iTX™ 2.4.10

Integrated Playout

Release Notes

iTX™ 2.4.10 (build 3.24.10.214)

13 July 2016

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Introducing iTX 2.4.10

iTX 2.4.10 is a cumulative, full-version release of the iTX software, in that it contains all the features and fixes from the initial 2.4 release and supplemental releases since. As such, it can be used for new installations, for upgrading from one major and minor release to another, or for updating the same release stream.

Change of database location for Aspect Ratio information

Note:
The following information is only applicable to customers who are upgrading to iTX 2.4.10 from iTX 2.X or earlier and who use Aspect Ratio information contained within the clip assets.

The location for Aspect Ratio information in the database has changed. When new assets are imported or ingested into the system, the asset's Aspect Ratio information is written to the new location. Since iTX 2.4.10 looks for the Aspect Ratio data in a different table within the database, any media you registered prior to upgrading will not retain the Aspect Ratio information when loaded into an iTX 2.4.10 channel.

So that you do not have to re-register your media with the system to add the Aspect Ratio data again, the iTX Installer includes a stand-alone utility application that transfers the asset clip information for each clip to the new location.

The utility can be found as part of the standard iTX 2.4.10 Install package. It can be installed and run from any computer that already has iTX Desktop installed. For more information on installing and running Clip Fixer, see the iTX System Administrator Guide.

Version 2.4.10 (build 3.24.10.214)

Fixes

ITX-5006: Pinpoint Search Result items are deleted, despite not being selected for deletion

After performing a Select All in the PinPoint Search Results and then deselecting a few items, pressing Delete now deletes only the selected items rather than all items listed.

ITX-6264: OSC User Data not imported through Legacy Schedule Processor

When constructing the schedule, the text_data was used for the User Data. This was changed to use the user_data value as specified in the OSC documentation.

ITX-6060: Global ID not being extracted from DUB list

When a dub list is imported, the Global ID was not being translated from the DUB list into the itxml.

ITX-5416: Pinpoint now supports the search for invalid clips

PinPoint now features a new search category within the Media filter called Invalid. This new search category allows you to search for invalid clips by setting the 'Invalid' option to yes and the 'Location Type' to iTX or Proxy.

Version 2.4.10 SP11 (build 3.24.10.210)

Fixes

ITX-5403: VANC data not stored in files

The Encode Server was not correctly setting Encode Profile values, which resulted in VANC data not stored in files. Upon playback of the encoded clip, VANCs (i.e. SCTE104) were not triggering held items.

ITX-5400: As Run files appended instead of overwritten

The As Run service uses the LastWriteTime to evaluate if the As Run file is from the last month. This can be incorrect if another user or process has opened and saved the file. To avoid this error, the CreationTime is now used to check if the file is from last month.

ITX-5355: Manually entered sub-channel events on a live channel fails to play on air

When an event is moved between sub-channels, the original cache information of the event was retained and prevented the event from playing on air. To correct this issue, the cache information is now erased when the event is moved between sub-channels.

ITX-5231: An audio glitch occured followed by a couple of frames of audio silence in raw audio mode at the transition between clips with Dolby audio

For all transitions, a one frame audio fade in and out is performed to soften the junction between two clips. In raw audio mode, this should not be done. We have no way of knowing what the audio is. If the audio happens to be any kind of Dolby data, we will corrupt the encoded data, rather than providing a soft transition. For raw audio mode only, the first/last frame fade in/out should not be performed. This has been changed and resolved the audio glitch and audio silence that was occurring.

ITX-5091: Output Server 1 - Items on the Slave Channel would not Cue to first frame, but instead revert to the last frame of the previous event

Previously, the Master channel would Cue to first frame, but the Slave channel would come out of Cue to first frame and revert to the last frame of the previous event as it approached the timeline. The issue has been resolved and the item on the Slave channel now stays in Cue to first frame.

ITX-5047: External Logo failing occasionally

Occasionally an external logo fails to go to air. When the parent event goes to air and tries to cue the next events, the external logo is uncued and fails to recue in time.

ITX-5020: HCO Router causes unnecessarily large iTX logs

Improvements were made to the HCO logging to stop too much data going to the system logs when an error occurs.

ITX-4745: Short clip was not played if scheduled between two master control events

The wrong master control crosspoint was set if a short clip was scheduled between two master control events leading to the clip not being played. The crosspoints are now set correctly and the schedule plays fine.

ITX-4675: The Store Changes control was not being enabled/disabled after channel failover

With a Master channel selected in Channel Control, a failover will now disable the Store Changes control. With a Slave channel selected, a failover will now enable the Store Changes Control.

ITX-4647: Secondary records on a 720p channel create a 30 fps clip

In case of 720p, the Pandora audio pipeline generates an audio packet at 29.97 (video is at 60 DF), which was not supported by the ITX Encoder.

In the iTX Encoder, we are now dividing the audio packet into two and adjusting the time stamps accordingly.

ITX-4645: Scheduled aired items not showing in As Run

Some scheduled aired items were not showing in As Run and exceptions were visible in the TXPlay logs. These exceptions are no longer raised and there are no missing items in the As Run logs.

ITX-4630: Skipped CG/Logo appears after a fixed item

If a CG/Logo item was already in a committed state when it was skipped, the CG/Logo would appear on air after a fixed item. In such a case, the skipped CG/Logo item will now not be taken to air.

ITX-4582: Main and backup channels both become 'Master'

When TXPlay fails over there is a period when starting up in which it cannot respond to route changes. If the routing changes during this period, there is a chance it will start as Master when the routing suggests it should be Slave. This has been fixed as it is a possible cause for this issue.

ITX-4430: Animated Logo crops one pixel from right

Animated logos could be cropped one pixel from right, when trying to find region of interest. This issue has been resolved.

ITX-4414: Live Asset fails unless the Live Event plugin is configured

Following an upgrade to 2.4.10 SP9, if no there was no configuration in the Live Event Plugin, a live event would fail. This issue has been resolved, so that no routing occurs and whatever is on the input source goes to air.

ITX-4267: Clock in a CG freezes

A clock in a CG would no longer update and freeze after running for various amounts of time (i.e. hours or days). This issue has been resolved.

ITX-4151: Text boxes on Event Editor for CGs reloads whenever the text is modified

In the Event Editor for CGs, when a label was modified and the user navigated away, in order to update the thumbnail iTX Desktop would reload all buttons and text boxes. This was slow and would reset the tab position.

This issue has been resolved, so that now iTX Desktop only redraws the thumbnail preview.

ITX-4093: CG preview text cannot be seen

The preview window for the CG application now displays the text when set to crawl.

ITX-4092: New cut and paste functionality in the Schedule Grid

In the Schedule Grid, it is now possible to paste primary items above other primary items, before they go to air.

In addition, the view controls in the Schedule Grid context menu have been consolidated into a sub-menu called View.

For more information, see the "Change the order of schedule events" in the iTX Desktop Operator guide.

ITX-3942: Picture in Picture squeezes with background cause Output Server to crash

Picture in Picture squeezes with background no longer causes the Output Server to crash.

ITX-3748: Output Server 1 - Backup Channel went to black following an unexpected schedule restore

A customer site reported an instance of an Output Server 1 backup channel going to black following an unexpected schedule restore. The problem occurred because the clip was committed, cancelled and later sent again with the same ID. As a result, Output Server 1 would not play that clip again.

To resolve this issue, if the last clip ID is same as clip that was cancelled, the ID is cleared, allowing the clip to playout.

ITX-3280: Audio glitch on grouped audio after coming out of an overrunning live event

If a live event with grouped audio overran for more than 5 minutes, an audio glitch could be heard on subsequent video clips. The longer the live event overran, the more pronounced the glitch became.

The audio glitch was happening due to a timeout error in audio grouping, which has now been resolved.

ITX-2901: After Primary MOS failure, the Buddy server did not pick up new clips from ITX

Messages for new clips are sent to both the Primary and Buddy server (the Buddy server rejects them as long as Primary is available). However, following a failure of the primary server, the buddy service did not pick up any messages for new clips from iTX.

To resolve this issue, messages are no longer sent to the disconnected server, so there is not a 1-30 second delay for each message sent. When the disconnected server comes back online the MOS Service reconnects within 60 seconds and continues to send messages as normal.

ITX-2275: Output Server 1 - Flash frames when PiP clips are being resized by the enhanced resizer

On an Output Server 1 channel, iTXPlayer would produce a flash frame when PiP clips were being resized by the enhanced resizer. There are two resizers in the code and when switching between resizers, the last frame of the last clip in the resizer would be retained. This would appear as a flash frame during the next use of that resizer.

This issue has been resolved by flushing the resizer frame buffer between each use.

ITX-2270: Output Server 1 - CGs used as basic tickers based on an external data source do not dynamically update

When using iTX's internal CGs to create basic tickers from an external file on an Output Server 1 channel, the linked file was updated but the on-air ticker was not being updated. The only way to update the on-air ticker was to re-cue it.

To resolve this issue, for file-based CGs, iTX now monitors the text file and if a change is detected, iTX updates the on-air CG accordingly.

ITX-2126: iTX Desktop becomes unresponsive when trying to update an item in the Video Clip Event Editor

iTX Desktop would become unresponsive in the Event Editor panel whilst trying to update a Video Clip item that was being displayed.

This was caused by iTX Desktop trying to retrieve licensing information over the network.

To resolve this issue, the channel licensing information is now loaded and cached in iTX Desktop as soon as the channel connects.

ITX-1992: 'Delete all' can be mistaken for the singular 'Delete' option and results in an immediate save

In iTX Desktop, the 'Delete All' option on the Schedule Grid context menu can be mistaken for the singular 'Delete' option and when clicked it results in an immediate save to the (now empty) schedule.

A new 'Undo Delete All' option has been added to the Schedule Grid context menu. This option is only available after a 'Delete All' has been performed and will disappear if any additional changes are made to the schedule. The warning text for the Delete All option has also been updated to be more explicit about the action being performed and consequences of continuing.

ITX-1615: Daylight Savings Time messages repeatedly appear in the iTX Desktop

Various actions and events were causing the Daylight Savings Time dialog to appear in the iTX Desktop, which required the operator to close each instance of the dialog before being able to continue using the iTX Desktop. Now the Daylight Savings Time dialog only appears when a new item is scheduled.

ITX-981: The HCO Router Service produces an excessive quantity of logging data

The iTX HCO Router Service was logging large volumes of data if the HCO card it is connected to lost communication with iControl. For example, if the iControl server was re-booted or the Ethernet cable was pulled from the frame controller card, the HCO Router Service would get stuck in a loop logging messages about data not being recognized as headers.

The HCO Router Service has been updated so that it no longer produces excessive logging if bad data is encountered on a socket stream.

ITX-442: Deleting a single spot from the Harris system does not pass through to iTX, but multi-segment deletes work fine

Dropping a Harris del file in the Harris CIFS drop box for a single-spot asset causes that asset to be deleted correctly. Previously it would attempt to delete a previously-deleted asset.

ITX-400: LGK CUE Fails if LGK response is too quick

If the LGK response is too quick there was no time to set the event state to "cueing" and the response was discarded.

After the fix the event state is set to "cueing" before the message is sent to the LGK and therefore the response from the LGK will always be considered even if it is received quickly.

Version 2.4.10 SP10 (build 3.24.10.165)

New Features

iTX 1.4 to iTX 2.4 Migration Tools

iTX v2.4.10 SP7 introduces a new system for migrating from a legacy iTXv1.4 system to Grass Valley's current integrated playout system, iTX v2.4.

Because the iTX 1.x and iTX 2.x databases differ in structure, it is not possible for customers to simply upgrade to iTX 2.x. A new Delivery Manager endpoint driver called iTXV1Driver has been introduced that can perform "register in place" actions between v1.4 and v2.4 databases. During the migration, all asset management must performed on the v1.4 system, and as video and subtitle assets are added to, updated on or deleted from the iTX v1.4 system, the corresponding metadata is added, updated or deleted on an iTX v2.4 system, running in parallel. The media itself remains on a shared media store and so does not need to be transferred, as each database has its own metadata record.

The new iTXV1 endpoint can be selected from the Delivery Manager Config.

By using Delivery Manager, the iTXV1 endpoint is able to take advantage of bespoke workflows to manage the metadata transfer and deletion.

Users are also able to manually trigger the database synchronization, which ensures all of your existing metadata is migrated to the iTX v2.4 system. This synchronization is done in batches, as not to impact system performance and the process repeats until all of the asset metadata has been migrated. After that, asset metadata additions, updates and deletions are migrated to the iTX v2.4 system as they are performed on the v1.4 system.

Delivery Manager SGL FlashNet Endpoint

Delivery Manager now supports SGL FlashNet Archives. The new FlashNet driver can be selected from the Delivery Manager Config.

The FlashNet driver supports the following modes of operation:

- Search and Restore (via Missing Material Manager)
- Manual Archive
- Manual Restore

Partial Restore is not yet supported.

Note: The FlashNet Archive must be running version 6.4.13.003.

Nielsen watermarking

iTX2 now supports the new Nielsen audio watermarking system.

In order to maintain backwards compatibility, NAES II is still implemented also. iTX2 allows the user to insert either NAES II or Nielsen Watermarking or both signal types.

Source Identification
Nielsen assigns one or more SIDs to each content provider or distribution source. Included as a component of each watermark, the SID uniquely identifies the distribution source.

Check Digit
The "Check Digit" string corresponding to the SID is assigned when the Nielsen Watermark SDK is delivered. The authenticator will not permit the use of the SID in watermarking if the check-digit string does not match the SID.

Watermarking level
This identifies the type of watermark – Program Content (PC) or Final Distributor (FD). Typically PC watermarks are assigned to syndication content or to content providers, while FD watermarks are assigned to local broadcast

affiliates or to cable network content.

The user needs only to specify the appropriate assigned type (PC or FD).

Configuration
Nielsen watermarking is configured via the Channel Configuration on the Engineering layout of the iTX desktop and is located on the 'Channel Configuration 4' tab.

Feature Enhancements

ITX-947: PinPoint pre-filter to restrict channel schedule searches to the current channel

To assist operators to load the correct schedules for the selected channel, a global configuration option has been added to the Channel Config pop-up layout called 'Restrict Asset Search by Channel'. When this option is enabled, the channel name is added as a pre-filter when loading schedules or segments via the following components:

- The Content Selector for schedules or segments
- The Schedule Management component.

The option to filter by Channel is also available in PinPoint for all Schedule and Segment Asset searches.

Delivery Manager - Free Space Limit

The Delivery Manager endpoint configuration dialog has been updated with a new field called Free Space Limit.

This allows users to control the minimum available media store capacity at which Delivery Manager stops processing new media for each endpoint. This value can be set as a percentage or an absolute value (in MBytes, GBytes or TBytes).

For example, if you set the Free Space Limit to 5% and your media store has a 50TB HDD, when the HDD reaches 2.5TB, Delivery Manager will stop processing media for that endpoint.

Note: This field is not available to CIFs endpoints in Export mode.

Softel External Subtitler Update

Introduced in iTX v2.4.10 SP7, the new external subtitler plugin exclusively supports Softel Swift TX Classic, Softel Swift mTX and Softel Swift mTX Multi-Language external subtitlers.

Both the new and legacy plugins are installed with iTX but are mutually exclusive.

The new plugin has additional features as described in the table below, plus a general improvement in resilience following various failure conditions.

Feature	Description
Channel Configuration	After first installation of iTX 2.4.10 SP7, the legacy driver is enabled by default. To enable the new driver, select the 'Use Dedicated Softel Driver' option in the TXPlay Config window.

Plugin Configuration	The new driver does not have the ability to select non-Softel devices and has a new 'Schedule Duration' option that controls the "look ahead window" on the Softel subtitler. This restricts the amount of items that appear on the external subtitler's own schedule. Changes made to the plugin configuration are applied immediately and automatically restart the plugin. As such subtitles may temporarily go off air for a short period (up to 3 seconds) while the plugin restarts.
Subtitle Availability Checking	When controlling a Swift mTX Multi Language, subtitle availability checking is performed for each configured language. The schedule grid displays information regarding which languages are unavailable or mis-configured on the subtitler. When controlling a Swift TX Classic or Swift mTX, subtitle availability checks only cover availability of any subtitle material. In both cases, when an item has gone to air prior to subtitle material becoming available, availability checks will continue throughout the duration of playout until either the subtitle material becomes available or the next item goes to air.
Subtitler In Manual Mode	When the subtitler has been put into 'Manual Mode', and is therefore not under control from iTX, the schedule grid will display information that the subtitler is "Under alternative control". When the subtitler is returned to 'Automatic Mode' the plugin will resynchronize the subtitler schedule with the iTX schedule and ensure that the currently on-air item is playing.
Master/Slave	When running channels in master/slave configuration, the new subtitler plugin must have 'Shared Device' disabled. Therefore each iTX channel must control its own dedicated external subtitler.
Start Of Media	After failure conditions, or during certain manual interventions of the iTX schedule (e.g. roll-under), the plugin will always ensure the current item is playing from the correct position in order to keep it in-sync with the video.
Live Mode	When scheduling a live event, the subtitler can be put into 'live' mode by renaming the external subtitle item in the iTX schedule grid to 'LIVE'.

Studio Countdown

The Studio Countdown application has been updated with the following enhancements:

- Color coding
  The overall appearance of the interface has been updated to bring it into line with the rest of iTX. This includes a change to the fonts used in the countdown displays and color coded events.
- Display local time
  If you have channels with a UTC offset for local time, the clock displayed in the top right corner of the next live event can now be configured to show the offset rather than the default UTC.
- Live mode
  If your schedule has split breaks or multiple sequences in a break, it is possible to configure Studio Countdown's countdown timers to display the total time remaining to the next live event, including the duration of the split breaks and sequences. This is called "live mode".

Event color coding
In order to provide an at-a-glance view of the status of events, Studio Countdown now uses the following color coding:

- Red -- On-air live event
- Yellow -- Upcoming live event
- Green -- On-air break

Display local time

Within the Channel Config dialog on the Channel Config 2 tab, there is an option to enter a UTC offset, used to set channels to their local time. The StudioCountdown.exe.config file now includes an application key to control whether StudioCountdown should display the local time offset for that channel or the UTC time.

Live mode

When live mode is enabled, the Next break time will change to say Back in and the total time remaining until the next named event, including any split breaks or multi-sequence breaks. If the time to the next live event is 1 hour or more, the Back in timer will display 59.59+. When the live item is on air, the Back in timer will display 00:00.

Live mode and the name of the live event are both configured in the StudioCountdown.exe.config file.

External schedule update alerts

When an OSC schedule is updated externally and re-ingested, the channel status indicator on the Channel Control layout changes to yellow.

Double-clicking on the status indicator opens the Service Provider Status dialog, which displays an alert saying the schedule has been updated.

The channel status indicator and Service Provider Status messages can now be reset for externally updated schedules alerts. This is done by selecting the alert from the Active Alerts pane on the Engineering layout and clicking Acknowledge Alert.

GPI Service and Events

GPI output configuration

The GPI Service has been updated to provide two modes of operation for secondary output VNode devices.

Within the GPI Service Configuration tool, when GPI Device Driver is set to one of the VNode drivers, the checkbox to configure the output to a secondary VNode device now includes the following options:

- **Mirror**
  When checked, GPI output signals will be sent to both VNode devices. This behavior is new to iTX v2.4.10 SP6.
- **Master/Slave**
  When checked, the second VNode device is used as a backup for the first. This is the same as the pre-v2.4.10 SP6 functionality that was labeled as Mirror Matrix to second VNode.

GPI data in Live Event Details

The Properties dialog for Live events has been updated to show GPI Input and GPI Output values.

This Properties dialog can be accessed from the Live Content Selector and the Event Editor for Live events already in the current schedule.

NVision NV9000 Router control enhancement

Status updates from the NV9000

Previously iTX checked only the status of the First Level in messages received from the NV9000 to determine the status of a crosspoint.

Now, when iTX receives a new status message from the NV9000 it sends the it now only requests the NV9000 return the crosspoint status of only the Primary Level of that device. In the NV9000 the Primary Level is the level that is configured as the most important level.

These changes remove potential false errors and make monitoring of routing changes much simpler and more

accurate.

Also, the iTX Routing Data Service has been modified to operate with the new NVision NV9000 Router Service.

Previously it displayed, and provided within the iTX system, the names of all levels configured within the NV9000 Router. Now the Routing Data Service just displays and provides within the iTX system the primary level, simply labeled the 'NV9000' routing level, making multi leveled routing transparent to the user and much simpler to configure within iTX.

Note:

- You must make sure you also upgrade then restart the iTX desktop as well all as the routing related services, in order that the desktop functions correctly with this enhancement.

Reloading Configuration changes to the NV9000
To make configuration changes to the NV9000 router simpler to propagate to the iTX system, a "Refresh from Router" button has been newly added to the NV9000 Router Service user interface "Setup" tab.

Clicking on the "Refresh from Router" button causes the NVision NV9000 Router Service to request from the NV9000 router details of its configuration and the status of the devices. The SQL Router Crosspoint table is then updated with this information.

This enables changes to NV9000 device names and the addition of new NV9000 devices made using the NV9000 configuration utility to be incorporated within the iTX database.

Previously this could only be achieved by restarting the NVision NV9000 Router Service.

Notes:

- Routes can still be made while this refresh operation is in progress.
- If a device is deleted within the NV9000 controller, the iTX crosspoint database entry for the device is NOT deleted. Currently crosspoints can only be deleted by using SQL Server management applications.

Filtering by groups in routing configuration

It is now possible to create categories for router sources and destinations via the Routing Data Service and then use those categories to filter by in routing desktop components on the iTX Desktop. This means the user no longer has to scroll through the entire list of sources or destinations, but can select a category to make the selection process easier.

The user can create and delete categories, or select existing ones and add or remove sources and destinations. They can be block or multi-selected for eas of assignment.

The iTX Routing Desktop routing components can then be configured to run in categories mode if required. This has to be done by a user with administrative rights.

Any component that allows the user to select a source or destination can now be made to show categories by right clicking and selecting Properties from the options menu when in edit mode. Selecting Route List Configuration will bring up the Categories on/off toggle dialog.

Once active, any source or destination selection dialog will allow the user to select a category first and then the router source or destination from the filtered list.

Deleting events from the scratchpad in SmartClient

Events can now be deleted from the system completely via the scratchpad (below the logging buttons), rather than

just removed from the scratchpad itself, by clicking the x on the top right hand side of the scratchpad dialog for each event.

If you wish to simply remove the dialog from the scratchpad after annotating an event, you now click the _ button.

This has made deleting unwanted events much easier than before. Previously, clicking the x button only removed the event from the scratchpad.

Warning when a user deletes an asset in iTX that is in a live schedule

The iTX desktop has been enhanced to check if an asset that a user wishes to delete from the system is currently scheduled to play out and warn them if this is the case.

IIf either a parent or a co-reference asset is part of a live schedule or a schedule that is loaded into a live channel, the operator will receive a warning in the deletion dialog informing them which channel or channels the asset is scheduled on, along with the time and date that the first instance is due on air.

The user is given the option to delete the selected asset or the selected asset and all associated co-referenced assets.

Fixes

ITX-3775: Support for DVE scheduling in BXF schedules

This release of iTX now includes support for DVEs to be scheduled via BXF schedules using the Schedule Processing Service.

ITX-3734: As Run logs missing short duration (less than 30 second) events

Under certain timing conditions, items with a short duration (less than 30 seconds) would not be recorded in the As Run logs.

This issue has been resolved.

ITX-3719: Large BXF schedules would cause Opus to error

Importing large BXF schedules (e.g. ones with several thousand items) would result in Opus timing out with error code 1002 "Call to IOpusDataService.ScheduleUpdateItems failed".

To resolve this issue, Opus's schedule items update timeout has been increased from 10 seconds to 20.

ITX-3478: Media Watcher does not clear some errors when connection is regained

A customer site reported that following a disconnection, Media Watcher would not clear certain error messages once the connection was regained, such as the "Cannot Access the INBOX" error message. This made it appear as though new errors were being detected or existing errors were persisting, when in fact there were no current errors.

This issue has been resolved, so that MediaWatcher now clears historic errors when the connection is regained.

ITX-3477: Delivery Manager stops processing when media store capacity reaches 10% remaining

Delivery Manager was limited to stop processing files when the available storage space on the media store reached 10% remaining. For facilities with 100s of TBs of storage, this could cause Delivery Manager to stop processing when the media store still had considerable space available.

The Delivery Manager endpoint configuration dialog has been updated with a Free Space Limit field, which allows users to control the minimum available media store capacity at which Delivery Manager stops processing new media. This value can be set as a percentage or an absolute value (in MBytes, GBytes or TBytes).

ITX-3476: Output Server 1 restarts following an item freezing

A customer site reported a random issue with playout freezing for several seconds, followed by the output server restarting.

On investigation, it was found the logs reported "Warning: Graph Paused. TimelineEnd." This was caused by two threads switching streams at the same time, resulting the stream being switched to -1 (which does not exist). Now, when multiple threads attempt to switch streams, they first check the switch is required, resolving this issue.

ITX-3467: Animated sequence logo duration defaults to 30 seconds

When importing a new sequence logo using .TZIP, the default duration of the logo asset was always being set to 30 seconds, regardless of total number of image frames within the archive file.

To resolve this issue, iTX now calculates the duration of sequence logos in a .TZIP file based on the total number of frames. Users can see this in the Asset layout and the Channel Content selector.

ITX-3387: DVE/PIP wipe number not honoured in ITXML schedules

Previously if WipeNumber was specified in an ITXML schedule it was not being honored.

This issue has been resolved.

ITX-3297: Newly-imported BXF schedules lose extended data

A BXF schedule imported for the first time would lose its extended data. A workaround was to import the schedule again.

This issue has been resolved.

ITX-3280: Audio glitch on grouped audio after coming out of an overrunning live event

If a live event with grouped audio overran for more than 5 minutes, an audio glitch could be heard on subsequent video clips. The longer the live event overran, the more pronounced the glitch became.

The audio glitch was happening due to a timeout error in audio grouping, which has now been resolved.

ITX-3134: Logos, animations or CGs are not removed if more than 4095 of these asset types have played out

iTX was unable to remove logos, animations or CGs once more than 4095 of these items had played out. The only work around was to restart the Output Server service.

This issue has been resolved so that all of these types of asset clear correctly, regardless of how many have played out.

ITX-2963: Router events that are not ready remain in a "New" state

Router items in BXF or ITXML schedules that were not ready would stay in a "New" state indefinitely.

This was caused by a problem importing schedules that used names rather than IDs for the matrix router, source and destination for router events.

This issue has been resolved, so that BXF and ITXML schedules containing router events can use either names or IDs for the matrix router, source and destination.

ITX-2899: Invalid error messages related to secondary recording

Previously, if a manual Take out of a live event was performed, ITX would attempt to stop secondary recording, even if no recording was set on the event. This caused spurious error messages to appear in the log.

This issue has been resolved.

ITX-2509: Vertigo events given wrong UUID in BXF As-Run log

Vertigo events in a BXF schedule carry a UUID. This UUID should appear in the As Run log, but a different UUID was being logged.

The correct UUID is now written into the XG event, resolving this issue.

ITX-2121: Output Server 1 - An extra frame is played out at the end of soft partitioned program clips going into junction breaks

A customer site reported noticing on an Output Server 1 channel, an extra frame was played out at the end of soft partitioned program clips going into junction breaks. It was most visible if the content did not have a fade to black effect going into junction break. If there was a sequence break, a frame from next sequence (which is part of the same program) could sometimes be seen.

The frame seeking mechanism for soft partition clips has been updated to eliminate extra frames and resolve this issue.

ITX-1510: BXF As Run logs missing extended data

A customer site discovered an issue with events reporting that they had extended As Run data, when in fact they did not. This caused the BXF As Run plugin to drop the associated records, resulting in missing values in the As Run logs.

This issue has been resolved by ensuring when extended data is retrieved it is checked to make sure it is not null, before dropping the record. This ensures BXF As Run logs always include the correct information about extended data.

ITX-427: Items missing from As Run logs after master/slave failover

Following a master/slave failover, TXPlay would lose track of what items needed to be added to the As Run log.

This issue has been resolved.

ITX-387: Imported schedules containing voice overs did not set background audio level

Imported schedules containing voice overs did not set the background audio level and instead left it at the default setting. This issue affected all schedule types.

This issue has been resolved, so that the background audio level is set when schedules containing voice overs are imported.

Version 2.4.10 SP9 (build 3.24.10.147)

Fixes

ITX-3211: Create MMM Report button on the Missing Material layout produces an error

In the Missing Materials layout, click the 'Create MMM Report' button could generate an error and no report would be produced. This was because it was trying to create additional connections to the Live Channel Client, which is not permitted.

This issue has been resolved. In addition, one of two new pop-up messages can appear when the button is clicked, depending on what channel is selected:

- If no channel or the wrong channel is selected, the message reads "Error requesting Missing Materials report. Please provide a Missing Materials channel".
- If the Missing Material channel is selected, the message reads "Successfully requested Missing Materials report", after which the report is generated.

ITX-2794: Occasional reset caused by Vision Mixer switching to "stream -1"

The Vision Mixer module in iTXPlayer switches between stream 0 and stream 1 during normal operation. In some scenarios, the Vision Mixer could be executed concurrently for two transitions, causing the stream ID for the next switch to become the non-existent stream -1. As a consequence of this invalid stream ID, iTXPlayer would reset.

This issue has been resolved.

ITX-2721: Delivery Manager not de-archiving reference files

Delivery Manager would fail to de-archive reference files if the path was the same as an existing folder structure.

Existing media is now restored to the specified file path, resolving this issue.

ITX-2709: ITX does not get language tags from non-reference MXF files

ITX would not get language tags from non-reference MXF files under the following circumstances:

- When the clip was imported via Media Watcher
- When the clip was imported via Delivery Manager using MediaUtil Analysis
- When the clip was imported via Delivery Manager using FPP Analysis

To resolve the first two scenarios, iTX now uses Media Info to get the language tags for the audio tracks.

The third scenario, "When the clip was imported via Deliver Manger (using FPP analysis)", requires extended development to resolve and will be addressed in a future release.

ITX-2051: Output Server 1 restarts when alternating between MOV and MXF playout

When alternating between MOV and MXF playout, Output Server 1 could sometimes restart.

This issue was being caused by a Windows handle leak and has now been resolved.

ITX-2049: Output Server 1 - Vertigo XG Inside events take a few seconds to clear following manual take

On an Output Server 1 channel, for live events with a VertigoXG Inside ticker, if you performed a manual take out of the event, the XG ticker stayed on-air several seconds longer than it should or had to be cleared manually.

To resolve this issue, Vertigo XG secondary events are now immediately cleared when a manual take is issued (truncating their duration) and the subsequent event does not contain a Vertigo XG event.

ITX-2022: External logos to downstream LGK devices not clearing

A customer site reported that external logos using a downstream LGK device were not clearing properly. This was happening on Duration type logos with a delay.

To resolve this issue, external logos with a set time, duration and automation delay will now play out correctly, providing the 'Delay (ms)' field in the External Logo plugin configuration is set to a negative value (otherwise it will be ignored and logos will go to air at their original start time).

ITX-1952: DIVA restores to media store file paths too long in both Diva Job Provider and when using Delivery Manager workflow

This ticket covers the following related issues:

- The Diva Job Provider uses the file name of the media as the name of the sub-folder in which the file is stored (e.g. a file called "grassvalley_nab2015_promo_reel.mxf" would be in a sub-folder called "grassvalley_nab2015_promo_reel". However, when importing files, this sub-folder creation would be duplicated, which could result in the path being longer than expected (e.g. grassvalley_nab2015_promo_reel/grassvalley_nab2015_promo_reel/grassvalley_nab2015_promo_reel.mxf". This could cause errors that relate to the file path character limits discussed later in this issue.

  This issue did not affect Media Watcher, as it does not use sub-folders with the same name as the file they contain.

  To resolve this issue, the Diva Job Provider no longer duplicates the sub-folder containing the media.

- Diva has a File Root Path Limit which supports a maximum of 128 characters, but ITX uses the Windows file path limit of 255 characters. Because of this, when a file with a long path (more than 128 characters) was restored, the path would be erroneously truncated, leading to Delivery Manager thinking it was a different file and causing an error. This issue affected both DivaJobProvider and DeliveryManager.

  To resolve this issue, Delivery Manager now checks for file paths that may be affected by the Diva File Root Path Limit and recreates the long path name as required.

- The maximum name length used by the Diva Job Provider and MediaWatcher meant that when restoring a file, MediaWatcher was checking the file name length, but wrongly setting the maximum value to 60 characters instead of 64 (the value set by the Asset).

  MediaWatcher now sets the maximum value to 64 characters.

ITX-1186: GPI events to trigger a take out of manual hold at the end of a live event failed

Some customer sites reported that GPI events to trigger a take out of manual hold at the end of a live event would fail.

This issue has been resolved for the following scenarios:

- Failover in master/slave architecture
- Schedule restore during live event playout
- Restart during live event on air.

Version 2.4.10 SP8 (build 3.24.10.138)

Fixes

ITX-2711: Output Server 1 - AFD data for PAL SD channels is corrupted on line 11

A customer site reported that AFD data for their PAL SD channels running on Output Server 1 was getting corrupted on line 11. They were using SMPTE RP186: VLI Data insertion for AFD data in SDI to send the AFD data out.

This AFD data corruption issue has been resolved.

ITX-2428: Output Server 1 - Using selected item control to skip a break causes the channel to go off air.

On an Output Server 1 channel, if an operator performed a Take on the selected item while the item was in hold, it would not be skipped, causing iTX to attempt to re-cue it. This sometimes resulted in a "Media event failed to cue" error, which could cause the off air slide to be broadcast. The reason channel's might go off air was actually that iTX did not have enough time to uncue the manually held event before it had to cue the next item.

To resolve this issue, hitting Take on a held item now skips the held item and takes the next available item instead.

ITX-1488: RAW format for Dolby E 2.2, 5.1 and 5.1+2 audio

RAW format support has been implemented for media containing Dolby E 2.2, 5.1 and 5.1+2 audio tracks.

Version 2.4.10 SP7 (build 3.24.10.129)

New Features

ITX-713: Delivery Manager Register In Place Endpoint

This release introduces a new system for migrating from a legacy iTXv1.4 system to an iTX 2.x system.

Because the iTX 1.x and iTX 2.x databases differ in structure, it is not possible for customers to simply upgrade to iTX 2.x. A new Delivery Manager endpoint driver called "iTXV1Driver" has been introduced that can perform "register in place" actions between v1.4 and the latest v2.x databases. This means as video and subtitle assets are added to, updated on or deleted from the iTX v1.4 system, the corresponding metadata is added, updated or deleted on an iTX v2.4 system, running in parallel. The media itself remains on a shared media store and so does not need to be transferred, as each database has its own metadata record. The new iTXV1 endpoint can be selected from the Delivery Manager Config.

By using Delivery Manager, the iTXV1 endpoint is able to take advantage of bespoke workflows to manage the metadata transfer and deletion. Users are also able to manually trigger the database synchronization, which ensures all of your existing metadata is migrated to the iTX v2.4 system. This synchronization is done in batches, as not to impact system performance and the process repeats until all of the asset metadata has been migrated. After that, asset metadata additions, updates and deletions are migrated to the iTX v2.4 system as they are performed on the v1.4 system.

Note:

- At this time the endpoint supports only video and subtitle metadata synchronization.

Enhancements

ITX-105: New External Subtitle Driver

The new external subtitler plugin exclusively supports Softel Swift TX Classic, Softel Swift mTX and Softel Swift

mTX Multi-Language external subtitlers.

Both the new and legacy plugins are installed with iTX but are mutually exclusive.

The new plugin has additional features as described below plus a general improvement in resilience following various failure conditions.

- Channel Configuration

  After first installation of Paddington the legacy driver is enabled by default. To enable the new driver, the "Use Dedicated Softel Driver" option must be selected in the TXPlay Config window.

- Plugin Configuration

  The new driver does not have the ability to select non-Softel devices and has a new "Schedule Duration" option that controls the 'look ahead window' on the Softel subtitler. This restricts the amount of items that appear on the external subtitler's own schedule.

  Changes made to the plugin configuration are applied immediatley and automatically restart the plugin. As such subtitles may temporarily go off air for a short period (up to 3 seconds) while the plugin restarts.

- Subtitle Availability Checking

  When controlling a Swift mTX Multi Language, subtitle availability checking is performed for each configured language. The schedule grid displays information regarding which languages are unavailable or misconfigured on the subtitler.

  When controlling a Swift TX Classic or Swift mTX, subtitle availability checks only cover availability of any subtitle material. In both cases, when an item has gone on air prior to subtitle material becoming available, availability checks will continue throughout the duration of playout until either subtitle material becomed available or the next item goes to air.

- Subtitler In Manual Mode

  When the subtitler has been put into 'Manual Mode', and is therefore not under control from iTX, the schedule grid will display information that the subtitler is "Under alternative control".

  When the subtitler is returned to "Automatic Mode" the plugin will resynchronise the subtitler schedule with the iTX schedule and ensure that the currently on-air item is playing.

- Master/Slave

  When running channels in master/slave configuration the new subtitler plugin must have "Shared Device" disabled.

  Therefore each iTX channel must control it's own dedicated external subtitler.

- Start Of Media

  After failure conditions, or during certain manual interventions of the iTX schedule (e.g. roll-under) the plugin will always ensure the current item is playing from the correct position in order to keep it in-synch with the video.

- Live Mode

  When scheduling a live event, the subtitler can be put into 'live' mode by renaming the external subtitle item

in the iTX schedule grid to "LIVE".

Fixes

ITX-2050: Seeking issues with some LXF files

Seeking in both iTX Desktop preview and FPP-inside playout in iTXPlayer could fail when seeking to specific frames on some LXF files.

This issue has been resolved.

ITX-1838, ITX-1489: Scheduled logos are not always restored after Output Server 1 is restarted.

If both Live and Scheduled logos are on air and the Output Server 1 service was restarted, only the live logos were restored on air. This issue was also reported on ITX-1489.

This issue has been resolved, so that if the Output Server 1 service is restarted, both Live and the Schedule logos are restored on air.

ITX-1625: iTXPlayer resetting due to access violation

ITX Player (Pandora) could crash during playout or Media Utils could crash during registration if a MOV file with specific invalid MOV atoms was played or registered. This issue has been resolved.

ITX-1623: Memory usage due to high volumes of logging

Logging within iTXPlayer is managed in dedicated threads to avoid blocking output. The queues for logging in these threads can become quite long if iTXPlayer is generating a lot of logs in a short period of time. The queues would not shrink automatically once the log entries were processing. This would result in excessive memory usage over time on complex channels and would lead to iTXPlayer resets.

This issue has been resolved.

ITX-1551: Second As Run file created on Master restart

When the As Run start time was different from 00:00 and the Master Channel was restarted before the As Run period was finished, a second As Run file was created for that day.

This issue has been resolved, so that now there is only one file per day, even when the Master Channel is stopped or restarted.

Version 2.4.10 SP6 (build 3.24.10.110)

Enhancements

22693 (ITX-1119): "Schedule updated externally" alerts cannot be canceled

Previously, there was no way to cancel "Schedule updated externally" alerts.

The channel status indicator and Service Provider Status messages can now be reset for externally updated schedules alerts. Also, when a "Schedule updated externally" alert is canceled on the master channel, it is automatically canceled on the slave channel.

22392 (ITX-430): GPI mirroring for paired output devices

iTX v1.4 supported true GPI mirroring for VNode devices, while in iTX v2.x GPI mirroring behaved as master and slave only.

The configuration for VNode GPI devices has been updated so that GPI inputs and outputs can be still be configured to operate as master and slave, but if you have two GPI outputs they can also be configured to function as a mirrored pair. Within the GPI Service Configuration tool, when GPI Device Driver is set to one of the VNode drivers, the checkbox to configure the output to a secondary VNode device now includes the following options:

- **Mirror** - When checked, GPI output signals will be sent to both VNode devices. This behavior is new to iTX v2.4.10 SP6.
- **Master/Slave** - When checked, the second VNode device is used as a backup for the first. This is the same as the pre-v2.4.10 SP6 functionality that was labeled as Mirror Matrix to second VNode.

Fixes

23238: Squeeze back DVEs time sync commands delayed

For squeeze back DVEs, time sync commands sent to iTX Player were being delayed, which would cause secondary events to be played out of sync on between the main and backup servers. TX Play could be seen to commit the event at the same time on both the main and backup servers, however, on-screen the backup video appeared to be several frames late.

To address this issue, the time is now taken immediately before the sync command is sent. This fix also includes additional logging to show all of the timings for the process.

20262 (iTX-160): Delivery Manager - LXF clips with 4 mono audio streams are imported as one 4 channel audio track

LXF clips with 4 mono audio streams that were imported through Delivery Manager were imported as one 4 channel audio track. This prevented individual audio from being reviewed in the Asset or Segmentation iTX Desktop layouts.

This issue has been resolved, by updating the audio mapping for LXF file imports, so that if the audio file contains multiple interleave tracks, they are converted to individual mono tracks within iTX.

21898 (iTX-981): The HCO Router Service produces an excessive quantity of logging data

The iTX HCO Router Service was logging large volumes of data if the HCO card it is connected to lost communication with iControl. For example, if the iControl server was re-booted or the Ethernet cable was pulled from the frame controller card, the HCO Router Service would get stuck in a loop logging messages about data not being recognized as headers.

The HCO Router Service has been updated so that it no longer produces excessive logging if bad data is encountered on a socket stream.

23087 (iTX-1164): Memory leak when repeatedly switching channels on iTX Desktop

Under some circumstances, when the live logo control was displayed on the iTX Desktop, switching repeatedly between channels could result in a memory leak that caused the iTX Desktop Client to lock up. This issue has now been resolved.

23236: Audio mutes at the beginning of LXFs

There was an intermittent issue with brief audio mutes at the beginning of LXF clips which have XG inside enabled. This was caused by the way audio was being queued by VisionMixer. This issue has been resolved.

23246: iTX Desktop freezes when saving

The action performed by the Save item button was being carried out on the same thread as the rest of the Desktop GUI. This resulted in the Desktop appearing to freeze when saving changes. The save action is now performed on a separate thread to prevent this issue from occurring.

iTX-142: Removal of duplicated warning messages for Output Server 1

The Service Details tab on Output Server 1's user interface could sometimes duplicate warning messages received from the service itself. These duplicated warnings are no longer generated.

iTX-1867: Search and replace for single items using Item Editor and Global Edit continues to play old clip

When replacing an individual instance of a clip in a TX Play schedule, caching information from the original clip was being retained. This would lead to the old/stale clip playing out instead of the new/replaced clip. This issue has been resolved.

iTX-1950: Channel displays color bars following an Output Server 1 crash

At the end of a file cache operation, Output Server could crash, causing the channel to display color bars. This was being caused by a conflict during thread deallocation and has now been resolved.

ITX-2035: When encoding with presets that require specific incoming feed formats, the first encode fails

When encoding with presets that require specific incoming feed formats, the first encode will always fail because the initial status of the live feed at startup was not being stored. This would prevent the encode service from matching up the incoming format with the requirements of the preset and would cause the job to fail. Jobs would succeed once the incoming video signal was changed or the preset was changed.

This issue has now been resolved.

Version 2.4.10 SP5 (build 3.24.10.99)

New Features

ITX-1015: SGL FlashNet endpoint driver for Delivery Manger

Delivery Manager: SGL FlashNet Archives are now supported in Delivery Manager. The new FlashNet driver can be selected from the Delivery Manager Config and supports the following modes of operation:

- Search and Restore (via Missing Material Manager)
- Manual Archive
- Manual Restore

Not yet supported:

- Partial Restore

Note:

- The FlashNet Archive must be running version 6.4.13.003.

Fixes

23630 Artifacts and tearing on up-converted clips

Clips that had been up-converted from SD to HD displayed visual artifacts and tearing in the lower section of the screen. This was being caused by the buffer that is sent forward from FPP, which uses a HD line pitch, rather than SD. As such, if not all lines were filled the field order was getting changed.

Now, the field order is changed on the actual buffer to prevent artifacts and tearing on up-converted SD.

23613 VBI lines drop below pedestal

During Clip Transitions, VBI lines drop below the pedestal on lines 6 (field 2) though 20 (both), causing the active video to move into the VANC/VBI area after field reverse. This was happening because the VBI area was being blanked out with UYVY black.

Now the video buffer is cleared with the correct black value with every frame received, meaning active video lines that move in to VANC/VBI area after field reverse will not shift upwards.

23583: Black level on last two video lines and black XG events is -20mV

In NTSC it was discovered that the black level on the last two lines of video and any black on an XG event was not 0v, but actually -20mV.

iTX Player has been updated so that active video frames are filled with UYVY black when video stream is initialized. This will prevent any YUV black on output and the received picture will have UYVY black.

23567: Output Server 1 failures during caching

On attempting to cancel a caching operation, the Output Server 1 (Pandora) would fail. This was because PlayerInterface was waiting for the transfer command to complete before sending a message to say the transfer had been cancelled successfully.

Now, when Pandora receives a message to cancel the current caching it sends the cancel command immediately.

23532: SQL timeouts cause endpoints to pause

Endpoints were pausing due to SQL timeouts connecting to the database and failing to resume. This was caused by excessive orphaned job records in the System_SAL_AccessList table in the SQL database.

The expired jobs duration in the Opus service has been decreased from 30 minutes to 5 minutes, to better handle the number of failed jobs appearing in this table.

23297, 23540: Incorrect SCTE 104 checksum

For enhanced SCTE 104 events, the SD ANC checksum was being calculated incorrectly, resulting in checksum errors.

SD ANC checksums are now calculated correctly.

23264: Files placed in Inbox channel subfolders are not ingested

Files placed into (channel) subfolders within the Inbox on an Isilon were not being ingested. This affected files being dragged and dropped into the Inbox's subfolders and those being imported via Delivery Manager.

This issue has been resolved.

23217: Delivery Manager - CIFS endpoints failing to import new files

An issue was discovered with CIFS endpoints in Delivery Manager failing to import new files, despite registering an update. This was being caused by excessive File Watcher change events being sent to the Opus service.

The Opus service has been updated to use the event filters specified in Delivery Manager. This stops any unneeded File Watcher change events being processed. In addition, a large quantity of logs with an 'Exception' status in the Opus service has been changed to an 'Information' status.

The performance of File Watcher events has also been improved by moving system events to a worker thread with a serial queue.

23728 (ITX-1178): Back-to-back graphics on different layers fail to load on LGK-3901 including Master/Slave and Ganging conditions

When controlling an LGK-3901 using back-to-back graphics and switching the layers between graphics, the LGK-3901 did not load the subsequent graphics into keyer correctly, causing pauses in the graphics while it was waiting for the graphic to load. This issue was being caused by command sequences being sent to the LGK-3901 in the wrong order, although it did not apply to back-to-back graphic that are always on same keyer.

The command sequence being sent to the LGK-3901 has been corrected to prevent this issue from occurring.

23610: "Item not ready in time" error when performing multiple updates

A user performing multiple updates within a short space of time could cause an "Item not ready in time" error. This was as a result of the caching data being lost.

This issue has been resolved.

23414 (ITX-1021, iTX-1189): Animated logos with varying image sizes lead to iTX Player resets

While rendering SPG images which decrease and increase in size over time, it was possible for image processing to use a smaller data buffer than was expected. This would lead to an access violation that would go unreported, but cause iTX Player to stall when removing the logo. This would result in a graph pause two seconds later.

This issue has been resolved.

22990, 22067, 22449, 23456, 23527: Output Server 1 disk caching causes dropped frames or stuttery playout

An issue was discovered with Output Server 1 (Pandora) disk caching, which could cause dropped frames/stuttery playout during broadcast.

The caching mechanism within Pandora has been re-written to prevent this issue from occurring.

22977 (ITX-168): As Run Service BXF plug-in fails to add correct start/end dates in header

BXF schedules created using the Workflow Application Service were sometimes not creating the correct header information.

The correct header information is now created.

22414 (ITX-1190): Delivery Manager - Specifying a file extension for files that are missing an extension does not work

The Delivery Manager Config for CIFS Search and CIFS Drop Box modes allows users to specify a file extension

to use for files that are dropped into the Inbox with no file extension. However, Delivery Manager ignores files with no extension and does not ingest them, even when the 'Default extension (when no extension present)' field is populated.

This issue has now been resolved.

20753: Echoing on grouped mono tracks when using Nielsen watermarking

Media with grouped mono tracks would present an audio echo when used with Nielsen watermarking. The audio tracks would be configured to be grouped, but the grouping was not being applied. This was because of a bug that only occurred when audio tracks were duplicated.

Now, when Nielsen watermarking is enabled on grouped mono audio tracks, any duplicated tracks are saved as stereo rather than mono.

ITX-819: Output Server 1 service occasionally fails to start up

On rare occasions, the Output Server 1 service would fail to start up, and instead would display an error box stating "Omnibus.Config.ObjectDataException: Invalid security context ..." Given that the Output Server auto-restarts following an actions such as resolution changes (i.e. from 1080i to D1) this issue could leave the Output Server in an unusable condition, requiring manual intervention to restart it.

This issue has now been resolved so that the Output Server service correctly restarts.

Version 2.4.10 SP4 (build 3.24.10.89)

Enhancements

23034: As Run logs for primary items can now be written before secondaries have finished

By default, primary items are only written to the As Run logs once their secondary items have finished playing. This leads to situations where primary items appear out of sequence in the logs, as some secondary items (such as a logo) may extend beyond the play time of their parent item.

A new option called "Don't Wait for Secondaries" has been added to Channel Config > Channel Config 3 tab, under the "Create As Run" button. When this option is enabled, primary items are written to the As Run log as they finish playing out, regardless of the state of their children. When this new option is disabled (the default), TX Play continues to write primary items to the As Run log once their children have played out.

Fixes

22660: Encode service - Video format not detected before the encode is prepared

The video format was not detected before the Encode service prepared the encode, which caused the wrong framerate to be encoded.

Now, upon receiving an input change message, the Encodedetails framesize and videosize variables are updated in the client, so that they can be used to register the asset.

23010, 22785, 22821: Softel Swift subtitles not removed during manual takes or failovers

During manual takes and main-to-backup fail overs, subtitles were not being removed from the Softel Scheduling Client. As a result, subtitles continued to play, even when they were not required. This was most commonly seen

on backup channels, as they process scheduled backup restores when changes occur on the main channel.

The Swift driver has been updated to clear down the subtitler during PostScheduleRestore, as the on-air item will be the first item if restarted while subtitles are on-air.

23171: Thomson Interface fails to import in the AMP Processor

Fractional milliseconds or Timecodes that resolve to fractional milliseconds failed to import in the AMP Processor and/or Interchange service.

This issue has been resolved.

23289: Polistream external subtitling not handling manual schedule restores correctly

Support for Polistream's external subtitling was not handling manual schedule restores correctly, resulting in subtitles failing on both main and backup servers.

This fix ensures the on-air subtitling items always return to air after a restart, fail over or manual schedule restore.

23454: Opus Service becomes unresponsive during high volume As Run channel updates

During times of high volume As Run channel updates by TX Play across multiple channels, the Opus Service could become unresponsive and TX Play would start showing scheduled items as Not Ready.

The OPUS service has been updated to better manage large volumes of As Run updates, preventing the high CPU usage that could cause the Opus Service to become unresponsive and TX Play to incorrectly show items as Not Ready.

23465: LGK driver times out and resets the primary LGK socket

An issue was discovered with the LGK driver. If communication with any slave LGKs timed out, the driver would reset the primary LGK socket.

A reconnect and retry command (once per call) has been added to the communication level to resolve the zero byte issue and any resulting disconnects. As part of this fix, the time out has been increased from 500ms to 2000ms.

23497: Logos remaining on-air after a schedule restore

External logos that were on-air during a schedule restore would remain on-air past their scheduled off air time.

This issue has been resolved.

23563: Logo NOW times are incorrectly calculated

An issue was discovered where the NOW times for live logos would not be correctly calculated.

To resolve this issue, iTX now renders all logos with frame time.

23572: PinPoint - "The search returned too many hits. (dtsearch error 137)" error

When a user selected a SearchScope such as "Graphic" with no other search criteria, an exception of the type "The search returned too many hits. (dtsearch error 137)" could occur.

This kind of error can occur when the DTsearch database is large, because each clause is searched separately and then only those results that are in both sets of results are returned.

For this issue, iTX was sending a search request which caused it to look for two sets of results; one set of "everything" and another set of "Type graphic" and then joining these results. iTX has been updated so the "everything" part of such requests are not sent to DTsearch in these scenarios.

Version 2.4.10 SP3 (build 3.24.10.83)

Enhancements

23102: PlayoutAllowed attribute enabled for BXF File Processor

The BXF File Processor has been updated to enable the (playoutAllowed) attribute to be reflected back to external traffic systems.

This allows interfacing systems to query QC status and check if media is "allowed for playout".

Fixes

22822: Garbled sound after importing a VAF file into Vertigo XG

When VAF files have been imported into Vertigo XG and played out by scheduling a page in iTX, the sound would be garbled. This was caused by a buffer over-write, resulting from a timing error between VisionMixer and Vertigo XG.

Now, when audio is received from XG, the audio packet is copied to a local audio packet, which is protected by a mutex. This will prevent the sound from becoming garbled on playout.

23469: Updated captions still display the old caption text

When captions were modified on one channel, then saved and loaded on a different channel, the default caption text was shown, not the updated text.

To address this issue, the data in the Caption Fields is now stored in the internal text dictionary of the data that comes from the Generic Secondary Event, as originally scheduled. This text dictionary data is then processed correctly to ensure updated caption field data is included in the final version of the item (rather than the defaults from the asset).

Version 2.4.10 SP2 (build 3.24.10.81)

Enhancements

22693: External schedule update alerts can now be acknowledged

When an OSC schedule is updated externally and re-ingested, the channel status indicator on the Channel Control layout changes to yellow. Double-clicking on the status indicator opens the Service Provider Status dialog, which displays an alert saying the schedule has been updated. The channel status indicator and Service Provider Status messages can now be reset for externally updated schedules alerts. This is done by selecting the alert from the Active Alerts pane on the Engineering layout and clicking Acknowledge Alert.

22978: Introducing live mode for Studio Countdown

When live mode is enabled, the Next break time will change to say Back in and the total time remaining until the

next named event, including any split breaks or multi-sequence breaks.

- If the time to the next live event is 1 hour or more, the Back in timer will display 59.59+.
- When the live item is on-air, the Back in timer will display 00:00

Live mode and the name of the live event are both configured in the StudioCountdown.exe.config file.

In order to provide an at-a-glance view of the status of events, Studio Countdown now uses the following color coding:

- Red: On-air live event
- Yellow: Upcoming live event
- Green: On-air break

23263: Studio Countdown clock can now display local offset time

Within the Channel Config dialog on the Channel Config 2 tab, there is an option to enter a UTC offset, used to set channels to their local time. The StudioCountdown.exe.config file now includes an application key to control whether StudioCountdown should display the local time offset for that channel or the UTC time.

Fixes

23141: GPI data is not added to the schedule from BXF, ITXML or OSC imports

GPI data was only getting added to a schedule when an event was added via the Desktop Item Selector, not when it was added via BXF, ITXML or OSC imports nor by copying and pasting between schedules.

The New Item handler for live events has been updated so that GPI data is added to events if it is not already present. This check is done whenever the item goes through the New Item handler, which ensures that all methods of import are included. As the configuration is specific to each channel, the schedules are also portable.

As part of this fix, the Properties dialog for Live events has been updated to show GPI Input and GPI Output values, where specified. This Properties dialog can be accessed from the Live Content Selector and the Event Editor for Live events already in the current schedule.

23206: Split breaks not setting start time for imported BXF schedules

An issue was found in the ITXML translation, which meant the split break constructor was not setting the start time, even though it was passed to it.

The BXF importer has been updated to take notice of start times given to split breaks.

23308: Closed Captions in 436M data not being output for MXF files containing Closed Captions in both 436M data and MPEG User Data

Where MXF files contained Closed Captions in both 436M data and MPEG User Data, the Closed Captions in 436M data were not being output. As 436M is the new standard, iTX has been updated so that if Close Captions are found in 436M data, any further Closed Captions with MPEG User Data will be ignored.

This update also means that the Windows environment variable 'LIBDECODER_CC_PREFERENCE' introduced by ticket 23197 in the first release of iTX Version 2.4.10 is no longer required.

23389: Cumulative subtitle text appears jumbled and flashes

An issue was discovered with subtitles containing add-ons (also known as cumulative subtitles), which caused the

text to flash or appear jumbled. This issue was caused by the lack of support for cumulative subtitles in iTX Player.

iTX Player has now been updated to support cumulative subtitles, as per the EBU Subtitling Data Exchange Format.

23503: Changes to on-air schedules are automatically processed even with 'Auto Update On-Air Schedules' option is disabled.

Changes to on-air schedules were being automatically processed even when the 'Auto Update On-Air Schedules' option in the Schedule Event Configuration was not enabled.

This issue has been corrected so that changes to on-air schedules are only automatically processed when this option in enabled.

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Enhancements

23130: Missing Materials Manager endpoint object caching

The Missing Materials Manager has been updated to cache endpoint objects in the missing material channel, rather than preserving multiple instances of each search request.

Fixes

22537: PinPoint "The search returned too many hits" error

PinPoint schedule searches with broad search criteria (e.g. "Name = *") could sometimes fail with the error "The search returned too many hits". An issue was found that meant asterisk wildcards were being added to the search, even if none were specified by the user.

PinPoint has been updated to ensure the wildcard is only used once and only when specified by the user. Furthermore, the total number of words returned in a single search has been increased from 64,000 to 256,000.

21429: OSC schedules containing template sequence Start Times are often in the past

When importing an OSC schedule containing template sequences, the Start Time from the template was being used, which would often be a time in the past.

The OSC schedule import process has been updated so that template sequences use the Start Time in the sequence itself.

22998: Join-In-Progress items do not have their JIP flag cleared when changed to Auto mode.

If a Join-In-Progress (JIP) mode item had its in JIP flag set, changing the item to Auto mode did not clear this flag. As a result, the item was never considered available for on-air.

This issue has now been resolved.

23084: Media Utils hanging when Media Watcher collects information about media

When Media Watcher tried to collect information about media within Media Utils, the Media Utils application would hang, preventing the media from being imported.

This issued has been resolved.

23212: File access conflicts preventing As Run files from being purged

During times where the Opus service is offline, As Run files are cached locally. When the Opus service starts, TX Play should update the service and, if successful, locally cached files should be deleted. A file access conflict meant these files were not being purged, resulting in a large number of entries being left in the database.

TX Play has been updated to use a static thread for these operations, which prevents conflicts when deleting locally cached As Run files. Furthermore, Opus's update status is set to Successful when Opus is updated without error.

23214: Opus service fails with an exception on installation

When installing the framework for the first time the Opus service failed with an exception, due to a database table failing to create.

This was due to a missing step in the Opus database upgrade service. This step has been restored so that the table is created on new installations, as expected.

23277: Schedules going into hold on the backup channel

An issue was found where some schedules ran on the master channel without a problem, but would fail to go into hold on the backup channel. This was happening when items that had been manually taken on one schedule were cut and pasted into another schedule. Any items with a Start Time before the backup channel's hold suppression point would not go into hold.

To prevent this issue from reoccurring, the manual hold suppression flag within the XML of such items will be cleared when they are copied from the clipboard.

23281: Short clips following a long clip do not cue in time

An issue was found with schedules that contained a short clip followed by a long clip or a series of short clips. When the 'Take Next' button was clicked, the output server attempted to take the shorter clip to air, but in some circumstances these clips could not be cued and rolled before they were due to be played out.

Now, when you click 'Take Next' the item will play and any subsequent items will be cued.

23298: Interchange Service 2 - Schedule imports failing with "Request entity too large" error

Schedules assets over 65,536 bytes in size were being rejected on import with a "Request entity too large" error.

To prevent this error from occurring Interchange Service 2 has been updated to handle post messages up to 2GB in size.

23270, 22834: Overlays are not removed when scheduled

Thread protection has been added to the thread that is responsible for removing overlay events, such as picture-in-picture and voice overs. This will ensure overlays are removed when scheduled, so that secondary video is not left on-air.

23330: As Run logs do no include secondary events that ended before their primary

The As Run service has been updated to ensure that secondary events that end before their primary event starts are written to the As Run logs, regardless of whether the primary event is successful or not.

Note:

- This fix does not apply to situations where the primary item is skipped, as this causes the secondary event that ended before it to be marked as "Skipped" and not written to the As Run log. See Known Issues & Limitations for more information.

Version 2.4.10 (build 3.24.10.59)

New Features

New Nielsen watermarking

iTX now supports the new Nielsen audio watermarking system. In order to maintain backwards compatibility, NAES II is still available. For Output Server 1 channels, Nielsen watermarking is configured via the Channel Configuration on the Engineering layout of the iTX Desktop and is located on the 'Channel Configuration 4' tab. It includes the following configuration options:

- **Process Type** - You can insert either NAES II or Nielsen Watermarking or both signal types.
- **SID** (Source Identification) - Nielsen assigns one or more SIDs to each content provider or distribution source. Included as a component of each watermark, the SID uniquely identifies the distribution source.
- **Check Digit** - This string corresponding to the SID is assigned when the Nielsen Watermark SDK is delivered. The authenticator will not permit the use of the SID in watermarking if the check-digit string does not match the SID.
- **Level** - This identifies the type of watermark – Program Content (PC) or Final Distributor (FD). Typically PC watermarks are assigned to syndication content or to content providers, while FD watermarks are assigned to local broadcast affiliates or to cable network content. The user needs only to specify the appropriate assigned type (PC or FD).

Enhancements

10873: Router status updates from NVision NV9000

When using iTX with a live event and an NVision NV9000 router configured with multiple levels it was possible to be falsely notified of routing errors and the live event would fail, outputting black. Previously, iTX only checked the status of the First Level in messages received from the NV9000 to determine the status of a crosspoint. Now, when iTX receives a new status message from the NV9000, it sends a request to the NV9000 to return the crosspoint status of only the Primary Level of that device. In the NV9000 the Primary Level is the level that is configured as the most important level.

These changes remove potential false errors and make monitoring of routing changes much simpler and more accurate.

Also, the iTX Routing Data Service has been modified to operate with the new NVision NV9000 Router Service.

Previously it displayed, and provided within the iTX system, the names of all levels configured within the NV9000 Router. Now the Routing Data Service just displays and provides within the iTX system the Primary Level. This is labelled as the 'NV9000' routing level, making multi levelled routing transparent to the user and much simpler to configure within iTX.

Note:

- You must make sure you also upgrade then restart the iTX desktop as well all as the routing related services,

in order that the desktop functions correctly with this enhancement.

12689: Reloading configuration changes to the NVision NV9000

To make configuration changes to the NV9000 router simpler to propagate to the iTX system a "Refresh from Router" button has been newly added to the NV9000 Router Service user interface "Setup" tab. Clicking on the "Refresh from Router" button causes the NVision NV9000 Router Service to request from the NV9000 router details of its configuration and the status of the devices. The SQL Router Crosspoint table is then updated with this information.

This enables changes to NV9000 device names and the addition of new NV9000 devices made using the NV9000 configuration utility to be incorporated within the iTX database.

Previously this could only be achieved by restarting the NVision NV9000 Router Service.

Note:

- Routes can still be made while this refresh operation is in progress.
- If a device is deleted within the NV9000 controller, the iTX crosspoint database entry for the device is NOT deleted. Currently crosspoints can only be deleted by using SQL Server management applications.

Filtering by groups in iTX Routing Desktop configuration

It is now possible to create categories for router sources and destinations via the Routing Data Service and then use those categories to filter by in routing desktop components on the iTX Desktop. This means the user no longer has to scroll through the entire list of sources or destinations, but can select a category to make the selection process easier. The user can create and delete categories, or select existing ones and add or remove sources and destinations. They can be block or multi-selected for eas of assignment.

The iTX Routing Desktop routing components can then be configured to run in categories mode if required. This has to be done by a user with administrative rights.

Any component that allows the user to select a source or destination can now be made to show categories by right clicking and selecting Properties from the options menu when in edit mode. Selecting Route List Configuration will bring up the Categories on/off toggle dialog.

Once active, any source or destination selection dialog will allow the user to select a category first and then the router source or destination from the filtered list.

Deleting events from the scratchpad in SmartClient

Events can now be deleted from the system completely via the scratchpad (below the logging buttons), rather than just removed from the scratchpad itself, by clicking the x on the top right hand side of the scratchpad dialog for each event.

If you wish to simply remove the dialog from the scratchpad after annotating an event, you now click the ▮ button.

This has made deleting unwanted events much easier than before. Previously, clicking the x button only removed the event from the scratchpad.

Warning when a user deletes an asset in iTX that is in a live schedule

The iTX desktop has been enhanced to check if an asset that a user wishes to delete from the system is currently scheduled to play out and warn them if this is the case.

If either a parent or a co-reference asset is part of a live schedule or a schedule that is loaded into a live channel,

the operator will receive a warning in the deletion dialog informing them which channel or channels the asset is scheduled on, along with the time and date that the first instance is due on-air. The user is given the option to delete the selected asset or the selected asset and all associated co-referenced assets.

Fixes

20494: Occasional line/field shift on scene change when downscaling certain clips

Some MXFs were exhibiting field shift on scene changes when downscaled. This was caused by poor implementation of telecine (3:2 pulldown) detection. iTX Player would switch into telecine mode if any matching top or bottom field was detected. This has been addressed by not switching to telecine mode until a full telecine sequence of frames is detected.

21157: 'Not Ready' status on backup channels following a manual take

Back up channels would play black to air following the manual take of a clip shorter than the cue time. This was being caused by the schedule restore procedure that is applied to the backup channel following a manual take. It has been fixed by modifying the restore logic to not release resources for all items that are in a commit state.

21944: SD clips appear zoomed in after 2.4.4 upgrade

SD Clips registered with AFD information prior to iTX 2.4.4 were displaying incorrectly. This was a result of changes to how AFD data is retained in the database. TX Play now queries the 'Locations' table for AFD and other related metadata.

Older versions of iTX Media Watcher wrote metadata to the main asset table.

So when a pre-existing record was called that has no location table metadata, the default values were used. If you experience this problem, your system administrator should use the iTX utility ClipFixer to copy source format information from the asset to the Locations table. For more details on how to do this, please see the section 'Important notice regarding Aspect Ratio information' earlier in these release notes.

22093: Next item cannot be taken if its duration is shorter than the time required to make the item ready

A problem has been fixed whereby the next item could not be taken if its duration was shorter than the time required to make the following item ready and the following item contained bad media. This was because iTX Player would time out trying to prepare the bad clip. This has been addressed by adding a time out check that allows the next clip to roll. The operator can then either remove the bad item or allow the emergency slate to air while another item is either added or cued, preventing the schedule from halting for the duration of the bad media.

22327: SmartClient - Shotlists sent to Avid fail if they have a shot with in and out points after midnight

Sending a shotlist to Avid containing a shot with in and out points spanning midnight would fail. This was because SmartClient could not handle shots marked up where the inpoint and or outpoint did not match the time of the media offset because it was in the next day. SmartClient has been modified so that when the time value in ticks is smaller than the asset offset, one day's worth of time is added to the offset in order to correctly calculate the difference.

22376, 22512, 22678: Output Server 1 - Unexpected termination of caching operation when a file being cached is no longer available

A bug has been fixed where, if a file being cached to the output server is suddenly no longer available from its original location (due to network failure for instance) the unexpected termination of the caching operation would cause an unhandled exception that caused iTX Player to restart. This has been fixed by correctly handling the loss

of connection and instead generating an error message warning that the file is no longer available.

22558: Nexio MXF files register with incorrect duration

Some Nexio MXF files could register with incorrect duration due to MediaUtils using the incorrect codec to calculate duration.

This has now been corrected.

22621: Transitions to next schedule fails

The next nested schedule would error when cueing following the expansion of further nested schedules within the look-ahead time. This bug was a regression introduced by changes made to TX Play for bug number 22396.

The issue has been fixed by rolling back the code changes made to fix that particular issue and another solution has been implemented to fix the original issue.

22680: Delivery Manager CIFS endpoints stop detecting files in folders

Delivery Manager CIFS Endpoint would stop processing files in watch folders until Delivery Manager was restarted. This was caused by the file watcher memory buffer overflowing. The buffer size has been increased in the Opus library from 12kb to 64kb which will be picked up both by Delivery Manager and the Workflow Application Service to prevent this.

22681: Delivery Manager stops processing jobs if connection to the database is lost or times out

Delivery Manager stopped processing jobs if connection with the database was temporarily lost or timed out. This was because an 'available' flag was getting set to 'false' and not being reset. Delivery Manager Endpoints with health errors would then automatically pause. Connection delays are now treated as warnings rather than errors so that timed out connections are retried.

22815: VOD - Rendering progress shows as '0%' even though jobs are in progress

The Job Monitoring layout was not reflecting the progress percentage for jobs in the Extended State column as it should. The status would be shown as rendering but no progress was visible until the job completed.

The desktop component has been modified to pick up the progress updates.

22838: Logos get stuck on-air when playing live and scheduled logos in combination

Logos were getting stuck on-air if playout contained multiple live logos and scheduled logos in combination.

This was caused by iTX Player failing to send remove commands for logos with lower internal ID numbers than the ones used for live.

22859: Find and replace using Ardome endpoint does not include in and out points of the transferred clip

Clips imported from an external search path were overwriting the original placeholder in/out points and durations with 0 when using the event editor on the channel layout. This was caused by erroneous setting of the holdpoints property when using search and replace and has now been fixed.

22866: MXF clips can cause iTX Player to reset and failover

Some types of MXF were causing iTX Player to reset and failover to the backup channel. This was because changes made to the method used to process various vanc data types had led to possible dead locks between the 'Demuxer' thread and the 'Process Video' thread.

Different vanc data types are now handled by multiple methods to avoid vanc processing causing lock ups.

22909: VOD encode does not use the encode settings from the selected Mastering Profile

It is mandatory that Encode Profiles contain the name of the channel in order to be used automatically when issueing mastering jobs. A bug existed where if an encode profile was used that did not contain the channel name, VOD would give the user the impression that the job had completed anyway, but the file would be 0 bytes in size.

This has been fixed by failing the job and notifying the user via the Job Monitoring layout.

22914: VOD copy jobs do not wait until the file has finished encoding buffer flush

Copy jobs were not waiting for the master file to finish being written to before attempting to copy them. This would cause the copy job to fail because the file was locked.

The copy job now checks the file to see if it has finished growing before initiating the copy.

22915: MakeLists fail if one of the items in the list is not a valid schedule

If a MakeList contained a schedule that was not yet a valid asset in the system, all items in the list after the invalid one would fail.

This has been corrected and now the invalid item is skipped and the rest of the MakeList completes as expected.

22945: Lip sync issues playing some Nexio LXF clips

Some Nexio LXF files that are rewrapped from original MXF formats were exhibiting lip sync issues.

The problem was found to be an issue with audio packet alignment in the LXF Source Filter used by iTX Player's File Processing Pipeline when handling i-frame only material.

22951: As Run file does not contain all secondary events

Some As Run logs did not contain all secondary events. This was due to the secondary event not having the Secondary Event flag set. When the secondary item aired, it was written to the As Run log. Then when the parent item completed, it added the secondary item again causing an exception because the item was already in the container.

This was fixed by making the routine exit whenever the secondary item was checked.

22958: Save button not flashing on Live Logging layout following user changes

Deleting or editing an event on the Live Logging layout Event tab would not trigger the Save button to flash.

This was a simple fix of activating the buttons prompt state when an even is modified but not yet saved to the database.

22987: Locator service freezes if its partner is shut down

If two Locator services were running in parallel on a system and one was closed down, the remainder would lock up for a short time. This could be a problem if anything needed to reconnect to the locator service during this time. The cause was found to be data in memory that was locked (and therefore protected) for a single purpose but actually required to be read by multiple sources.

This was fixed by copying the data to another area of memory so that it can be read when the original data becomes locked.

22995: Annotate button does not appear on Action tab during an archive job

The 'Annotate' button was failing to appear on the action tab for Archive Jobs.

This was caused by the interface not being called to create an instance of the button.

23003: Secondary records running long by up to 30 frames

When a secondary record of a live item was scheduled, the recording would encode the beginning of the following item if it was in manual hold.

This was because the recording was taking its duration from the physical duration of the event rather than the scheduled event duration.

23012: Clips in Manual Hold following a live event fail to take if a schedule restore or update has taken place

Clips in Manual Hold following a live event could fail to take if a schedule restore or update has taken place. This is because any clips that are inserted into a channel just after the live event (once it is on-air) will not be cued and need to be automatically allowed to cue before "take next" is actioned (known as "postponed take" functionality).

This has been fixed by changing the algorithm to rely on the "Cueing" state of the items. "Postponed take" will now simply wait for all cueing items to become cued.

23018: Opus index failing as too much XML data is being returned due to closed captioning metadata

Indexing of assets was failing because too many records were being returned by the stored procedure for the memory allocated for the task.

This has been fixed by modifying the stored procedure to pass fewer records at a time.

23021: Cached content fails on backup channel

Occasionally cached content was failing to show as "Ready" in the schedule grid of the backup channel. This would only happen if a network communication delay or failure occurs during the loading of the clip.

TX Play now automatically attempts to re-load the asset details following a network communication error or delay in order to make sure the asset is loaded in time before it needs to cue.

23045: Media Viewer does not allow the timeline to be clicked beyond midnight

On a clip where the timecode goes through midnight the media viewer didn't allow the user to select a point on the timeline beyond midnight.

This was caused by the changes made to calculating time code for clips spanning midnight in issue number 22327 not being implemented in the media player and has now been addressed.

23052: Chained schedules disappear from the schedule grid

A problem with chained schedules disappearing from the schedule grid has been fixed. It would occur when the original schedule was modified following the appending of a second schedule and was caused by clashing schedule ID numbers when the schedule was reloaded.

A chained schedule now gets a unique ID assigned to it as it is added to the channel to prevent the problem.

23059: Audio pops heard during transitions on certain LXF clips

Some LXF format clips were exhibiting audio pops during transitions using XG Inside. The problem was a deadlock in the rendering caused by the XG inside software not passing audio packets to iTX Player in time.

The flushing of audio packets from XG to ITX has been made more efficient to fix this.

23066: Backup server sometimes fails to cue and play clips that were manually taken on the main channel

Backup channels were failing to cue clips that follow a live event in time when cued and taken manually on the main channel. This was caused by a race condition for the logic surrounding Schedule Restores. During a Schedule Restore, the priority queue in TX Play was blocked from processing information regarding the clip's status. This meant that the clip remained in the Cueing state and could not transfer to the Cued state until the Schedule Restore was complete. The item with the stuck message stored against it was then replaced with the restoring copy, losing the information that the item had in fact been cued.

The logic order has now been amended to prevent this.

23070: Live event GPI inputs no longer roll breaks

Live event GPI inputs were no longer rolling breaks set to receive external takes.

This was due to iTX throwing an exception when being passed the data string as it expected three parameters but was being passed only two. This issue has been resolved.

23081: SmartClient - Action tab fails to update when switching workspaces

The Action tab was failing to update with a full set of available action buttons when switching to the browse workspace after showing those for a specific job.

This was caused by SmartClient not reloading the available job types for the Browse workspace until the previous task had been completed by the user and has now been resolved.

23093: Squeezebacks for secondary video sometimes strobes or appears black

Squeezebacks for secondary video occasionally strobed between one field of playing video and 1 field of frozen video or sometimes appeared black.

This was caused by a schedule restore being issued during the squeeze, which causes TX Play to release the clips from iTX Player and then re-cue and recommit them.

This has been fixed by checking if the Clip IDs of on-air items and requested items are the same and if they are, iTX Player now just ignores the recue command.

23114: Start times changing on schedule markers with fixed times

The logic for 'Take Next' was wrongly updating schedule markers in the past that had a fixed start time with the current time.

It has now been corrected to only update with the current time if the schedule is taken to air manually ahead of the start time.

23115: GPI events - Slave channel rolls late by a few seconds

When using the live event plugin and GPI input to trigger the next item, sometimes the entire schedule in the slave channel would be offset by a few seconds.

This was because after a schedule restore, items which are in past are marked as expired and the live duration

was never actually saved. Therefore after the restore TX Play was logically marking the item as expired.

This has been addressed by rechecking the item's duration and restoring the on-air item.

23116: Restarting TX Play during a live event changes the state of previously cued items to 'Commit'

If TX Play was restarted during a live event and the next clip due on-air was already cued up, it would change its state to committed when it should remain as cued. This was because following a schedule restore TX Play would erroneously reassign the item's status as 'Ready to Commit', which would become 'Commit' following the items re-check.

The item is now re-cued following a TX Play restart.

23134: Audio mutes heard just before transitions for LXF files

Audio mutes were occurring just before transitions between LXF files.

This was caused by bad logic in the audio mixer throwing an unhandled exception and the mutes were the result of iTX Player creating a dump file of the exception and has now been corrected.

23135: Primary server fails to play clip in some cases

Some manually taken items following a live event that had cued successfully would play black to air on the main channel when the backup channel played out correctly.

This was caused by an improperly formed log message in the function being passed to the code for handling takes following a truncated live event and has now been corrected.

23196: Closed Captions corrupted on output server after V-CHIP event

Closed Captions inserted into Live events were outputting corrupted data after V-CHIP events.

This was because the V-Chip data would confuse iTX player into reading the wrong number of bytes per closed caption pair and has now been fixed.

23197: Closed Captions garbled on some clips

Note:

- For users running iTX 2.4.10 SP2, the Windows environment variable is no longer required. See the fix description for ticket 23308 for more information.

Output Server: MXF files that contained Closed Captions in both 436M data and in the MPEG User data would cause iTX Player problems trying to decode both simultaneously resulting in scrambled data being outputted.

This has been fixed by introducing a Windows environment variable setting that allows you to determine which of the two types of CC data you wish to set iTX to decode.

The name of the variable you need to create is LIBDECODER_CC_PREFERENCE

The variable data you need to set, depending on your choice of CC data is as follows:

- 0 will still attempt to decode both sources.
- 1 will only decode closed captions from mpeg user data.
- 2 will only decode closed captions from 436M data.

To create a Windows environment variable on the Output Server click 'Start > Computer > System Properties >

Advanced System Settings > Environment Variables > New'

Add the variable name as described above and then add one of the 3 values depending on your preference and click 'OK', for example:

Variable name: LIBDECODER_CC_PREFERENCE Variable value: 1

Note:

- For the changes to take effect you must restart all iTX Services.

23204: De-archive light blinks for clips imported from external search paths

Changes made to how clips were imported from external search paths (see ticket 22859) caused the blue 'de-archive' status light on the schedule grid to blink (every time the status was checked). The correct behavior is that the light should stay lit until de-archiving commences, at which point it should change to blue with an exclamation mark.

This has now been fixed.

22892, 22927: First item after opt out fails

A problem has been addressed in TX Play with cueing manual clips that have multiple secondary items close together on the time line following live events.

This was because all items apart from video clips are by default opted out of Ripple Cueing and therefore items closer together than 15 seconds would never have time to reach a state of 'cued' once the manual take is made. Applying Ripple Cueing to these item types has fixed this.

Known Issues

The following known issues are scheduled to be addressed in the next release of iTX 2.4. Please note that many of these have been found internally by Grass Valley QA engineers in particular testing environments or scenarios; or they may be specific to a certain customer configuration.

As such, they may not be applicable to or present in your particular system. They are also still under investigation by the iTX development team and therefore not yet fully described, so only the ticket's summary is used below.

21900: SmartClient - Opening a shotlist using the URL plays out the whole clip instead of the shot

In SmartClient, opening a shotlist using the URL plays out the whole clip instead of the shot.

22683: Off Air slide goes to air because clips take over 17 seconds to cue

Off Air slide goes to air because clips take an excessive amount of time (17 seconds) to cue when reading MOG Metadata in some MXF files.

23486: If Cue Next and Take Next are pressed repeatedly, the channel can go black or the subtitles can go out of sync

An intermittent issue has been discovered with both Softel SwiftTX and Polistream subtitles playing on a backup channel. If Cue Next and Take Next are pressed repeatedly, the channel can go black or the subtitles can go out of sync with the video. When the schedule has played out an item will remain in its timeline.

23647: CG events missing text

Text was present in the field but there was no text or underlying animated logo displayed on the output from the CG events.

23573 (ITX-1646): Output Server 1 - Cross fade transitions glitch/stutter from clips to live events

A site has reported that cross fade transitions from a clip into a live event causes audio and video output to stutter during the transition.

23443: News Flash exception when you hit Take and the current On Air clip has a secondary event

When using either of the two News Flash methods (Manual Return or Auto Return) and you have inserted it into the On Air schedule by clicking the Prepare button, it will cause an exception when you hit the Take button, but only if the current On Air clip has a secondary Event.

22891: SD/HD Mov/MXF clip plays back with around a 40ms lip sync error

It has been reported that video clips that were encoded using Harmonic Media Deck and then transferred to another media grid that iTX sources may exhibit an audio synchronization error of approximately -40ms (1 frame behind the video).

21632 (ITX-783): iTX GSM Gateway will stop updating a channel that has been failed over to its backup

iTX GSM Gateway passes data on the Current Item, Duration, Next Item, Time to Transition to iControl. If a channel is failed over to its backup, the data stops getting to the iControl GSM.

20340 (ITX-402): Dolby AC3 CRC errors

Trimmed AC3 Dolby audio packets that are not aligned at a transition point can cause downstream decoders to report CRC errors.

18740: Interlacing issue playing SD clips on a 1080i channel

Upscaling of NTSC SD clips in a 1080i channel can result in poor field interlacing.

23176: Intermittent display of 608 closed captions

Intermittent display of 608 closed captions due to invalid empty 608 packets being pushed to 608 stack, which are not part of actual 608 closed captions.

23444 (ITX-375): Output Server 1 resets when a logo event is removed

On removal of a logo event, a media failure error can occur, which may cause Output Server reset.

23650: SD GXF media jitters on 720p channels

Up-converted SD GXF media is jittery and stutters when played on a 720p output channel.

23187: Evergreen functionality should replace media that's not on ITX as well as missing media

In situations when media cannot be de-archived before going to air, evergreen content is not played out in its place. This is because the evergreen functionality is not currently available for media that is not on an iTX store.

23408 (ITX-3889): Media fails if previous media fails to cache

Media that failed to cache because it had a missing 'media.dir' folder caused any media that followed it to also fail.

23326: User created segments do not get named by the update workflow

The update workflow should be able to name each segment a user creates in SmartClient shot logging.

23202: Interlaced flag is ignored on SD AVI media and therefore it stutters on playout

For interlaced SD AVI media with invalid frame rates, Output Server can detect the media as progressive and then attempt to upscale it to be interlaced. This can cause frames to be repeated on play out and Output Server to log the error "Bad media cannot be played."

ITX-2826: Output Server 1 channels cannot insert CGMS-A Copy Guard VBI data

When attempting to insert CGMS-A Copy Guard data, the following results are reported by Tektronix WFM-7120 waveform monitors:

- 'Copy freely' is reported as 'Not detected'
- 'Copy no more' is detected as 'Cop. already', but it is intermittently reported as 'Not detected'.
- 'Copy once' is detected as 'Copy once', but it is intermittently reported as 'Not detected'.
- 'Copy Never' is detected as 'No copy', but it is intermittently reported as 'Not detected'.

ITX-2840: Cued in-point timecode incorrect on Output Server 1 channels

On testing NTSC VBI timecode insertion on lines 17 and 19 for Output Server 1, it was observed that in-point drop frame timecodes were incorrect. Typically, the timecodes were 1 to 3 frames ahead of the expected values, e.g. when the expected timecode was 01:00:00:00 the actual timecode was 00:59:59:29.

Accessing the iTX Installer

The iTX 2.4.10 software is distributed as an iTX Suite zip file, which must be downloaded onto the machine where you want to install the iTX software modules.

To access the iTX Installer:

1. Copy the official release version of the **iTX Suite** zip file (e.g. ITX Suite 2.4.10 - Build 3.24.10.xxx.zip) to a local drive on the machine you want to install the software on. Never attempt to run the iTX Installer from a network share.
2. Unzip the file.
   If the computer security settings prevent you unzipping the file:
   a. Right-click the zip file and select **Properties** from the displayed menu commands. The Properties window appears.
   b. Select the **General** tab in the Properties window and click **Unblock**.
   c. Click **OK** to close the Properties window.
3. Once the file is unzipped, open the **iTX Suite 2.4.10** folder.
   The folder contains the Setup.exe file which you use to launch the iTX Installer.
   The following two subfolders are also included to support the installation, but require no immediate attention:
   - **Drivers**: contains the required device drivers for the SDI video cards that are used with the iTX Output and Encode servers. You must ensure you are using the correct AJA drivers for the version of the Output Server service you have installed. For more information on installing the Output Server service see the iTX System Administrator Guide.
   - **iTX Install**: contains the iTX installation and iTX system files that are required to manage and run the iTX software.
     WARNING: Never use or modify the files in the iTX Install folder, except when instructed by our personnel. Always use the Setup.exe file and iTX software module user interfaces to configure and operate iTX. This minimizes the risk of unintentionally damaging the iTX system.

Supported Devices and Software

iTX 2.4.10 can work with a range of devices, including those listed below.

For more details of which firmware versions are supported, contact our Technical Support Services team.

External Playout Devices

With the appropriate plug-in licenses, iTX 2.4.10 supports the following devices for on-air control.

External Logo plug-in
- Grass Valley Imagestore 300, HD and 750 models
- Grass Valley LGK-3901 card in a Densité frame

External Subtitle plug-in
- Screen Polistream v2.4.1.2
- Softel Swift TX M-Series 2.01
- Cavena STU v3.1.7

Clarity plug-in
- Pixel Power Clarity graphics system v7.2.7.8

VizRT plug-in
- VizRT graphics system v2.8

iTX Master Control
- Grass Valley Imagestore 750 , v4.5-012
- Grass Valley Imagestore Modular 3901, v4.8
- Grass Valley iMC-Panel-100, v7.2.10.0_ECO_18578 - 2012_10_16
- Grass Valley iMC-Panel-200, v7.2.10.0_ECO_18578 - 2012_10_16
- Grass Valley iMC-Panel-300, v7.2.10.0_ECO_18578 - 2012_10_16

Vertigo XG plug-in
- Vertigo XG Xmedia Suite v4.8 SP7
- XG Inside Xmedia Suite v4.8 SP7

Routers
iTX 2.4.10 can work with a range of broadcast routers via the following router controllers.
- Grass Valley NVision NV9000 and NVision 915 V2
It can also control the following routers directly.
- Grass Valley Densité HCO

GPI devices
iTX 2.4.10 supports the following GPI devices.
- Videoframe: VNODE 8x8; VNODE 16x16; VNODE 32x32
- DNF Universal Switch Panels: USP-8; USP-8A; USP-EM-8; USP-SNMP-8; USP-16; USP-EM-16; USP-SNMP-16

External content stores
iTX v2.4.10 can work with media files on the following types of external storage system.

Devices	Supported functionality
EMC Isilon OneFS (v7.2.1.1)	Searching, restoring, retrieving and storing.
SGL FlashNet Archive (v6.4.13.003)	Searching, restoring, manual archiving and manual restoring.
Front Porch Digital DIVArchive (v6.5.3.5.0)	Restoring, partial restoring; archiving and deleting of media files.
Viz Ardome	Retrieval of media files.

Suitcase TV archive system	Restoring of media files.
Omneon Server	Retrieval of media files, using FTP.
GVG Profile	Retrieval of media files, using FTP.
Masstech MassStore (v 7.5.3)	Restoring, archiving and deleting of media files.

Third-Party Applications

- iTX support for ENPS versions 5 and 6 has now been deprecated.
- iTX support for MOS Protocol 2.83 has now been deprecated.

QA Environment and Platform

This release of iTX has been qualified by our Quality Assurance team using the following third-party software, hardware and operating systems.

Operating Systems and Other Software

iTX Framework Services
- Microsoft Windows Server 2008 R2 SP1 (v6.1 build 7601)

iTX Database
- Microsoft Windows Server 2008 R2 running Microsoft SQL Server 2008 Service Pack 3 (version 10.0.5500)

iTX Output Server
- Microsoft Windows 7 Ultimate SP1 64 bit edition (version 6.1 build 7601) for Grass Valley Playout Appliance servers
- Microsoft Windows Server 2008 R2 (version 6.1 build 7601) for HP output servers

iTX Desktop Client
- Microsoft Windows 7 Ultimate SP1 64-bit edition (version 6.1 build 7601)
- Microsoft Windows 7 Professional SP1 64-bit Edition

Other Hardware and Software

Video Playout and Ingest Cards
For encode servers running the Encode Services:
- AJA Corvid LP with Drivers 7.4.0.49 FW 20-01-10
- AJA Kona 3G with Drivers 7.4.0.49 FW 04-07-11
For output servers running Output Server 1:
- AJA Corvid LP with Drivers 7.4.0.49 FW 20-01-10
- AJA Kona 3G with Drivers 7.4.0.49 FW 04-07-11

System Time Code Generation
- Adrienne Time Code Card with drivers 1.0.0.7

Video Router and Router Controller
- Nvision NV8576+ router (software version 14.0.0.11)
- Nvision NV9000 router controller (software 6.2.0.1674)

iTX Software Anti-Virus Qualification

This version of the iTX software install package was scanned with Sophos Endpoint Security anti-virus software

version 10.6.3.537, virus data detection version 5.29 (28/June/2016) and found to contain no currently known viruses.

Grass Valley User Documentation

Release Notes, product manuals and other user documentation is available online via the Grass Valley Documentation Library at http://www.grassvalley.com/docs/page

Access to Release Notes, product manuals and white papers is prohibited without authentication. There are multiple authentication paths available to verify your identity.

Broadcast customers:

- If you already have a Grass Valley Service Portal account, you can login via http://www.grassvalley.com/support/portal
- If you do not have a Grass Valley Service Portal account, you can request one via http://www.grassvalley.com/support/service_portal_access_request

Alternately:

- If you already have a Grass Valley website account, you can login via http://www.grassvalley.com/auth
- If you do not have a Grass Valley website account, you can sign up via http://www.grassvalley.com/account

Contact Us

For technical assistance, contact our international support center at 1-800-547-8949 (US and Canada) or +1 530 478 4148.

To obtain a local phone number for the support center nearest you, please consult the Contact Us section of Grass Valley's web site (http://www.grassvalley.com/contact). An online form for e-mail contact is also available from the web site.

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