aws elemental

Release notes

AWS Elemental Live and Statmux version 2.19 GA
and AWS Elemental Conductor Live 3 3.19 GA

AWS Elemental
1320 SW Broadway
Portland, Oregon, 97201

+1 503 222 3212
www.elemental.com

Copyright © 2020 AWS Elemental. All rights reserved.

Contents

AWS Elemental Live and Statmux introduction 5
Types of releases 5
Software upgrades 7
Essential notes 8
Release notes AWS Elemental Live 2.19.7 GA 10
Resolved issues 10
Known issues 10
Release notes AWS Elemental Live 2.19.6 GA 11
Resolved issues 11
Known issues 11
Release notes AWS Elemental Live 2.19.5 GA 12
Resolved issues 12
Known issues 12
Release notes AWS Elemental Live 2.19.4 GA 13
Resolved issues 13
Known issues 13
Release notes AWS Elemental Live 2.19.3 GA 14
New features 14
Resolved issues 18
Known issues 22
Release notes AWS Elemental Live 2.19.2 LA 24
Essential notes 24
New features 26
Resolved issues 26
Known issues 28
Release notes AWS Elemental Live 2.19.1 LA 29
Essential notes 29
New features 31
Resolved issues 34
Known issues 35
Release notes AWS Elemental Live 2.19.0 LA 37
Essential notes 37
New features 39
Resolved issues 39
Known issues 41
Release notes for AWS Elemental Statmux 2.19 GA 42
AWS Elemental Conductor Live 3 introduction 43
Essential notes 44

© 2020 AWS Elemental. All rights reserved.

Conductor Live 3 release notes 3.19.7 GA....46
Resolved issues....46
Known issues....46
Conductor Live 3 release notes 3.19.6 GA....47
Resolved issues....47
Known issues....47
Conductor Live 3 release notes 3.19.5 GA....48
Resolved issues....48
Known issues....48
Conductor Live 3 release notes 3.19.4 GA....49
Resolved issues....49
Known issues....49
Conductor Live 3 release notes 3.19.3 GA....50
New features....50
Resolved issues....50
Known issues....50
Conductor Live 3 release notes 3.19.2 LA....52
Essential notes....52
New features....53
Resolved issues....53
Known issues....53
Conductor Live 3 release notes 3.19.1 LA....54
Essential notes....54
New features....56
Resolved issues....57
Known issues....57
Conductor Live 3 release notes 3.19.0 LA....59
Essential notes....59
New features....60
Resolved issues....60
Known issues....60

© 2020 AWS Elemental. All rights reserved.

AWS Elemental Live and Statmux introduction

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 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.

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

Types of releases

AWS Elemental Live appliances currently offer monthly builds designated either General Release Major (GA), GA Maintenance, or Limited Release (LA).

GA major builds

The Elemental Live "Major Feature Release" GA builds:

- Are released several times a year and are intended for all standard workflows. For example, Elemental Live 2.18.3 GA.
- Are available for download from the Elemental User Community by any customer with an active support agreement
- May be installed on new Elemental Live appliances which ship from the factory.
- Are production ready builds that receive the spectrum of software support entitlements from the AWS Elemental Support team.

GA maintenance builds

The Elemental Live "Maintenance" GA builds follow GA builds and contain only fixes to issues. For example, Elemental Live 2.18.4 GA (Maintenance).

© 2020 AWS Elemental. All rights reserved.

LA builds

The Elemental Live LA "Feature Release" builds:

- Are intended to deliver new features quickly to early adopter customers. For example, 2.19.0 LA.
- Are only available for download from the Elemental User Community by pre-authorized customers with an active support agreement
- Are production ready builds that receive the spectrum of software support entitlements from the AWS Elemental Support team for a limited period of time.
- LA builds must be updated to GA builds within two GA release cycles after the LA build, or within eight (8) months, whichever is shorter. For example, you install Elemental Live 2.19.1 LA on your Elemental Live appliance. Two months later Elemental Live 2.19 GA is available – you should update your production system to this GA build. Subsequently the next Elemental Live GA, Elemental Live 2.19 GA is released. You must update your LA build to either Elemental Live 2.18 GA or Elemental Live 2.19 GA in order to qualify for AWS Elemental Support, as the Elemental Live 2.19.1 LA support window times out upon the release of Elemental Live 2.19 GA.

© 2020 AWS Elemental. All rights reserved.

Software upgrades

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

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

For information on upgrading and configuring, see the following guides, which are all available on the AWS Elemental User Community (https://community.AWS Elemental.com/).

For Information on	See
General information on install options	Installing AWS Elemental Products – Orientation Guide
Upgrading to version 2.19.x	See Essential notes.
Configuring an Appliance Edition for the first time	AWS Elemental Live Appliance Edition Configuration Quick Start, or AWS Elemental Statmux Appliance Edition Configuration Quick Start
Installing on a physical machine with a node-locked license for the first time	AWS Elemental Live with a Node-locked License - Install Guide
Installing on a virtual machine with a pooled license	Pooled License Deployments on a VM – Install Guide

© 2020 AWS Elemental. All rights reserved.

Essential notes

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 will no longer be available after December 31st, 2020.
Release notes for AWS Elemental Live/Statmux and Conductor Live 3 will continue to be updated and available at AWS Elemental Live Documentation and AWS Elemental Conductor Live 3 Documentation.

Change to support for Statmux

Caution: AWS Elemental Live 2.19 does not support MPTS or Statmux features. The functionality related to MPTS and Statmux is returns in version 2.20.2. If you have questions, contact AWS Elemental Support.

Scenario: You use Elemental Live but you don't use MPTS or Statmux

You can safely upgrade to version 2.19.

Scenario: You use Elemental Live and the MPTS or Statmux features built into Elemental Live

Don't upgrade to version 2.19. If you use Conductor Live 3, don't upgrade to version 3.19.
On the web interface in 2.19, you will see the fields relating to MPTS and Statmux. But if you run an event that uses any of these fields, the event will start and immediately fail.
To run existing events that include MPTS or Statmux or to create and run existing events that include MPTS or Statmux, you must remain on version 2.17.x or lower.

Scenario: You have Elemental Live installed on one appliance and stand-alone Elemental Statmux installed on another Appliance

Don't upgrade any of these appliances to version 2.19. If you use Conductor Live 3, don't upgrade to version 3.19.

On the web interface in 2.19, you will see the fields relating to MPTS and Statmux. But if you run an event that uses any of these fields, the event will start and immediately fail.

To run existing events that include MPTS or Statmux or to create and run existing events that include MPTS or Statmux, you must remain on version 2.17.x or lower.

Mandatory password reset

There is a mandatory 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 2.19, you won't be forced to change it again when you install 2.20.

© 2020 AWS Elemental. All rights reserved.

For more details, and for important information about an issue with this procedure, see the Release Notes for AWS Elemental Conductor Live 3, version 3.19.5 GA.

Reminder to cycle the power when upgrading or downgrading

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

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 of 2.19.

(SOCK-25628)

When you start an event with the DTS Express audio encoder feature, you will see an inaccurate notice that indicates future deprecation in a later version of 2.19. Please disregard this notice. DTS Express will be supported for all 2.19 versions.

(SOCK-34953)

TLS versions 1.0 and 1.1 for HTTPS have been deprecated for Elemental Conductor Live 3 and Elemental Live. The minimum supported TLS version is now 1.2. This also affects Logstash on Conductor Live 3.

(SOCK-35475)

© 2020 AWS Elemental. All rights reserved.

Release notes AWS Elemental Live 2.19.7 GA

Resolved issues

Key	Topic	Description
SOCK-36354	Inputs - SMPTE ST 2110	When the Session Description Protocol (SDP) file contained a URL that was not valid, it could cause Elemental Live to fail during ingest. This is now fixed.
SOCK-36226	Inputs	Previously, content containing frequent, long-duration avails exhausted the allocated memory before Elemental Live registered the need to purge. This caused a fatal error, which caused Elemental Live to stop emitting outgoing streams. This was fixed by allocating enough memory to support up to 2500 concurrent avails.
SOCK-36176	Inputs - Network	Elemental Live failed when it switched to a network input with a dirty signal. This is now fixed.
SOCK-35960	Outputs	Elemental Live could not see SEI messages, and this resulted in the absence of time codes in MS Smooth outputs. Setting the OUTPUT_LOCKING_ENABLE_INPUT_TIMECODE_PASSTHROUGH environment variable to true enables SEI data for MS Smooth outputs, which resolves this issue.
SOCK-35847	Inputs - SMPTE ST 2110; NMOS	When Elemental Live switched away from a running NMOS-controlled SMPTE ST 2110 input and then back again, the input failed. This is now fixed. Elemental Live is now able to return successfully with the settings intact.
SOCK-35779	Inputs	When running events with low frame rates, high CPU usage sometimes caused Elemental Live to fail. This is now fixed.
SOCK-35751	Outputs - SMPTE ST 2110; SCTE 104	When a SCTE 104 splice request message was sent by SMPTE ST 2110 output, it could cause an SDI time code error. Elemental Live now uses the system clock to resolve this issue.
SOCK-34732	Outputs	When the connection to the Azure origin was lost, Elemental Live could take up to 10 minutes to reconnect. The issue is now fixed, and reconnecting takes only a few seconds.

Also see the resolved issues in previous versions.

Known issues

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

© 2020 AWS Elemental. All rights reserved.

Release notes AWS Elemental Live 2.19.6 GA

Resolved issues

Key	Topic	Description
SOCK-35869	Outputs - HLS	Previously, AWS Elemental Live inserted the HLS tag EXT-X-DISCONTINUITY into the HLS media playlist one segment later than it should have. This is now fixed.
SOCK-36048	Outputs; Web interface	Previously, the web interface allowed customers to save without warning if they removed an AWS Elemental Live event output stream without updating the output. This led to a generic "something went wrong" message that was confusing. To resolve this, an error now displays if an existing event's stream is removed without updating the output.
SOCK-36117	Inputs; Web interface; CL3	Using the REST API to modify the input of a running event sometimes caused a problem with input switching. This is now fixed.

Also see the resolved issues in previous versions.

Known issues

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

© 2020 AWS Elemental. All rights reserved.

Release notes AWS Elemental Live 2.19.5 GA

Resolved issues

Key	Topic	Description
SOCK-36144	Networking; firmware	Due to a firmware compatibility issue, 1GbE CU SFP+ modules were not working on some L810, L820, and L840 SKUs. This is now fixed.

Also see the resolved issues in previous versions.

Known issues

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

© 2020 AWS Elemental. All rights reserved.

Release notes AWS Elemental Live 2.19.4 GA

Resolved issues

Key	Topic	Description
SOCK-32863; SOCK-34739	Outputs – Network protocol	In some cases, the network protocol signal was blocked on reconnect, which caused the upstream encoder to underflow, which in turn blocked all other output that was using the same encoder. This is now fixed.
SOCK-35523	Outputs – Network protocol	In some cases, disconnecting a single network protocol could cause other outputs to degrade. This is now fixed.
SOCK-35705	Inputs	You can now cancel cue points in Elemental Live.
SOCK-35750	Outputs	In some cases, if an event took longer than five seconds to shut down it caused the encoder to crash. This is now fixed.
SOCK-35815	Outputs	In rare cases, Elemental Live crashed during inter-process communication. This is now fixed.
SOCK-35834; SOCK-35772	Outputs – NMOS	In some cases, stopping and starting a channel or rebooting the appliance caused NMOS channel configurations to be lost. This is now fixed. NMOS channel configurations now persist, regardless of stops, starts, or reboots.
SOCK-35975	Inputs; CL3	There was a race condition during which Elemental Live sometimes did not respond to API requests to switch or create inputs. This is now fixed.
SOCK-35978	Outputs – NMOS	In some cases, NMOS output did not appear when it was enabled. This is now fixed.
SOCK-36035	Web interface	In some cases, Elemental Live erroneously issued a "CPU Alert: > 95%" notification every 30 days. This did not have an impact on the output, and is now fixed.
SOCK-36063	Outputs – SMPTE ST 2110	For SMPTE ST 2110 outputs, when a secondary interface was not specified the NMOS sender activation failed. This is now fixed.

Known issues

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

© 2020 AWS Elemental. All rights reserved.

Release notes AWS Elemental Live 2.19.3 GA

New features

Operating system upgrade for RHEL and CentOS

Elemental Live and Conductor Live 3 are updated to the latest packages for CentOS 7.7 and RHEL 7.7. This includes a recompile of 25GbE drivers. This update does not apply to Perl packages.

EVE 21 integration with Elemental Live

EVE 21 is now integrated with Elemental Live. Invalid softness values for the H264 and MPEG2 encoders now result in an error rather than rounding up to the nearest valid value. Previously, EVE flagged errors only when softness values were greater than 128, which is the upper bound for valid values.

To support existing EME command XML, Elemental Live now applies the following logic:

For H264, any value >=2 and <= 15 is rounded up to 16.

For MPEG2, any value >=1 and <= 15 is rounded up to 16.

DVB-SUB passthrough captions

To resolve the issue of captions remaining onscreen when using DVB-SUB passthrough, set the DVBSUB_ERASE_AFTER_TIMEOUT environment variable to True. Erase packets will be emitted into the output stream after DVBSUB_PAGE_TIMEOUT_SECS seconds.

Support for SCTE 104 embedded TC (VITC) time stamp time_type

Elemental Live now uses SCTE 104 Multi Operand Messages with VITC UTC time stamps to schedule their equivalent SCTE 35 messages in the output bit stream.

If the VITC time stamps and the SDI time codes are in different time zones, you must use an ENV variable SCTE104_MOM_MSEC_OFFSET to sync the two time standards.

For example, if the offset is 12 hours between the two time standards, set SCTE104_MOM_MSEC_OFFSET to (12 * 60 * 60 * 1000) 43200000.

© 2020 AWS Elemental. All rights reserved.

SMPTE ST 2110 output

Elemental Live offers a new output group that supports SMPTE ST 2110-20:2017 uncompressed active video, SMPTE ST 2110-30:2017 PCM digital audio, and SMPTE ST 2110-40:2018 ancillary data with SMPTE ST 2022-7:2019 (seamless protection switching of RTP datagrams) redundancy.

Supported video

- SD, HD, and 4K video outputs
- Progressive and interlaced (top field first and bottom field first) video
- Integer and non-integer framerate outputs
- Resolution
    - Width:

      Must be a multiple of 4 from 352 to 1152, inclusive, or

      Must be a multiple of 8 from 1160 to 2048, inclusive, or

      Must be a multiple of 16 from 2064 to 3840, inclusive
    - Height:

      For Progressive video - Must be a multiple of 4 that is greater than or equal to 240

      For Interlace video - Must be a multiple of 8 that is greater than or equal to 240
- 10-bit 4:2:2 packed video output
- UHD support for HDR10 and HLG2020

Supported audio

- SMPTE ST 2110-30:2017 PCM Digital Audio and SMPTE ST 2110-31 Dolby Audio
    - 1, 2, 4, 6, and 8 channels
    - 48 KHz and 96 KHz sample rates
    - 16-bit and 24-bit samples
    - CX conformance level
    - Packet time (ptime) values of 125 and 1000 microseconds

Supported ancillary data

- SMPTE ST 2110-40:2018 ancillary data
    - 608/708 captions
    - SCTE 35 to SCTE 104 passthrough

SDP files

- SDP files are generated as part of the output for downstream device consumption for NMOS and non-NMOS compatible device. For more information on NMOS, see NMOS control for SMPTE ST 2110 input and output.

© 2020 AWS Elemental. All rights reserved.

Configuration

- Elemental Live supports SMPTE ST 2110 outputs on 25GbE NICS on L800 series appliances
- Events can be configured manually or you can use NMOS to configure IP and port number stream addresses.
    - For each SMPTE ST 2110 video, audio, and ancillary data output, a unique stream address must be configured.
    - For any SMPTE ST 2110 video, audio, and ancillary data output for which you have configured your Elemental Live event to support SMPTE ST 2022-7, two unique stream addresses must be configured by NMOS.
- To configure a video stream for SMPTE ST 2110 output, use these settings:
    - Video
        - Codec = Uncompressed
        - FourCC = s210 (10-bit 4:2:2 packed)
    - Audio
        - Codec = PCM
        - Bit Depth = 16 or 24 bit
    - Ancillary Data
        - One caption and one video must be included. Video must have the same frame rate as the separate video stream with the codec set to uncompressed and the FourCC set to s210 (10-bit 4:2:2 packed).
        - Caption Destination Type = Embedded

NMOS control for SMPTE ST 2110 input and output

NMOS is a management layer for sources on IP networks. In Elemental Live, this is used to discover and control SMPTE ST 2110 uncompressed video connections, both as inputs to and outputs from events running on an Elemental Live appliance.

The following specifications are now supported:

- IS-04: Device discovery & registration
- IS-05: Device connection management

To use NMOS with Elemental Live, you must:

- Have an NMOS registry and client set up on an IP based network (external to Elemental Live software)
- Configure an Elemental Live event with SMPTE ST 2110 input and/or SMPTE ST 2110 output
- Use a SMPTE ST 2110 supported interface on the Elemental Live appliance

SMPTE ST 2110 input configurations with NMOS

To configure a SMPTE ST 2110 input using NMOS in lieu of manual event configuration, select the NMOS Control check box.

When selected, the options to define the SDP locations and media index are removed, as they will be controlled through the NMOS web service.

- The interfaces must be enabled for STMPE 2110 in the Settings > Network > Network Devices section of the user interface.

© 2020 AWS Elemental. All rights reserved.

- Exactly one video and one audio stream interface must be defined. You can opt not to include any ancillary interfaces, or you can include several.
- When an Elemental Live event with an NMOS controlled SMPTE ST 2110 input is started, the event will have a preprocessing status and no output will be produced. The event can be started through the NMOS client.
- Elemental Live will not expose any NMOS objects until an event is running that has an NMOS Input or output.
- Once all of the flows that are required by the Elemental Live input are created, the event will enter the Running status, and the event outputs will begin.

SMPTE ST 2110 output configurations with NMOS:

To configure a SMPTE ST 2110 output using NMOS in lieu of manual output configuration, select the NMOS Control check box under SMPTE ST 2110 Settings.

- The destination address is managed by NMOS, so you will not see destination fields if the NMOS Control check box is selected.
- A valid SMPTE ST 2110 enabled interface must be specified for the output stream.

SMPTE ST 2110 output Precision Time Protocol (PTP)

For SMPTE ST 2110 output, a 25GbE NIC is required. The 25GbE NIC must include a hardware clock. The hardware clock is the device internal clock to which the Elemental Live appliance local system clock is synchronized. The local system clock is used by SMPTE ST 2110 output for purposes of RTP packet timestamping.

The device internal clock must be synchronized to a common reference clock that is external to the Elemental Live appliance. IEEE 1588-2008 Precision Time Protocol (PTP) should be used to synchronize the device internal clock to the common reference clock. The device internal clock should be configured to operate in PTP secondary state (PTP “slave state” as defined by IEEE). The common reference clock must support the SMPTE ST 2059-2:2015 PTP Profile.

To enable PTP (operating in secondary state) on an Elemental Live appliance, go to Settings > Network > Hostname, DNS, & Timing Server > Enable PTP.

Precision Time Protocol (PTP) sync alert

Elemental Live now includes a PTP alert, which displays if the PTP clock is out of sync.

Elemental Live is considered out of sync with the PTP clock if the PTP4L Root Mean Square (RMS) voltage is greater than 250 nanoseconds and the PHC2Sys program offset is greater than 50 nanoseconds. Enable PTP to use this feature. Once enabled, alerts are automatic.

Support for SMPTE ST 2038

Elemental Live can now package all ancillary data found on HD SDI inputs into SMPTE 2038 packets in HLS outputs. This is enabled via the web interface under PID Control in the Apple HLS output control.

© 2020 AWS Elemental. All rights reserved.

L800 series performance improvements

Channel density is improved on L810, L820, L840, and L880 appliance SKUs. You will notice improvements in both SD and HD channel density for some workflows. 4K HEVC workflow performance improvements are noticeable when running 2x 4K SDI inputs on L880s and when using the color corrector for a subset of ABR stack outputs.

Reduced installer size

The Elemental Live installer file size has been reduced.

Resolved issues

Key	Topic	Description
SOCK-31491	Outputs – Web interface	The tooltip text for the HTTP Push Dialect field was incorrect. It has been updated to the following: Type of HTTP communication to use for pushing to origin server: 1) None - not allowed for HTTP destinations 2) Akamai - compatibility with Akamai CDN inputs 3) Basic_PUT - No creation of folders but deletes old files based on the setting in "Keep Segments" field. 4) WebDAV - HTTP PUT, PROPFIND, MKCOL, DELETE. Creates folders as needed and deletes old files based on the settings in "Keep Segments" field. 5) AWS Elemental MediaStore - HTTPS PUT. Creates folders as needed and deletes old files based on the settings in "Keep Segments" field. Enter the Access Key ID in the Username field. Enter the Secret Access Key in the Password field.
SOCK-33269	Inputs	MPEG-2 video with frame rates as low as 10 frames per minute sometimes permanently dropped audio at PCR rollover. This is now fixed by enabling low-delay frame output for MPEG-2 inputs when the "Low Framerate Input" option is enabled.
SOCK-33622	Inputs; CL3	The input format drop-down for SDI inputs has been removed. All SDI input formats are now auto-detected.
SOCK-34190	Outputs	Elemental Live sometimes failed to start or to seek to the proper location. Elemental Live also sometimes dropped audio after the first audio segment of an HLS/fMP4 output stream. This is now fixed.

© 2020 AWS Elemental. All rights reserved.

Key	Topic	Description
SOCK-34262	Inputs – Input switching	Previously: • If the second input of a hot-hot backup pair failed and then the first input failed, Elemental Live switched to a third input, if present. • If the first input failed and then the second input failed, Elemental Live remained on the second input in an error state. Now: • Elemental Live stays on the current input in an error state for both scenarios, making the behavior consistent. To retain the old behavior, set HOT_HOT_BACKUP_STAY_ON_INPUT=false. • If you want to display data when both inputs of a hot-hot backup pair fail, use the Input Loss Behavior – Input Loss Image Type – Slate functionality.
SOCK-34287	Inputs – Web interface	When a network device type was set to "None" in the Network settings, the device was not configurable from the web interface. This is now fixed.
SOCK-34600	Captions	When using 608 to 708 upconvert, the positions of roll-up captions were not preserved. This is now fixed.
SOCK-34634; SOCK-35490;	Outputs; Security	Elemental Live upgraded CentOS 7.7 kernel patches to meet the latest security requirements.
SOCK-34847	Outputs	HLS outputs with a name modifier that included a "/" sometimes produced a mismatched directory structure and playlist, resulting in the stream being unplayable. This is now fixed, as "/" is now allowed.
SOCK-34883	Inputs; CL3	Bootstrap JavaScript security was upgraded to version 3.4.1.
SOCK-34988	Outputs; MediaConnect	The MaxLatency value specified when creating a MediaConnect flow will now be used when configuring the Elemental Live event that specifies the MediaConnect flow in an output.
SOCK-34991	Inputs	RTMP pull inputs sometimes leaked memory when they failed while reading the body of a packet. This is now fixed.
SOCK-34993	Outputs	There was an issue causing HEVC interlaced inputs to probe at half vertical resolution and double frame rate. This is now fixed.
SOCK-34998	Captions – Teletext	Teletext caption delay and SMPTE ST 2038 configuration settings sometimes disappeared after saving or editing an event with an SDI input. These fields now display correctly.
SOCK-35044	Outputs - DASH	Prior to this release, the DASH MPD was updated only once for each segment, and once after the first segment was published. With this fix, when chunked encoding and chunked transfer options are selected, the MPD is updated after the first fragment of every segment, thereby reducing latency. To achieve optimal performance in low latency applications, small segment sizes such as 2, 3, or 5 seconds are recommended.

© 2020 AWS Elemental. All rights reserved.

Key	Topic	Description
SOCK-35078	Captions – Teletext	Teletext streams that did not define a region sometimes displayed incorrect characters for certain languages. This can now be corrected by setting the DEFAULT_TELETEXT_LANGUAGE_CODE environment variable to the appropriate ISO 639 language code.
SOCK-35297	Captions; Inputs	Teletext sometimes disappeared after a new PMT arrived. This is now fixed.
SOCK-35328	Outputs – SCTE 104	SCTE-104 messages with a segmentation descriptor that contained Provider_Placement_Opportunity_Start or Distributor_Placement_Opportunity_Start Segmentation_Type_Ids were previously not accounting correctly for the message length field. As a result, they ignored the sub_segment_num and sub_segments_expected fields. This is now fixed.
SOCK-35333	Inputs; Outputs	In some cases, DASH Akamai outputs set the startNumber to 1 instead of the current delta from the epoch clock. This is now fixed.
SOCK-35340	Outputs – SMPTE ST 2110	SMPTE ST 2110 NTSC inputs without VANC data sometimes displayed an incorrect rolling image. This is now fixed.
SOCK-35409	Inputs	In a quadrant 4K configuration, content from HD SDI inputs flickered on the main image under some conditions. This is now fixed.
SOCK-35415	Web interface; CL3	The username field on the login page was not functioning properly when authentication was enabled. This is now fixed.
SOCK-35422	Inputs – SMPTE ST 2110	25GbE cards were not configurable for SMPTE ST 2110 when connected to networks with speeds of 10Gbps or slower. This is now fixed.
SOCK-35452	Inputs – SMPTE ST 2110	SMPTE ST 2110 inputs were not starting on L140AE, L330AE, L530AE, and L730AE appliance SKU 10GbE interfaces. This is now fixed.
SOCK-35625	Outputs; CL3	HLS_READER messages were turned on by default, filling up the logs. This is now fixed.
SOCK-35674	Outputs	In some cases if Elemental Live was heavily overloaded and dropping frames for long durations, extra memory was consumed for TS inputs. This is now fixed.
SOCK-35701	Inputs – SMPTE ST 2110	When a Live event was configured to use a SMPTE ST 2110 input, if the ancillary stream contained RTP packets with more than one ancillary data payload, only the first payload was processed correctly. This is now fixed.
SOCK-35743	Outputs – SMPTE ST 2110	There was a timing issue with SMPTE ST 2110-21 narrow sender profile support. This is now fixed by adding a small but critical offset in microseconds to meet the specifications expected by SMPTE ST 2110 timing constraints.
SOCK-35751	Outputs – SMPTE ST 2110; Ancillary data	When a SCTE 104 splice request message was sent by SMPTE ST 2110 output, it sometimes caused an SDI timecode error. Elemental Live now uses the system clock to resolve the issue.

© 2020 AWS Elemental. All rights reserved.

Key	Topic	Description
SOCK-35835	Inputs – MPTS	Demuxing MPTS input that had varying frames per second could cause events to fail to determine which FPS to start with. A change was introduced to make FPS calculations start after a period of time, which fixed the issue.
SOCK-35868	Outputs – Audio; SCTE-35	Previously, SCTE-35 audio sometimes segmented at different times for different versions, leading to segment drift that accumulated over time. This is now fixed.

© 2020 AWS Elemental. All rights reserved.

Known issues

Key	Topic	Description
SOCK-32338	Inputs – Web interface	Web interface event control buttons stay white after first press
SOCK-35183	Inputs – SMPTE ST 2110	SMPTE ST 2110 web interface configuration is disabled for some L800 series appliances with 10GbE interfaces. Additional work is underway to re-enable this interface in a later release.
SOCK-35375	Outputs – Encoding	Latency increases with Chunked Transfer Encoding from MediaStore to player without CloudFront.
SOCK-35396	Inputs – Web interface	Each SDI port supports SD, HD, and 3G SDI inputs. The Inputs menu needs to be updated to reflect these supported SDI inputs: HD-SDI 1 --> SDI 1 HD-SDI 2 --> SDI 2 HD-SDI 3 --> SDI 3 HD-SDI 4 --> SDI 4 HD-SDI 5 --> SDI 5 HD-SDI 6 --> SDI 6 HD-SDI 7 --> SDI 7 HD-SDI 8 --> SDI 8 HD-SDI 9 --> SDI 9 HD-SDI 10 --> SDI 10 HD-SDI 11 --> SDI 11 HD-SDI 12 --> SDI 12 HD-SDI 13 --> SDI 13 HD-SDI 14 --> SDI 14 HD-SDI 15 --> SDI 15 HD-SDI 16 --> SDI 16 Quadrant 4k (HD-SDI 1-4) --> Quadrant 4K (SDI 1-4) Quadrant 4k (HD-SDI 5-8) --> Quadrant 4K (SDI 5-8) Interleave 4k (HD-2SI 5-8) --> Interleave 4K (2SI 1-4) Interleave 4k (HD-2SI 5-8) --> Interleave 4K (2SI 5-8) Quadrant 4k (HD-SDI 9-12) --> Quadrant 4K (SDI 9-12) Quadrant 4k (HD-SDI 13-16) --> Quadrant 4K (SDI 13-16) Interleave 4k (HD-2SI 9-12) --> Interleave 4K (2SI 9-12) Interleave 4k (HD-2SI 13-16) --> Interleave 4K (2SI 13-16)
SOCK-35514	Inputs – SMPTE ST 2110; NMOS	Starting and stopping an event with an NMOS input that never received input content stops the event, reporting a fatal error.

© 2020 AWS Elemental. All rights reserved.

Key	Topic	Description
SOCK-35543	Outputs – Network	There is no visible difference in the behavior between setting the Network Device Type set to None versus setting it to Static. In both cases, Elemental Live expects a static IP address/Netmask. Additionally, alerts display when the Ethernet cable is removed when the Network Device Type is set to None. When set to None, configuration should not be necessary and alerts should not happen.
SOCK-35595	Inputs – SMPTE ST 2110; NMOS	Changing the NMOS receiver configuration on an active Elemental Live event may result in dropped frames while Elemental Live adjusts to the changes.
SOCK-35651	Outputs	Dithering; dynamic video quality sometimes lowers due to dynamic quantization adjustment.
SOCK-35658	Inputs	Sometimes the system fails to restart after stopping the service from Settings > Stop Service and then restarting the service from Settings > Start Service. The current solution is to reboot the system.
SOCK-35659	Inputs – NMOS	NMOS - Downgrading to 2.17.7 or earlier product version does not remove Docker interface.
SOCK-35752	Outputs – SMPTE ST 2110-40; Ancillary data	When a SCTE 104 insert_segmentation_descriptor request message is sent by SMPTE ST 2110-40 (ancillary data) output, there is a timestamp error.
SOCK-35754	Outputs	The value of the first byte in the ANC CEA-608 Packet triplet should be the LINE value as defined in Annex A of SMPTE 334-1-2007.
SOCK-35755	Outputs – SMPTE ST 2110-40; Ancillary data	SMPTE ST 2110-40 is sending 608 data for all four closed captioning channels, but should only send data for the chosen channel.
SOCK-35771	Web interface; Audio	When an Elemental Live event is running and the audio gain is adjusted before leaving the page, the audio gain setting does not appear to be retained upon return to the page in the web interface. In actuality, the setting is retained but is not visible in the web interface.
SOCK-35785	Outputs – SDP	The SDP directory in /opt/elemental_se/web/public/ is not created when editing or updating an event. This does not allow the NMOS controller to configure sender/outputs.
SOCK-35825	Inputs; Outputs	For some encoders, Elemental Live cannot insert SCTE 35 messages from SCTE 104 and ESAM sources on the same data PID.
SOCK-35869	Outputs – Audio	Elemental Live sometimes fails to detect the transition between 5.1 channel EAC-3 with Atmos and 5.1 channel EAC-3 without Atmos because Elemental Live inserts the EXT-X-DISCONTINUITY tag one segment sooner than it should. This is an issue in both directions.
SOCK-35887	Inputs – SMPTE ST 2110	SMPTE ST 2110 inputs sometimes incorrectly interpret channel status bits that are striped across 192 AM824 audio subframes in AES3 blocks.

© 2020 AWS Elemental. All rights reserved.

Release notes AWS Elemental Live 2.19.2 LA

Essential notes

Change to support for Statmux

Caution: AWS Elemental Live version 2.19.1 does not support MPTS or Statmux features. The functionality related to MPTS and Statmux is currently being updated and will be reinstated in a later release. If you have questions, contact AWS Elemental Support.

Scenario: You use Elemental Live but you don't use MPTS or Statmux

You can safely upgrade to version 2.19.2.

Scenario: You use Elemental Live and the MPTS or Statmux features built into Elemental Live

Don't upgrade to version 2.19.2. If you use Conductor Live 3, don't upgrade to version 3.19.2.

On the web interface in 2.19.2, you will see the fields relating to MPTS and Statmux. But if you run an Event that uses any of these fields, the Event will start and immediately fail.

To run existing Events that include MPTS or Statmux or to create and run existing Events that include MPTS or Statmux, you must remain on version 2.17.x or lower.

Scenario: You have Elemental Live installed on one appliance and stand-alone Elemental Statmux installed on another appliance

Don't upgrade any of these appliances to version 2.19.2. If you use Conductor Live 3, don't upgrade to version 3.19.2.

On the web interface in 2.19.2, you will see the fields relating to MPTS and Statmux. But if you run an Event that uses any of these fields, the Event will start and immediately fail.

To run existing Events that include MPTS or Statmux or to create and run existing Events that include MPTS or Statmux, you must remain on version 2.17.x or lower.

Mandatory password reset

There is a mandatory 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 2.19, you won't be forced to change it again when you install 2.20.

For more details, and for important information about an issue with this procedure, see the Release Notes for AWS Elemental Conductor Live 3, version 3.19.2 LA.

© 2020 AWS Elemental. All rights reserved.

Reminder to cycle the power when upgrading or downgrading

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

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 version 2.19.3.

(SOCK-25628)

When you start an event with the DTS Express audio encoder feature you will see an inaccurate notice that indicates future deprecation in a later version of 2.19. Please disregard this notice. DTS Express will be supported for all 2.19 versions.

(SOCK-34953)

© 2020 AWS Elemental. All rights reserved.

New features

SMPTE ST 2110-40 output SCTE 35 to SCTE 104 passthrough

Elemental Live now supports SCTE 35 to SCTE 104 passthrough for SMPTE ST 2110-40:2018 outputs.

SMPTE ST 2110 output Precision Time Protocol (PTP)

For SMPTE ST 2110 output, a 25GbE NIC is required. The 25GbE NIC must include a hardware clock. The hardware clock is the device internal clock to which the Elemental Live appliance local system clock is synchronized. The local system clock is used by SMPTE ST 2110 output for purposes of RTP packet timestamping.

The device internal clock must be synchronized to a common reference clock that is external to the Elemental Live appliance. IEEE 1588-2008 Precision Time Protocol (PTP) should be used to synchronize the device internal clock to the common reference clock. The device internal clock should be configured to operate in PTP secondary state (PTP “slave state” as defined by IEEE). The common reference clock must support the SMPTE ST 2059-2:2015 PTP Profile.

To enable PTP (operating in secondary state) on an Elemental Live appliance, go to Settings > Network > Hostname, DNS, & Timing Server > Enable PTP.

Precision Time Protocol (PTP) sync alert

Elemental Live now includes a PTP alert, which displays if the PTP clock is out of sync.

Elemental Live is considered out of sync with the PTP clock if the PTP4L Root Mean Square (RMS) voltage is greater than 250 nanoseconds and the PHC2Sys program offset is greater than 50 nanoseconds. Enable PTP to use this feature. Once enabled, alerts are automatic.

Resolved issues

Key	Topic	Description
SOCK-34991	Inputs	RTMP pull inputs sometimes leaked memory if they failed while reading the body of a packet. This is now fixed.
SOCK-35078	Captions - Teletext	Teletext streams that did not define a region sometimes displayed incorrect characters for certain languages. This can now be corrected by setting the DEFAULT_TELETEXT_LANGUAGE_CODE environment variable to the appropriate ISO 639 language code.
SOCK-35328	Outputs – SCTE 104	SCTE-104 messages with a segmentation descriptor that contained Provider_Placement_Opportunity_Start or Distributor_Placement_Opportunity_Start Segmentation_Type_Ids were previously not accounting correctly for the message length field. As a result, they ignored the sub_segment_num and sub_segments_expected fields. This is now fixed.
SOCK-35340	Outputs – SMPTE ST 2110	SMPTE ST 2110 NTSC inputs without VANC data sometimes displayed an incorrect rolling image. This is now fixed.

© 2020 AWS Elemental. All rights reserved.

Key	Topic	Description
SOCK-35409	Inputs	In a quadrant 4K configuration, content from HD SDI inputs flickered on the main image under some conditions. This is now fixed.
SOCK-35701	Inputs – SMPTE ST 2110	When a Live event was configured to use a SMPTE ST 2110 input, if the ancillary stream contained RTP packets with more than one ancillary data payload, only the first payload was processed correctly. This is now fixed.

© 2020 AWS Elemental. All rights reserved.

Known issues

Key	Topic	Description
SOCK-35752	Outputs – SMPTE ST 2110-40; Ancillary data	When a SCTE 104 insert_segmentation_descriptor request message is sent by SMPTE ST 2110-40 (ancillary data) output, there is a timestamp error.
SOCK-35754	Outputs	The value of the first byte in the ANC CEA-608 Packet triplet should be the LINE value as defined in Annex A of SMPTE 334-1-2007.
SOCK-35755	Outputs – SMPTE ST 2110-40; Ancillary data	SMPTE ST 2110-40 is sending 608 data for all 4 closed captioning channels, but should only send data for the chosen channel.
SOCK-35785	Outputs – SDP	The SDP directory in /opt/elemental_se/web/public/ is not created when editing or updating an event. This does not allow the NMOS controller to configure sender/outputs.
SOCK-35751	Outputs – SMPTE ST 2110-40; Ancillary data	When a SCTE 104 splice request message is sent by SMPTE ST 2110-40 (ancillary data) output, there is a timestamp error.

© 2020 AWS Elemental. All rights reserved.

Release notes AWS Elemental Live 2.19.1 LA

Essential notes

Change to support for Statmux

Caution: AWS Elemental Live version 2.19.1 does not support MPTS or Statmux features. The functionality related to MPTS and Statmux is currently being updated and will be reinstated in a later release. If you have questions, contact AWS Elemental Support.

Scenario: You use Elemental Live but you don't use MPTS or Statmux

You can safely upgrade to version 2.19.1.

Scenario: You use Elemental Live and the MPTS or Statmux features built into Elemental Live

Don't upgrade to version 2.19.1. If you use Conductor Live 3, don't upgrade to version 3.19.1.

On the web interface, you will see the fields relating to MPTS and Statmux. But if you run an Event that uses any of these fields, the Event will start and immediately fail.

To run existing Events that include MPTS or Statmux or to create and run existing Events that include MPTS or Statmux, you must remain on version 2.17.x or lower.

Scenario: You have Elemental Live installed on one appliance and stand-alone Elemental Statmux installed on another appliance

Don't upgrade any of these appliances to version 2.19.1. If you use Conductor Live 3, don't upgrade to version 3.19.1.

On the web interface, you will see the fields relating to MPTS and Statmux. But if you run an Event that uses any of these fields, the Event will start and immediately fail.

To run existing Events that include MPTS or Statmux or to create and run existing Events that include MPTS or Statmux, you must remain on version 2.17.x or lower.

Mandatory password reset

There is a mandatory 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 2.19, you won't be forced to change it again when you install 2.20.

For more details, and for important information about an issue with this procedure, see the Release Notes for AWS Elemental Conductor Live 3, version 3.19.1 LA.

© 2020 AWS Elemental. All rights reserved.

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.

© 2020 AWS Elemental. All rights reserved.

New features

SMPTE ST 2110 output

Elemental Live offers a new output group that supports SMPTE ST 2110-20:2017 uncompressed active video, SMPTE ST 2110-30:2017 PCM digital audio, and SMPTE ST 2110-40:2018 ancillary data with SMPTE ST 2022-7:2019 (seamless protection switching of RTP datagrams) redundancy.

Video

- SD, HD, and 4K video outputs
- Progressive and interlaced (top field first and bottom field first) video
- Integer and non-integer framerate outputs
- Resolution
    - Width:

        Must be a multiple of 4 from 352 to 1152, inclusive, or

        Must be a multiple of 8 from 1160 to 2048, inclusive, or

        Must be a multiple of 16 from 2064 to 3840, inclusive
    - Height:

        For Progressive video - Must be a multiple of 4 that is greater than or equal to 240

        For Interlace video - Must be a multiple of 8 that is greater than or equal to 240
- 10-bit 4:2:2 packed video output
- UHD support for HDR10 and HLG2020

Audio

- SMPTE ST 2110-30:2017 PCM Digital Audio
    - 1, 2, 4, 6, and 8 channels
    - 48 KHz and 96 KHz sample rates
    - 16-bit and 24-bit samples
    - CX conformance level
    - Packet time (ptime) values of 125 and 1000 microseconds

© 2020 AWS Elemental. All rights reserved.

Ancillary data

- SMPTE ST 2110-40:2018 ancillary data
    - 608/708 captions

SDP files

- SDP files are generated as part of the output for downstream device consumption for NMOS and non-NMOS compatible device

Configuration

- Elemental Live supports SMPTE ST 2110 outputs on 25GbE NICS on L800 series appliances
- Events can be configured manually or IP and port number stream addresses can be configured using NMOS
    - For each SMPTE ST 2110 video, audio, and ancillary data output, a unique stream address must be configured.
    - For any SMPTE ST 2110 video, audio, and ancillary data output for which you have configured your Elemental Live Event to support SMPTE 2022-7, two unique stream addresses must be configured by NMOS.
- To configure a video stream for SMPTE ST 2110 output, use these settings:
    - Video
        - Codec = Uncompressed
        - FourCC = s210 (10-bit 4:2:2 packed)
    - Audio
        - Codec = PCM
        - Bit Depth = 16 or 24 bit
    - Ancillary Data
        - One caption and one video must be included. Video must have the same frame rate as the separate video stream with the codec set to uncompressed and the FourCC set to s210 (10-bit 4:2:2 packed).
        - Caption Destination Type = Embedded

NMOS control for SMPTE ST 2110 input and output

NMOS is a management layer for sources on IP networks. In Elemental Live, this is used to discover and control SMPTE ST 2110 uncompressed video connections, both as inputs to and outputs from Events running on an Elemental Live appliance.

The following specifications are now supported:

© 2020 AWS Elemental. All rights reserved.

- IS-04: Device discovery & registration
- IS-05: Device connection management

To use NMOS with Elemental Live, you must:

- Have an NMOS registry and client set up on an IP based network (external to Elemental Live software)
- Configure an Elemental Live Event with SMPTE ST 2110 input and/or SMPTE ST 2110 output
- Use a SMPTE ST 2110 supported interface on the Elemental Live appliance

SMPTE ST 2110 input configurations with NMOS:

To configure a SMPTE ST 2110 input using NMOS in lieu of manual Event configuration, select the NMOS Control check box.

When selected, the options to define the SDP locations and media index are removed, as they will be controlled through the NMOS web service.

- The interfaces must be enabled for STMPE 2110 in the Settings > Network > Network Devices section of the user interface.
- Exactly one video and one audio stream interface must be defined. You can opt not to include any ancillary interfaces, or you can include several.
- When an Elemental Live Event with an NMOS controlled SMPTE ST 2110 input is started, the Event will have a preprocessing status and no output will be produced. The Event can be started through the NMOS client.
- Elemental Live will not expose any NMOS objects until an Event is running that has an NMOS Input or output.
- Once all of the flows that are required by the Elemental Live input are created, the Event will enter the Running status, and the Event outputs will begin.

SMPTE ST 2110 output configurations with NMOS:

To configure a SMPTE 2110 output using NMOS in lieu of manual output configuration, select the NMOS Control check box under SMPTE 2110 Settings.

- The destination address is managed by NMOS, so you will not see destination fields if the NMOS Control check box is selected.
- A valid SMPTE ST 2110 enabled interface must be specified for the output stream.

© 2020 AWS Elemental. All rights reserved.

L810, L820, L840, and L880 SD/HD density improvements

Elemental Live has conducted optimizations and performance tuning that unlocks additional channel density on L810s, L820s, L840s, and L880s for some workflows.

Reduced installer size

The Elemental Live installer file size has been reduced.

Resolved issues

Key	Topic	Description
SOCK-35625	Outputs; CL3	HLS_READER messages were turned on by default, filling up the logs. This is now fixed.
SOCK-35452	Inputs – SMPTE-2110	SMPTE-2110 functionality was not starting on L140AE, L330AE, L530AE, and L730AE appliance SKU 10GbE interfaces. This is now fixed.
SOCK-35422	Inputs – SMPTE-2110	25GbE cards were not configurable for SMPTE-2110 when connected to networks with speeds of 10Gbps or slower. This is now fixed.
SOCK-35415	Web interface; CL3	The username field on the login page was not functioning properly when authentication was enabled. This is now fixed.
SOCK-35297	Captions; Inputs	Teletext sometimes disappeared after a new PMT arrived. This is now fixed.
SOCK-34993	Outputs	There was an issue causing HEVC interlaced inputs to probe at half vertical resolution and double frame rate. This is now fixed.
SOCK-34883	Inputs; CL3	Bootstrap JavaScript security was upgraded to 3.4.1.
SOCK-34847	Outputs	HLS outputs with a name modifier that included a "/" sometimes produced a mismatched directory structure and playlist, resulting in the stream being unplayable. This is now fixed, as "/" is now allowed.
SOCK-34190	Outputs	HLS/fMP4 output dropped audio after the first audio segment. This is now fixed.
SOCK-33622	Inputs; CL3	The input format drop-down for SDI inputs has been removed. All SDI input formats are now auto-detected.
SOCK-33269	Inputs	MPEG-2 video with a very low frame rate of around 10 frames per minute sometimes permanently dropped audio at PCR rollover. This is now fixed by enabling low-delay frame output for MPEG-2 inputs when the "Low Framerate Input" option is enabled.

© 2020 AWS Elemental. All rights reserved.

Known issues

Key	Topic	Description
SOCK-35701	Inputs – SMPTE-2110	When a Live event is configured to use a SMPTE ST 2110 input, if the ancillary stream contains RTP packets with more than one ancillary data payload, only the first payload is processed correctly.
SOCK-35659	Inputs – NMOS	NMOS - Downgrading to 2.17.7 or earlier product version does not remove Docker interface.
SOCK-35658	Inputs	Sometimes the system fails to restart after stopping the service from Settings > Stop Service and then restarting the service from Settings > Start Service. The current solution is to reboot the system.
SOCK-35651	Outputs	Dithering; dynamic video quality sometimes lowers due to dynamic quantization adjustment.
SOCK-35595	Inputs – SMPTE-2110; NMOS	Changing the NMOS receiver configuration on an active Elemental Live Event may result in dropped frames while Elemental Live adjusts to the changes.
SOCK-35514	Inputs – SMPTE-2110; NMOS	Starting and stopping an Event with an NMOS input that never received input content stops the Event, reporting a fatal error.
SOCK-35396	Inputs – Web interface	Each port supports SD, HD, and 3G SDI inputs. The Inputs menu needs to be updated to add these supported SDI inputs: HD-SDI 1 --> SDI 1 HD-SDI 2 --> SDI 2 HD-SDI 3 --> SDI 3 HD-SDI 4 --> SDI 4 HD-SDI 5 --> SDI 5 HD-SDI 6 --> SDI 6 HD-SDI 7 --> SDI 7 HD-SDI 8 --> SDI 8 HD-SDI 9 --> SDI 9 HD-SDI 10 --> SDI 10 HD-SDI 11 --> SDI 11 HD-SDI 12 --> SDI 12 HD-SDI 13 --> SDI 13 HD-SDI 14 --> SDI 14 HD-SDI 15 --> SDI 15 HD-SDI 16 --> SDI 16 Quadrant 4k (HD-SDI 1-4) --> Quadrant 4K (SDI 1-4) Quadrant 4k (HD-SDI 5-8) --> Quadrant 4K (SDI 5-8)

© 2020 AWS Elemental. All rights reserved.

		Interleave 4k (HD-2SI 5-8) --> Interleave 4K (2SI 1-4) Interleave 4k (HD-2SI 5-8) --> Interleave 4K (2SI 5-8) Quadrant 4k (HD-SDI 9-12) --> Quadrant 4K (SDI 9-12) Quadrant 4k (HD-SDI 13-16) --> Quadrant 4K (SDI 13-16) Interleave 4k (HD-2SI 9-12) --> Interleave 4K (2SI 9-12) Interleave 4k (HD-2SI 13-16) --> Interleave 4K (2SI 13-16)
SOCK-35183	Inputs – SMPTE-2110	SMPTE-2110 web interface configuration is disabled for some 10GbE L800 series appliances. Additional hardware configuration work is being done to enable this in a later release.

© 2020 AWS Elemental. All rights reserved.

Release notes AWS Elemental Live 2.19.0 LA

Essential notes

Change to support for Statmux

Caution: AWS Elemental Live version 2.19.0 does not support MPTS or Statmux features. The functionality related to MPTS and Statmux is currently being updated and will be reinstated in a later release. If you have questions, contact AWS Elemental Support.

Scenario: You use Elemental Live but you don't use MPTS or Statmux

You can safely upgrade to version 2.19.0.

Scenario: You use Elemental Live and the MPTS or Statmux features built into Elemental Live

Don't upgrade to version 2.19.0. If you use Conductor Live 3, don't upgrade to version 3.19.0.

On the web interface, you will see the fields relating to MPTS and Statmux. But if you run an Event that uses any of these fields, the Event will start and immediately fail.

To run existing Events that include MPTS or Statmux or to create and run existing Events that include MPTS or Statmux, you must remain on version 2.17.x or lower.

Scenario: You have Elemental Live installed on one appliance and stand-alone Elemental Statmux installed on another appliance

Don't upgrade any of these appliances to version 2.19.0. If you use Conductor Live 3, don't upgrade to version 3.19.0.

On the web interface, you will see the fields relating to MPTS and Statmux. But if you run an Event that uses any of these fields, the Event will start and immediately fail.

To run existing Events that include MPTS or Statmux or to create and run existing Events that include MPTS or Statmux, you must remain on version 2.17.x or lower.

Mandatory password reset

There is a mandatory 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 2.19, you won't be forced to change it again when you install 2.20.

For more details, and for important information about an issue with this procedure, see the Release Notes for AWS Elemental Conductor Live 3, version 3.19.0 LA.

© 2020 AWS Elemental. All rights reserved.

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.

© 2020 AWS Elemental. All rights reserved.

New features

Support for SCTE-104 embedded TC (VITC) timestamp time_type

Previously, Elemental Live ignored SCTE-104 time_type equal to 2, and immediately applied messages. Now Elemental Live honors time_type = 2 and applies the SCTE-104 message to the frame with matching SMPTE 12M Ancillary timecode.

Resolved issues

Key	Topic	Description
SOCK-31491	Outputs – Web interface	The tooltip text for the HTTP Push Dialect field was incorrect. It has been updated to the following: Type of HTTP communication to use for pushing to origin server: 1) None - not allowed for HTTP destinations 2) Akamai - compatibility with Akamai CDN inputs 3) Basic_PUT - No creation of folders but deletes old files based on the setting in "Keep Segments" field. 4) WebDAV - HTTP PUT, PROPFIND, MKCOL, DELETE. Creates folders as needed and deletes old files based on the settings in "Keep Segments" field. 5) AWS Elemental MediaStore - HTTPS PUT. Creates folders as needed and deletes old files based on the settings in "Keep Segments" field. Enter the Access Key ID in the Username field. Enter the Secret Access Key in the Password field.
SOCK-34287	Inputs – Web interface	When a network device type was set to "None" in the Network settings, the device was not configurable from the web interface. This is now fixed.
SOCK-34600	Captions	When using 608 to 708 upconvert, the positions of roll-up captions were not preserved. This is now fixed.
SOCK-34988	Outputs; MediaConnect	The MaxLatency value specified when creating a MediaConnect flow will now be used when configuring the Elemental Live Event that specifies the MediaConnect flow in an output.
SOCK-34188	Outputs – SCTE-104; SCTE-35	SCTE-104 time_type Improvements: Previously Elemental Live would ignore SCTE-104 time_type equal to 2, and immediately apply messages. Now Elemental Live will honor time_type = 2 and apply the SCTE-104 message to the frame with matching SMPTE 12M Ancillary timecode.
SOCK-34998	Captions – Teletext	Teletext caption delay and SMPTE 2038 configuration settings sometimes disappeared after saving or editing an Event with an SDI input. These fields now display correctly.
SOCK-35044	Outputs - DASH	Prior to this release, the DASH MPD was updated only once for each segment, and once after the first segment was published. With this fix, when chunked encoding and chunked transfer options are selected, the MPD is updated after the first fragment of every segment, thereby reducing latency. To achieve optimal performance in low latency

© 2020 AWS Elemental. All rights reserved.

Key	Topic	Description
		applications, small segment sizes such as 2, 3, or 5 seconds are recommended.

© 2020 AWS Elemental. All rights reserved.

Known issues

Key	Topic	Description
SOCK-32338	Inputs – Web interface	Web interface Event control buttons stay white after first press
SOCK-34188	Outputs	Previously, Elemental Live ignored SCTE-104 time_type equal to 2, and immediately applied messages. Now Elemental Live honors time_type = 2 and applies the SCTE-104 message to the frame with matching SMPTE 12M Ancillary timecode. In the case where the timezone of the VITC timestamps differ from the timezone of the Live Encoder Box, the Live Environment Variable SCTE104_MOM_MSEC_OFFSET can be used to sync the 2 time standards. The environment variable specifies a positive or negative offset in units of MSECS. For example, if the Elemental Live encoder time zone was 12 hours ahead of the SCTE 104 VITC time stamps, an offset of (12hrs x 60 mins/hr x 60 secs/min x 1000 msecs/sec) 43200000 would be used. If the VITC time stamp was 12 hours ahead of the Elemental Live encoder timezone, a value of -43200000 would be used.
SOCK-35183	Inputs – SMPTE-2110	SMPTE-2110 web interface configuration is disabled for some L800 series appliances with 10GbE interfaces. Additional work is underway to re-enable this interface in a later release.
SOCK-35340	Inputs – SMPTE-2110	SMPTE ST 2110 output: Elemental Live is unable to ingest 576i50 or 480i59.94 from another Elemental Live appliance
SOCK-35375	Outputs - Encoding	Latency increases with Chunked Transfer Encoding from MediaStore to player without CloudFront

© 2020 AWS Elemental. All rights reserved.

Release notes for AWS Elemental Statmux 2.19 GA

There is no AWS Elemental Statmux in 2.19 GA. AWS Elemental Statmux is reintroduced in version 2.20.2.

© 2020 AWS Elemental. All rights reserved.

AWS Elemental Conductor Live 3 introduction

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 3.19.x.

Version 3.19.x of AWS Elemental Conductor Live is compatible with AWS Elemental Live 2.19.x and AWS Elemental Statmux 2.19.x and above. You must upgrade your AWS Elemental Live and AWS Elemental Statmux nodes to the 2.19.x release in order to control them in a cluster using for AWS Elemental Conductor Live 3 version 3.19.x.

AWS Elemental Conductor Live version 3.19.x communicates to the nodes in the cluster via the 2.19.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 community at https://community.elemental.com/docs/DOC-2840.
- 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.

© 2020 AWS Elemental. All rights reserved.

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.

Software upgrades

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.

Essential notes

Mandatory password reset

There is a mandatory 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 2.19, you won't be forced to change it again when you install 2.20.

Installing the new versions with user authentication previously enabled

When you install the new versions of Elemental Live and Conductor Live 3, you will be prompted to change the admin password. (You won't be prompted to change the "default password".) If you don't change the password when you are installing, you will be forced to change it the first time you log onto the web interface or API as the admin user.

Installing the new versions with user authentication not enabled

Read this information if you are upgrading Elemental Live and Conductor Live 3, and you plan to enable user authentication where previously you did not have it enabled. Stop reading if you are upgrading and do already have user authentication enabled.

Enabling authentication using the web interface involves three steps:

(a) Enable authentication on the primary Conductor Live 3 node (via the install script or via the Conductor Live 3 web interface).

(b) Enable authentication on every Live node (via the Conductor Live 3 web interface).

(c) Set up users with user names and passwords.

© 2020 AWS Elemental. All rights reserved.

There is currently an issue with the strong password logic. In step (b) if you enter a weak password, Conductor Live 3 won't give you an error message but it won't enable user authentication. You will therefore think that you have set up user authentication. But your users will not be forced to log in when they work on the web interface.

To avoid this problem, do this: After you set up the first user in step (c), sign onto the Conductor Live 3 web interface using that user's credentials.

- If Conductor Live 3 forces you to log on, then you know that you have set up user authentication correctly. Exit the web interface page. Continue setting up more users.
- If Conductor Live 3 doesn't force you to log on, then you know that you have *not* set up user authentication correctly. Disable authentication as described here Disable User Authentication on Worker Nodes , then enable authentication again (step b), and enter a strong password.

Regular users logging onto the web interface

When you display the web interface for the first time after installing version 2.19, you will be prompted to change your password. After you have changed the password in one place, the password applies to both the web interface and the API.

Change to support for Statmux

Caution: AWS Elemental Live version 2.19.x does not support MPTS or Statmux features.

Before you decide to upgrade Conductor Live 3 to version 3.19.x and your worker nodes to version 2.19.x, read the information in the Essential Notes section in the Release Notes for AWS Elemental Live and Statmux version 2.19 GA.

Deprecation information

TLS versions 1.0 and 1.1 for HTTPS have been deprecated for Elemental Conductor Live 3 and Elemental Live. The minimum supported TLS version is now 1.2. This also affects Logstash on Conductor Live 3.

(SOCK-35475)

© 2020 AWS Elemental. All rights reserved.

Conductor Live 3 release notes 3.19.7 GA

Resolved issues

Key	Topic	Description
SC-4194	Web interface	The Elemental Conductor Live 3 web interface displayed an incorrect SDI label in some locations. This is now fixed.
SC-4131	Web interface	In some cases, the play button and pause button disappeared from the web interface for a few seconds after starting a channel. This is now fixed.

Also see the resolved issues in previous versions.

Known issues

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

© 2020 AWS Elemental. All rights reserved.

Conductor Live 3 release notes 3.19.6 GA

Resolved issues

Key	Topic	Description
SOCK-36117	Inputs; Web interface; CL3	Using the REST API to modify the input of a running event sometimes caused a problem with input switching. This is now fixed.

Also see the resolved issues in previous versions.

Known issues

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

© 2020 AWS Elemental. All rights reserved.

Conductor Live 3 release notes 3.19.5 GA

Resolved issues

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

Known issues

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

© 2020 AWS Elemental. All rights reserved.

Conductor Live 3 release notes 3.19.4 GA

Resolved issues

Key	Topic	Description
SOCK-35975	Inputs; CL3	There was a race condition during which Elemental Live sometimes did not respond to API requests to switch or create inputs. This is now fixed.

Also see the resolved issues in previous versions.

Known issues

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

© 2020 AWS Elemental. All rights reserved.

Conductor Live 3 release notes 3.19.3 GA

New features

Operating system upgrade for RHEL and CentOS

Elemental Live and Conductor Live 3 are updated to the latest packages for CentOS 7.7 and RHEL 7.7. This update does not apply to Perl packages.

Resolved issues

Key	Topic	Description
SC-4132	Security	PAM authentication inadvertently allowed shell injection during login. The login no longer allows shell injection.
SC-4134	Outputs; Web interface	Previously, Buffer Avg, Buffer Max, and Dropped frames were not reported correctly on the channel view page of the Conductor Live 3 web interface. This is now fixed.
SOCK-33622	Inputs	The input format drop-down for SDI inputs has been removed. All SDI input formats are now auto-detected.
SOCK-34883	Inputs	Bootstrap JavaScript security was upgraded to version 3.4.1.
SOCK-35415	Web interface	The username field on the login page was not functioning properly when authentication was enabled. This is now fixed.
SOCK-35625	Outputs	HLS_READER messages were turned on by default, filling up the logs. This is now fixed.

Known issues

Key	Topic	Description
SOCK-35396	Inputs – Web interface	Each SDI port supports SD, HD, and 3G SDI inputs. The Inputs menu needs to be updated to reflect these supported SDI inputs: HD-SDI 1 --> SDI 1 HD-SDI 2 --> SDI 2 HD-SDI 3 --> SDI 3 HD-SDI 4 --> SDI 4 HD-SDI 5 --> SDI 5 HD-SDI 6 --> SDI 6 HD-SDI 7 --> SDI 7 HD-SDI 8 --> SDI 8

© 2020 AWS Elemental. All rights reserved.

		HD-SDI 9 --> SDI 9 HD-SDI 10 --> SDI 10 HD-SDI 11 --> SDI 11 HD-SDI 12 --> SDI 12 HD-SDI 13 --> SDI 13 HD-SDI 14 --> SDI 14 HD-SDI 15 --> SDI 15 HD-SDI 16 --> SDI 16 Quadrant 4k (HD-SDI 1-4) --> Quadrant 4K (SDI 1-4) Quadrant 4k (HD-SDI 5-8) --> Quadrant 4K (SDI 5-8) Interleave 4k (HD-2SI 5-8) --> Interleave 4K (2SI 1-4) Interleave 4k (HD-2SI 5-8) --> Interleave 4K (2SI 5-8) Quadrant 4k (HD-SDI 9-12) --> Quadrant 4K (SDI 9-12) Quadrant 4k (HD-SDI 13-16) --> Quadrant 4K (SDI 13-16) Interleave 4k (HD-2SI 9-12) --> Interleave 4K (2SI 9-12) Interleave 4k (HD-2SI 13-16) --> Interleave 4K (2SI 13-16)
SOCK-35467	Outputs	Defining the locale incorrectly in the container causes warnings.

Also see the known issues in previous versions.

© 2020 AWS Elemental. All rights reserved.

Conductor Live 3 release notes 3.19.2 LA

Essential notes

Mandatory password reset

There is a mandatory 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 2.19, you won't be forced to change it again when you install 2.20.

Installing the new versions with user authentication previously enabled

When you install the new versions of Elemental Live and Conductor Live 3, you will be prompted to change the admin password. (You won't be prompted to change the "default password".) If you don't change the password when you are installing, you will be forced to change it the first time you log onto the web interface or API as the admin user.

Installing the new versions with user authentication not enabled

Read this information if you are *upgrading* Elemental Live and Conductor Live 3, and you plan to enable user authentication where previously you *did not* have it enabled. Stop reading if you are upgrading and *do already* have user authentication enabled.

Enabling authentication using the web interface involves three steps:

(a) Enable authentication on the primary Conductor Live 3 node (via the install script or via the Conductor Live 3 web interface).

(b) Enable authentication on every Live node (via the Conductor Live 3 web interface).

(c) Set up users with user names and passwords.

There is currently an issue with the strong password logic. In step (b) if you enter a weak password, Conductor Live 3 won't give you an error message but it won't enable user authentication. You will therefore think that you have set up user authentication. But your users will *not* be forced to log in when they work on the web interface.

To avoid this problem, do this: After you set up the first user in step (c), sign onto the Conductor Live 3 web interface using that user's credentials.

- If Conductor Live 3 forces you to log on, then you know that you have set up user authentication correctly. Exit the web interface page. Continue setting up more users.
- If Conductor Live 3 doesn't force you to log on, then you know that you have *not* set up user authentication correctly. Disable authentication as described here Disable User Authentication on Worker Nodes , then enable authentication again (step b), and enter a strong password.

© 2020 AWS Elemental. All rights reserved.

Regular Users Logging onto the Web Interface

When you display the web interface for the first time after installing version 2.19, you will be prompted to change your password. After you have changed the password in one place, the password applies to both the web interface and the API.

Change to support for Statmux

Caution: AWS Elemental Live version 2.19.x does not support MPTS or Statmux features.

Before you decide to upgrade Conductor Live 3 to version 3.19.x and your worker nodes to version 2.19.x, read the information in the Essential Notes section in the Release Notes for AWS Elemental Live and Statmux version 2.19.1 LA.

New features

There are no new features for Conductor Live 3 3.19.2.

Resolved issues

There are no new resolved issues for Conductor Live 3 3.19.2. Also see the resolved issues in the previous version.

Known issues

There are no new known issues for Conductor Live 3 3.19.2. Also see the known issues in the previous version.

© 2020 AWS Elemental. All rights reserved.

Conductor Live 3 release notes 3.19.1 LA

Essential notes

Mandatory password reset

There is a mandatory 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 2.19, you won't be forced to change it again when you install 2.20.

Installing the new versions with user authentication previously enabled

When you install the new versions of Elemental Live and Conductor Live 3, you will be prompted to change the admin password. (You won't be prompted to change the "default password".) If you don't change the password when you are installing, you will be forced to change it the first time you log onto the web interface or API as the admin user.

Installing the new versions with user authentication not enabled

Read this information if you are *upgrading* Elemental Live and Conductor Live 3, and you plan to enable user authentication where previously you *did not* have it enabled. Stop reading if you are upgrading and *do already* have user authentication enabled.

Enabling authentication using the web interface involves three steps:

(a) Enable authentication on the primary Conductor Live 3 node (via the install script or via the Conductor Live 3 web interface).

(b) Enable authentication on every Live node (via the Conductor Live 3 web interface).

(c) Set up users with user names and passwords.

There is currently an issue with the strong password logic. In step (b) if you enter a weak password, Conductor Live 3 won't give you an error message but it won't enable user authentication. You will therefore think that you have set up user authentication. But your users will *not* be forced to log in when they work on the web interface.

To avoid this problem, do this: After you set up the first user in step (c), sign onto the Conductor Live 3 web interface using that user's credentials.

- If Conductor Live 3 forces you to log on, then you know that you have set up user authentication correctly. Exit the web interface page. Continue setting up more users.
- If Conductor Live 3 doesn't force you to log on, then you know that you have *not* set up user authentication correctly. Disable authentication as described here Disable User Authentication on Worker Nodes , then enable authentication again (step b), and enter a strong password.

© 2020 AWS Elemental. All rights reserved.

Regular users logging onto the web interface

When you display the web interface for the first time after installing version 2.19, you will be prompted to change your password. After you have changed the password in one place, the password applies to both the web interface and the API.

Change to support for Statmux

Caution: AWS Elemental Live version 2.19.x does not support MPTS or Statmux features.

Before you decide to upgrade Conductor Live 3 to version 3.19.x and your worker nodes to version 2.19.x, read the information in the Essential Notes section in the Release Notes for AWS Elemental Live and Statmux version 2.19.1 LA.

© 2020 AWS Elemental. All rights reserved.

New features

NMOS control for SMPTE ST 2110 input and output

NMOS is a management layer for sources on IP networks. In Elemental Live, this is used to discover and control SMPTE ST 2110 uncompressed video connections, both as inputs to and outputs from Events running on an Elemental Live appliance.

The following specifications are now supported:

- IS-04: Device discovery & registration
- IS-05: Device connection management

To use NMOS with Elemental Live, you must:

- Have an NMOS registry and client set up on an IP based network (external to Elemental Live software)
- Configure an Elemental Live Event with SMPTE ST 2110 input and/or SMPTE ST 2110 output
- Use a SMPTE ST 2110 supported interface on the Elemental Live appliance

SMPTE ST 2110 input configurations with NMOS:

To configure a SMPTE ST 2110 input using NMOS in lieu of manual Event configuration, select the NMOS Control check box.

When selected, the options to define the SDP locations and media index are removed, as they will be controlled through the NMOS web service.

- The interfaces must be enabled for STMPE 2110 in the Settings > Network > Network Devices section of the user interface.
- Exactly one video and one audio stream interface must be defined. You can opt not to include any ancillary interfaces, or you can include several.
- When an Elemental Live Event with an NMOS controlled SMPTE ST 2110 input is started, the Event will have a preprocessing status and no output will be produced. The Event can be started through the NMOS client.
- Elemental Live will not expose any NMOS objects until an Event is running that has an NMOS Input or output.
- Once all of the flows that are required by the Elemental Live input are created, the Event will enter the Running status, and the Event outputs will begin.

SMPTE ST 2110 output configurations with NMOS:

To configure a SMPTE 2110 output using NMOS in lieu of manual output configuration, select the NMOS Control check box under SMPTE 2110 Settings.

- The destination address is managed by NMOS, so you will not see destination fields if the NMOS Control check box is selected.

© 2020 AWS Elemental. All rights reserved.

- A valid SMPTE ST 2110 enabled interface must be specified for the output stream.

Resolved issues

Key	Topic	Description
SOCK-35625	Outputs	HLS_READER messages were turned on by default, filling up the logs. This is now fixed.
SOCK-35415	Web interface	The username field was not functioning properly. This is now fixed.
SOCK-34883	Inputs	Bootstrap JavaScript security was upgraded to 3.4.1.
SOCK-33622	Inputs	The input format drop-down for SDI inputs has been removed. All SDI input formats are now auto-detected.
SC-4132	Security	PAM authentication inadvertently allowed shell injection during login. The login no longer allows shell injection.

Known issues

Key	Topic	Description
SOCK-35467	Outputs	Defining the locale incorrectly in the container causes warnings.
SOCK-35396	Inputs – Web interface	Each port supports SD, HD, and 3G SDI inputs. The Inputs menu needs to be updated to add these supported SDI inputs: HD-SDI 1 --> SDI 1 HD-SDI 2 --> SDI 2 HD-SDI 3 --> SDI 3 HD-SDI 4 --> SDI 4 HD-SDI 5 --> SDI 5 HD-SDI 6 --> SDI 6 HD-SDI 7 --> SDI 7 HD-SDI 8 --> SDI 8 HD-SDI 9 --> SDI 9 HD-SDI 10 --> SDI 10 HD-SDI 11 --> SDI 11 HD-SDI 12 --> SDI 12 HD-SDI 13 --> SDI 13 HD-SDI 14 --> SDI 14 HD-SDI 15 --> SDI 15 HD-SDI 16 --> SDI 16 Quadrant 4k (HD-SDI 1-4) --> Quadrant 4K (SDI 1-4)

© 2020 AWS Elemental. All rights reserved.

		Quadrant 4k (HD-SDI 5-8) --> Quadrant 4K (SDI 5-8) Interleave 4k (HD-2SI 5-8) --> Interleave 4K (2SI 1-4) Interleave 4k (HD-2SI 5-8) --> Interleave 4K (2SI 5-8) Quadrant 4k (HD-SDI 9-12) --> Quadrant 4K (SDI 9-12) Quadrant 4k (HD-SDI 13-16) --> Quadrant 4K (SDI 13-16) Interleave 4k (HD-2SI 9-12) --> Interleave 4K (2SI 9-12) Interleave 4k (HD-2SI 13-16) --> Interleave 4K (2SI 13-16)

Also see the known issues in previous versions.

© 2020 AWS Elemental. All rights reserved.

Conductor Live 3 release notes 3.19.0 LA

Essential notes

Mandatory password reset

There is a mandatory 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 2.19, you won't be forced to change it again when you install 2.20.

Installing the new versions with user authentication previously enabled

When you install the new versions of Elemental Live and Conductor Live 3, you will be prompted to change the admin password. (You won't be prompted to change the "default password".) If you don't change the password when you are installing, you will be forced to change it the first time you log onto the web interface or API as the admin user.

Installing the new versions with user authentication not enabled

Read this information if you are *upgrading* Elemental Live and Conductor Live 3, and you plan to enable user authentication where previously you *did not* have it enabled. Stop reading if you are upgrading and *do already* have user authentication enabled.

Enabling authentication using the web interface involves three steps:

(a) Enable authentication on the primary Conductor Live 3 node (via the install script or via the Conductor Live 3 web interface).

(b) Enable authentication on every Live node (via the Conductor Live 3 web interface).

(c) Set up users with user names and passwords.

There is currently an issue with the strong password logic. In step (b) if you enter a weak password, Conductor Live 3 won't give you an error message but it won't enable user authentication. You will therefore think that you have set up user authentication. But your users will *not* be forced to log in when they work on the web interface.

To avoid this problem, do this: After you set up the first user in step (c), sign onto the Conductor Live 3 web interface using that user's credentials.

- If Conductor Live 3 forces you to log on, then you know that you have set up user authentication correctly. Exit the web interface page. Continue setting up more users.
- If Conductor Live 3 doesn't force you to log on, then you know that you have *not* set up user authentication correctly. Disable authentication as described here Disable User Authentication on Worker Nodes , then enable authentication again (step b), and enter a strong password.

© 2020 AWS Elemental. All rights reserved.

Regular users logging into the web interface

When you display the web interface for the first time after installing version 2.19, you will be prompted to change your password. After you have changed the password in one place, the password applies to both the web interface and the API.

Change to support for Statmux

Caution: AWS Elemental Live version 2.19.x does not support MPTS or Statmux features.

Before you decide to upgrade Conductor Live 3 to version 3.19.x and your worker nodes to version 2.19.x, read the information in the Essential Notes section in the Release Notes for AWS Elemental Live and Statmux version 2.19.0 LA.

New features

There are no new features for Conductor Live 3 3.19.0.

Resolved issues

There are no new resolved issues for Conductor Live 3 3.19.0. Also see the resolved issues in the previous version.

Known issues

There are no new known issues for Conductor Live 3 3.19.0. Also see the known issues in the previous version.

© 2020 AWS Elemental. All rights reserved.