aws elemental

RELEASE NOTES

AWS ELEMENTAL SERVER AND CONDUCTOR FILE VERSION 2.17.5

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This guide applies to AWS Elemental Server & AWS Elemental Conductor File version 2.17.5

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, 2.17.5

Essential Notes for AWS Elemental Server 2.17.5

Fixes in AWS Elemental Server 2.17.5

KARP-12352	Fixed an issue where PTS time of first I-frame for transport streams differed across renditions from same file output group
KARP-12060	Fixed issue where EME process was terminated for being unresponsive when probing MP4 files from S3
General	Addressed security-related fixes

RELEASE NOTES, 2.17.4

Essential Notes for AWS Elemental Server 2.17.4

Fixes in AWS Elemental Server 2.17.4

KARP-12829	Fixed an issue with caption tracks causing unexpected bitrates
KARP-12075	Fixed a frame distortion issue affecting some AVC configurations
KARP-11806	Improved handling of MXF files malformed audio samples
KARP-10178	Improved caption burn-in shearing functionality
General	Addressed security-related fixes

RELEASE NOTES, 2.17.3

Essential Notes for AWS Elemental Server 2.17.3

Fixes in AWS Elemental Server 2.17.3

KARP-11591	Fixed an issue where jobs fail due to GPU validation error
KARP-11200	Addressed a “No audio frames decoded” error with some fragmented MP4 sources
KARP-11158	Fixed an issue where jobs were redundantly starting across two nodes
KARP-10623	Fixed a communication issue in high-availability conductors with port bonding
KARP-10599	Fixed an issue where jobs submitted via Conductor File remaining in the post-processing state indefinitely
KARP-10457	Removed Upgrade tab from Conductor File web interface
KARP-10140	Fixed issue with specifying domain when mounting CIF shares
KARP-9572	Fixed issue with installer termination when configuring port bonding
General	Addressed security-related fixes

RELEASE NOTES, 2.17.2

Essential Notes for AWS Elemental Server 2.17.2

Fixes in AWS Elemental Server 2.17.2

KARP-4118	Fixed an issue parsing aspect ratio metadata when ingesting interlaced AVC-I content that could lead to an unrecognized format error.
KARP-9304	Updated setup configuration file to allow use of the SMB v3 protocol.
KARP-9326	Fixed an issue where some job configurations that include thumbnail generation could fail with an “scaler input picture in wrong memory location” error.
KARP-9923	Fixed an issue that could cause jobs to fail due to excessive retry attempts within too short a period of time.
KARP-10344	Corrected a cosmetic error when displaying some job profiles in the user interface.

RELEASE NOTES, 2.17.1

Essential Notes for AWS Elemental Server 2.17.1

Fixes in AWS Elemental Server 2.17.1

KARP-9963	Fixed a scenario where a Server node with web authentication enabled could not be added to a conductor pool via the web UI.
KARP-9743	Fixed vulnerabilities where an attacker could gain root access to a host machine if they had web access.
KARP-9694	Fixed a vulnerability where an attacker could gain read access to database backups if they had web access.

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 Issues

Previously Identified 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-11991	Conductor file licenses cannot be uploaded as an archive file (.tgz)
KARP-11999	Database backups to CIFS mounts over an S3 gateway are unsupported.

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.

Performance

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

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.