directive to change the root password post-install, to preserve that as a path to recover a lost user password.

The command `sudo passwd root` should be used to set a custom root password to maintain access to the root user on the appliance.

Neglecting to do so will require the appliance to be physically rebooted into single user mode should access to the elemental user be lost, such as if the account's password is lost.

On downgrade, the root password will be unlocked. If no custom password was set, the default password will be restored.

Other Changes to AWS Elemental Server 2.16.1

KARP-5700 Fixed an issue that would disable ingest of embedded captions when: a job was configured with multiple caption outputs, and the last caption output did not use an embedded selector.

KARP-6006 Resolved an issue in which network bond may not failover when network cable is removed.

KARP-5591 Users with restricted permissions may no longer edit their permissions via the REST API.

New Known Issues in AWS Elemental Server 2.16.1

KARP-6689 During upgrade, logs may incorrectly state, “There is no secondary conductor node, so not adding its public key.” Conductor handshake completes successfully.

RELEASE NOTES, 2.16.0

Essential Notes for AWS Elemental Server 2.16.0

Changed Default Behavior

COHO-3801 AWS Elemental Server now synchronizes SCC captions to the video using the input timecode values.

COHO-3871 Default behavior for 608 captions embedded in SMPTE ST 436M packets in MXF outputs has been updated to more closely follow EIA-608 specification for caption timing. This may result in increased caption latency when comparing to previous releases.

Improved alignment of 608 and 708 caption insertion in embedded outputs for all formats.

KARP-1401 Default behavior for HLS manifest ingest has changed. AWS Elemental Server now validates HLS input manifests to confirm the presence of the #EXT-X-PLAYLIST-TYPE:VOD and #EXT-X-ENDLIST tags.

Manifests that do not include these tags will return a log warning and will not be supported in Server 2.18+.

KARP-2072 AWS Elemental Server now supports variable frame rate (VFR) inputs. VFR inputs which previously processed successfully may now produce slightly different outputs due to updated VFR processing, especially in terms of durations and dropped or repeated frames. Use Mediainfo to determine if your inputs are considered VFR. Timecode handling for VFR inputs is also improved in this release.

If a variable framerate input specifies a min and max framerate, Server will detect the demuxer-reported average, and transcode using the nearest commonly-used frame rate, for example, 15/1, 25/1, 30/1, 50/1, 60/1.

KARP-3164 A parameter has been added to the MP4 output configuration to specify the CTTS version when the CSLG atom is included. Setting to 1 provides specification compliance, however setting to 0 may improve player/packager compatibility in some cases.

KARP-5589 AWS Elemental Server and Conductor File now require that the samba password for the elemental user be changed from the default password upon installation of 2.16.1.Users must update password when enabling conductor clusters The /home/ directory is now encrypted by default. This may break older samba clients that do not support this connection configuration.

Removed Features

KARP-3259 Starting with AWS Elemental Server 2.16, the Ultraviolet/UVU container and CFF-TT caption formats are no longer supported.

KARP-3262 Starting with AWS Elemental Server 2.16, the HDS Output Group with pHDS encryption and Flash Access DRM and pHLS encryption on HLS outputs are no longer supported

Product Enhancements in AWS Elemental Server 2.16.0

COHO-520 Each Input Video Selector now has a new option under "Timecode Source". In addition to options "Embedded" and "Start at 0", the user can now select "Specified Start" to override the timecode at which the input begins. Input clipping and timecode-based captions will be aligned relative to the specified timecode and remain in sync with the video.

COHO-1548 You can now specify input cropping and position for each input. The input Crop and Selection Placement settings will override the equivalent output controls for these respective features. When Adaptive Bit Rate outputs contain multiple resolutions, use the Selection Placement setting in each output stream.

COHO-1972 Elemental Server now supports ingest of IMSC captions from an IMF package and sidecar XML sources. As part of this additional caption support, controls have been added to pass-through the caption style and positioning to the output.

COHO-2043 You now have the option of setting HEVC flag in DASH outputs to either HEV1 or HVC1 to ensure compatibility with certain workflows.

COHO-2096 Support has been added for configuring the caption Destination Type as 'Teletext' and specifying the intended teletext page number. If left blank, the page number will pass through from the source caption stream.

COHO-2565 You may now wrap IMSC and TTML captions in fragmented MP4 when writing DASH and CMAF outputs.

COHO-2616 Environment variable DVBSUB_HEARING_IMPAIRED is deprecated.

You can specify whether your DVB subtitles are standard or for hearing impaired. Choose hearing impaired if your subtitles include audio descriptions and dialogue. Choose standard if your subtitles include only dialogue.

COHO-2721 AWS Elemental Server Apple HLS, DASH, and CMAF outputs offer an advanced setting giving you the ability to override the EXT-X-MEDIA LANGUAGE value.

COHO-3423	AWS Elemental Server now supports mapping dual SCC sources into CC output for MPEG2, AVC, and HEVC outputs in RAW, M2TS, and MP4 file outputs, as well as HLS, DASH, and MSS output types with AVC. CC1/CC3 608 and 708 Service 1 & 2 spec is also supported.
COHO-3646	Elemental Server has added the ability to up-convert 608 source captions to the 708 standard
COHO-3670	When stitching together content where a subtitle may start on one input and end on another, you may now disable terminate_captions in Embedded/Ancillary Captions setting. By default, Server will terminate any unfinished captions at the end of each input when this control is enabled. Disabling this option will allow captions to span stitched clips without interruption.
COHO-3771	AWS Elemental Server now supports up to 64 audio input selectors. You can now ingest content with up to 64 audio tracks. Note that not all codecs and containers can effectively use up to 64 tracks, and spec limitations may apply. When your output is in a QuickTime container and your audio codec is AIFF or WAV, you can now also output up to 64 channels of audio. This is an increase from the previous limit of 8.
KARP-1560	AWS Elemental Server now supports ingest WebM containers with VP9 & VP8 video and Vorbis or Opus audio.
KARP-2260	Support has been added for generating WAV outputs containing PCM audio.
KARP-2546	AWS Elemental Server now supports MP3 container ingest with MP3 audio (primary and sidecar).
KARP-2605	AWS Elemental Server now supports up to 64 audio input selectors. This allows for the ingest of content with up to 64 audio tracks. Note that not all codecs and containers can effectively use up to 64 tracks, and spec limitations may apply.
KARP-2606	Extended the ability to generate MXF files slightly beyond the XDCAM/RDD9 standard by allowing output of any even number of audio tracks up to 16 (in addition to single track outputs).
KARP-2607	Increased the number of channels which can be output into a QT container using AIFF or WAV codecs from 8 to 64. When your output is in a QuickTime container and your audio codec is AIFF or WAV, you can now output up to 64 channels of audio. This is an increase from the previous limit of 8.
KARP-2656	The DASH and CMAF outputs can now place audio stream name and caption description inside <Label> tag in an MPD file.
KARP-2744	For DASH and CMAF outputs, you may now specify whether your DASH profile is on-demand or main. When you choose Main profile, the service signals urn:mpeg:dash:profile:isoff-main:2011 in your MPD DASH manifest. When you choose

On-demand, the service signals urn:mpeg:dash:profile:isoff-on-demand:2011 in your MPD.

KARP-2798 A new setting, Extract Alpha, is available in Video input settings for ingesting Quicktime Animation (RLE) content with an Alpha channel and separating the Alpha from the video. A control is provided to decide whether to discard the Alpha channel and output only the video, or throw away the video and output only the Alpha channel. Leave this setting unchecked in order to delete the alpha channel and preserve the video. Check Extract Alpha to delete the video and map the alpha channel to the luma channel of your outputs.

KARP-2801 Teletext caption selector can now look for Teletext data in the VBI lines of MXF SMPTE-436M packets. If the MXF source contains ancillary packets, Teletext caption selector is now capable of extracting these captions when present.

KARP-2997 Tone mapping support has been updated to include color space conversions from HDR10 to BT.709 and from HLG to BT.709. With this processing, you can create both HDR and SDR outputs from a single HDR master video.

KARP-3261 Input support for ProRes 4444 XQ content has been added.

KARP-3746 Integration of SPEKE (Secure Packager and Encoder Key Exchange) has been added to Server. DRM solution providers offering support for the SPEKE RESTful API can be used to provide content protection for applicable AWS Elemental Server outputs. Apple HLS TS outputs support AES-128 and Sample-AES encryption with key rotation and a SPEKE compliant key provider. Apple HLS fMP4 outputs support Sample-AES encryption with key rotation and the SPEKE compliant key provider. DASH outputs support Widevine and PlayReady without key rotation and a SPEKE compliant key provider.

KARP-4367 A new setting is available in Caption File Source Settings to explicitly specify the frame rate of SCC caption files used as input. The new property is not required. When left unspecified, the transcode engine will assume captions frame rate matches the input video.

KARP-4424 Support for AES3 audio in the MPEG-2 TS container has been added to Elemental Server allowing for 1, 2, 4 or 8 channels of audio.

Note: AES3 carrying 20-bit samples is not supported.

KARP-4448 AWS Elemental Server now offers a Post Temporal Noise filter under Noise Reduction Preprocessor. When you set Noise reducer to Temporal, you can optionally use this setting to apply additional sharpening. The default behavior, Auto, allows the transcoder to determine whether to apply filtering, depending on input type and quality.

Other Changes to AWS Elemental Server 2.16.0

COHO-1971 Corrected a placement issue when burning STL captions into output video. Each line should now be placed in the appropriate row number.

COHO-2577 Fixed issue where an STL caption that spans an input clip point would not show up in an output.

COHO-3577	Burn-in captions will now respect the title safe area.
COHO-3783	Fixed the timescale of ELST entries for HE-AAC streams in MP4 output files.
COHO-3796	Fixes an issue causing audio offset to double in duration.
COHO-3838	Added the ability to specify the location for storing temporary analysis files through an environmental variable to avoid running out of disk space on small volumes.
COHO-3864	The alerts "Video not detected: Check input signal" and "Audio not detected: Check input signal" are no longer generated by Elemental Server.
COHO-3955	Fixed an issue affecting 608 / 708 caption playback on EEG devices.
KARP-1238	Fixed an issue in which a job using both a non-seek-able sidecar audio source combined with input clipping would fail.
KARP-1391	Scene Change Detection now includes a new option, "Transition Detection." This can be used on QVBR encodes to improve video quality.
KARP-1887	Support has been added for extended character sets from 608 / SCC source to burn in outputs.
KARP-2358	Addressed an issue that could cause audio/video de-synchronization in DASH content.
KARP-2484	Improved caption accuracy in workflows with embedded caption inputs and sidecar caption outputs using Accelerated Transcoding.
KARP-2594	Fixed an issue that caused jobs with input cropping values outside of the video frame to retry when video rotation feature was used with multiple outputs.
KARP-2639	Addressed an issue which would generate audio stream metadata in MXF files even when no audio was present.
KARP-2657	Corrected a memory handling issue that could lead to a crash when processing some unsupported audio files. Jobs should now fail with an error rather than crash.
KARP-2675	Added support for portrait 4K content. AWS Elemental Server will now accept frame sizes of both 4096 x 2160 and 2160 x 4096 or smaller.
KARP-2677	Fixed an issue that could cause audio noise due to incorrect audio PTS value in mp4 for AAC audio.
KARP-2684	Fixed an SCC timecode issue. Now the SCC start timecode can follow the input video start timecode.
KARP-2690	Corrected an issue that could cause decoding to be interrupted and produce a truncated output from sources where video properties change mid-stream. These files should now produce full duration outputs.
KARP-2754	Improved the error message when a job fails due to configuring an input clipping region that ends before the input file starts.
KARP-2774	Fixed an issue causing unnecessary retries due to S3 encryption errors.

KARP-2811	Added the EXT-X-ENDLIST tag to audio-only HLS playlists to improve playback behavior encountered in some players when reaching the end of the stream.
KARP-2899	Fixed issue when parsing empty STL caption lines.
KARP-2940	Corrected the behavior when writing the timescale to the parent SegmentTemplate when the timescale differs between each representation.
KARP-2943	Fixed the 1999 error when MP4 or Quicktime input files had very high frame rates, or a framerate that is the result of very large numbers in the timescale ratio calculation.
KARP-3071	Fixed an issue in which a job with multiple MXF ancillary caption inputs may generate an empty file on first caption output.
KARP-3091	Resolved an issue where HLS outputs with a total duration less than half of the target segment bitrate were reporting BANDWIDTH=0, causing playback issues.
KARP-4035	Fixed an issue causing embedded captions to stitch incorrectly in jobs with multiple inputs, clipping enabled, and no startTimecode.
KARP-4062	Resolved an issue in which a preset-defined QVBR Quality Level was not correctly applied in jobs using the preset. Preset QVBR Quality Level will now be correctly applied when a preset is used.
KARP-4119	Fixed an issue where local sources were sometimes not cleaned up when multiple jobs were running at the same time.
KARP-4123	Resolved an issue that could cause MP4 inputs with empty edit list in the audio tracks to insert silence when input clipping is used.
KARP-4349	Fixed an issue where incorrectly-reported input audio sample sizes resulted in dropped audio packets or corrupted audio output.
KARP-4432	Added the ability to accommodate audio from certain non-spec compliant QT files with 6 channel PCM Dolby audio tracks.
KARP-4457	Improved the error message encountered when submitting MP3 input files that use an unsupported sample rate.
KARP-4760	Fixed an issue that may affect 708 caption playback on EEG devices.
KARP-4944	Fixed an issue in which MaxFALL values may not be handled correctly if using varying upper/lowercase naming convention in the metadata.
KARP-5057	Fixed an issue in which an input SRT caption with malformed timecode, for example a duration of zero, would not render any successive captions on output.
KARP-5269	Resolved an issue in which MP3 files with XMP metadata written by Adobe Premiere may not transcode correctly.

Upcoming Feature Removals

COHO-4047	Starting with version 2.18, AWS Elemental Server will no longer support CQ or ABR rate control modes. Jobs using these values will fail. To prepare for this change, update profiles and templates to use VBR, QVBR, or CBR rate control mode.
KARP-5416	Feature Deprecation Notice: Starting with version 2.18, the DTS Express audio encoder will no longer be supported in CPU, GPU, VM, and AWS Elemental Cloud Server versions.

Previously Identified Known Issues

Audio

SOCK-22543	AAC SBR signaling is incorrect in MPEG-2 TS with LATM/LOAS (Low overhead Audio Transport Mux / Low Overhead Audio Stream) transport. The output is playable, although the audio quality may not have optimal quality.
KARP-2389	AAC Audio output is cropped by 2 frames and out of sync depending on audio norm and offset settings.

Captions

KARP-3347	In jobs that have multiple input ancillary caption selectors, some caption channels are not created in the output.
SOCK-13956	If the minimum I-frame spacing option is used with the CPU AVC (H.264) encoder then the GOP markers needed for ARIB compatibility won't work. Avoid using Min I-Frame spacing in ARIB application for the CPU H.264 encoder.
SOCK-17447	SCTE-27 in some instances produces zero-length (or no) captions.
SOCK-20574	There is an issue with AWS Elemental Server running on VM servers with limited CPU resources. When running two simultaneous jobs that convert DVB-Sub to TTML captions, and if the inputs have parity errors, the VM node may enter into delayed shutdown. Workarounds include running one job at a time, providing clean content for processing, or running the VM on a server with more CPU resources
KARP-3398	If an input has TTML captions and the captions are converted to SMPTE-TT, the captions may produce empty SMPTE-TT tracks.
SOCK-23150	If an input has DVB Sub captions and the captions are converted to SMPTE-TT, the captions that span HLS segments have incorrect first time-spans referenced in the SMPTE-TT.

Conductor

KARP-3403	Uploading .tgz conductor license file through UI causes an error. For more information regarding a workaround for this issue, see https://community.elemental.com/docs/DOC-1327
KARP-4166	Conductor upgrade will no longer put nodes into a headless state. For more information, please follow the AWS Elemental Conductor File 2.16.0.0 Upgrade guide.

DRM and Encryption

SOCK-22735	When creating encrypted HLS outputs of an asset, including one output with VOD mode (Archive), the VOD asset may not play. This is a result of non-VOD outputs using a sliding key and the VOD asset using a fixed key. Contact AWS Elemental Support for more details.

General

KARP-3421	Attempting to upgrade a failed worker node via the Conductor File UI does not return an error. The target node fails to upgrade and the Conductor File UI and logs do not reflect the failure.
KARP-5580	Deleting a failed mount point from Conductor File with not stop the Conductor File/Server nodes from constantly attempting to reconnect to it.
KARP-3483	The system may not reconfigure failed worker nodes when the user instructs it to via the web interface (UI). This can impact AWS Elemental Server worker nodes that are configured in a cluster controlled by AWS Elemental Conductor File.

HDR

SOCK-23572	If a job using HDR was created on a node running 2.9 software, then when you update to 2.10 or greater you must reconfigure the job. The location of the HDR tags (such as blue_primary_x) has changed from stream_assembly/video_description/ to stream_assembly/video_description/h265_settings.

Inputs

SOCK-23571	Reading .png assets from S3 has been observed to take multiple seconds. At the time of release the root cause of the excess latency has not been identified.
SOCK-23580	URI protocol field for S3 inputs is case sensitive. Example s3://... works, whereas S3://... fails with a 1010 error.

Log Files

SOCK-23564 Running a large number of small jobs creates a large number of log files. You should periodically check the log file directory and remove log files for completed tasks.

Motion Graphic Overlay

SOCK-23557 With motion graphic overlay (motion image inserter), PNG images from an S3 bucket are not being inserted.

SOCK-23567 For .png assets to be used with the motion image inserter, every .png image must have the same resolution.

Outputs

KARP-3292 ESAM support is intended for TS or Archive (TS) outputs only. ESAM should not be configured in conjunction with packaged outputs such as HLS.

KARP-3366 The system will fail to properly de-mux some MXF files on slow networks. This failure does not generate any errors.

SCTE-35 Ad Avails

SOCK-23482 Avails durations are supported up to a limit of 13 hours. Avoid avail durations longer than 13 hours as they can cause inaccurate avail state transitions.

Security

SOCK-22495 SSL fails to enable when running configure script with “--config-auth --https”.

XDS Insertion

SOCK-23204 XDS insertion works for embedded sources, but not for SCC or MXF ancillary inputs. This issue is known to affect AWS Elemental Server versions 2.8.4, 2.9.x, and 2.10.