aws elemental

# RELEASE NOTES

## AWS ELEMENTAL LIVE AND STATMUX VERSION 2.21 GA AND AWS ELEMENTAL CONDUCTOR LIVE 3 VERSION 3.21 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

There are two types of releases: General Availability (GA) Feature Releases and General Availability (GA) Maintenance Releases.

| | Release cadence | Versioning | Includes new features | Includes defect fixes |
|---|---|---|---|---|
| GA feature releases | Monthly | The first four releases.<br>For example, 2.21.0 to 2.21.3 | Yes | Yes |
| GA maintenance releases | Monthly | After the first four releases.<br>For example, 2.21.4 and later | No | Yes |

### 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 delivers four times the performance of CPU-only encoding solutions, significantly reducing total cost of ownership. High performance and reduced operating expenses drive immediate business value – improving monetization opportunities and optimizing video delivery.

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. The Statmux feature is available on an AWS Elemental Live node, or can be installed as a dedicated AWS Elemental Statmux node. The AWS Elemental Live/Statmux integrated node contains all the features of AWS Elemental Live, plus the Statmux. The AWS Elemental Statmux dedicated node contains only the Statmux feature.

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

## AWS Element 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

## Firmware upgrade

In Elemental Live 2.21.4, the NIC driver firmware has been upgraded to resolve issues on appliances that include the 1G Cu SFP link speed interface. These issues occurs on specific appliances in the L800 series.

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.

## Change to release lines

All AWS Elemental Live, Statmux, and Conductor Live 3 releases are now General Availability (GA). Historical Limited Availability (LA) releases are now available on the AWS Appliances & Console service. For more information, see Types of releases on page 4.

## Change to release notes

Going forward, AWS Elemental Live/Statmux and AWS Elemental Conductor Live 3 release notes can be found together in one document. This single release notes document will continue to be updated and available at AWS Elemental Live Documentation and AWS Elemental Conductor Live 3 Documentation.

## Change to release notes location

The Elemental User Community is no longer available after December 31st, 2020.

Release notes for AWS Elemental Live/Statmux and Conductor Live 3 continue to be updated and available at AWS Elemental Live Documentation and AWS Elemental Conductor Live 3 Documentation.

## Change to support for Statmux

AWS Elemental Live version 2.20.2 reintroduced support for MPTS and Elemental Statmux features.

For information on how to upgrade from Elemental Statmux 2.17 to 2.21, refer to Statmux 2.17 to 2.20 Cluster Upgrade Procedure.

Contact AWS Elemental Support if you have additional questions.

## Mandatory password reset

There is a mandatory one-time password reset required for AWS Elemental Live and AWS Elemental Conductor Live 3, if your appliances have been configured with user authentication enabled. This change is to ensure that all users of the web interface and API have set strong passwords.

The new password requirements are the following:

- Minimum 8 characters.
- At least one uppercase letter, at least one lowercase letter, at least one number, and at least one symbol.

This password change is a one-time action. Therefore, for example, if you change the password when you install version 2.20, you won't be forced to change it again when you install 2.21.
For more details, and for important information about an issue with this procedure, see the AWS Elemental Conductor Live 3, version 3.20.2 LA section of these release notes.

## Reminder to cycle the power when upgrading or downgrading

When you upgrade or downgrade any version of AWS Elemental Live, we strongly recommend that you turn off the appliance and turn it back on. Doing so ensures that any installer and firmware updates (or downgrades) are correctly set up.

## Video quality vs. density

AWS Elemental invests in continuous improvement of VQ for the AWS Elemental Live appliance. In some cases, VQ improvements are achieved by trading off stream density. By upgrading to this new software version, you may experience moderate loss of density on some workflows. If density is more important than VQ, you may be able to recover lost density by adjusting VQ parameters, such as for an H.264 or HEVC stream changing SvQ from 0 to 1.

## Deprecation information

Civolution watermarking will be deprecated in a later version.

When you start an event with the DTS Express audio encoder feature, you will see a notice that indicates future deprecation in a later version. Please disregard this notice. DTS Express is supported for all 2.20 versions.

# NEW FEATURES

## New in version 2.21.3

### SMPTE ST 2110-22 JPEG XS decoding for inputs and outputs

Elemental Live now offers an add-on license for the JPEG XS codec for SMPTE ST 2110-22 inputs and outputs. Using this codec provides between 1:2 and 1:12 compression.

For an input, support for this codec means that Elemental Live can ingest SMPTE 2110 streams encoded with JPEG XS. Elemental Live automatically detects the codec, no user setup is required.

To use this codec in a SMPTE 2110 output, on the Video tab, select JPEG XS in Video Codec. You can use a compression ratio between 1:2 and 1:12.

### Dynamic ARIB audio stereo output

There is a new option in the audio stream for an output, available when the input is ARIB and the output is ARIB. In the ARIB Dynamic Audio field, there is a Forced Stereo option. This option automatically remixes the audio into stereo. It can convert any coding mode to stereo. If upmixing, Elemental Live repeats the mono input in both stereo channels. If downmixing, Elemental Live selects the first two channels from the input and discards other channels.

## New in version 2.21.2

### SCTE 35 splice insert API support for new tags

Added support in the API for the following tags in Elemental Live splice insert:

- unique_program_id
- avail_num
- avails_expected

### AWS Elemental MediaConnect input support

Elemental Live now includes support for inputs from AWS Elemental MediaConnect using ARN based specifiers. You can create an output from MediaConnect using the SRT listener protocol and Elemental Live will parse required information from the MediaConnect flow ARN and MediaConnect output ARN to ingest the SRT source. AES encryption is optional. AWS Elemental MediaConnect inputs can also be configured and managed in Elemental Conductor Live 3.

### NMOS IS-04 and IS-05 support for SMPTE ST 2022-7 seamless protection switching for SMPTE ST 2110 inputs

Elemental Live has expanded existing NMOS IS-04 Device Discovery and IS-05 Device Connection Management to support SMPTE ST 2022-7 seamless protection switching for SMPTE ST 2110 inputs.

### RiverMax SDK upgrade

Elemental Live has upgraded to version 1.5.23 of the Mellanox RiverMax SDK.

### Power supply alerts

When a power supply issue is detected, Elemental Live and Elemental Statmux will now display an alert in the web interface and send an SNMP trap. If Elemental Conductor Live 3 is present, the alert is also visible there.

### Conductor Live 3 MPTS Channel web interface updates

On the MPTS Channel page of Elemental Conductor Live 3, you can now view and edit TS Endpoints, Complexity Endpoints, and Rate Allocation Endpoints for Live to Statmux communication. By default this occurs via UDP multicast on ports 5000 to 5055.

## New in version 2.21.1

### SRT inputs

Elemental Live introduces caller/listener mode support for Secure Reliable Transport (SRT) inputs, where Elemental Live is the caller and the SRT source is the listener. You can now receive secure, reliable, low latency video sources with protection against packet loss. SRT security is provided via optional Advanced Encryption Standard (AES) encryption of messages.

To configure an event for an SRT input:

1. For the input type, select Secure Reliable Transport and enter a name for the input.
2. In the Network Location field, enter the URI of the SRT to ingest.

   Specify a host name and port that begins with srt://. For example, srt://192.168.1.2:5000.
3. Optional: In the Interface field, enter a network interface, such as eth1. If you leave this field blank, the system routing table will select an interface for you.
4. Optional: In the Latency field, enter the minimum number of milliseconds that the SRT sender should buffer a packet without receiving an acknowledgement before discarding it. For example, 300.

   Note: This is not guaranteed to be the latency value used, as SRT uses the larger of the latency values requested by the caller and listener during the connection handshake. If you do not enter a value here, the default is 120ms.
5. In the Encryption field, select an encryption key length for the SRT media stream.

   Note: You have the option to enter None. If you do this, you must leave the Passphrase field blank.
6. In the Passphrase field, enter a passphrase between 10 and 72 characters for the SRT sender and receiver.

   Important: If you entered a value other than None in the Encryption field, you must enter a value here. If you entered None in the Encryption field, you must leave this field blank.
7. Optional: In the Stream ID field, enter a unique identifier between 1 and 512 characters for the SRT sender to use during the connection handshake.

### Dolby Vision certification

Elemental Live is now Dolby Vision certified for profile 5 and profile 8.1.

### Auto adaptive quantization

A new default and recommended Auto setting is now available for Adaptive Quantization. This setting applies to AVC encoding. The Auto setting uses machine learning techniques to select the optimal settings for Adaptive Quantization, Temporal AQ, Spatial AQ, and Flicker AQ. With this setting, AQ strengths can now vary across a video stream instead of remaining constant.

### Auto QVBR quality level

You can now use Auto mode to automatically set quality level in QVBR rate control mode for AVC and HEVC. Auto is the new default and recommended setting. An algorithm will determine the best setting for your content.

### SPTS output monitoring in Elemental Statmux

Elemental Statmux now allows you to add a secondary SPTS output for monitoring use cases.

## New in version 2.21.0

### HTML5 motion graphics

With the motion graphics add-on pack, you can now use Elemental Live to overlay HTML motion graphics on video outputs.

To set up a motion graphics overlay:

From the Elemental Live event page, set the Motion Image Inserter to ON.

Choose HTML as the Insertion Mode, and enter the URL of the page you want to overlay in the Input field.

Optional: Select the Overlay Active check box if you want HTML overlays to start activated.

Optional: Select the check boxes to Enable REST Control and Enable SCTE-35 Control.

Note: For SCTE-35 controlled events, SCTE-35 deactivate messages only turn off overlays that were activated with this control. SCTE-35 deactivate does not turn off overlays that were activated in other ways.

To run a motion graphics overlay event, start an event that was set up using this motion graphics overlay method.

### SDI performance enhancements

SDI capture cards have upgraded firmware, saving significant bandwidth and CPU utilization for workflows that convert 4:2:2 inputs to 4:2:0 outputs.

Important: Firmware updates require a full power cycle after install before using Elemental Live.

# RESOLVED ISSUES AND KNOWN ISSUES IN 2.21.6

## AWS Elemental Live 2.21.6 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 2.21.6 GA

### Resolved issues

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

### Known issues

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

## Conductor Live 3 3.21.6 GA

### Resolved issues

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

### Known issues

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

# RESOLVED ISSUES AND KNOWN ISSUES IN 2.21.5

## AWS Elemental Live 2.21.5 GA

### Resolved issues

| Key | Topic | Description |
|---|---|---|
| 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 event would stop. 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-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 resolved, the logs are no longer flooded with messages. |
| 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-36668 | Starting and stopping | There was a fix to intermittent issues 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 2.21.5 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 3.21.5 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 2.21.4

## AWS Elemental Live 2.21.4 GA

### Resolved issues

| Key | Topic | Description |
|---|---|---|
| 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-37222 | Firmware | The NIC driver firmware has been upgraded to resolve issues on appliances that include the 1G Cu SFP link speed interface. These issues occurs on specific appliances in the L800 series. |
| 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-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. |

### Known issues

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

## AWS Elemental Statmux 2.21.4 GA

### Resolved issues

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.

# Conductor Live 3 3.21.4 GA

## Resolved issues

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.

# RESOLVED ISSUES AND KNOWN ISSUES IN 2.21.3

## AWS Elemental Live 2.21.3 GA

### Resolved issues

| Key | Topic | Description |
|---|---|---|
| SOCK-37094 | API | Sometimes, the response time of mute/unmute API call goes up abnormally if the API call is requested repeatedly. This problem has been fixed. |
| SOCK-36040 | Authentication | There was an issue where in certain circumstances PAM authentication would not allow a user to log in. This has been resolved. |
| SOCK-37122<br>SOCK-37106 | Captions | There was a problem starting in Live 2.20.1 that caused output captions to be out of sync with the video. This problem could occur when the source captions was Teletext. This issue has been fixed. |
| SOCK-36196 | Captions | Fixed an issue of RTMP onCuePoint SCTE-35 ad break message having unexpectedly long preroll value. |
| SOCK-37063 | Input | Sometimes Live wasn't always able to find Sync Bytes in Network Inputs. This prevented Live from using some sources. This problem has been fixed. |
| SOCK-37099 | Input, SRT | There is a problem when a Live event is configured with either two events that use SRT as the input type or with two events that use AWS Elemental MediaConnect as the input type. Sometimes, when the even switches from one input to the other, Live crashes. This problem has been fixed. |
| SOCK-36109 | Input, TS | There is sometimes a problem with the way that Live encodes a TS source. If the bitrate of the elementary stream is very low, "packet interleave error" messages might appear in the logs.<br>An improvement has been implemented to resolve this problem. If you are still seeing this message, contact AWS Elemental Support for help. |
| SOCK-36947 | Motion graphics overlay | Fixed problem where creating new motion graphics overlays could make Elemental Live crash. |
| SOCK-37013 | Output | There was a problem with the output produced when the event includes a SMPTE 2110 source. The audio and video were not synchronized. This problem has been fixed. |
| SOCK-34214 | Output locking | In complex output locking workflows, rare instances of caption packet corruption might cause a frame to have a DTS value that is less than the previous frame. The cause of the packet corruption has been fixed. |

| Key | Topic | Description |
|---|---|---|
| SOCK-37121 | Output, DASH | Under certain circumstances for DASH output containing audio, a signaling was missing from the DASH manifest. This is now fixed. |
| SOCK-36994 | Output, DASH | The Dolby MediaValidator failed the validation on DASH streams because the manifest was missing information about DVH1 or DVHE. Live now adds the appropriate information, depending on the HVC1 setting in the output. |
| SOCK-36121 | Output, DASH | A problem could cause intermittent or complete failure in playback of a DASH output sent to Akamai and then to a Shaka player. |
| SOCK-36316 | Output, HLS | When you have configured an HLS output group to pause when you start the event, Live might insert a discontinuity marker too early in the HL output. |
| SOCK-36113 | Output, HLS | There was a problem with the HLS manifest. Sometimes, invalid data was being appended to the appended to the EXT-X-MAP:URI line in the manifest. This problem has been fixed. |
| SOCK-36963 | Output, M2TS | There was a problem with missing data when upgrading from 2.19.5 The settings for an M2TS output were deleted. This problem has been resolved; starting with 2.21.3, the settings are no longer deleted. |
| SOCK-37133 | Video | When creating a Live event that has a 4K input and an ABR stack output, some of the lower resolution renditions may incorrectly be window-boxed (i.e., black bars on all four sides of the image). This has been fixed. |

## Known issues

| Key | Topic | Description |
|---|---|---|
| SOCK-37300 | SMPTE 2110 | When running multiple SMPTE 2110+2022-7 or 2022-6+2022-7 HD events, there is a possibility that all events will intermittently drop video frames at the same time. As more events are added, the occurrences of packet drops increases. The problem is being actively investigated. |
| SOCK-37299 | Input prepare | When customers schedule an input switch ahead of the switch time, Live starts preparing the input. In a scenario where 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 will result in corrupted audio on the output. |

Also see known issues in previous versions.

# AWS Elemental Statmux 2.21.3 GA

## Resolved issues

There are no resolved issues in the version.

## Known issues

| Key | Topic | Description |
|---|---|---|
| SOCK-37243 | Alerts | The alerts for "MPTS channel output bitrate is 0" and "Program <N> switched active encoder to pipeline 0" will fire when a Statmux channel is started. These alerts will clear shortly after the channel has started. This is due to startup delays in the channel to statmux communications and do not represent an issue unless the alerts stay on indefinitely. |
| SOCK-37242 | Alerts | The alert that appears for MPTS output protection does not get cleared after the underlying problem has been resolved. |
| SC-4279 | Alerts | Many alerts (specifically those with alert codes greater than 5000) did not show in the Statmux web interface or Elemental Conductor Live 3 web interface or the APIs. This has been resolved and these alerts will now appear. |

Also see known issues in previous versions.

# Conductor Live 3 3.21.3 GA

## Resolved issues

| Key | Topic | Description |
|---|---|---|
| SC-4279 | Alerts | Many alerts (specifically those with alert codes greater than 5000) did not show in the Statmux web interface or Elemental Conductor Live 3 web interface or the APIs. This has been resolved and these alerts will now appear. |

## Known issues

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

# RESOLVED ISSUES AND KNOWN ISSUES IN 2.21.2

## AWS Elemental Live 2.21.2 GA

### Resolved issues

| Key | Topic | Description |
|---|---|---|
| SOCK-36974 | Inputs | The Elemental Live encoder sometimes failed when a counter rolled over after 414 days. This is now fixed. |
| SOCK-36957 | Inputs | Changing the resolution on MPEG2, H264, and H265 inputs could cause Elemental Live to fail. This is now fixed. |
| SOCK-36934 | Outputs; CL3 | The monitoring output feed for Elemental Live to Elemental Statmux communication erroneously included telemetry data. This is now fixed. |
| SOCK-36931; SOCK-36693 | Outputs | There was an issue that caused streaming to local Amazon S3 storage to fail with a 403 error. This is now fixed. |
| SOCK-36915 | Logs; Statmux; CL3 | Data that was retained for 90 days could fill up the logs, causing partitions to run out of space. This data is now retained for 30 days to avoid the issue. |
| SOCK-36875 | Outputs | When DVB subs were missing PTS values, Elemental Live DVB subs could become out of sync. This is now fixed. |
| SOCK-36044 | Outputs | Publishing to an endpoint in chunked transfer mode could cause playback to fail when using DASH for ultra low latency streaming. This is now fixed. |
| SOCK-35976 | Outputs | After the WebDAV server disconnected and was restored, DASH output could still fail to recover the stream. This is now fixed. |
| SOCK-34214 | Outputs | Rare instances of caption packet corruption could cause non-monotonic DTS values. This is now fixed. |

### Known issues

| Key | Topic | Description |
|---|---|---|
| SOCK-37013 | Inputs – SMPTE ST 2110 | There is sometimes a sync drift of up to .1 seconds between audio and video for Elemental Live SMPTE ST 2110 inputs. |

# AWS Elemental Statmux 2.21.2 GA

## Resolved issues

| Key | Topic | Description |
|---|---|---|
| SOCK-36915 | Logs; Statmux; CL3 | Data that was retained for 90 days could fill up the logs, causing partitions to run out of space. This data is now retained for 30 days to avoid the issue. |

## Known issues

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

# Conductor Live 3 3.21.2 GA

## Resolved issues

| Key | Topic | Description |
|---|---|---|
| SOCK-36934 | Outputs; CL3 | The monitoring output feed for Elemental Live to Elemental Statmux communication erroneously included telemetry data. This is now fixed. |
| SOCK-36915 | Logs; Statmux; CL3 | Data that was retained for 90 days could fill up the logs, causing partitions to run out of space. This data is now retained for 30 days to avoid the issue. |
| SC-4240 | CL3 | Channels that are part of a 1:1 redundancy pair are also paired together in the web interface. When viewing and searching, these channels always appear together. When you delete one, you also delete its pair. This was clear on the CL3 Channels index page and CL3 Channel Bulk action page, but was not clear on the MPTS index page. This is now fixed. |
| SC-4235 | CL3 - MPTS | The Output Listening check box can now be found on the main configuration tab. |

## Known issues

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

# RESOLVED ISSUES AND KNOWN ISSUES IN 2.21.1

## AWS Elemental Live 2.21.1 GA

### Resolved issues

| Key | Topic | Description |
|---|---|---|
| SOCK-36840 | Inputs | The Elemental Live encoder sometimes failed during resolution changes. This is now fixed. |
| SOCK-36832 | Outputs; Statmux; CL3 | The variable bitrate (VBR) check box was removed from the output transport stream settings page erroneously. This is now fixed, and the check box is once again present and functional. |
| SOCK-36823 | Outputs | Previously, one failed endpoint statistics call resulted in a Zixi send error. It now takes three sequential failed endpoint statistics calls to trigger a Zixi send error and cause the link to reset and reconnect. |
| SOCK-36822 | Outputs - HLS | Missing presentation timestamp (PTS) values could result in delayed captions. This is now fixed. |
| SOCK-36769 | Inputs; Downgrade | Downgrading to version 2.18.1 or later of Elemental Live while simultaneously attempting to restore a database could cause the downgrade to fail. This is now fixed. |
| SOCK-36766 | Inputs - SMPTE ST 2110; Audio | Issues with packet timestamps could cause audio to drop for SMPTE ST 2110 inputs. This is now fixed, and SMPTE ST 2110 inputs now require the precision time protocol (PTP) of the source to be synchronized. |
| SOCK-36737 | Inputs - SMPTE | When an event is configured to use a SMPTE ST 2110 or SMPTE ST 2022-6 input with SMPTE ST 2022-7 redundancy, the network input could drop packets consistently. This could lead to the per-event ingest log filling up the /opt disk partition. This is now fixed. |
| SOCK-36701 | Inputs - Frame rates | Frame rates that were not valid could cause Elemental Live to terminate. This is now fixed. |
| SOCK-36684 | Inputs | Elemental Live could fail to probe again after an input became degraded. This is now fixed. |
| SOCK-36674 | Inputs - Failover | Differences between CPU and GPU HEVC NAL could cause problems with failover. An environment variable now forces CPU only systems to use 64x46 HEVC tree blocks so that NAL packet PPS and SPS values between CPU and GPU encodes match. |
| SOCK-36665 | Network - Log | In some situations, Elemental Live logged numerous duplicate messages in a short time frame, filling up the /var/log/ partition. This is now fixed. |

| Key | Topic | Description |
|---|---|---|
| SOCK-36540 | Inputs; Captions | Elemental Live events with SCTE-27 caption PIDs that did not match between inputs could cause validation errors that halted events in a preprocessing state. This is now fixed. |
| SOCK-36465 | Outputs | For distributed-encoding output-locked events that use UDP/TS outputs, if one of the events had an AAC audio output and the other did not, the PTS times between the two could be consistently off due to initial PTS calculations. These calculations are now updated, and the PTS values for configurations like this one now synchronize correctly. |
| SOCK-36377 | Outputs - SMPTE ST 2022 | RTP streams can use FEC packets for error correction. According to SMPTE ST 2022-1-2007, FEC packets must have the same source port as data packets. Elemental Live was not doing this. Elemental Live now sets the FEC packet source port to be the same as the data packet source port. |
| SOCK-36266 | Outputs - HLS; Output locking | Previously, the #EXT-X-DISCONTINUITY HLS tag was placed a segment late for output locking workflows when marking audio configuration discontinuities on remote encoders. This is now fixed. It now is consistently placed correctly across all output-locked encoders. |
| SOCK-36101 | Outputs | An SNMP trap cannot be sent out if the event name contains a double byte character. To work around this, Elemental Live now replaces invalid ASCII-8BIT characters with ? for SNMP traps that use event names. |
| SOCK-34897 | Captions | When running an event with teletext input and WebVTT output with "Pass Style Information" enabled, there were occasional extraneous characters present in the output. This is now fixed. |
| SOCK-34727 | Event log | The XML REST API Elemental Live event status was not reporting values for <buffer_avg>, <buffer_max>, and <fill_msec>. This is now fixed. |

## Known issues

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

# AWS Elemental Statmux 2.21.1 GA

## Resolved issues

| Key | Topic | Description |
|---|---|---|
| SC-4241 | Statmux; CL3 | Previously, the network could become overloaded by multicast traffic. This is now fixed. Network communication between Elemental Live and Elemental Statmux is now improved. You can also now edit multicast addresses and modify address allocation to avoid overload by multicast traffic. |

## Known issues

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

# Conductor Live 3 3.21.1 GA

## Resolved issues

| Key | Topic | Description |
|---|---|---|
| SC-4243 | CL3 | An SNMP trap cannot be sent out if the event name contains a double byte character. To work around this, Elemental Live now replaces invalid ASCII-8BIT characters with ? for SNMP traps that use event names. |
| SC-4241 | Statmux; CL3 | Previously, the network could become overloaded by multicast traffic. This is now fixed. Network communication between Elemental Live and Elemental Statmux is now improved. You can also now edit multicast addresses and modify address allocation to avoid overload by multicast traffic. |

## Known issues

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

# RESOLVED ISSUES AND KNOWN ISSUES IN 2.21.0

## AWS Elemental Live 2.21.0 GA

### Resolved issues

| Key | Topic | Description |
|---|---|---|
| SOCK-36635 | Inputs - Audio | Elemental Live events that used a SMPTE ST 2022-6 stream with AC-3 audio as an input could crash during ingest if the first AC-3 audio frame parsed had an invalid AC-3 header. This is now fixed. The invalid AC-3 header is now discarded so that the audio stream continues to be probed until a valid audio frame is processed. |
| SOCK-36595 | Outputs - MS Smooth | HTTP sometimes timed out after 30 seconds when publishing Microsoft Smooth (MSS) output to IIS servers/endpoints. This is now fixed. |
| SOCK-36593 | Inputs - Overlays and captions | In some situations, motion graphics overlays and non-passthrough image captions (burn-in, SMPTE-TT, and CFF-TT) appeared backwards or upside-down for HD inputs. This is now fixed. |
| SOCK-36580 | Outputs - SMPTE ST 2110 | Downgrading to a previous version of Elemental Live with events that had SMPTE ST 2110 outputs sometimes failed to retain video settings. This is now fixed. |
| SOCK-36385 | Outputs; CL3 | Elemental Live events in Elemental CL3 clusters sometimes failed over to a backup, but came back with events running that could not be stopped by CL3. This caused duplicate events to be published to customer endpoints. This is now fixed. |
| SOCK-36034 | Inputs - SDI | Ingest had the potential to fail if the SDI device was not recognized. This is now fixed. |
| SOCK-35851 | NMOS | Previously, NMOS did not work properly in authenticated environments. This is now fixed. |
| SOCK-35578; SOCK-35097 | Time codes | The new environment variable FORCE_LTC_TO_UTC allows the forcing of LTC time codes to UTC. |
| SOCK-34876 | Time zones | Web callback timestamps were inconsistent for assertions and de-assertions. This is now fixed by adjusting them to local time. |
| SOCK-25526 | Inputs; CL3 | The ZeroMQ library is updated to version 4.3.3 to address potential crashes in the web layer. |

# Known issues

| Key | Topic | Description |
|---|---|---|
| SOCK-36737 | Inputs - SMPTE | When an event was configured to use a SMPTE ST 2110 or SMPTE ST 2022-6 input with SMPTE ST 2022-7 redundancy, the network input could drop packets consistently. This led to the per-event ingest log filling up the /opt disk partition. This is now fixed. |
| SOCK-36691 | Outputs - SCTE-35 | The combination of output locking resyncs and SCTE-35 conditioning could lead to segment drift. |

# AWS Elemental Statmux 2.21.0 GA

## Resolved issues

| Key | Topic | Description |
|---|---|---|
| SOCK-36469 | Statmux | Stopping a Multi Program Transport Stream (MPTS) could cause Elemental Statmux to become unresponsive as it continued attempting to run. This is now fixed. |
| SC-4234 | Statmux; CL3 | The following 1:1 redundancy group validations were added in Statmux:<br><br>Prevent transfers:<br>• Prevent transfer from active to backup unless there are three active nodes. This can happen during automatic failover when there are two active nodes and one backup.<br>• Prevent transfer from active to backup if there is already a backup node.<br>• Prevent transfer from backup to active if there are already two active nodes<br><br>Prevent additions:<br>• Prevent the addition of backup nodes unless there are already two active nodes.<br>• Prevent the addition of an active node if there are any MPTS jobs or MPTS enabled channels attached.<br><br>Prevent removals:<br><br>Prevent the removal of active nodes from the redundancy group when there are MPTS jobs or MPTS enabled channels attached, or when there is a backup node in the pool. |
| SC-4208 | Statmux; CL3 | The maximum video buffer delay for MPTS MPEG2 programs was not set correctly. This caused higher than the 1.8 Mbit maximum allowed for SD MP2 video. This is now fixed. |

## Known issues

| Key | Topic | Description |
|---|---|---|
| SOCK-36700 | Statmux - Log | A critical log message "Failed to send update MultiplexProgram message to MME" erroneously displays. This message is coming from Statmux, but there is no impact to Statmux customers. |

# Conductor Live 3 3.21.0 GA

## Resolved issues

| Key | Topic | Description |
|---|---|---|
| SC-4245 | CL3 web interface | There was a defect in the web interface that caused profile duplication of SMPTE ST 2022-6 input to fail. This is now fixed. |
| SC-4244 | Inputs - CL3 | Previously, it was not possible to enter parameters for all SMPTE ST 2110 and SMPTE ST 2022-6 input fields. This is now fixed. |
| SC-4234 | Statmux; CL3 | The following 1:1 redundancy group validations were added in Statmux:<br>Prevent transfers:<br>• Prevent transfer from active to backup unless there are three active nodes. This can happen during automatic failover when there are two active nodes and one backup.<br>• Prevent transfer from active to backup if there is already a backup node.<br>• Prevent transfer from backup to active if there are already two active nodes<br>Prevent additions:<br>• Prevent the addition of backup nodes unless there are already two active nodes.<br>• Prevent the addition of an active node if there are any MPTS jobs or MPTS enabled channels attached.<br>Prevent removals:<br>• Prevent the removal of active nodes from the redundancy group when there are MPTS jobs or MPTS enabled channels attached, or when there is a backup node in the pool. |
| SC-4208 | Statmux; CL3 | The maximum video buffer delay for MPTS MPEG2 programs was not set correctly. This caused higher than the 1.8 Mbit maximum allowed for SD MP2 video. This is now fixed. |
| SOCK-25526 | Inputs; CL3 | The ZeroMQ library is updated to version 4.3.3 to address potential crashes in the web layer. |
| SOCK-36385 | Outputs; CL3 | Elemental Live events in Elemental CL3 clusters sometimes failed over to a backup, but came back with events running that could not be stopped by CL3. This caused duplicate events to be published to customer endpoints. This is now fixed. |

## Known issues

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