Release notes

AWS Elemental Live and Statmux version 2.22 GA and
AWS Elemental Conductor Live 3 version 3.22 GA

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Contents

INTRODUCTION

These Release Notes describe new features, product enhancements, and known issues up to this GA (general availability) software release.

Types of releases

Releases within a major version are numbered starting with 0. For example, a major series might have versions from 2.22.0 to 2.22.5. Each release in the series always includes fixes, and usually includes features.

Downloading the software

If you have an active AWS Elemental agreement, you can download releases from the AWS Appliances & Software services console.

Currently installed versions

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

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

Note that some features may be available only in certain models of AWS Elemental Live. For example, HEVC encoding is available only on licensed encoders.

ABOUT THE SUITE OF LIVE PRODUCTS

AWS Elemental Live

AWS Elemental Live is a massively parallel video processing system that provides content distributors with video and audio encoding for live streaming to new media platforms. With unprecedented density and support for adaptive bit rate protocols, HTML5, and multiple HD streams, AWS Elemental Live delivers the high-quality, high-efficiency performance required for current and future live streaming applications for any device. An intuitive web-based interface simplifies workflow, providing real-time controls and an easy-to-manage, seamless user experience.

AWS Elemental Live can be deployed in stand-alone mode or as part of a cluster controlled by Conductor Live 3.

AWS Elemental Statmux

AWS Elemental Statmux is an extension of the AWS Elemental Live product line that lets you produced MPTS outputs. Statmux functionality works only in a Conductor Live 3 cluster. The Live nodes create the programs for the MPTS, and Conductor Live 3 manages the MPTS itself.

AWS Elemental Statmux requires that each Live node has a license for the Statmux rate control addon.

AWS Elemental Conductor Live 3

AWS Elemental Conductor Live 3 is a management system for controlling AWS Elemental Live and AWS Elemental Statmux.

These release notes describe features and known issues for AWS Elemental Conductor Live version 3.20.x.

Version 3.20.x of AWS Elemental Conductor Live is compatible with AWS Elemental Live 2.20.x and AWS Elemental Statmux 2.20.x and above. You must upgrade your AWS Elemental Live and AWS Elemental Statmux nodes to the 2.20.x release in order to control them in a cluster using for AWS Elemental Conductor Live 3 version 3.20.x.

AWS Elemental Conductor Live version 3.20.x communicates to the nodes in the cluster via the 2.20.x APIs.

Node-based redundancy

- AWS Elemental Conductor Live 3 provides redundancy for AWS Elemental Live and AWS Elemental Statmux node (worker node) redundancy. Worker nodes (AWS Elemental Live and AWS Elemental Statmux) controlled by AWS Elemental Conductor Live 3 can be set up so that if one node fails, a backup node takes over the activity of the failed node. A backup node is a passive reserve licensed worker node.
- AWS Elemental Conductor Live 3 provides Conductor node redundancy: the cluster can be set up with one primary and one backup Conductor node, so that if the primary were to fail, the backup would take over management of the worker nodes. Conductor node failure and failover have no impact on work currently in progress on the worker nodes.

Profiles and parameters

- AWS Elemental Conductor Live 3 requires profiles to create channels.
- AWS Elemental Conductor Live 3 profiles support variables in the form of “channel parameters”. This feature allows profiles to be very flexible: where appropriate, the value of a field can be set to a profile parameter, instead of a hard value. When the profile is used to create the channel, profile parameter values are defined by the operator. This is commonly used for input source and destination values.
- AWS Elemental Conductor Live 3 profile fields with blue treatment support channel parameters. Profile validation requires an operator to define validation values for the user configured profile parameters in order to save the profiles. The validation values are not used when creating a channel with the profile. The operator must specify values for the user configured channel parameters.
- A complete list of profile fields that support channel parameters is located in the AWS Elemental user documentation.
- Once profiles are created, they cannot be modified. Instead, a profile can be duplicated and modified, then saved with a new name.

Channel tasks – Bulk actions

- AWS Elemental Conductor Live 3 supports the ability to start, stop, or delete several channels at the same time, and to change the profile of several channels at the same time.

MPTS management

- AWS Elemental Conductor Live 3 provides MPTS creation and channel participation via the AWS Elemental Conductor Live 3 interface.
- The MPTS created by AWS Elemental Conductor Live 3 can reside on an AWS Elemental Live or an AWS Elemental Statmux node.

Status management

- Alerts and messages that occur on worker nodes are sent to AWS Elemental Conductor Live 3 and displayed in the interface.
- AWS Elemental Conductor Live 3 can be configured to send a notification to an email address or web callback URL when an alert occurs.
- Operators can provide operational notes from the Status notifications page.

ESSENTIAL NOTES

Release types

Starting with the 2.22.x series, all Elemental Live General Availability (GA) releases include both features and fixes. Releases within a major version are numbered starting with 0. For example, a major series might have versions from 2.22.0 to 2.22.5. Each release in the series always includes fixes and usually includes features.

Enabling the OCR feature for WebVTT captions output

Elemental Live 2.22.0 introduced use of OCR to convert specific source captions to WebVTT captions outputs.

To enable this feature with version 2.22.0, you must perform a manual setup. If you want to install this version, contact AWS Elemental Support for more information.

To enable this feature with version 2.22.1 and later, you simply include the following option in the command to install the software:

```
--install-ocr
```

This option performs the following actions:

- It downloads the OCR libraries from a public bucket in Amazon S3.
- It enables the OCR feature.
- It sets the directory for the OCR libraries to /data/ocr_tessdata.

Required reading

If you have not upgraded your Elemental Live software since several versions, you must read the Release Notes for the versions you missed.

Specifically, you must read the Essential Notes in those Release Notes, because with each major revision (for example, from 2.21 to 2.22), the essential notes from the previous major revision are removed.

Deprecation notice

The RTVOD feature for Nielsen watermarking has been removed from Elemental Live 2.20.0.

NEW FEATURES

New in version 2.22.4

Dolby Digital Plus with Atmos

Elemental Live now supports encoding audio outputs as Dolby Digital Plus with Atmos. (Note that passthrough of Dolby Digital Plus with Atmos has been supported since Elemental Live version 2.16.3.)

Elemental Live can ingest an audio source that contains up to eight channels, and convert it to Dolby Digital Plus with Atmos.

RTSP inputs

Elemental Live now supports RTSP inputs, to support delivery over the RTSP protocol. The source video can be HEVC or AVC with resolutions up to 4K, and framerates up to 60 fps. The source audio must be AAC.

The RTSP protocol is popular with devices such as security cameras.

Additional support for mixed video codecs

The mix of video codecs possible in an MPTS has been enhanced. Previously, an MPTS could be set up so that some events have HEVC video, and othes have AVC video. Now, MPEG-2 is included. An MPTS can include an event with any combination of HEVC, AVC, and MPEG-2.

New in version 2.22.2

SRT outputs

Elemental Live now supports delivering TS outputs over the SRT protocol. Elemental Live can have the role of caller or listener in the transmission.

The feature is available in the existing Reliable TS output group.

The Elemental Live User Guide will be updated shortly to include steps for setting up this type of output.

Support for RTMPS inputs

Elemental Live now supports ingest of sources that use a secure connection – RTMPS. To ingest RTMPS, choose Network input, and set the protocol to rtmps://

SMPTE 2110 inputs and NMOS – Static receiver

Elemental Live now lets you choose whether to use static or dynamic information for the Device and Label tags that Elemental Live sends to the NMOS receiver. This feature is controlled by the new field in the NMOS Control section in a SMPTE 2110 input.

The new field is called Use Static Receives:

- When the field is unchecked (the legacy behavior), dynamic tags are used. The device is set to a random ID that Elemental Live assigns. The label is set to the event ID plus the input ID (for example, Live_Event1_Input1).

- When the field is checked, static tags are used. Enter a custom name in the input name field. When you do this, the Device is set to the event GUID. The Label is set to custom input name. Furthermore, if you check the field for two inputs in the same event, and assign the same input name, then the tags have identical values. This behavior is useful for workflows that rely on static device IDs.

New in version 2.22.1

SMPTE 2110 – NMOS support with JPEG XS inputs and outputs

- SMPTE 2110 inputs and outputs with JPEG XS now support NMOS. Previously, only uncompressed inputs supported NMOS. (SOCK-36952)
- SMPTE 2110 outputs with JPEG XS now support NMOS.

The Elemental Live user guide has been updated. (SOCK-36953)

SMPTE 2110 – passthrough of Dolby Digital audio

Elemental Live now supports passthrough of Dolby Digital audio codec from any input to a SMPTE 2110 output. This passthrough applies to Dolby Digital but not to Dolby Digital Plus. (SOCK-37345)

SMPTE 2110 – improved alerts

Elemental Live now includes more alerts and validation messages for problems with configuring or processing SMPTE 2110 inputs. (SOCK-34046)

Elemental Statmux – PID passthrough

Elemental Statmux now supports passthrough of PIDs. With passthrough, you identify one or more passthrough PIDS in any transport stream in the Statmux. Elemental Statmux extracts those PIDs, remap each PID to an outgoing PID, and include the remapped PIDs in the outgoing MPTS. (SOCK-37020)

Trick-play track

Elemental Live now supports an implementation of trick-play track that conforms with the Image Media Playlist specification, version 0.4. Previously, you could implement trick-play track only using I-frames. Both these trick-play implementations apply only to HLS output groups.

The new feature encodes a series of JPEG thumbnails, one per video segment, along with the standard video segments. This thumbnail implementation provides a better user experience, when the user is fast forwarding or rewinding in a downstream player. The player can show a preview of the video rather than showing a frozen screen until the fast forward or rewind is complete.

The Elemental Live user guide has been updated to document this feature. (SOCK-37312)

Alerts, messages, and logs

- We now log messages when inserting HLS timed metadata in response to a schedule action. We also submit with a DTS of 0 for late-processed injection requests for slightly improved latency. (SOCK-37480)
- A log message has been added to notify you when the port for a UDP source changes more than twice within five seconds. Frequent switching of a port can indicate that two different upstream systems are sending to the same input, when only one system should be sending. (SOCK-37465)

- The "HTTP Transfer Failed" alert now clears immediately if the next transfer attempt succeeds, or clears after 30 seconds in other situations. (SOCK-37472)
- Conductor Live 3 – There is now a CL3 alert when a failover causes a node replacement. The alert is active for 1-2 minutes, then automatically clears itself. (SC-78)

Captions – 608 captions and extended character set

If source 608 captions include characters from an extended character set, those characters are now passed through as is to a captions output. (SOCK-37474)

HLS manifests for SCTE-35

There has been a change to the base64 in SCTE-35 data in HLS manifests that are type SCTE-35 enhanced. (This is the only manifest type that includes the base64 data) . The values for PTS adjustment, PTS, and duration now match the output clock. Previously, they incorrectly matched the source base64 data. (SOCK-37466)

Support for field pictures

Elemental Live now supports input sources encoded as field pictures. (SOCK-37468)

QVBR enhancement

There is now a default value for the Buffer Size in the video stream (encode) for H.264 and H.265, when you set the Rate Control Mode field to QVBR. The buffer size is set to be 2 times the Max Bitrate. (SOCK-37479)

New in version 2.22.0

Firmware Upgrade

The NIC driver firmware has been upgraded to resolve issues on appliances that include a 1 G Cu SFP interface. These issues occurs on specific appliances in the L800 series. (SOCK-37222, SOCK-37222)

The issues include the following:

- After the interface disconnects, the link status of the interface doesn't update to show the new state. (SOCK-36051)
- The link status of the interface doesn't correctly identify that it is in a bond. (SOCK-36779)
- The interface can unexpectedly perform a link renegotiation, resulting in a link speed dropping from 1000Mbps to 100Mbps.

All these problems are resolved by the firmware upgrade. The firmware upgrade is automatically performed when you install Elemental Live version 2.20.0 or later.

Producing output captions using OCR conversion

Elemental Live now supports optical character recognition (OCR) conversion of captions. OCR lets you convert image-based source caption to text-based output captions. Specifically, you can configure your Live event to convert DVB Sub and SCTE-27 source captions to WebVTT output captions. (SOCK-370031)
For the list of languages that are supported with this conversion feature, see page 25.

1. Currently, to use this feature, you must set the environment variable `ENABLE_OCR_DVBSUB_OR_SCTE27` as follows:

   ```
   ENABLE_OCR_DVBSUB_OR_SCTE27=TRUE
   ```

2. To set the variable, read How to add environment variables, on the Elemental Support Center. You must have an AWS account to access the Elemental Support Center.

Nielsen Watermark Encoding

Elemental Live now supports insertion of Nielsen watermarks in audio outputs using the NAES II, NAES VI, and CBET watermarking algorithms. Nielsen audio watermarking is the process of inserting watermark codes into the audio signal in order to that measure content viewership. These codes are inaudible to the human ear, but are detected by Nielsen meters in the downstream devices.
The Nielsen watermark contains a timestamp and an identifier (SID) that is unique for each broadcast channel.
The Nielsen audio watermarking feature supports audio streams with the following characteristics:

- Frequency of 48 kHz (48000 samples per second)
- Up to 8 audio channels, with interleaved samples.

This feature requires a new paid add-on pack license from AWS Elemental Live. The Elemental Live implementation has completed the official certification process with Nielsen. (SOCK-36314)

L800 Series appliances – Performance Improvements

Elemental Live on L800 series appliances now produces higher channel density in workflows with 1080 ABR outputs. (SOCK-37348)

SMPTE 2110 Dolby Digital audio

SMPTE 2110 inputs and outputs now support 5.1 coding mode in Dolby Digital and Dolby Digital Plus audio. This functionality is part of SMPTE 2110-31. (SOCK-37288)

Statmux Latency Improvements

A Statmux MPTS can now achieve an additional 500ms latency reduction. To configure for this reduction, enter a lower value in the maximum video buffer delay setting on the MPTS.

RESOLVED ISSUES AND KNOWN ISSUES IN 2.22.5

AWS Elemental Live 2.22.5 GA

Resolved issues

Key	Topic	Description
SOCK-37885	Deployment	Previous versions of AWS Elemental Live include an expired root certificate that might cause problems with one of the libraries that Elemental Live uses. The certificate has been removed.
SC-4321	Statmux	There was an issue in the 2.22.4 version of AWS Elemental Live that caused Statmux MPTS to fail. This issue has been fixed. If you use AWS Elemental Statmux, you should skip 2.22.4 when you upgrade, and install this new version instead.

Known issues

There are no new known issues in this version. Also see known issues in previous versions.

RESOLVED ISSUES AND KNOWN ISSUES IN 2.22.4

AWS Elemental Live 2.22.4 GA

Resolved issues

Key	Topic	Description
SOCK-37242	Alerts and messages	The alert 6004 Output Protection Engaged now automatically clears after 30 seconds. Additionally, the text of the alert has been updated to read: Output loss detected on output (Primary: udp://xxx.xxx.xxx.xxx?interface=ethX). Starting transmission to ensure output continuity.
SOCK-37302	Alerts and messages	Fixed a problem with UDP underflow alerts that weren't clearing properly.
SOCK-37357	Audio	Fixed scenario that would stop event audio from resuming, when audio channel count changed in an active event when using audio selector groups.
SOCK-37799	Installing	Fixed issues where installer would fail when it had no internet access.
SOCK-37659	Output quality	Previously, there was a problem that manifested in several ways in the output: low VQ (video quality), slow frame rate, dropped audio frames. This problem has been fixed.
SOCK-37851	Outputs, SMPTE 2110	Previously, a crash could occur when streaming SMPTE a 2110 output with JPEG-XS video. The crash was related to lack of memory. This problem with handling the memory has been fixed.
SOCK-36740	Security	The sudo package installed on Live and Conductor nodes has been upgrade to 1.8.23-10_9.1 to patch security vulnerability CVE-2021-3156. This upgrade applies to both CentOS and RHEL.

Known issues

Key	Topic	Description
SOCK-37884	Outputs, SRT (Reliable TS)	An SRT output with a primary and a secondary destination slows when one of the destinations goes offline.

Also see known issues in previous versions.

AWS Elemental Statmux 2.22.4 GA

Resolved issues

Key	Topic	Description
SC-4262	Bandwidth	The new default behavior on a Statmux MPTS is to suppress null packets for communications between the Live channel and Statmux. This change reduces the bandwidth load.

Known issues

There are no new known issues in this version. Also see known issues in previous versions.

Conductor Live 3 3.22.4 GA

Resolved issues

Key	Topic	Description
SC-4254	Alerts and messages	Conductor alerts that have never been set will no longer appear in the list of inactive alerts. Only alerts that have first been set and then cleared will show in the list of inactive alerts.
SC-4312	Alerts and messages	Conductor Live alerts now display a Time Cleared field that shows when the alert was last cleared. If the alert has never been cleared, this field is empty.
SC-4307	Memory handling	There was a problem with memory handling that could manifest in several ways: folders on the node might run out of space, which could affect failover, or database replication, backup, and syncing. This problem has been fixed.

Known issues

There are no new known issues in this version. Also see known issues in previous versions.

RESOLVED ISSUES AND KNOWN ISSUES IN 2.22.3

AWS Elemental Live 2.22.3 GA

Resolved issues

Key	Topic	Description
SOCK-37592	Audio, mute	Previously, if you used the API to call the `mute_audio` twice or more, you had to call the `unmute_audio` twice to cancel the mute. This problem has been fixed.
SOCK-37618	Color space	Previously, there was a problem with handling color space in an SDI input. This problem has been resolved.
SOCK-37652	Input switching	Previously, there was a race condition that could cause Elemental Live to crash when the user set up motion graphics and input switching in the same event.
SOCK-36317	Input switching	Fixed scenarios where Live could become unresponsive when doing an input switch to an input whose frame rate is double that of the output, and there is both an interlaced and progressive output.
SOCK-35661	Inputs, HDMI	Previously, when Elemental Live stopped ingesting an HDMI source, there was logic that caused a 10 second delay when Live started ingesting the source again. HDMI sources no longer have this extra 10 second delay at re-startup.
SOCK-37764	Inputs, SDI	A problem has been fixed with Elemental Live being slow to start ingest SDI inputs.
SOCK-37613	Inputs, SMPTE 2110	An improvement has been made for SMPTE 2110 inputs, so that Elemental Live can now read both SDP files that include source filters and files that don't include source filters.
SOCK-37599	Outputs to MediaStore	Previously, outputs to AWS Elemental MediaStore caused memory usages to increase by 20% over 12 hours. This problem has been fixed.
SOCK-37646	Outputs, Archive	Previously, there was a problem in Archive outputs sent to Amazon S3. With a very large or a small ("0") rollover interval, Elemental Live was failing to upload the content to Amazon S3, which resulted in a timeout error. The issue has been fixed. If no interval is provided, timeout duration for uploads will fall back to default to 10 minutes. Otherwise, a suitable timeout will be calculated based on the rollover interval provided by the customer.

Key	Topic	Description
SOCK-37724	Outputs, Reliable TS	Previously, in the Reliable TS output group on the web interface, the Latency setting was omitted from the SRT and Zixi options. This has been fixed.
SOCK-37671	Outputs, Reliable TS	When Elemental Live tries to make a connection with Reliable TS, an alert now appears ("ReliableTs Connection Alert"). The alert now disappears when the connection has been made.
SOCK-37537	Outputs, SMPTE 2110	For SMPTE 2110 Output, an improvement has been made in this release to indefinitely retry sending whenever the send response failure code indicates the send queue is temporarily full. There is a 100 microsecond delay between each retry.
SOCK-37628	Outputs, UDP	Previously, UDP output underflow would occur on the Live events when using a Statmux with MPEG-2 channels. These output underflows should no longer occur.
SOCK-37630	Performance	Elemental Live now ensures CPUs will not throttle frequency by using lower power states, to ensure maximal performance.
SOCK-37656	SMPTE 2110	Previously, Elemental Live entered a null value in some 2110 transport parameters that are not required. Null values are not allowed. This problem has been fixed. Also, nmos-live automatically updates to newer versions.

Known issues

There are no new known issues in this version. Also see known issues in previous versions.

AWS Elemental Statmux 2.22.3 GA

Resolved issues

Key	Topic	Description
SOCK-37628	Outputs, UDP	Previously, UDP output underflow would occur on the Live events when using a Statmux with MPEG-2 channels. These output underflows should no longer occur.

Known issues

There are no new known issues in this version. Also see known issues in previous versions.

Conductor Live 3 3.22.3 GA

Resolved issues

Key	Topic	Description
SC-4315	Failover	Previously, there was an issue where the channels on an Elemental Live node would not fail over correctly. This problem has been fixed.
SC-4296	Web interface and REST API	Fixed scenarios where Conductor Live was not able to process Live/Statmux node/channel updates in a timely manner, resulting in decrease in responsiveness of commands and status in the Conductor Live web interface.

Known issues

There are no new known issues in this version. Also see known issues in previous versions.

RESOLVED ISSUES AND KNOWN ISSUES IN 2.22.2

AWS Elemental Live 2.22.2 GA

Resolved issues

Key	Topic	Description
SOCK-36929	SCTE-35	For a SCTE 104 avail (from an SDI input), there was a problem in computing the splice time that is embedded in a MS Smooth sparse track. For downstream software that obtains the avail start time from the MS Smooth sparse track, the result was that the video froze for about 2 seconds at the start time of the avail. This problem has been resolved. The start time of the avail that is embedded in a MS Smooth sparse track is now correct, and the video no longer freezes.

Known issues

There are no new known issues in this version. Also see known issues in previous versions.

AWS Elemental Statmux 2.22.2 GA

Resolved issues

Key	Topic	Description
SOCK-37636	Install	Starting with Elemental Live 2.22.2, Statmux core files will be stored in the directory /data/server/cores/
SOCK-37505	Video quality	An optimization has been made that automatically improves the video quality in a Statmux MPTS.
SOCK-37243	Alerts and logs	Previously, when a channel started in a Statmux MPTS, there were many alerts. These unnecessary alerts no longer appear.

Known issues

There are no new known issues in this version. Also see known issues in previous versions.

Conductor Live 3 3.22.2 GA

Resolved issues

Key	Topic	Description
SC-4277	Statmux	Previously, an MPTS could time out when starting. This issue has been fixed.
SC-4271	Statmux	Previously, there was an issue with modifying a Statmux MPTS that was running in a redundant configuration. The second node didn't always get updated. This issue has been fixed: both nodes get updated.
SC-4250	Statmux	There was a problem with modifying the min and max bitrate fields in a Statmux MPTS. This is the scenario that applied: When you add a channel as an MPTS member, you can set custom values for the bitrate fields for that channel. You do this from the MPTS Control page in Conductor Live 3. Previously, if you then changed the channel so that the channel uses a different profile, the custom bitrate values reverted to the default for that profile. Now, if you switch the profile, the custom values are kept if they are within the acceptable range for that profile. The bitrate values only revert to the default if the custom rates are outside the acceptable range.
SC-4227	Alerts and logs	Previously, the logstash service would eventually fill up the disk with log messages in /var/log/messages. This has been resolved by configuring logstash to only log messages for warnings and higher severity messages.

Known issues

Key	Topic	Description
SOCK-37648	License	There is no detailed error message if the Statmux license (which is required to use Statmux features of Conductor Live 3) is not installed on the Conductor Live 3 appliance. Instead, when the channel starts, the MPTS row on the web interface turns red and the Status change to Error. If you get this error, go to the Settings>Licenses page on the web interface to determine if the error has occurred because the license is missing. In a future release, we plan to add a specific error message for this problem.

RESOLVED ISSUES AND KNOWN ISSUES IN 2.22.1

AWS Elemental Live 2.22.1 GA

Resolved issues

Key	Topic	Description
SOCK-37470	Alerts and messages	Alert 5010 "Program input missing" is now automatically cleared after an input switch.
SOCK-37482	Captions, ancillary	Fixed a timing problem that could occur when in ancillary captions in a Quicktime output container.
SOCK-37487	Captions, EBU-TT-D and WebVTT	Fixed a timestamp problem in EBU-TT-D output captions or WebVTT output captions.
SOCK-37464	Captions, WebVTT	Previously, the timestamp on WebVTT output captions might be out of order, which could cause problems for the downstream system. This problem has been fixed.
SOCK-37499	Drivers	Previously, SSH connectivity could be lost when upgrading the TG3 NIC driver if the SSH connection and driver were both on the eth0 interface. This problem no longer occurs during an upgrade.
SOCK-37527	Drivers	Previously, there was a problem with the TG3 or BNXT_EN NIC firmware installation. If the firmware was out of date but the respective driver was up to date, the firmware would not be installed. Now, the firmware will always be upgraded,, regardless of the driver update status.
SOCK-37175	Input switching	Previously, there was a problem with switching inputs where the current input and the new input didn’t have the same number of audio selectors. In this case, the input switch would not occur. Now, the switch will occur. Although note that the number of audio encodes in the output might not be as expected. For optimal user experience, all inputs must have the same number of audio selectors, with the same languages.
SOCK-37488	Input switching	Previously there was a problem when performing an input switch from an input with embedded captions extracted from SMPTE 2038 ancillary data to an input with embedded captions extracted from the native TS. Live didn't extract the captions from the new input. This problem has been resolved. It
SOCK-35472	Logs	Previously, both Elemental Live and Conductor Live 3 mishandled situations where a port was misconfigured. The mishandling resulted in a dump of messages in the logs, filling up the logs. This problem has been fixed. Tthe logs are no longer flooded with messages.

Key	Topic	Description
SOCK-37471	Output locking	Previously, there was a problem in outputs that had SCTE-35 message and that had output locking enabled. The problem could lead to segment drift. This problem has been fixed.
SOCK-37473	Output locking	Previously, it sometimes happened that synchronizing of outputs that were set up with output locking might fail. This problem has been fixed.
SOCK-37481	Output locking	Previously, there was a problem with segment length and synching of audio and video in outputs with output locking enabled. This problem has been fixed.
SOCK-36866	Outputs, DASH	A problem has been fixed in events with an AWS Elemental MediaStore container as the destination in a DASH output. Previously, the manifest file was not updated after a network outage. The problem has now been fixed.
SOCK-37467	Outputs, HLS	The EXTINF durations in FMP4 HLS I-Frame Only Playlists are now correct. Previously, if output locking created a short segment, that was not reflected in the EXTINF duration which has now been fixed.
SOCK-37476	Outputs, HLS	Previously, there was a problem with setting segment size for video outputs in an HLS output group that also contained a frame capture encode. The problem had a detrimental effect on SCTE-35 messages in the transport stream. This problem will no longer occur.
SOCK-37489 SOCK-37490	Outputs, Microsoft Smooth	Previously, a Microsoft Smooth output might have a corrupt or missing header. This problem has been fixed.
SOCK-37469	Outputs, RTMP	Previously, there was a problem with RTMP output that failed to deliver but that didn't receive an error message. These connections could linger indefinitely. Now, Live will reset the connection.
SOCK-37485	Outputs, UDP	Previously, a DNS failure on UDP output might cause permanent loss of output. This problem has been fixed.
SOCK-36668	Starting and stopping	There was a fix to intermittent problems with activating the appliance after a software restart, in appliances with a more advanced network configuration.

Known issues

There are no new known issues in this version. Also see known issues in previous versions.

AWS Elemental Statmux 2.22.1 GA

Resolved issues

Key	Topic	Description
SC-4271	Modifying a running MPTS	Previously, modifying a running MPTS in a 1:1 statmux redundancy group didn't reconfigure the secondary MPTS. Now, both MPTS configurations are updated.

Known issues

There are no new known issues in this version. Also see known issues in previous versions.

Conductor Live 3 3.22.1 GA

Resolved issues

Key	Topic	Description
SC-4290	Web interface	Previously, when you pasted a URL on a screen where channel filters are set, the paste action would clear the filters. Pasting no longer clears the filters.

Known issues

There are no new known issues in this version. Also see known issues in previous versions.

RESOLVED ISSUES AND KNOWN ISSUES IN 2.22.0

AWS Elemental Live 2.22.0 GA

Resolved issues

Key	Topic	Description
SOCK-37186	Alerts	An alert is now set for any statmux channel when complexity data from the encoder is arriving too late to be used. The alert is cleared 3 seconds after the complexity data begins arriving on time. The alert code is 7007, and an example of the alert message is: `Setting alert [7007] [Program[program-A][0]] [7007-Program[program-A][0]] [Program progra- A late arriving complexity data from encoder on pipeline 0`
SOCK-37117	Alerts	A new alert has been added when the output UDP buffer underflows. An underflow often indicates that the buffer_msec value is too small.
SOCK-37138	Audio	A problem has been fixed with distortion in the audio for SMPTE ST 2110-31 (Dolby Digital and Dolby Digital Plus audio streams).
SOCK-37109	Captions	There was a problem with alignment in WebVTT output captions. This problem applies when the input source has Teletext or embedded (608/708) captions, and the event has been configured to produce WebVTT captions with pass style information enabled. The problem occurs when the captions are configured to automatically detect the VTT position. Captions that appear centered in the original input, while marked as align:center in the WebVTT output, do not appear centered when viewed. This problem has been fixed.
SOCK-37299	Input switching	When customers schedule an input switch ahead of the switch time, Live starts preparing the input. In a scenario where the the audio sample format in the source changes between the probe and the switch time, the updated audio information is not passed to audio sync. This resulted in corrupted audio on the output. The issue has been fixed
SOCK-37225	Logs	There was an issue where the plat-api logs would fill up the log partition. This has been fixed by limiting the verbosity of the logs and decreasing the rotation duration.
SOCK-37330	Outputs	There is a problem with Live events that have a 4K source, and that have more than one output that is full HD (1920x1080) or lower resolution, and with the deinterlacer explicitly enabled. In some instances, one or more of the outputs may be incorrectly windowboxed (i.e., there are black bars on all four sides of the image). This problem has been fixed.
SOCK-37017	Outputs, UDP	The maximum video buffer delay milliseconds on an MPTS now have a lower bound of 250 milliseconds which reduces latency at the expense of video quality. Each MPTS now has an encoder_buffer_msec setting that controls the UDP output buffering on all channels in the MPTS. Lower values reduce latency but may also cause instability during input switching or on heavily loaded nodes

Known issues

There are no new known issues in this version. Also see known issues in previous versions.

AWS Elemental Statmux 2.22.0 GA

Resolved issues

Key	Topic	Description
SOCK-37286	Alerts	Statmux will now set an alert if the outputting of interleaved TS data falls below real time.
SOCK-37017	Video buffer	The maximum video buffer delay milliseconds on an MPTS now have a lower bound of 250 milliseconds which reduces latency at the expense of video quality. Each MPTS now has an encoder_buffer_msec setting that controls the UDP output buffering on all channels in the MPTS. Lower values reduce latency but may also cause instability during input switching or on heavily loaded nodes

Known issues

There are no new known issues in this version. Also see known issues in previous versions.

Conductor Live 3 3.21.0 GA

There are no resolved issues in the version.

Known issues

There are no new known issues in this version. Also see known issues in previous versions.

A. LANGUAGES SUPPORTED WITH OCR

For information about captions conversion using OCR, see page 8.

Afrikaans
Amharic
Arabic
Assamese
Azerbaijani
Azerbaijani - Cyrillic
Belarusian
Bengali
Tibetan
Bosnian
Bulgarian
Catalan; Valencian
Cebuano
Czech
Chinese - Simplified
Chinese - Simplified Vertical
Chinese - Traditional
Chinese - Traditional Vertical
Cherokee
Welsh
Danish
German
Dzongkha
Greek, Modern (1453-)
English
English, Middle (1100-1500)
Esperanto
Estonian
Basque
Persian
Finnish
French
German Fraktur
French, Middle (ca. 1400-1600)
Irish
Galician
Greek, Ancient (-1453)
Gujarati
Haitian; Haitian Creole
Hebrew
Hindi
Croatian
Hungarian
Inuktitut
Indonesian
Icelandic
Italian
Italian - Old
Javanese
Japanese
Japanese Vertical
Kannada
Georgian
Georgian - Old
Kazakh
Central Khmer
Kirghiz; Kyrgyz
Korean
Korean Vertical
Lao
Latin
Latvian
Lithuanian
Malayalam
Marathi
Macedonian
Maltese
Malay
Burmese
Nepali
Dutch; Flemish
Norwegian
Oriya
Panjabi; Punjabi
Polish
Portuguese
Pushto; Pashto
Romanian; Moldavian;
Moldovan
Russian
Sanskrit
Sinhala; Sinhalese
Slovak
Slovenian
Spanish; Castilian
Spanish; Castilian - Old
Albanian
Serbian
Serbian - Latin
Swahili
Swedish
Syriac
Tamil
Telugu
Tajik
Thai
Tigrinya
Turkish
Uighur; Uyghur
Ukrainian
Urdu
Uzbek
Uzbek - Cyrillic
Vietnamese